

# REDLANDS AND PLACENTIA INDUSTRIAL PROJECT (DPR 22-00008) TRAFFIC IMPACT ANALYSIS

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## 1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential traffic-related impacts of the proposed Redlands Industrial Warehouse (proposed project) located northeast of the intersection of Redlands Avenue and Placentia Avenue, in the City of Perris. The project site is comprised of two adjacent parcels (APNs – 300-210-010 and 300-210-022) totaling an area of 5.74 acres. The total building area is 121,100 square feet, comprising 113,100 square feet of warehouse and 8,000 square feet of office. The existing site is currently vacant.

The proposed warehouse development is estimated to generate approximately 590 daily trips, 90 AM peak hour trips, and 79 PM peak hour trips. With the application of Passenger Car Equivalent (PCE) factor, the proposed development is estimated to generate approximately 863 daily PCE trips, 131 AM PCE trips, and 115 PM PCE trips.

The following study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods.

1. I-215 SB Ramps/Placentia Avenue
2. I-215 NB Ramps/Placentia Avenue
3. I-215 Frontage Road/Placentia Avenue
4. Indian Avenue/Placentia Avenue
5. Perris Boulevard/Rider Street
6. Perris Boulevard/Placentia Avenue
7. Redlands Avenue/Rider Street
8. Redlands Avenue/Placentia Avenue
9. Redlands Avenue/Project Driveway 1
10. Placentia Avenue/Project Driveway 2

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

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year Cumulative Without Project Conditions
- Opening Year Cumulative With Project Conditions

### Existing Intersection Analysis Results

All study intersections are forecast to operate at satisfactory LOS during the AM and PM peak hours in the Existing conditions.

### Existing plus Project Intersection Analysis Results

All study intersections are forecast to operate at satisfactory LOS during the AM and PM peak hours in the Existing Plus Project conditions.



### Opening Year Intersection Analysis Results

The following intersections would operate at an unsatisfactory LOS in the Opening Year Cumulative Without Project conditions:

- I-215 NB Ramps/Placentia Avenue
  - The intersection of I-215 NB Ramps/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Cumulative Without Project conditions during the AM peak hour.
- Indian Avenue/Placentia Avenue
  - The intersection of Indian Avenue/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Cumulative Without Project conditions during the AM and the PM peak hours.

### Opening Year Plus Project Intersection Analysis Results

The following intersections would operate at an unsatisfactory LOS in the Opening Year Cumulative With Project Conditions:

- I-215 NB Ramps/Placentia Avenue
  - The intersection of I-215 NB Ramps/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Cumulative With Project conditions during the AM peak hour.

Recommended Improvement: It is recommended to change the northbound lane geometry to one left-turn lane, one shared through-right lane, and one right-turn lane. This would improve the intersection's LOS and the intersection would operate at an acceptable LOS.

- Indian Avenue/Placentia Avenue
  - The intersection of Indian Avenue/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Cumulative With Project conditions during the AM and the PM peak hours.

Recommended Improvement: It is recommended to change the northbound and southbound left-turn phase to a protected-permissive phase. This would improve the intersection's LOS

The project would be responsible for a fair share for the aforementioned improvements. The total project share would be 7.65% for the intersection of I-215 NB Ramps/Placentia Avenue and 7.26% for the intersection of Indian Avenue/Placentia Avenue using the following formula.

## 2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential traffic-related impacts of the proposed Redlands Industrial Warehouse (proposed project) located at the northeast intersection of Redlands Avenue and Placentia Avenue, in the City of Perris. The scope of work for this TIA was reviewed and approved by the City of Perris and is provided in *Appendix A*. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent as per the City of Perris TIA thresholds and General Plan.

### 2.1 Project Description

The project site is comprised of two adjacent parcels (APNs – 300-210-010 and 300-210-022) totaling an area of 5.74 acres. The total building area is 121,100 square feet, comprising 113,100 square feet of warehouse and 8,000 square feet of office. The existing site is currently vacant. The location of the project is shown in Figure 1 and the project site plan is shown in Figure 2.

The proposed project will be accessible via two new driveways. Driveway 1 will be located along Redlands Avenue towards the northwest corner of the project site and would allow right-in/right-out/left-in access for trucks only. Driveway 2 will be located along Placentia Avenue towards the southeast corner of the project site and would be a right-in/right-out/left-in driveway for passenger vehicles. Left-out turn movements would not be allowed on both driveways. Both driveways would be two-way stop controlled. Driveway numbers can be seen in Figure 2. A truck turning template has been conducted and is shown in Figure 2.

Placentia Avenue is an east-west 2-lane arterial that would be widened to 6 lanes in the future year 2030 as per the City's General Plan Circulation Element. The project is committed to build Placentia Avenue along the project's frontage which includes a 14 feet left-turn lane, 12 feet through lane, and 14 feet through-right-turn lane as well as a striped median that would be collinear with the westbound left-turn lane approaching the intersection of Redlands Avenue/Placentia Avenue and the eastbound left-turn lane into the project driveway 2.

The proposed project includes 91 passenger vehicle parking spaces which are located along the eastern side of the project site. Twenty-seven trailer parking stalls will also be located along the north end of the site. The truck court will be secured via a rolling gate to the east and west sides of the court.

Figure 1: Project Location

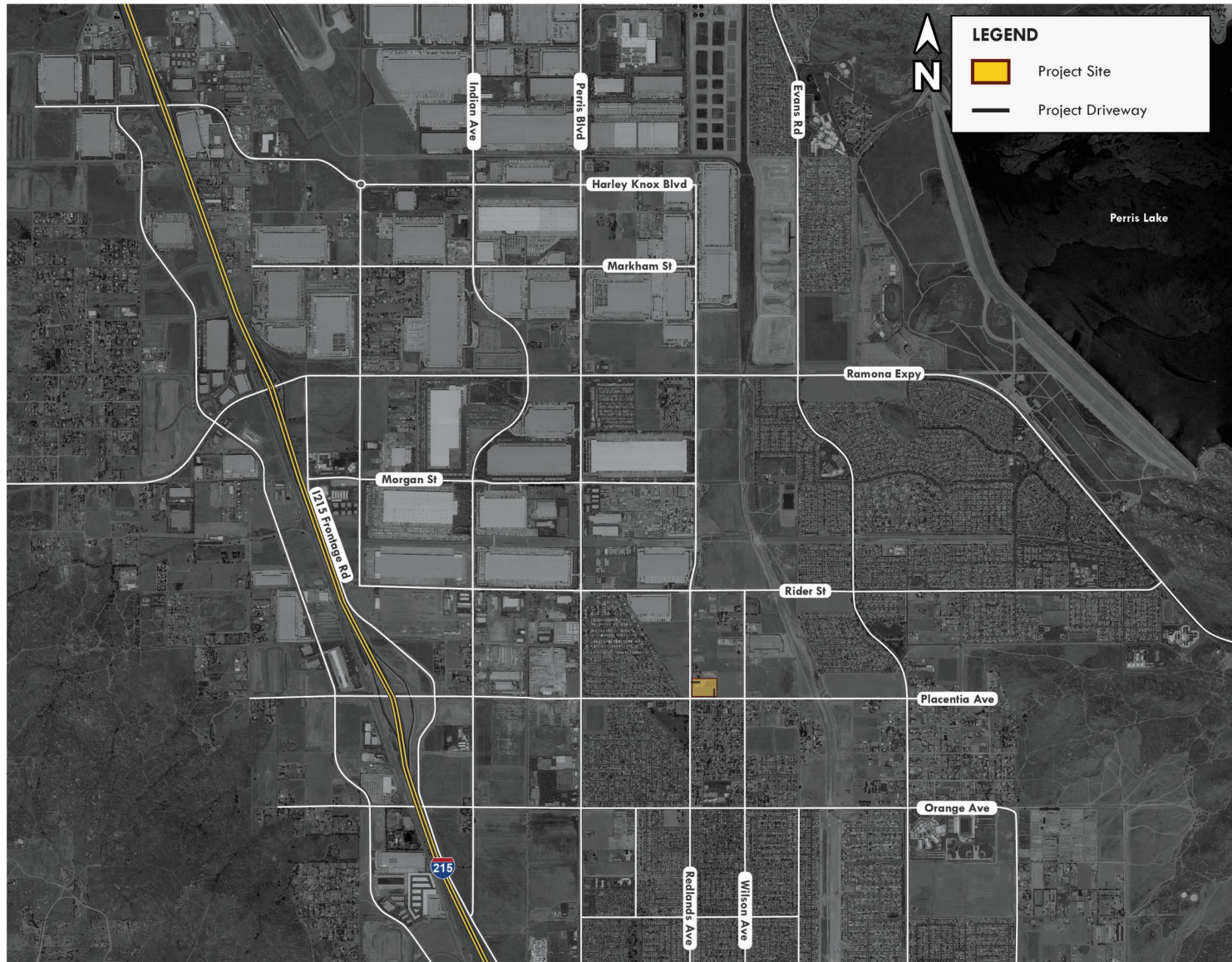
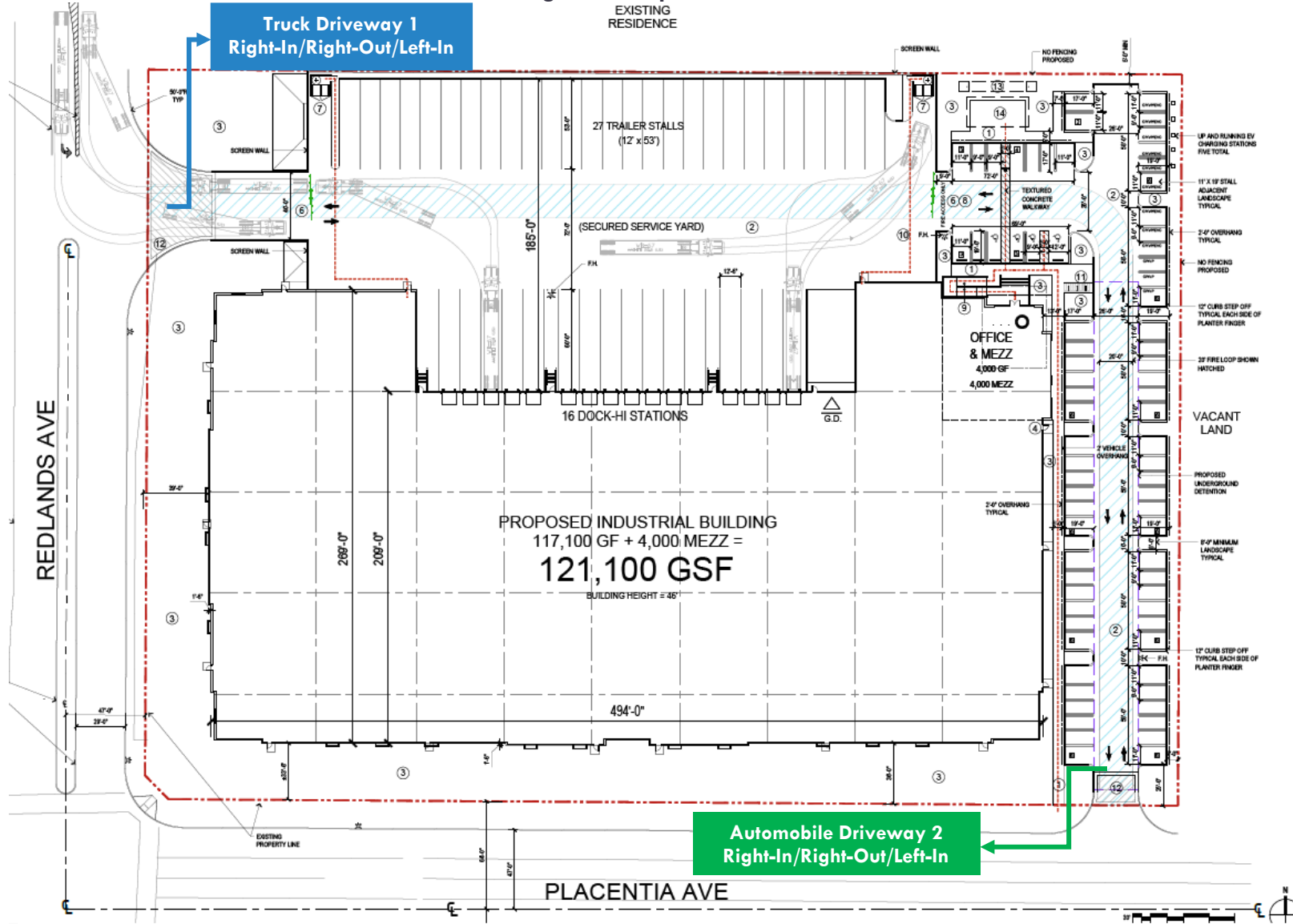


Figure 2: Project Site Plan



## 2.2 Study Area and Analysis Scenarios

The study area was selected to include intersections at which the project would add 50 or more peak hour trips in consultation with the City of Perris Engineering Department. The following intersections were included in the analysis:

1. I-215 SB Ramps/Placentia Avenue
2. I-215 NB Ramps/Placentia Avenue
3. I-215 Frontage Road/Placentia Avenue
4. Indian Avenue/Placentia Avenue
5. Perris Boulevard/Rider Street
6. Perris Boulevard/Placentia Avenue
7. Redlands Avenue/Rider Street
8. Redlands Avenue/Placentia Avenue
9. Redlands Avenue/Project Driveway 1
10. Placentia Avenue/Project Driveway 2

The locations of the study area intersections are shown on Figure 3. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year Cumulative Without Project Conditions
- Opening Year Cumulative With Project Conditions

Existing counts for the following 4 study intersections were collected on Tuesday, May 3<sup>rd</sup>, 2022:

5. Perris Boulevard/Rider Street
6. Perris Boulevard/Placentia Avenue
7. Redlands Avenue/Rider Street
8. Redlands Avenue/Placentia Avenue

The existing counts were taken when schools were in session and include truck classifications. The counts include the application of Passenger Car Equivalent (PCE) factors to account for the observed truck traffic as per the County of Riverside Transportation Analysis Guidelines. Forecast traffic volumes for the Opening Year (2024) conditions were developed by applying a growth rate of 3 percent per year to the existing (2022) traffic counts and adding traffic from nearby cumulative development projects (approved and not yet built and those under review). Traffic count data are provided in *Appendix B*.

## 2.3 Planned Improvements

Interstate 215/Placentia Avenue Interchange is a new interchange project that is currently under construction. When completed, the project would provide NB and SB ramps at Placentia Avenue, extend Placentia Avenue to Indian Avenue, and improve the Frontage Road and Indian Avenue



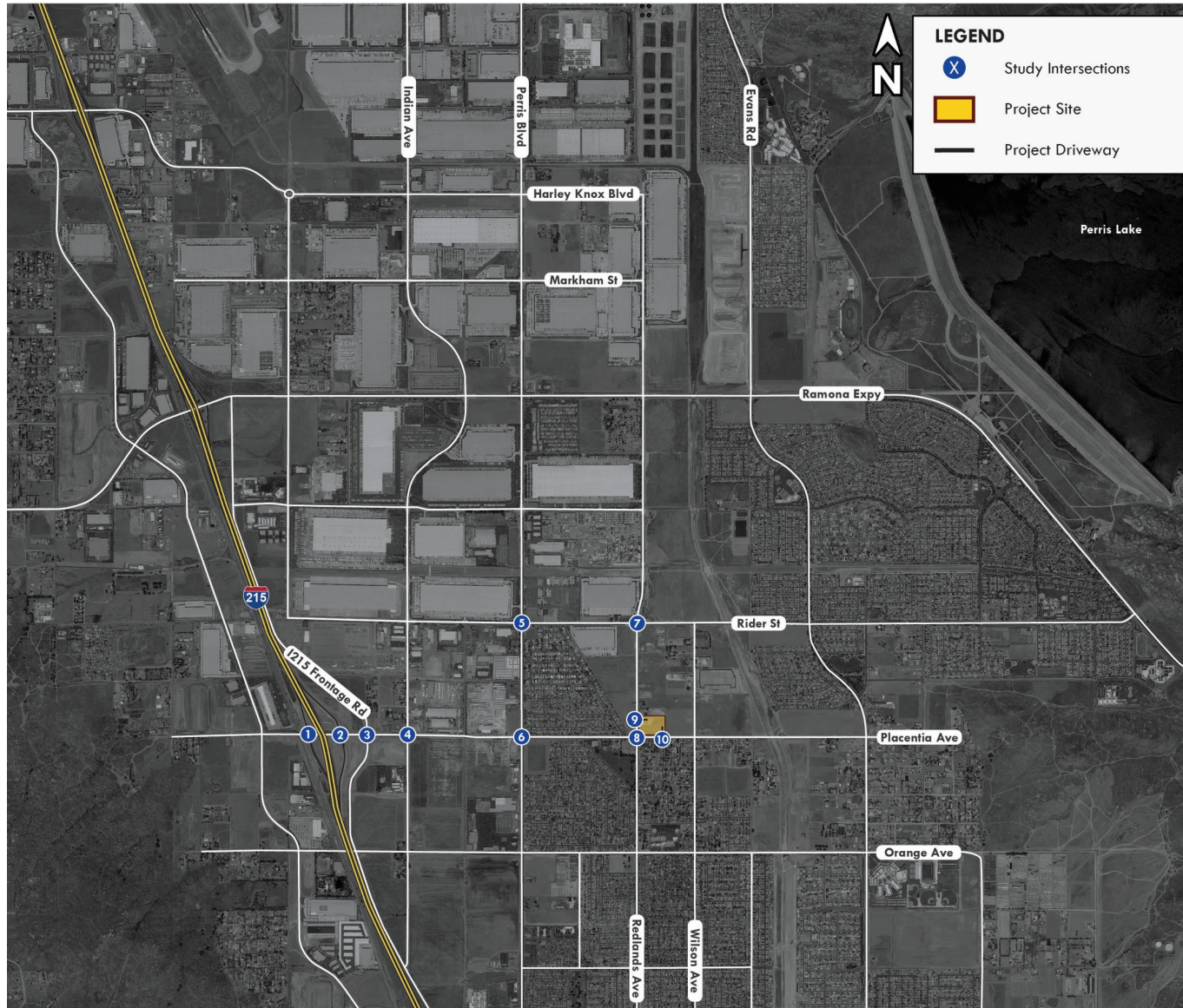
intersections. The project was expected to open by fall 2022 but is currently still under construction. Prior to the Interstate 215/Placentia Avenue interchange project, Frontage Avenue/Placentia Avenue and Indian Avenue/Placentia Avenue existed as three-legged intersections. No counts could be collected at these four intersections due to the ongoing Interstate 215/Placentia Avenue Interchange construction.

Existing 2022 volumes for these study intersections were developed by modifying the 2018 network in RIVCOM to include the improvements which are part of the Interstate-215/Placentia Avenue Interchange project. The RIVCOM model run was completed to obtain approach volumes at the study intersections. A growth rate of three percent per year was applied to these volumes to obtain 2022 modeled approach volumes. The proposed intersections were post-processed using the Iterative Directional Volume Estimation Method documented in National Cooperative Highway Research Program (NCHRP) Report 255, to forecast and balance intersection movements. The base input turn-movement volumes for post-processing were utilized from the Mid-County Parkway TIA from the Build 2020 scenario (attached in Appendix E). For the intersection of Indian Avenue/Placentia Avenue, historic counts from 2017 were used with the application of a growth rate of three percent per year as no turn-movement volumes were available for Indian Avenue/Placentia Avenue in the Mid-County Parkway TIA. Post-processing work sheets for the following proposed intersections are provided in Appendix F, it is to be noted that volumes in Appendix F represent Opening Year Conditions excluding cumulative projects and the Redlands and Placentia Industrial Project. Future lane geometries of the following proposed intersections were obtained from design plans provided by Interwest Company and are provided in Appendix G.

1. I-215 SB Ramps/Placentia Avenue
2. I-215 NB Ramps/Placentia Avenue
3. I-215 Frontage Road/Placentia Avenue
4. Indian Avenue/Placentia Avenue

It is to be noted that a conceptual striping plan has been conducted and is provided in Appendix H.

Figure 3: Study Area



## 2.4 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver's perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 7<sup>th</sup> Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 1 shows the relationship between control delay and LOS.

**Table 1: Relationship between Control Delay and LOS at a Signalized Intersection**

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

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 2.

**Table 2: Relationship between Delay and LOS an Unsignalized Intersection**

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



## 2.5 Significance Criteria

### City of Perris

The City of Perris LOS Standards and Significance Criteria for Traffic Studies identifies LOS D as the threshold for acceptable operating conditions for intersections except at constrained intersections and roadway segments in close proximity to State Route (SR) 74, the Ramona-Cajalco Expressway, or at I-215 freeway ramps, where LOS E is accepted during peak hours.

As per the TIA guidelines, a project would not meet the LOS standard under the following conditions:

- A project-related impact is considered direct and significant when a study intersection operates at an acceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection to operate at an unacceptable Level of Service for existing plus project conditions.
- A project-related impact is considered direct and significant when a study intersection operates at an unacceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more.
- A cumulative impact is considered significant when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and 50 or more a.m. or p.m. peak hour project trips.

### California Department of Transportation (Caltrans)

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) required that State Highway facilities be analyzed when project traffic was added to the facility. As per the guidelines, LOS D is the required standard at intersections under the jurisdiction of Caltrans. however, Caltrans states the following: “Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.”

*In response to implementation of SB743, Caltrans released the Vehicle Miles Traveled-Focused Transportation Impact Study Guide, May 20, 2020. According to the latest guide, “With this guidance, the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects.”*

### 3 BASELINE CONDITIONS

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

#### 3.1 Existing Transportation System and Access

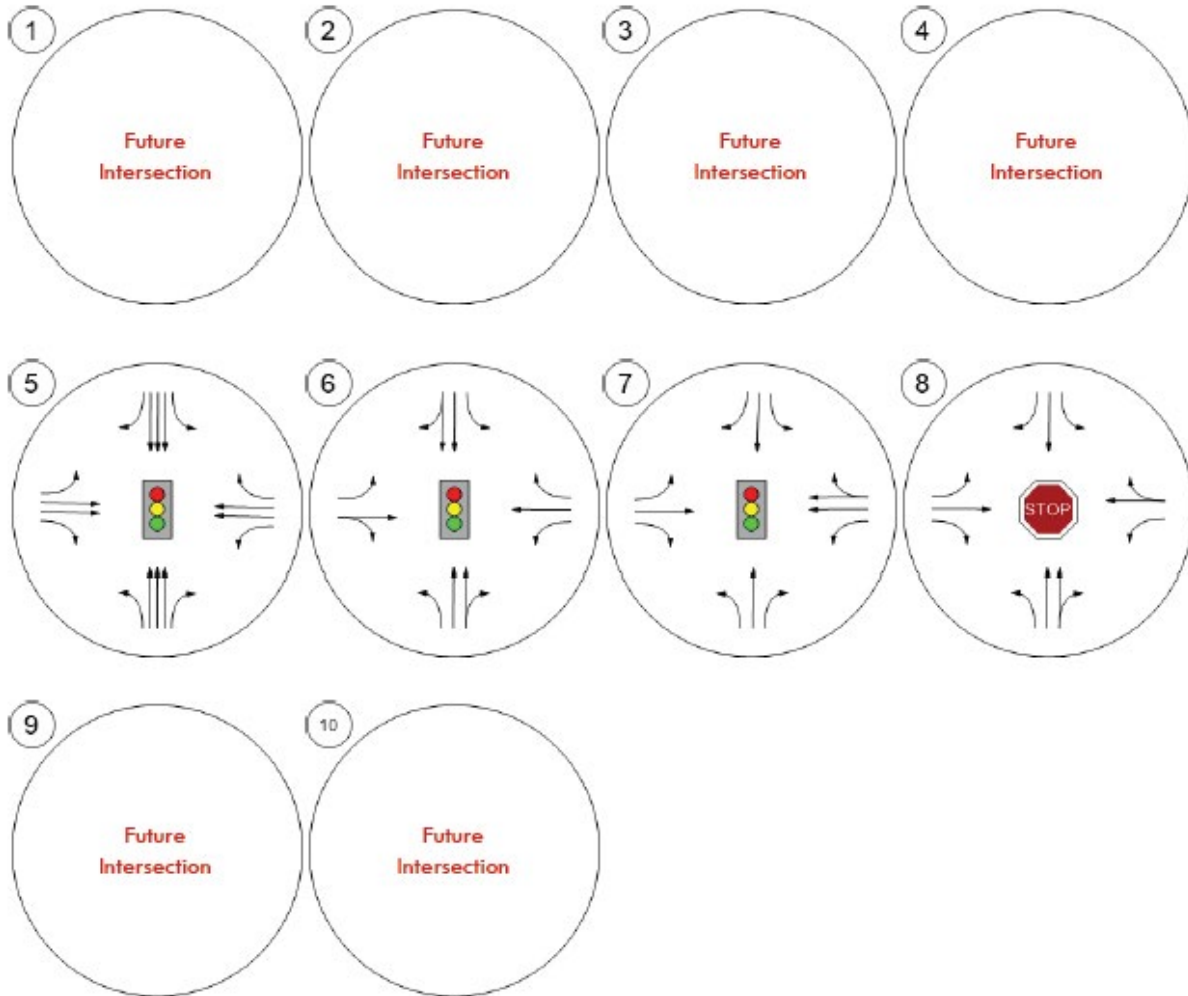
The proposed project is located northeast of the intersection of Redlands Avenue and Placentia Avenue, in the City of Perris. Roadways providing access to the project site include Placentia Avenue, Indian Avenue, Rider Street, and Redlands Avenue. Regional access is provided by I-215. The characteristics of each roadway are documented below.

- I-215 is a north-south interstate highway that passes through the City of Perris providing connections to San Bernardino County in the north and San Diego County in the south.
- Placentia Avenue is an east-west 2-lane arterial that would be widened to 6 lanes in the future year 2030 as per the City's General Plan Circulation Element.
- Indian Avenue is a north-south 4-lane secondary arterial that is built to its capacity of 4 lanes as per the City's General Plan Circulation Element.
- Rider Street is an east-west 4-lane secondary arterial that is built to its capacity of 4 lanes as per the City's General Plan Circulation Element.
- Redlands Avenue is a north-south 4-lane secondary arterial that is built to its capacity of 4 lanes as per the City's General Plan Circulation Element.

The existing traffic control and intersection geometrics at study area intersections are shown in Figure 4. As mentioned in Section – 2.2, the intersections of I-215 SB Ramps/Placentia Avenue, I-215 NB Ramps/Placentia Avenue, I-215 Frontage Road/Placentia Avenue, and Indian Avenue/Placentia Avenue were assumed as future intersections and were analyzed for LOS operations only in the Opening Year conditions. The intersections of Frontage Road/Placentia Avenue, and Indian Avenue/Placentia were not analyzed in the Existing conditions as no project trips would be accessing these intersections. It is also to be noted that these intersections are currently under construction as a part of the I-215 interchange project and no counts could be collected at these two intersections.

The proposed project will be accessible via two new driveways. Driveway 1 will be located along Redlands Avenue towards the northwest corner of the project site and would allow right-in/right-out/left-in access for trucks only. Driveway 2 will be located along Placentia Avenue towards the southeast corner of the project site and would be a right-in/right-out/left-in driveway for passenger vehicles. Both driveways would be two-way stop controlled.

Figure 4: Existing Lane Geometrics and Traffic Control




### 3.2 Existing Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections are shown in Figures 5a and 5b. The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 3 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 3, all intersections operate with a satisfactory LOS during both peak hours in the existing conditions.

**Table 3: Existing AM and PM Peak Hour Level of Service**

Intersection	Traffic Control	Existing Year			
		AM Peak		PM Peak	
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1. I-215 SB Ramps/Placentia Ave	Signal	-	-	-	-
2. I-215 NB Ramps/Placentia Ave	Signal	-	-	-	-
3. I-215 Frontage Rd/Placentia Ave	Signal	-	-	-	-
4. Indian Ave/Placentia Ave	Signal	-	-	-	-
5. Perris Blvd/Rider St	Signal	37.8	D	37.6	D
6. Perris Blvd/Placentia Ave	Signal	18.2	B	13.0	B
7. Redlands Ave/Rider St	Signal	28.0	C	29.1	C
8. Redlands Ave/Placentia Ave	AWSC	13.3	B	10.8	B
9. Redlands Ave/Project Dwy 1	TWSC	-	-	-	-
10. Placentia Ave/Project Dwy 2	TWSC	-	-	-	-

 =Unsatisfactory Level of Service

AWSC = All-Way Stop Control

TWSC = Two-Way Stop Control

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

Figure 5a: Existing AM Peak Hour Traffic Volumes

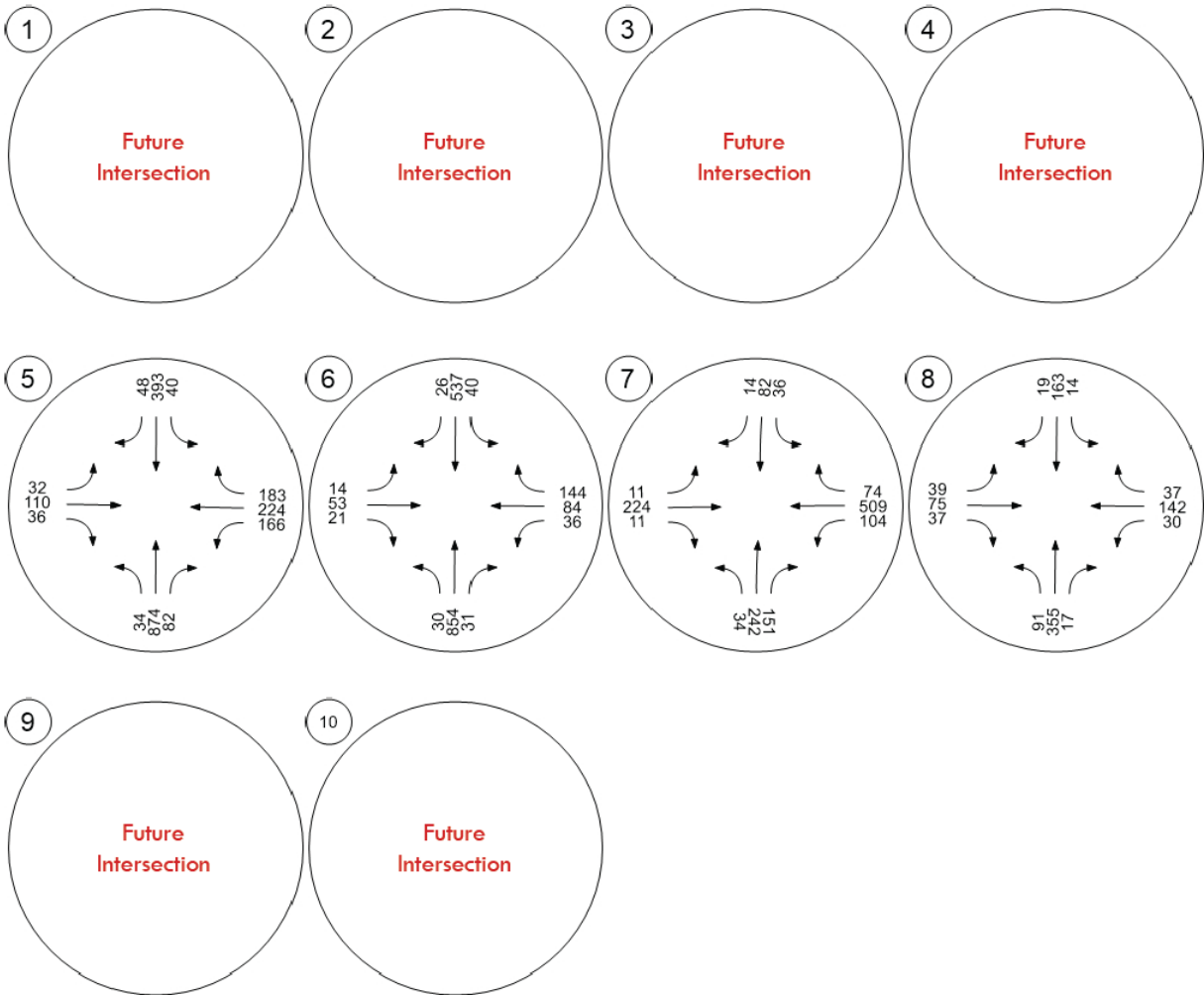
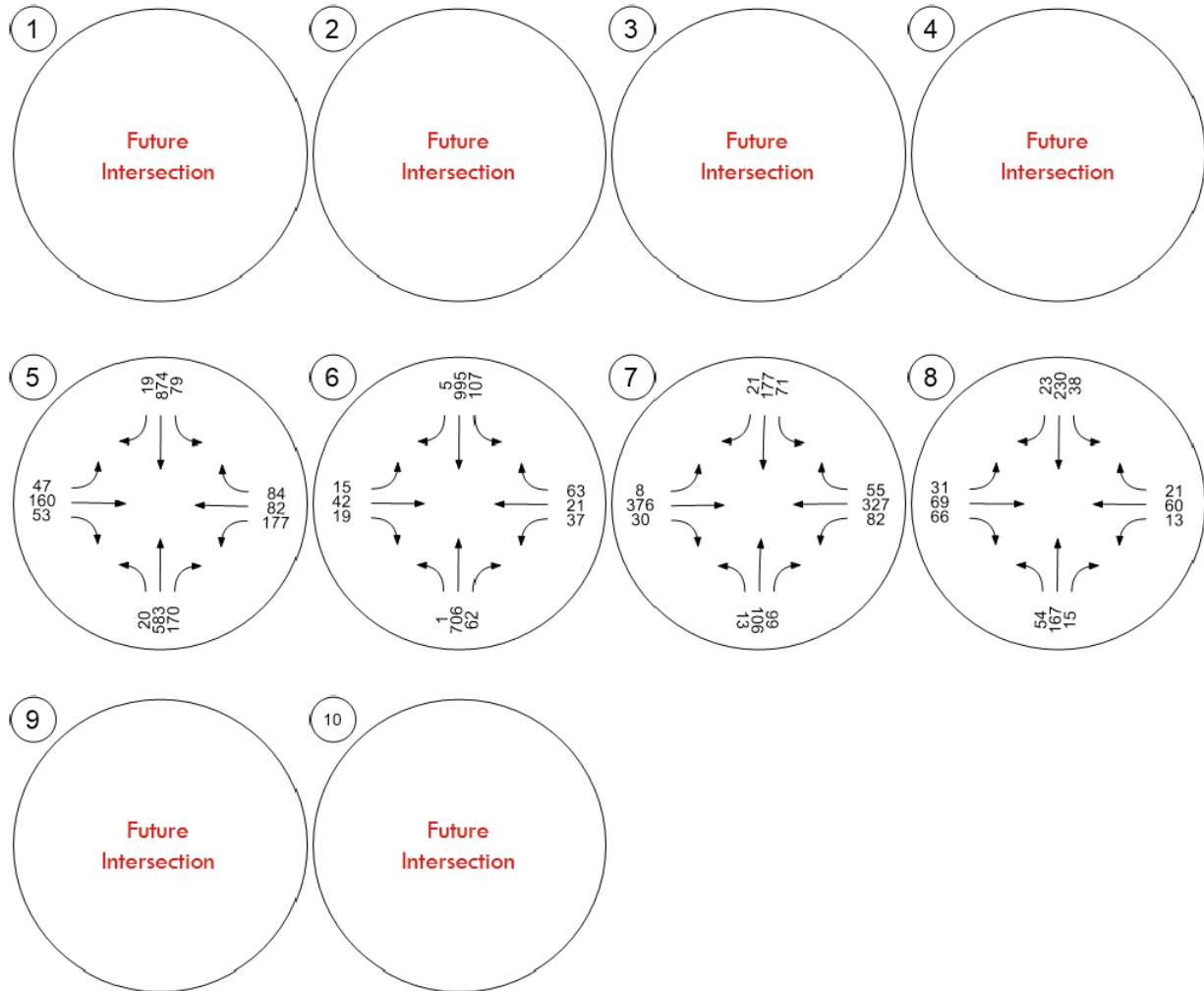




Figure 5b: Existing PM Peak Hour Traffic Volumes



### 3.3 Opening Year Traffic Volumes and Intersection Operations

Opening Year Baseline (2024) traffic volumes were developed by applying a growth rate of 3 percent per year to the existing (2022) traffic volumes and adding traffic generated by other approved and pending development projects. A total of 28 cumulative development projects are included in the Opening Year Baseline traffic volumes. For intersections currently undergoing construction, namely, I-215 SB Ramps/Placentia Avenue, I-215 NB Ramps/Placentia Avenue, I-215 Frontage Road/Placentia Avenue and Indian Avenue/Placentia Avenue, the traffic generation by approved and pending development projects were added to the volumes obtained through post-processing as discussed earlier in *Section 2.3*.

The project trip generation for each cumulative project was calculated using trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11<sup>th</sup> Edition. The locations of the cumulative projects are shown in Figure 6. The Opening Year Baseline traffic volumes are illustrated in Figures 7a and 7b. Table 4 shows the Opening Year AM and PM peak hour levels of service at the study intersections. Table 5 shows the trip generation for each cumulative project. The cumulative trip assignment can be found in *Appendix D*. As shown in Table 4, all intersections are forecast to operate with a satisfactory LOS during both peak hours in the Opening Year conditions except for the following intersections which would operate at an unsatisfactory LOS in the Opening Year Conditions:

- I-215 NB Ramps/Placentia Avenue
  - The intersection of I-215 NB Ramps/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year conditions during the AM peak hour.
- Indian Avenue/Placentia Avenue
  - The intersection of Indian Avenue/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year conditions during both the AM and the PM peak hours.

**Table 4: Opening Year AM and PM Peak Hour Level of Service**

Intersection	Traffic Control	Opening Year Without Project			
		AM Peak		PM Peak	
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1. I-215 SB Ramps/Placentia Ave	Signal	16.0	B	21.4	C
2. I-215 NB Ramps/Placentia Ave	Signal	135.2	F	23.7	C
3. I-215 Frontage Rd/Placentia Ave	Signal	34.7	C	27.7	C
4. Indian Ave/Placentia Ave	Signal	170.5	F	152.9	F
5. Perris Blvd/Rider St	Signal	25.1	C	22.3	C
6. Perris Blvd/Placentia Ave	Signal	24.6	C	23.4	C
7. Redlands Ave/Rider St	Signal	26.2	C	24.9	C
8. Redlands Ave/Placentia Ave	AWSC	15.7	C	12.7	B
9. Redlands Ave/Project Dwy 1	TWSC	-	-	-	-
10. Placentia Ave/Project Dwy 2	TWSC	-	-	-	-

=Unsatisfactory Level of Service

AWSC = All-Way Stop Control

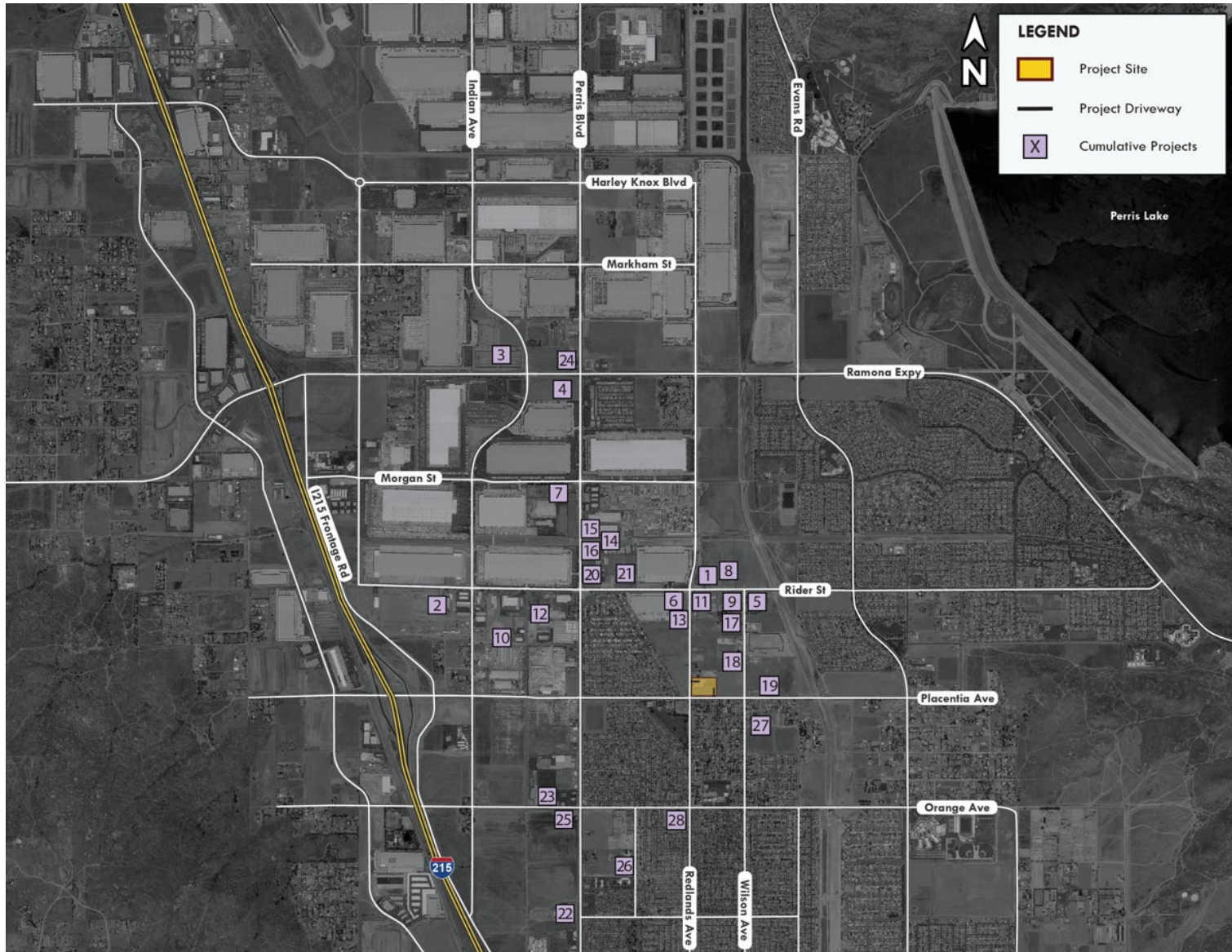
TWSC = Two-Way Stop Control

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service



Figure 6: Location of Cumulative Projects



**Table 5: Cumulative Projects Trip Generation**

Land Use	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
<u>Trip Rates</u>										
High-Cube Warehouse/Distribution Center <sup>1</sup>	154		TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Warehouse <sup>2</sup>	150		TSF	1.74	0.13	0.04	0.17	0.05	0.14	0.19
Manufacturing <sup>3</sup>	140		TSF	4.75	0.52	0.16	0.68	0.23	0.51	0.74
Shopping Center <sup>4</sup>	820		TSF	37.75	0.58	0.36	0.94	1.83	1.98	3.81
Supermarket <sup>5</sup>	850		TSF	93.84	1.69	1.17	2.86	4.48	4.48	8.95
Automated Car Wash <sup>6</sup>	948		TSF	-	-	-	-	7.10	7.10	14.20
Single-Family Housing <sup>7</sup>	210		DU	9.34	0.19	0.56	0.74	0.62	0.37	0.99
Multi-Family Housing <sup>8</sup>	220		DU	7.32	0.21	0.25	0.46	0.35	0.21	0.56
Projects	ITE Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour		
1. Rider 2 & 4 (PCE)	154	1373	TSF	2812	123	38	161	56	145	201
2. Rados (PCE)	154	1200	TSF	2458	107	33	140	49	126	176
3. IDI/Ramona (PCE)	154	426	TSF	873	38	12	50	17	45	62
4. Expressway Industrial (PCE)	154	347	TSF	711	31	10	41	14	37	51
5. Wilson Industrial 1 (PCE)	154	303	TSF	621	27	8	35	12	32	44
6. Lakecreek West (PCE)	154	300	TSF	614	27	8	35	12	32	44
7. Patriot Ind (PCE)	154	286	TSF	586	26	8	33	12	30	42
8. Lakecreek East (PCE)	154	256	TSF	524	23	7	30	10	27	37
9. Wilson Industrial 2 (PCE)	154	248	TSF	508	22	7	29	10	26	36
10. Walnut Industrial (PCE)	154	205	TSF	420	18	6	24	8	22	30
11. First Industrial-Goodwin (PCE)	150	338	TSF	860	65	19	84	25	69	94
12. Duke/Perry (PCE)	150	144	TSF	367	28	8	36	11	29	40
13. Chartwell Ind (PCE)	150	141	TSF	359	27	8	35	11	29	39
14. Pulliam Industrial (PCE)	150	16	TSF	41	3	1	4	1	3	4
15. Burge Industrial 1 (PCE)	140	18	TSF	125	14	4	18	6	13	19
16. Burge Industrial 2 (PCE)	140	19	TSF	132	14	5	19	6	14	21
17. DPR 22-00017 Warehouse (PCE)	150	185	TSF	471	35	11	46	14	38	51
18. DPR 22-00012 Warehouse (PCE)	150	83	TSF	211	16	5	21	6	17	23
19. DPR 21-00015 Industrial Building (PCE)	154	509	TSF	1043	45	14	60	21	54	74
20. Calvio Industrial (PCE)	150	43	TSF	109	8	2	11	3	9	12
21. Calvio Industrial 2 (PCE)	150	30	TSF	76	6	2	7	2	6	8
22. Aldi Market Center	850	27	TSF	2534	46	32	77	121	121	242
23. Commercial Retail Spectrum	820	7.4	TSF	279	4	3	7	14	15	28
24. Cali Express Carwash	948	5.6	TSF	800	0	0	0	40	40	80
25. TR37014 Residential	220	202	DU	1479	43	50	93	71	42	113
26. TR32497 Residential	210	131	DU	1224	24	73	97	82	48	130
27. TR36797 Residential	210	76	DU	710	14	42	56	47	28	75
28. TR34260 Residential	210	22	DU	205	4	12	16	14	8	22
<b>Total Cumulative Trip Generation</b>				15881	838	428	1266	694	1104	1798

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

DU = Dwelling Unit

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 154 - High-Cube Transload and Short-Term Warehouse.

<sup>2</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 150 - Warehousing.

<sup>3</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 140 - Manufacturing.

<sup>4</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 820 - Shopping Center.

<sup>5</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 850 - Supermarket.

<sup>6</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 948 - Automated Car Wash.

<sup>7</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 210 - Single Family Detached Housing.

<sup>8</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 220 - Multifamily Housing (Low-Rise).



Figure 7a: Opening Year AM Peak Hour Traffic Volumes

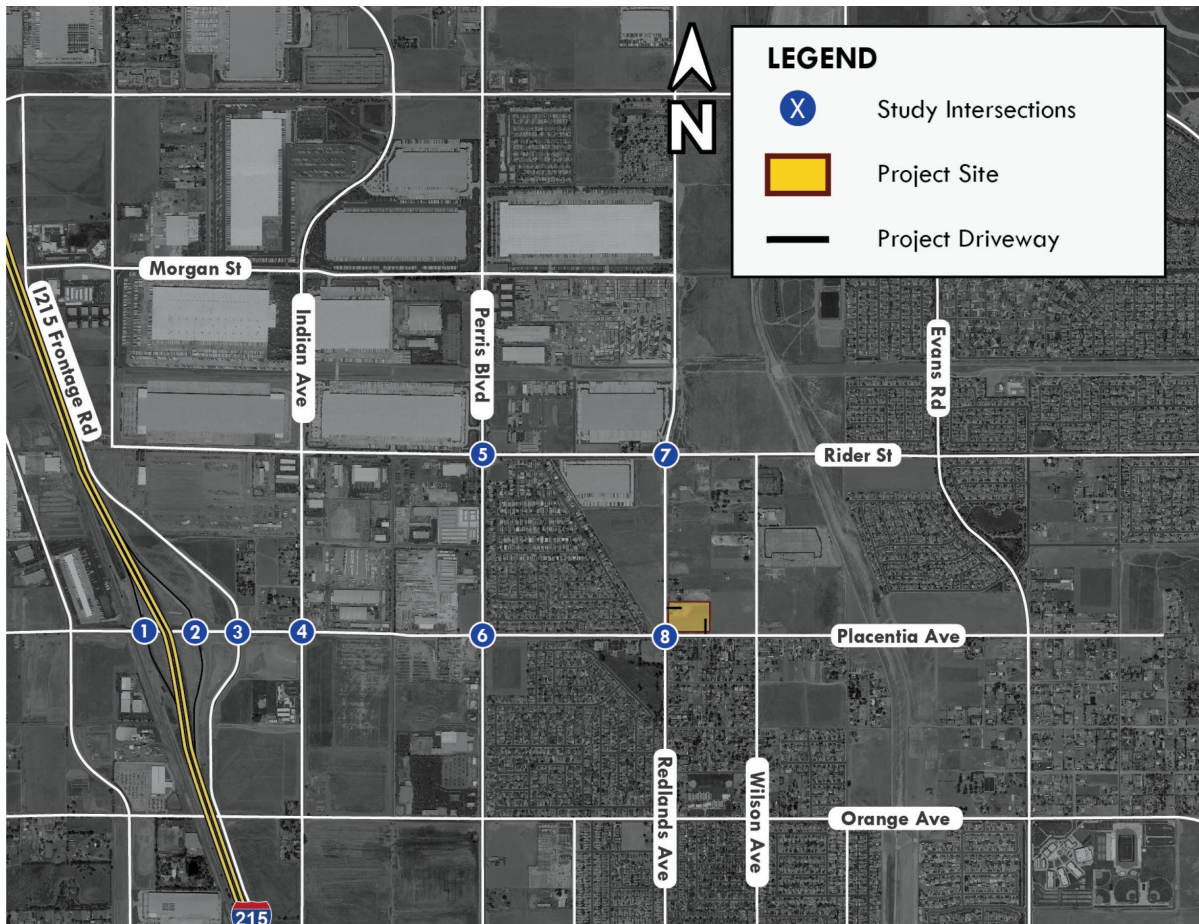
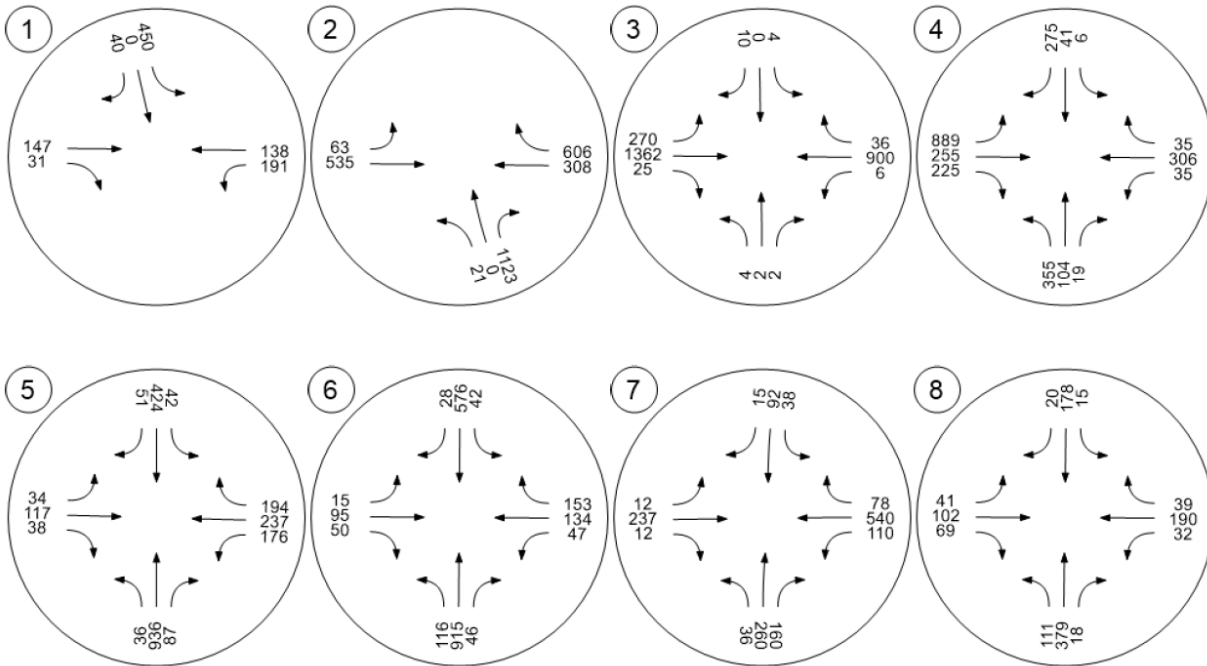
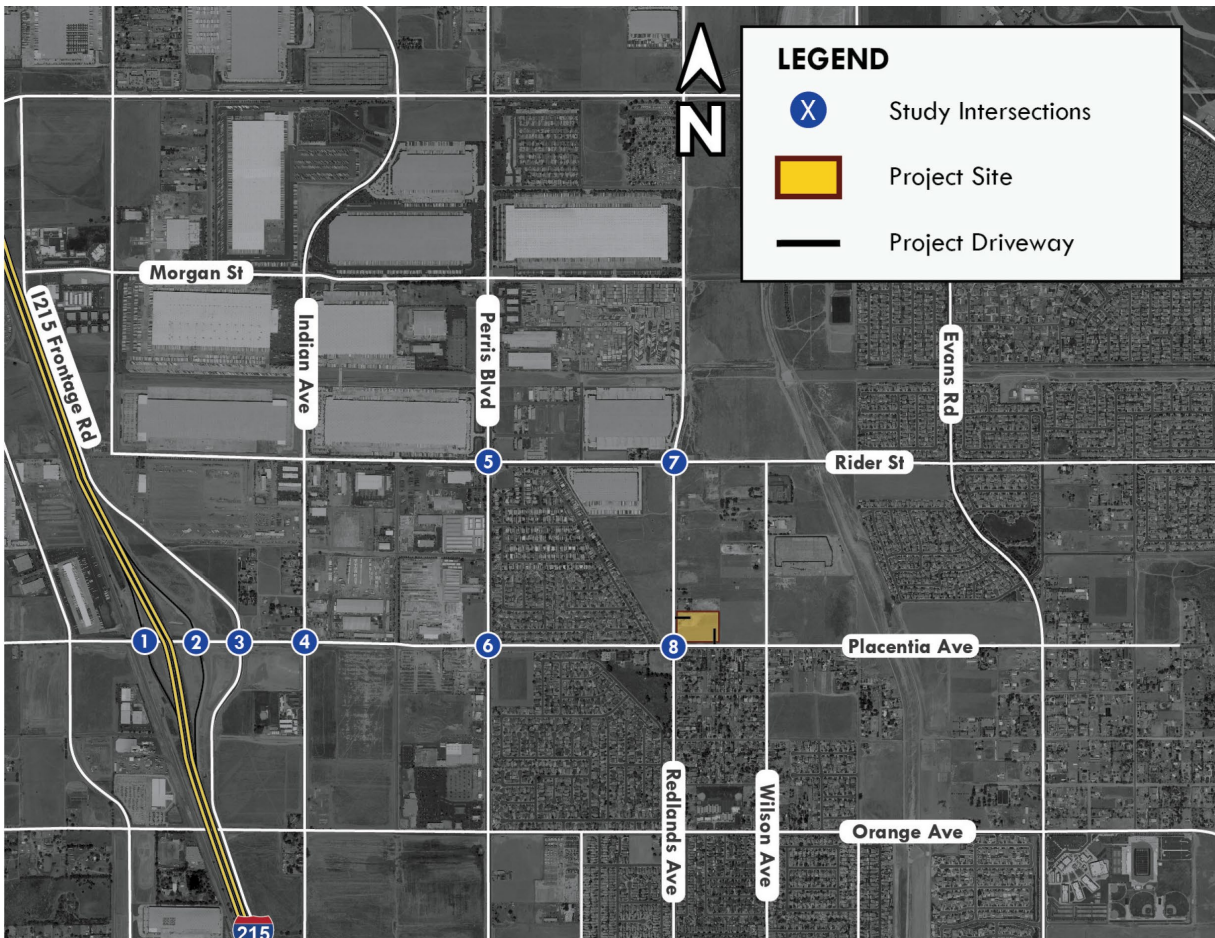
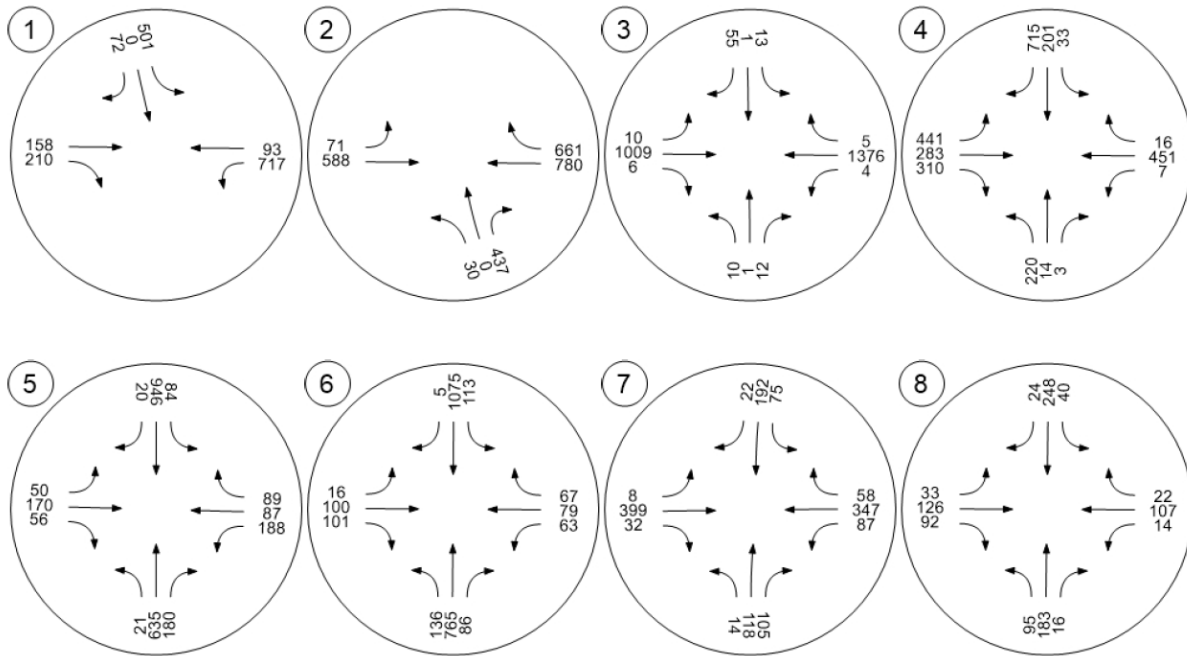


Figure 7b: Opening Year PM Peak Hour Traffic Volumes



## 4 PROPOSED PROJECT

### 4.1 Project Trip Generation

Vehicle trips were generated for the project using trip rates for General Light Industrial (Land Use Code 150) from the ITE *Trip Generation Manual*, 11<sup>th</sup> Edition. The project trip generation is shown in Table 6. The proposed project would generate a total of 590 daily trips, 90 AM peak hour trips and 79 PM peak hour trips. Upon the application of a Passenger Car Equivalent (PCE) factor, the proposed development would generate a total of 863 daily trips, 131 AM peak hour trips and 115 PM peak hour trips.

### 4.2 Project Trips

Project trips were distributed to the study area intersections based on the location of the project and logical routes of travel to and from the site. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location. The Existing project trip distribution for passenger vehicles and trucks is shown in Figure 8. As shown in Figure 8, in the existing year, truck or passenger vehicle trips are expected to utilize only four of the off-site study intersections, namely, Perris Boulevard/Rider Street, Perris Boulevard/Placentia Avenue, Redlands Avenue/Rider Street, and Redlands Avenue/Placentia Avenue. The project total peak hour trip assignment in the Existing conditions is shown on Figures 10a and 10b. The Opening Year project trip distribution for passenger vehicles and trucks is shown in Figure 9. The project total peak hour trip assignment in the Opening Year conditions is shown on Figures 11a and 11b.

**Table 6: Project Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Rates</u>								
General Light Industrial (GLI) <sup>1</sup>	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65
<b><u>Project Trip Generation</u></b>								
Industrial (GLI)	121.100 TSF	590	79	11	90	11	68	79
<b><u>Vehicle Mix</u><sup>2</sup></b>		<b><u>Percent</u><sup>2</sup></b>						
Passenger Vehicles	69.00%	407	55	7	62	7	48	55
2-Axle truck	6.80%	40	5	1	6	1	4	5
3-Axle truck	5.50%	32	4	1	5	1	3	4
4+-Axle Trucks	18.70%	110	15	2	17	2	13	15
	100%	590	79	11	90	11	68	79
<b><u>PCE Trip Generation</u><sup>3</sup></b>		<b><u>PCE Factor</u></b>						
Passenger Vehicles	1.0	407	55	7	62	7	48	55
2-Axle truck	1.5	60	8	1	9	1	7	8
3-Axle truck	2.0	65	9	1	10	1	7	8
4+-Axle Trucks	3.0	331	44	6	50	6	38	44
		863	116	15	131	15	100	115

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 110 - General Light Industrial<sup>2</sup> Vehicle Mix from the SQAMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014. Composite trip generation rates.<sup>3</sup> Passenger Car Equivalent (PCE) factors from the County of Riverside Transportation Analysis Guidelines for Level of Service & Vehicle Miles Travelled.



Figure 8: Existing Project Trip Distribution

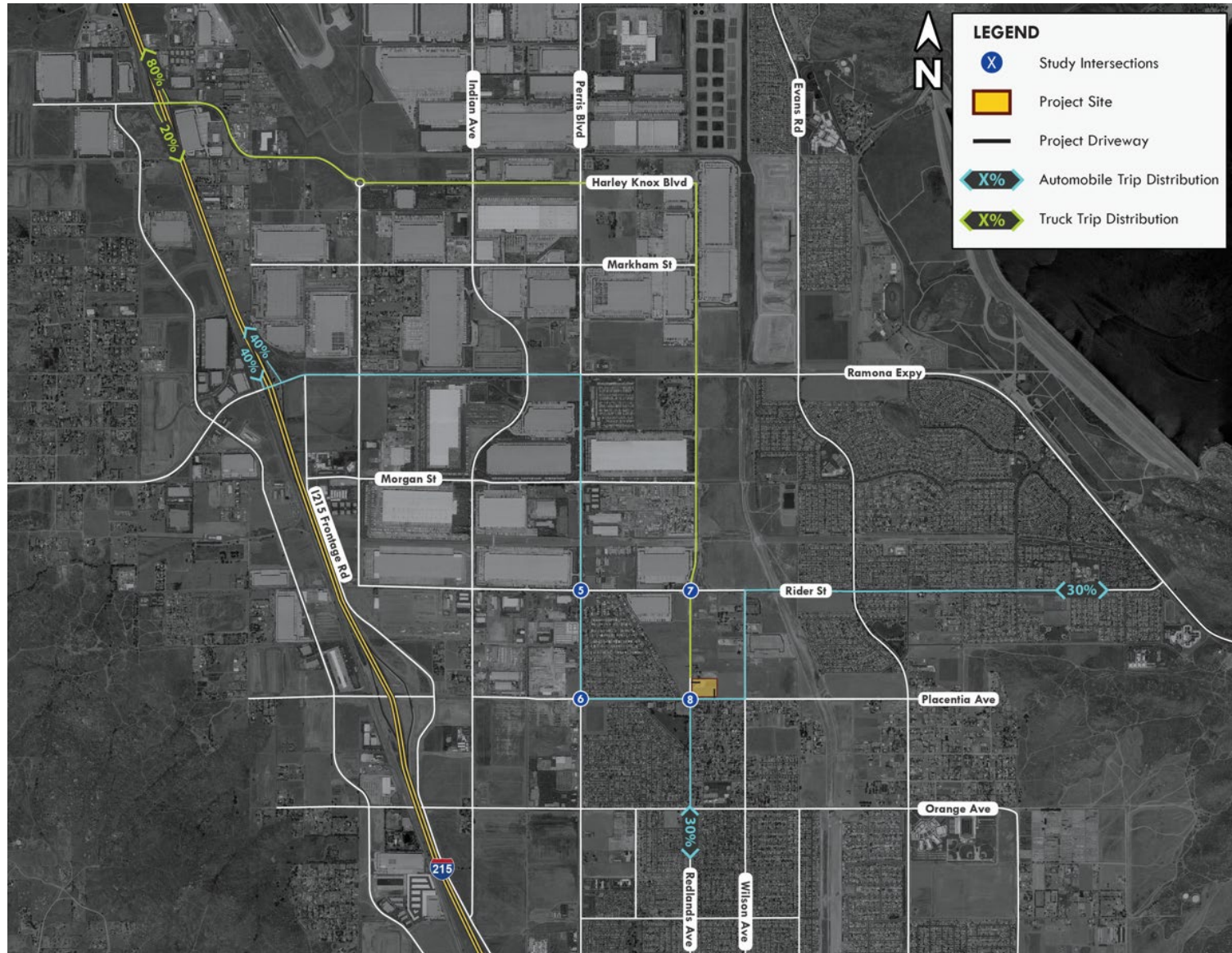




Figure 9: Opening Year Project Trip Distribution

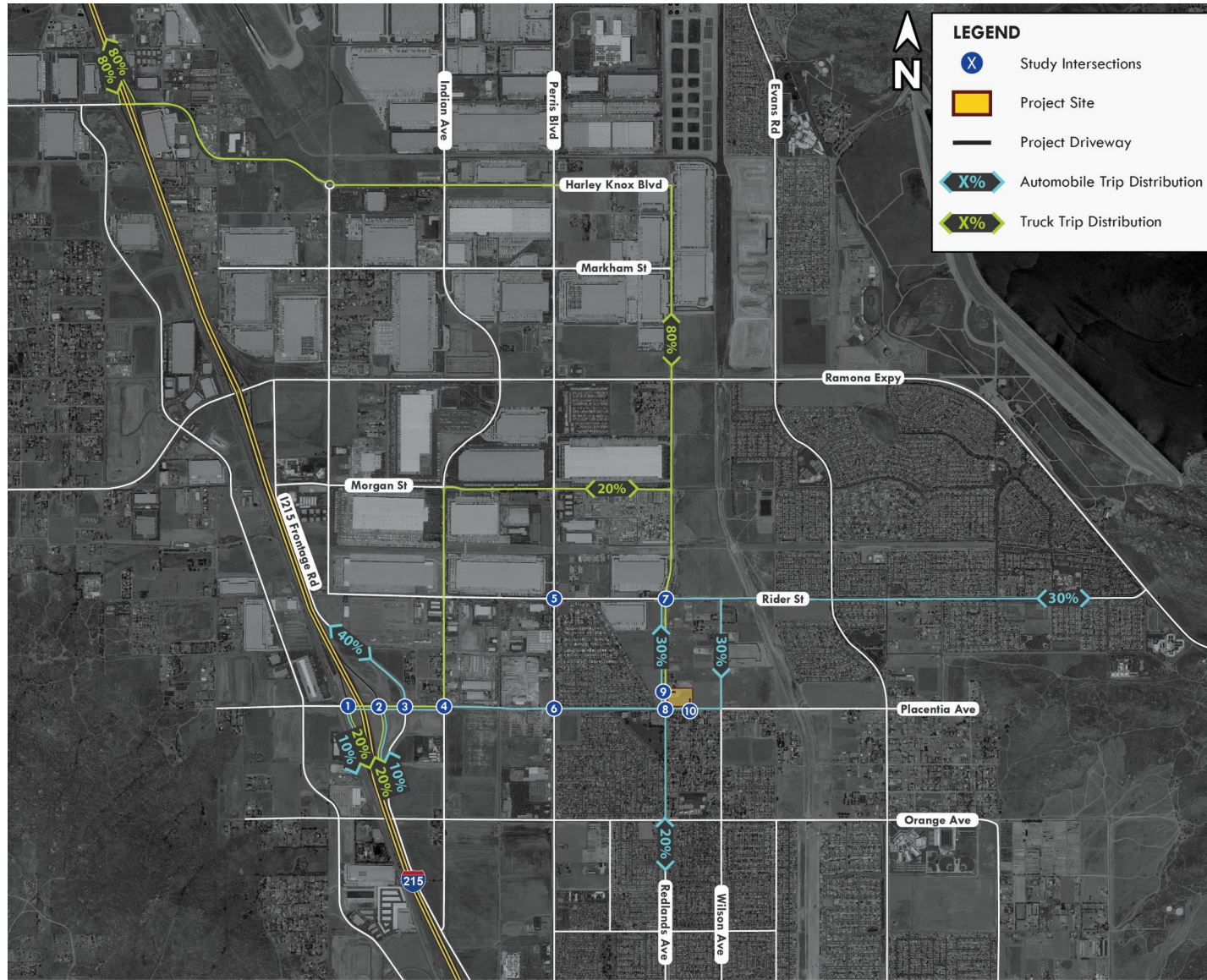




Figure 10a: Existing Project AM Trip Assignment

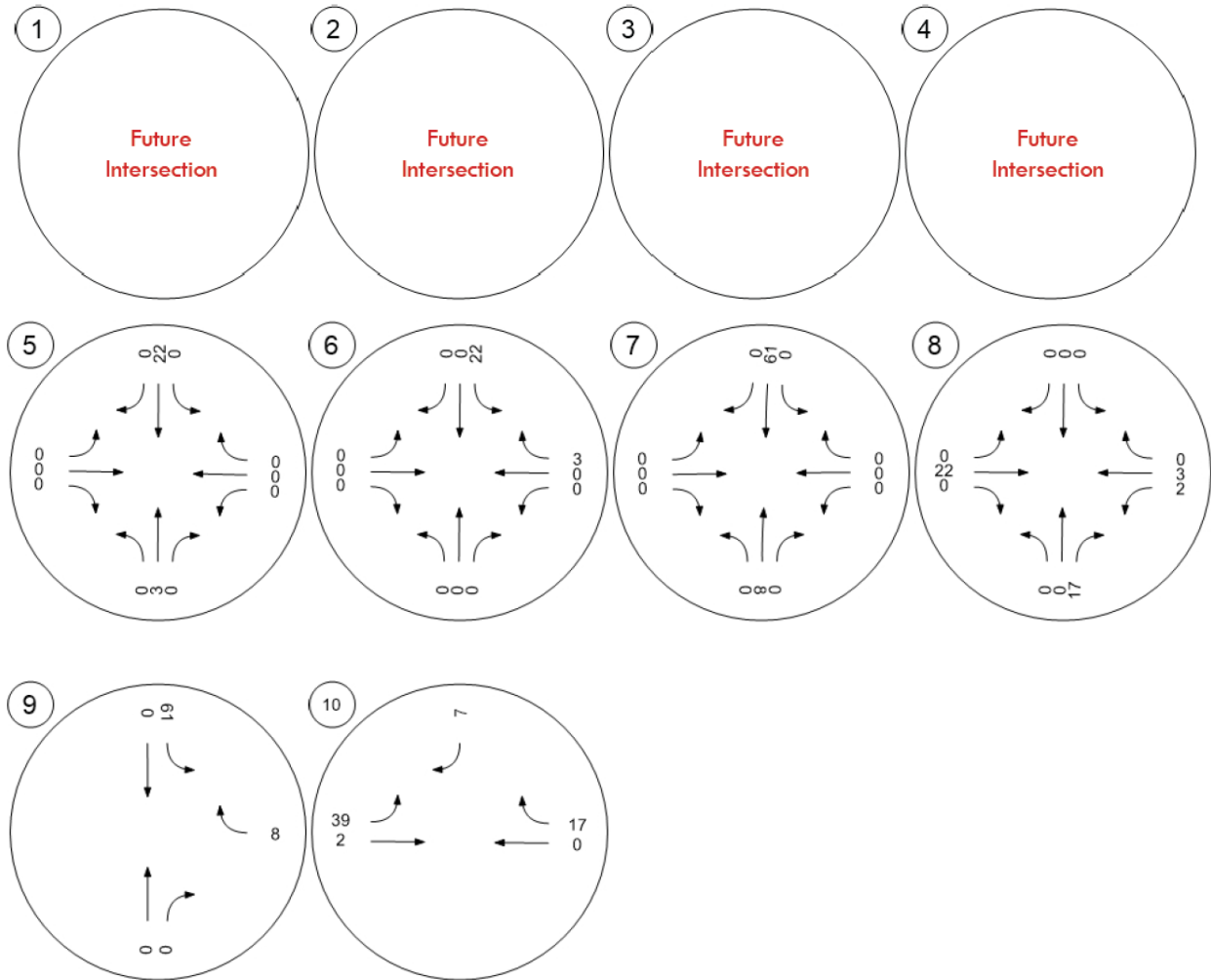


Figure 10b: Existing Project PM Trip Assignment

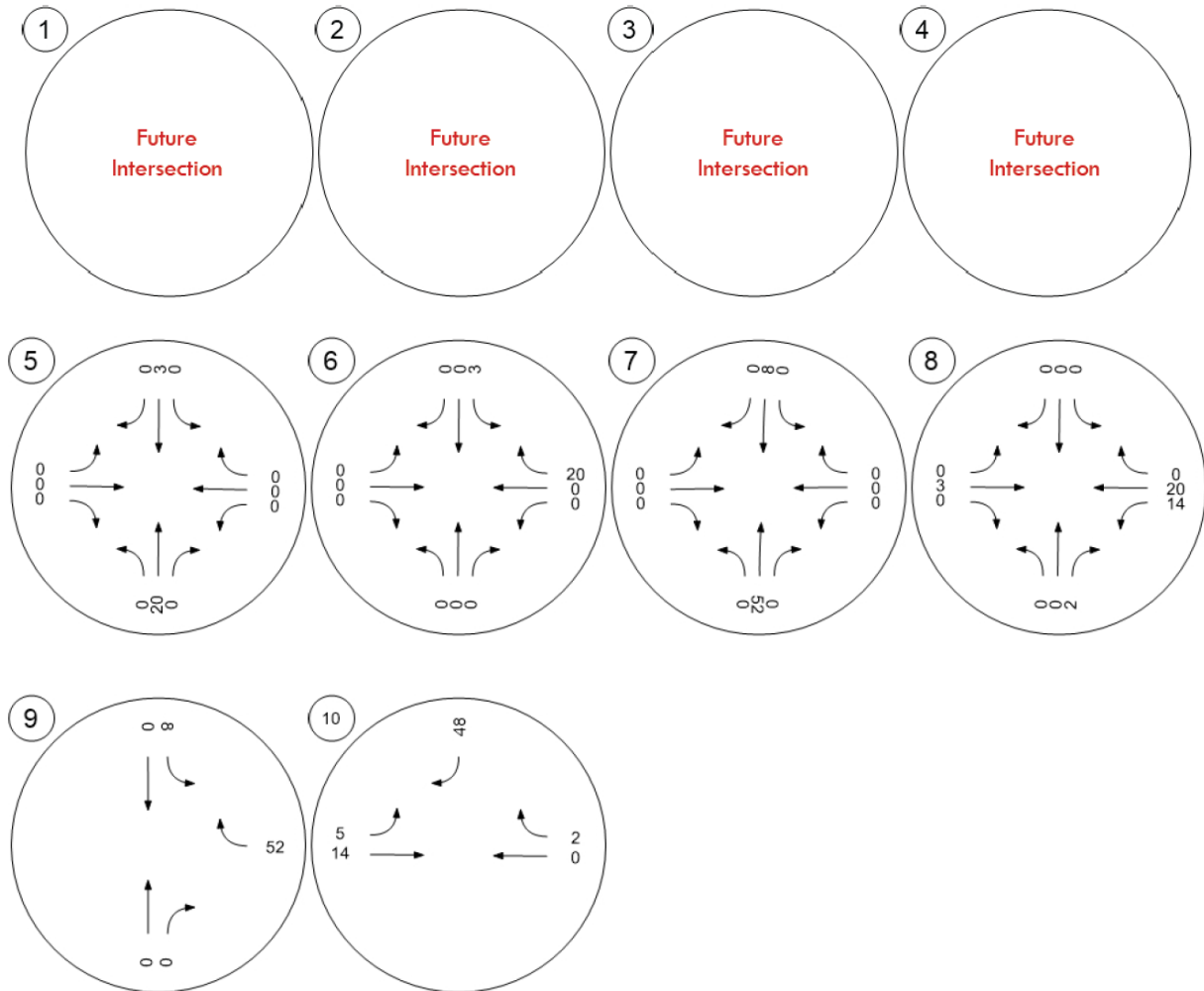


Figure 11a: Opening Year Project AM Trip Assignment

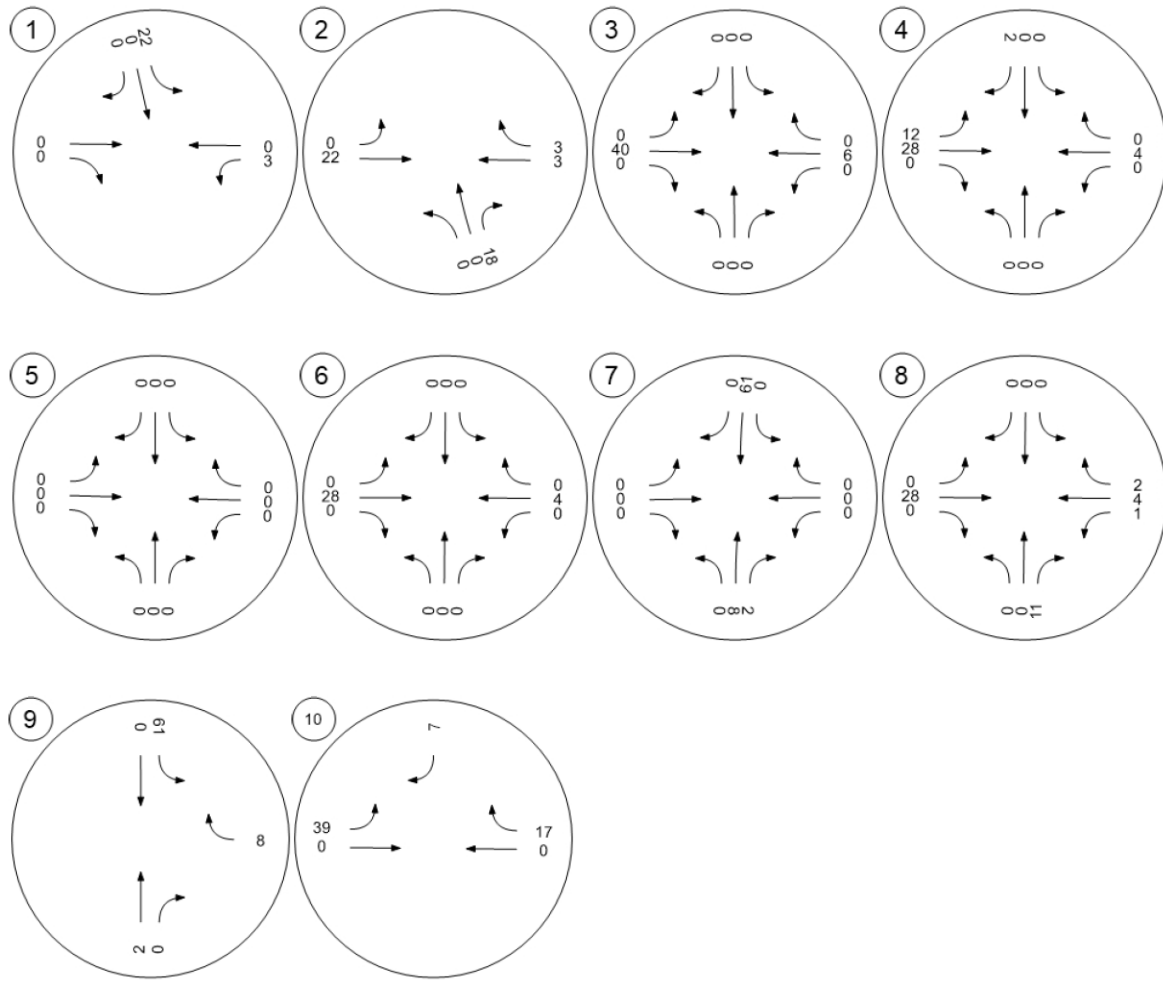
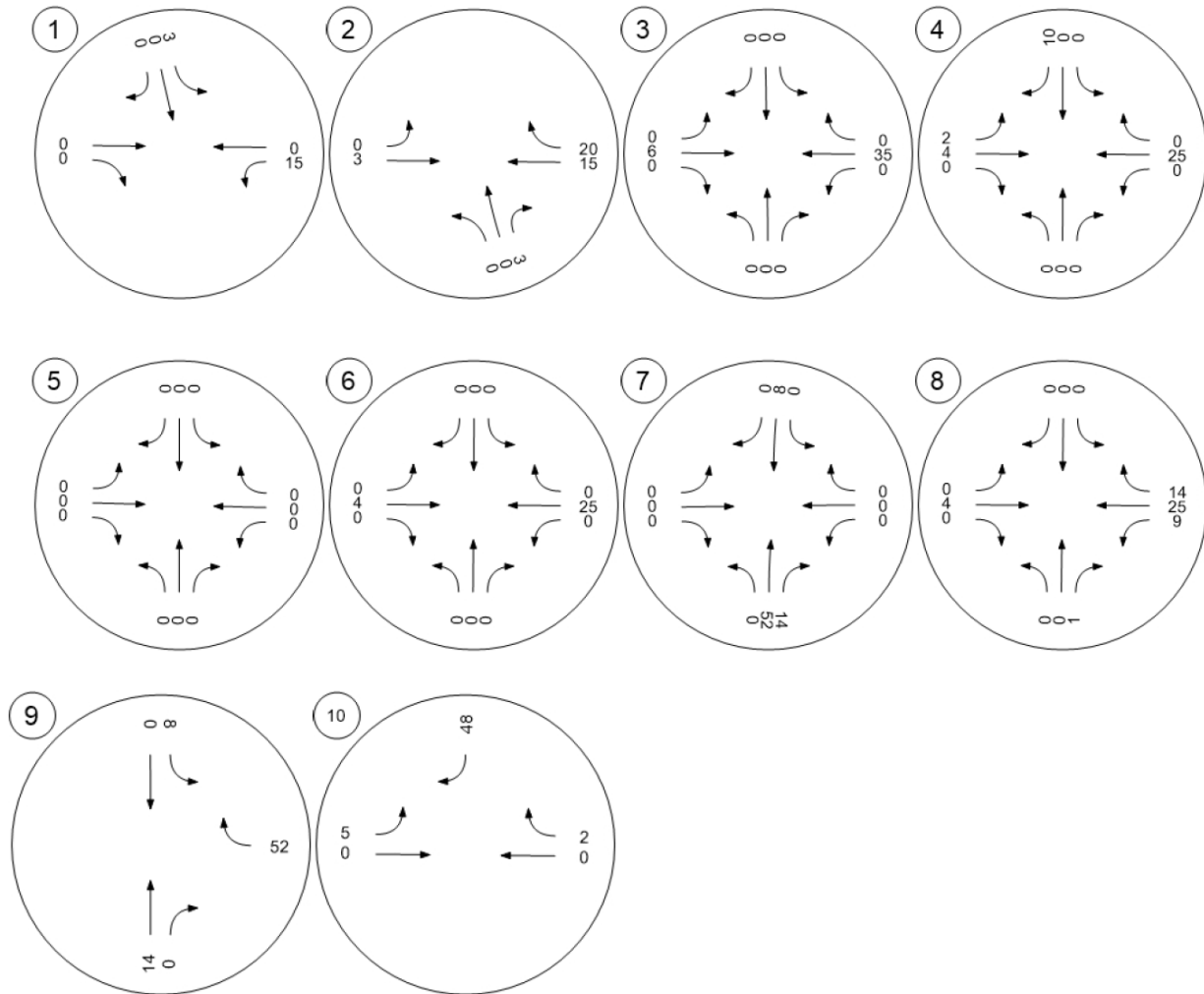




Figure 11b: Opening Year Project PM Trip Assignment



## 5 BASELINE PLUS PROJECT CONDITIONS

### 5.1 Existing Traffic Volumes and Intersection Operations

The Existing Plus Project traffic volumes were developed by adding the project trips to the Existing traffic volumes. The Existing Plus Project conditions traffic volumes are shown in Figures 12a and 12b. The LOS at the study area intersections were determined using the HCM methodology, described previously in Section 2.3. Table 7 shows the Existing Plus Project AM and PM peak hour LOS at the study area intersections. All LOS calculations are provided in *Appendix C*. As shown in Table 7, all intersections would operate at a satisfactory LOS.

**Table 7: Existing Plus Project AM and PM Peak Hour Level of Service**

Intersection	Traffic Control	Existing Year				Existing With Project				AM Delay Difference	PM Delay Difference	Impact
		AM Peak		PM Peak		AM Peak		PM Peak				
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>			
1. I-215 SB Ramps/Placentia Ave	Signal	-	-	-	-	-	-	-	-	-	-	-
2. I-215 NB Ramps/Placentia Ave	Signal	-	-	-	-	-	-	-	-	-	-	-
3. I-215 Frontage Rd/Placentia Ave	Signal	-	-	-	-	-	-	-	-	-	-	-
4. Indian Ave/Placentia Ave	Signal	-	-	-	-	-	-	-	-	-	-	-
5. Perris Blvd/Rider St	Signal	37.8	D	37.6	D	37.8	D	37.7	D	0.0	0.1	No
6. Perris Blvd/Placentia Ave	Signal	18.2	B	13.0	B	18.9	B	13.2	B	0.7	0.2	No
7. Redlands Ave/Rider St	Signal	28.0	C	29.1	C	28.4	C	29.4	C	0.4	0.3	No
8. Redlands Ave/Placentia Ave	AWSC	13.3	B	10.8	B	13.7	B	11.2	B	0.4	0.4	No
9. Redlands Ave/Project Dwy 1	TWSC	-	-	-	-	8.3	A	8.5	A	-	-	-
10. Placentia Ave/Project Dwy 2	TWSC	-	-	-	-	8.4	A	8.5	A	-	-	-

=Unsatisfactory Level of Service

AWSC = All-Way Stop Control

TWSC = Two-Way Stop Control

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

Figure 12a: Existing Plus Project AM Peak Hour Traffic Volumes

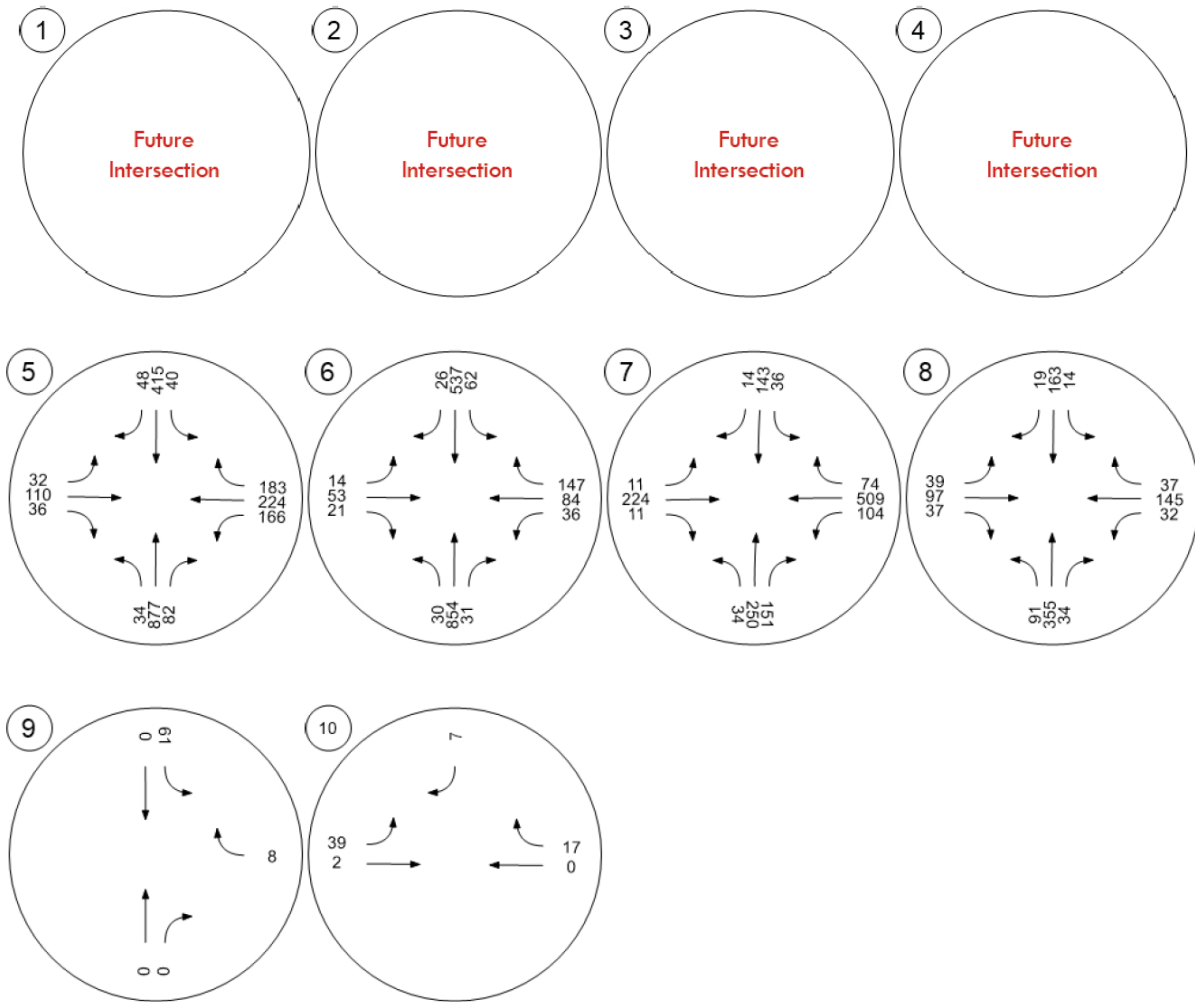
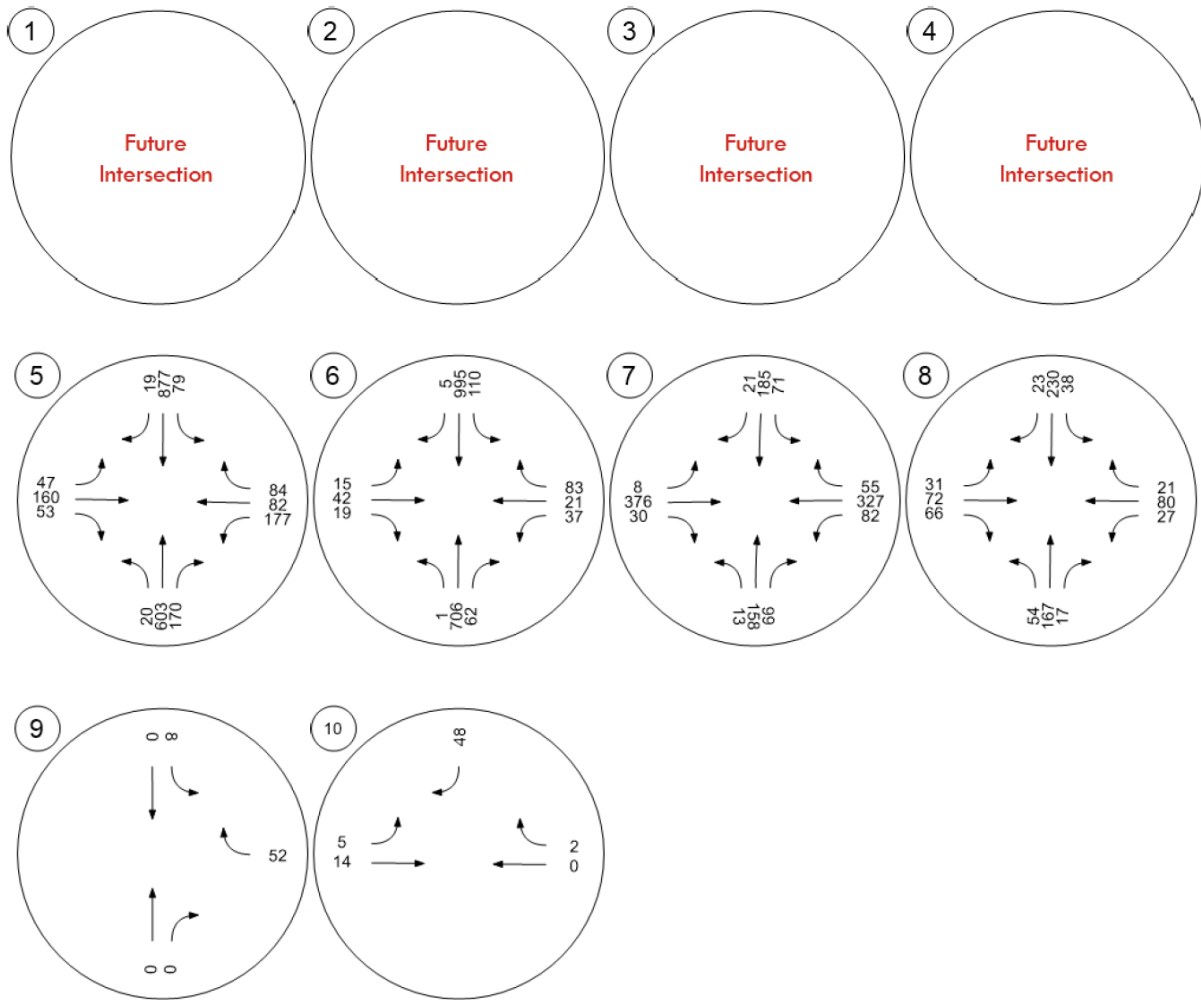




Figure 12b: Existing Plus Project PM Peak Hour Traffic Volumes





## 5.2 Opening Year Plus Project Traffic Volumes and Intersection Operations

The Opening Year Plus Project traffic volumes were determined by adding the project trips to Opening Year traffic volumes. The Opening Year Plus Project traffic volumes are shown on Figures 13a and 13b. The LOS at the study area intersections were determined using the HCM methodology, described previously in Section 2.3. Table 8 shows the Opening Year Plus Project AM and PM peak hour LOS at the study area intersections. All LOS calculations are provided in *Appendix C*. As shown in Table 8, all intersections are forecast to operate with a satisfactory LOS during both peak hours in the Opening Year Plus Project conditions except for the following intersections which would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions:

- I-215 NB Ramps/Placentia Avenue
  - The intersection of I-215 NB Ramps/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions during the AM peak hour.

Recommended Improvement: It is recommended to change the northbound lane geometry to one left-turn lane, one shared through-right lane, and one right-turn lane. This would improve the intersection's LOS and the intersection would operate at an acceptable LOS.

- Indian Avenue/Placentia Avenue
  - The intersection of Indian Avenue/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions during the AM and the PM peak hours.

Recommended Improvement: It is recommended to change the northbound and southbound left-turn phase to a protected-permissive phase. This would improve the intersection's LOS.

**Table 8: Opening Year Plus Project AM and PM Peak Hour Level of Service**

Intersection	Traffic Control	Opening Year Without Project				Opening Year With Project				AM Delay Difference	PM Delay Difference	Impact	Recommended Improvements	Opening Year With Project Plus IMP				Impact
		AM Peak		PM Peak		AM Peak		PM Peak						AM Peak		PM Peak		
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>					Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	
1. I-215 SB Ramps/Placentia Ave	Signal	16.0	B	21.4	C	14.8	B	21.5	C	-1.2	0.1	No	-	-	-	-	-	
2. I-215 NB Ramps/Placentia Ave	Signal	135.2	F	23.7	C	139.6	F	24.7	C	4.4	1.0	Yes	Change northbound lane geometry to one left-turn lane, one shared through-right lane, and one right-turn lane.	37.0	D	-	-	No
3. I-215 Frontage Rd/Placentia Ave	Signal	34.7	C	27.7	C	35.8	D	27.6	C	1.1	-0.1	No	-	-	-	-	-	
4. Indian Ave/Placentia Ave	Signal	170.5	F	152.9	F	174.1	F	159.8	F	3.6	6.9	Yes	Change northbound and southbound left-turn phasing to protected permissive phasing.	60.1	E	94.1	F	No
5. Perris Blvd/Rider St	Signal	25.1	C	22.3	C	24.5	C	22.3	C	-0.6	0.0	No	-	-	-	-	-	
6. Perris Blvd/Placentia Ave	Signal	24.6	C	23.4	C	26.1	C	23.6	C	1.5	0.2	No	-	-	-	-	-	
7. Redlands Ave/Rider St	Signal	26.2	C	24.9	C	25.5	C	24.6	C	-0.7	-0.3	No	-	-	-	-	-	
8. Redlands Ave/Placentia Ave	AWSC	15.7	C	12.7	B	16.6	C	13.7	B	0.9	1.0	No	-	-	-	-	-	
9. Redlands Ave/Project Dwy 1	TWSC	-	-	-	-	8.3	A	8.6	A	-	-	No	-	-	-	-	-	
10. Placentia Ave/Project Dwy 2	TWSC	-	-	-	-	8.5	A	8.7	A	-	-	No	-	-	-	-	-	

■ =Unsatisfactory Level of Service

AWSC = All-Way Stop Control

TWSC = Two-Way Stop Control

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

Figure 13a: Opening Year Plus Project AM Peak Hour Traffic Volumes

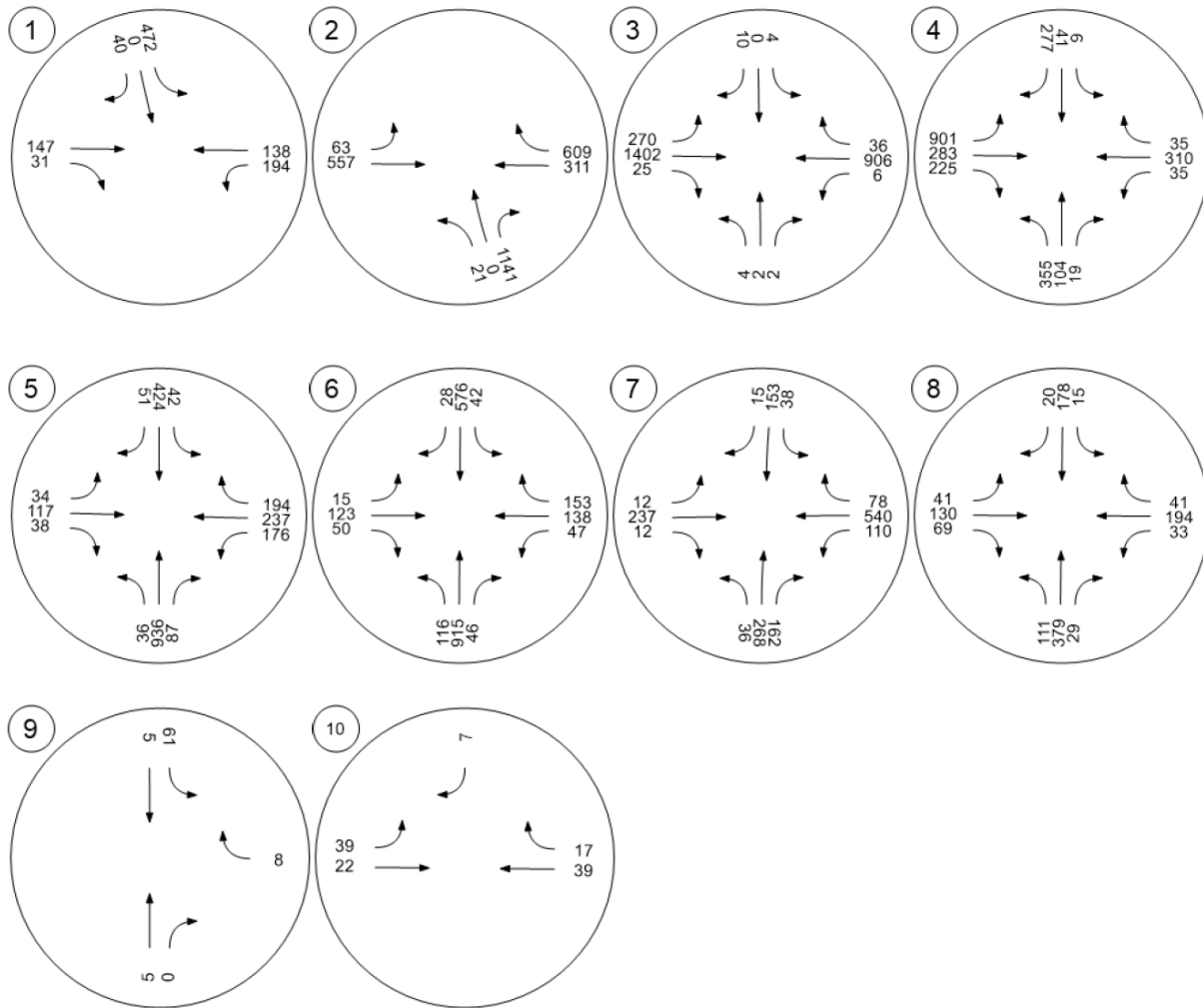
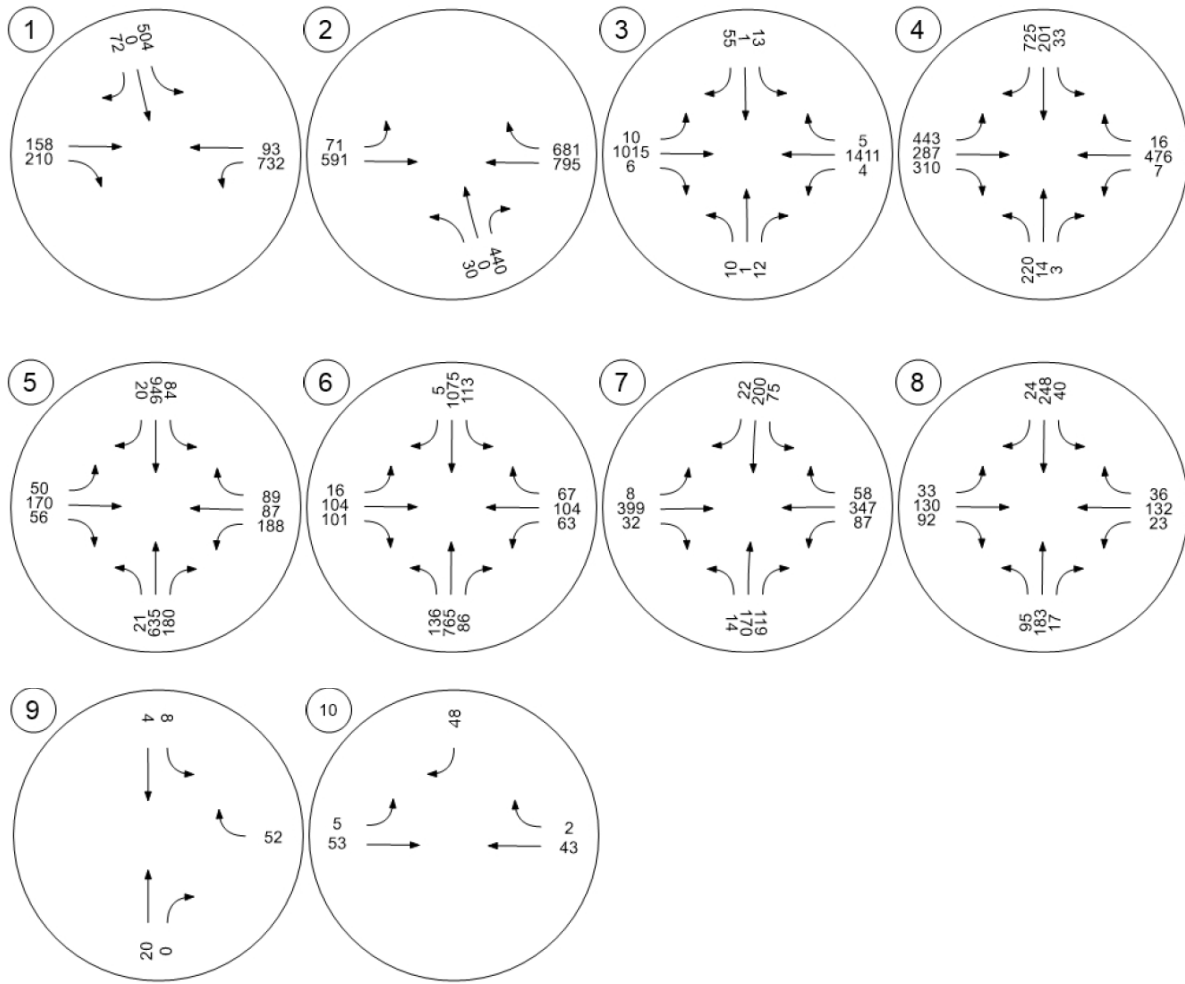


Figure 13b: Opening Year Plus Project PM Peak Hour Traffic Volumes



## 6 SUMMARY OF PROJECT IMPROVEMENTS AND PROJECT FAIR-SHARE

All intersections are forecast to operate with a satisfactory LOS during both peak hours in the Opening Year Plus Project conditions except for the following intersections which would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions:

- I-215 NB Ramps/Placentia Avenue
  - The intersection of I-215 NB Ramps/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions during the AM peak hour.

Recommended Improvement: It is recommended to change the northbound lane geometry to one left-turn lane, one shared through-right lane, and one right-turn lane. This would improve the intersection’s LOS and the intersection would operate at an acceptable LOS.

- Indian Avenue/Placentia Avenue
  - The intersection of Indian Avenue/Placentia Avenue would operate at an unsatisfactory LOS in the Opening Year Plus Project conditions during the AM and the PM peak hours.

Recommended Improvement: It is recommended to change the northbound and southbound left-turn phase to a protected-permissive phase. This would improve the intersection’s LOS.

Utilizing the methodology discussed in Section 2.4 - Methodology, the project would be responsible for a fair share for the aforementioned improvements. A fair share was conducted using the formula stated below. It is to be noted that the formula used does not account for existing trips as there are no existing volumes for intersections 2 and 4 with the intersections currently being under construction and are assumed as future intersections in this study. Table 9 outlines the improvements recommended for the intersections along with the estimated Fair Share Percent. As shown in Table 9, the total project share would be 7.65% for the intersection of I-215 NB Ramps/Placentia Avenue and 7.26% for the intersection of Indian Avenue/Placentia Avenue using the following formula.

$$\frac{\text{Project Trips}}{\text{Cumulative Projects Trips} + \text{Project Trips}}$$

**Table 3. Project Mitigation and Fair Share**

Intersection	Improvements	Project Trips		Cumulative Project Trips		Project Trips + Cumulative Project		Fair Share	Fair Share
		AM	PM	AM	PM	AM	PM	AM Percent	PM Percent
2. I-215 NB Ramps/Placentia Ave	Change northbound lane geometry to one left-turn lane, one shared through-right lane, and one right-turn lane.	46	-	555	-	601	-	7.65%	-
4. Indian Ave/Placentia Ave	Change northbound and southbound left-turn phasing to protected permissive phasing.	46	41	588	983	634	1024	7.26%	4.00%

---

*APPENDIX A – SCOPE OF WORK*

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## SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of Perris requirements for traffic impact analysis of the following project.

Case No. DPR 22-00008  
 Related Cases -  
 SP No.  
 EIR No.  
 GPA No.  
 CZ No.  
 Project Name: Placentia Redlands Ave Perris  
 Project Address: Northeast Corner of Redlands Avenue and Placentia Avenue  
 Project Description: 121,100 SF Industrial Building

	Consultant	Developer
Name:	EPD Solutions	Dedeaux Properties
Address:	2355 Main St Irvine, CA 92614	1299 Ocean Ave.,9th Floor Santa Monica, CA 90401
Telephone:	949-794-1180	323-981-8226
Fax:		

**A. Trip Generation Source:** ITE Trip Generation Manual 11th Edition, 2021, Land use 110 - General Light Industrial.

Current GP Land Use:	PVCC SP	Proposed Land Use: PVCC SP
Current Zoning:	PVCC SP - Light Industrial	Proposed Zoning PVCC SP - Light Industrial

	Current Trip Generation:			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
<b>Passenger Cars</b>						
AM Trips	0	0	0	55	7	62
PM Trips	0	0	0	7	48	55

	Current Trip Generation:			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
<b>Truck</b>						
AM Trips	0	0	0	24	4	28
PM Trips	0	0	0	4	20	24

Please note that the trip generation for trucks is listed as non-PCE. The traffic study will utilize PCE trip generation for level of service calculations.

Internal Trip Allowance	Yes	No	X	% Trip Discount
Pass-By Trip Allowance	Yes	No	X	% Trip Discount

A pass by trip discount of 25% is allowed for appropriate land uses. The pass by trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

**B. Trip Geographic Distribution**

(See attached exhibit for detailed distribution)

	Geographic Distribution								
<b>Existing Year</b>	<b>Trucks</b>	N	80%	S	20%	E	0%	W	0%
	<b>Passenger Cars</b>	N	40%	S	30%	E	30%	W	0%
<b>Opening Year</b>	<b>Trucks</b>	N	80%	S	20%	E	0%	W	0%
	<b>Passenger Cars</b>	N	40%	S	30%	E	30%	W	0%

**C. Background Traffic**

2024 Annual Ambient Growth Rate: 3%

Project buildout Year: The Placentia Avenue interchange will be assumed to be completely constructed during the Opening Year  
 Phase Year(s) Conditions.

**Study Scenarios:**

Other area projects to be analyzed: To be provided by City  
Model forecast methodology: Build-Up Method

- Existing Traffic Conditions
- Existing Plus Project Traffic Conditions
- Opening Year Without Project (Existing + Ambient Growth + Cumulative Projects) Traffic Conditions
- Opening Year with Project Traffic Conditions

**D. Study Intersections:** Note: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.

- 1 I-215 SB Ramps/Placentia Avenue
- 2 I-215 NB Ramps/Placentia Avenue
- 3 I-215 Frontage Rd/Placentia Avenue
- 4 Indian Ave/Placentia Avenue
- 5 Perris Boulevard/Rider Street
- 6 Perris Boulevard/Placentia Avenue
- 7 Redlands Avenue/Rider Street
- 8 Redlands Avenue/Project Dwy 1
- 9 Redlands Avenue/Placentia Avenue
- 10 Project Dwy 2/Placentia Avenue

**E. Study Roadway Segments:** Note: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

**F. Other Jurisdictional Impacts**

Is the project within a City's sphere of influence or one-mile radius of City boundaries? Yes No X

If so, name of City or Jurisdiction:

**G. Site Plan** (Copy Attached)

**H. Specific Issues to be addressed in the Study** (in addition of the standard analysis described in the Guidelines) - To be filled out by transportation department. Note: If the traffic study states that a "traffic signal is warranted" or "a traffic signal appears to be warranted" , or similar statement, at an existing unsignalized intersection, under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.

1) Both the proposed project driveway locations and spacing will be evaluated as per the On-Site Standards/Guidelines of the Perris Valley Commerce Center Specific Plan. As the project driveways on both Redlands and Placentia are short of the required driveway spacing for full-access in and out, both driveways would allow left-in and right-in/right-out only. Left-out would not be allowed on these driveways.

2) Truck turning templates for project driveway on Redlands Ave will be included in the study. Conceptual plan illustrating median break and overall access at the truck driveway on Redlands Avenue will be included in the study. This would include the left-turn pocket entry into the project driveway on Redlands.

**I. Existing Conditions**

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

New counts will be collected at the study intersections. EPD will work with the City to determine traffic volumes at the intersection of Perris Boulevard/ Placentia Avenue in the Opening Year when the Placentia Avenue Interchange construction would be completed.

Note: Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to the fee.

**Recommended by:**

Meghan Macias, TE 04/19/2022

Consultant's Representative Date

**Approved by:**

Transportation Department Date

Scoping agreement submitted on: 02/23/2022, 03/28/2022, 4/06/2022

Scoping agreement revised on: 04/19/2022

**Table 1: Proposed Trip generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<u>Trip Rates</u>								
General Light Industrial (GLI) <sup>1</sup>	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65
<b><u>Project Trip Generation</u></b>								
Industrial (GLI)	121.10 TSF	590	79	11	90	11	68	79
<b><u>Vehicle Mix</u></b> <sup>2</sup>		<b><u>Percent</u></b> <sup>2</sup>						
Passenger Vehicles	69.00%	407	55	7	62	7	48	55
2-Axle truck	6.80%	40	5	1	6	1	4	5
3-Axle truck	5.50%	32	4	1	5	1	3	4
4+-Axle Trucks	18.70%	110	15	2	17	2	13	15
	100%	590	79	11	90	11	68	79
<b><u>PCE Trip Generation</u></b> <sup>3</sup>		<b><u>PCE Factor</u></b>						
Passenger Vehicles	1.0	407	55	7	62	7	48	55
2-Axle truck	1.5	60	8	1	9	1	7	8
3-Axle truck	2.0	65	9	1	10	1	7	8
4+-Axle Trucks	3.0	331	44	6	50	6	38	44
		863	116	15	131	15	100	115

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 11th Edition, 2021. Land Use Code 110 - General Light Industrial

<sup>2</sup> Vehicle Mix from the SQAMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014. Composite trip generation rates.

<sup>3</sup> Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

Figure 1: Site Plan

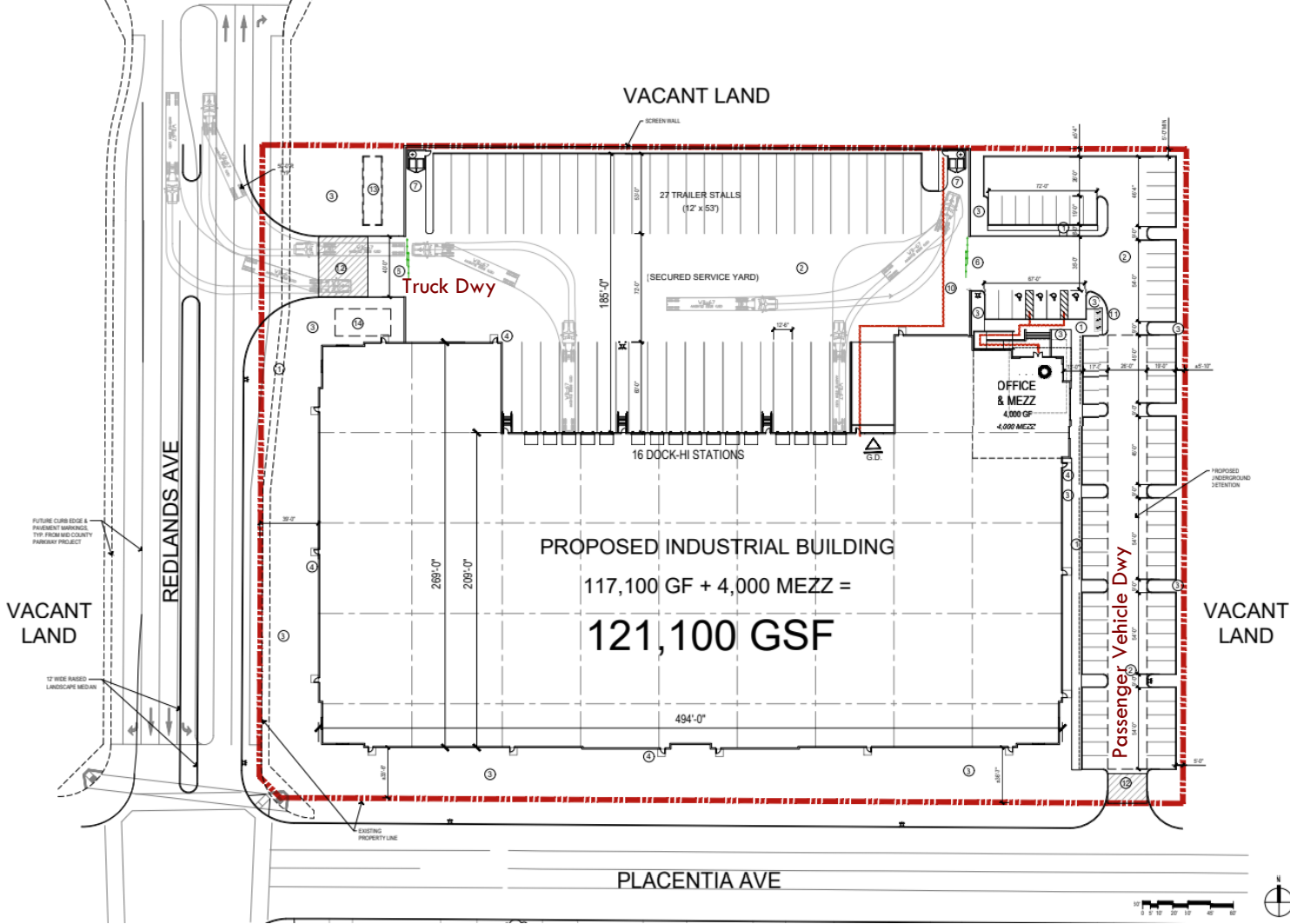
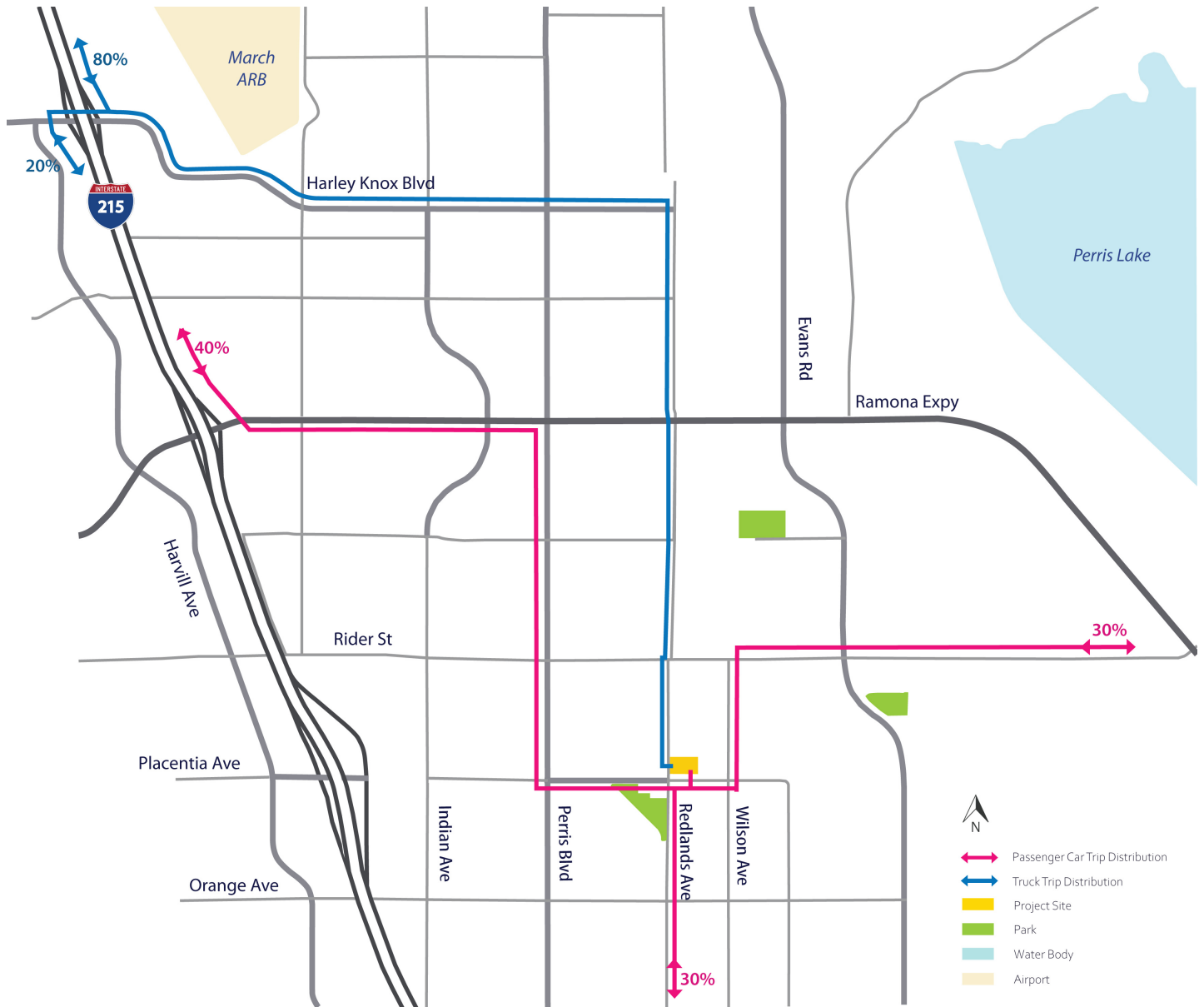


Figure 2: Study Area

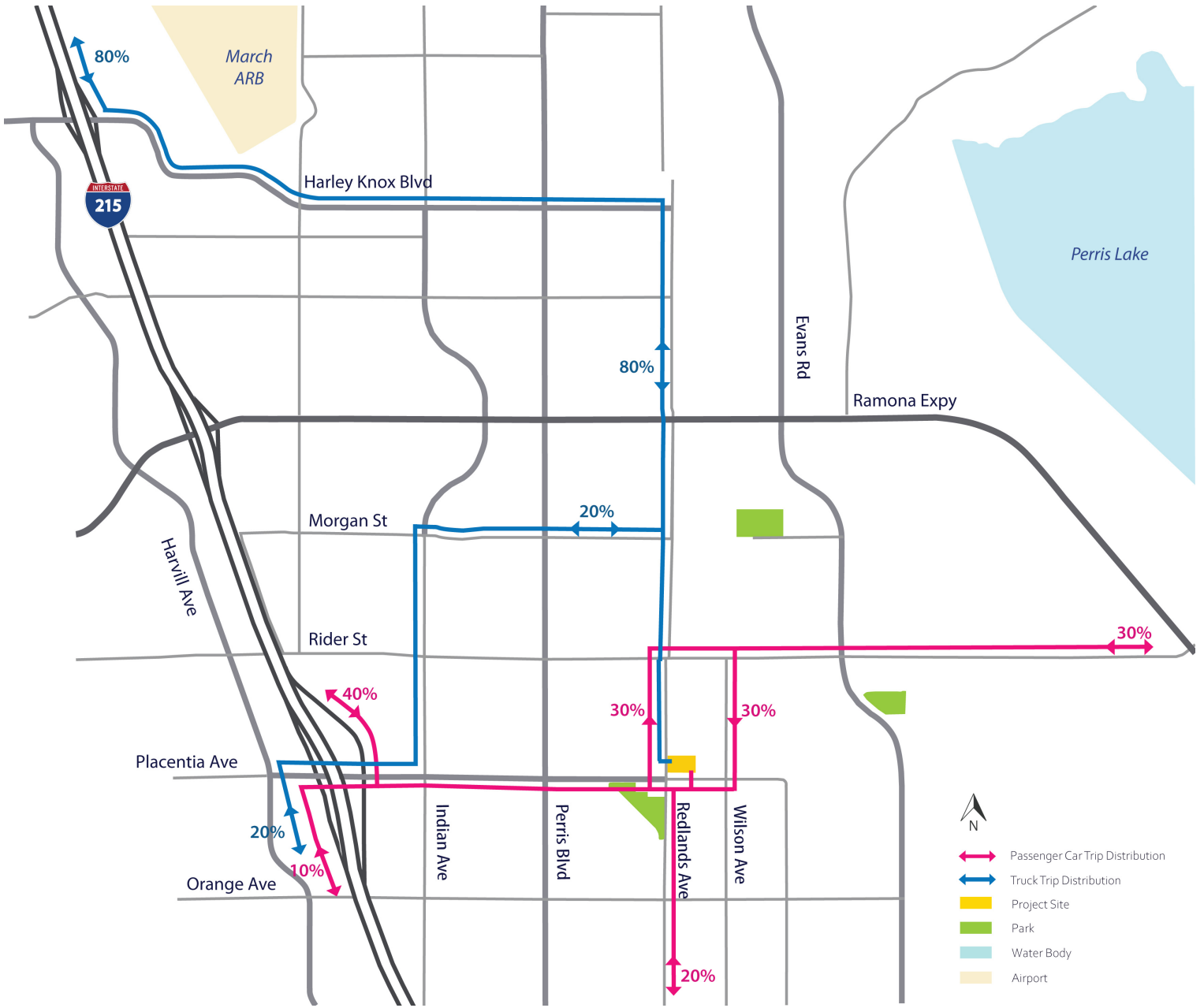


Figure 3: Project Trip Distribution – Existing Conditions





**Figure 4: Project Trip Distribution – Opening Year Conditions**





**CITY OF PERRIS  
VMT SCOPING FORM FOR LAND USE PROJECTS**

This Scoping Form acknowledges the City of Perris requirements for the evaluation of transportation impacts under CEQA. The analysis provided in this form should follow the City of Perris TIA Guidelines, dated May 12, 2020.

**I. Project Description**

Tract/Case No.

Project Name:

Project Location:

Project Description:

(Please attach a copy of the project Site Plan)

Current GP Land Use:

Proposed GP Land Use:

Current Zoning:

Proposed Zoning:

If a project requires a General Plan Amendment or Zone change, then additional information and analysis should be provided to ensure the project is consistent with RHNA and RTP/SCS Strategies.

**II. VMT Screening Criteria**

- A. Is the Project 100% affordable housing? 

YES		NO	X
-----	--	----	---

 Attachments:
- B. Is the Project within 1/2 mile of qualifying transit? 

YES		NO	X
-----	--	----	---

 Attachments:
- C. Is the Project a local serving land use? 

YES		NO	X
-----	--	----	---

 Attachments:
- D. Is the Project in a low VMT area? 

YES	X	NO	
-----	---	----	--

 Attachments:
- E. Are the Project's Net Daily Trips less than 500 ADT? 

YES		NO	X
-----	--	----	---

 Attachments:

**Low VMT Area Evaluation:**

Citywide VMT Averages <sup>1</sup>		
Citywide Home-Based VMT =	15.05	VMT/Capita
Citywide Employment-Based VMT =	11.62	VMT/Employee

[WRCOG VMT MAP](#)

Project TAZ	VMT Rate for Project TAZ <sup>1</sup>		Type of Project	
	3,814	VMT/Capita		Residential:
VMT/Employee			Non-Residential:	9.95

<sup>1</sup> Base year (2012) projections from RIVTAM.

**Trip Generation Evaluation:**

Source of Trip Generation:

Project Trip Generation:  Average Daily Trips (ADT)

Internal Trip Credit:	YES	<input type="text"/>	NO	<input type="text"/>	% Trip Credit:	<input type="text"/>
Pass-By Trip Credit:	YES	<input type="text"/>	NO	<input type="text"/>	% Trip Credit:	<input type="text"/>
Affordable Housing Credit:	YES	<input type="text"/>	NO	<input type="text"/>	% Trip Credit:	<input type="text"/>
Existing Land Use Trip Credit:	YES	<input type="text"/>	NO	<input type="text"/>	Trip Credit:	<input type="text"/>

Net Project Daily Trips:  Average Daily Trips (ADT) Attachments:

Does project trip generation warrant an LOS evaluation outside of CEQA? 

YES	X	NO	--
-----	---	----	----

**III. VMT Screening Summary**

**A. Is the Project presumed to have a less than significant impact on VMT?**

A Project is presumed to have a less than significant impact on VMT if the Project satisfies at least one (1) of the VMT screening criteria.

YES

**B. Is mitigation required?**

If the Project does not satisfy at least one (1) of the VMT screening criteria, then mitigation is required to reduce the Project's impact on VMT.

NO

**C. Is additional VMT modeling required to evaluate Project impacts?**

If the Project requires a zone change and/or General Plan Amendment AND generates 2,500 or more net daily trips, then additional VMT modeling using RIVTAM/RIVCOM is required. If the project generates less than 2,500 net daily trips, the Project TAZ VMT Rate can be used for mitigation purposes.

YES	--	NO	X-
-----	----	----	----

**IV. MITIGATION**

**A. Citywide Average VMT Rate (Threshold of Significance) for Mitigation Purposes:**

--	--
----	----

**B. Unmitigated Project TAZ VMT Rate:**

--	--
----	----

**C. Percentage Reduction Required to Achieve the Citywide Average VMT:**

--
----

**D. VMT Reduction Mitigation Measures:**

<b>Source of VMT Reduction Estimates:</b>	
---	--

<b>Project Location Setting</b>	
---------------------------------	--

	VMT Reduction Mitigation Measure:	Estimated VMT Reduction (%)
1.		0.00%
2.		0.00%
3.		0.00%
4.		0.00%
5.		0.00%
6.		0.00%
7.		0.00%
8.		0.00%
9.		0.00%
10.		0.00%
<b>Total VMT Reduction (%)</b>		<b>0.00%</b>

(Attach additional pages, if necessary, and a copy of all mitigation calculations.)

**E. Mitigated Project TAZ VMT Rate:**

--	--
----	----

**F. Is the project presumed to have a less than significant impact with mitigation?**

--

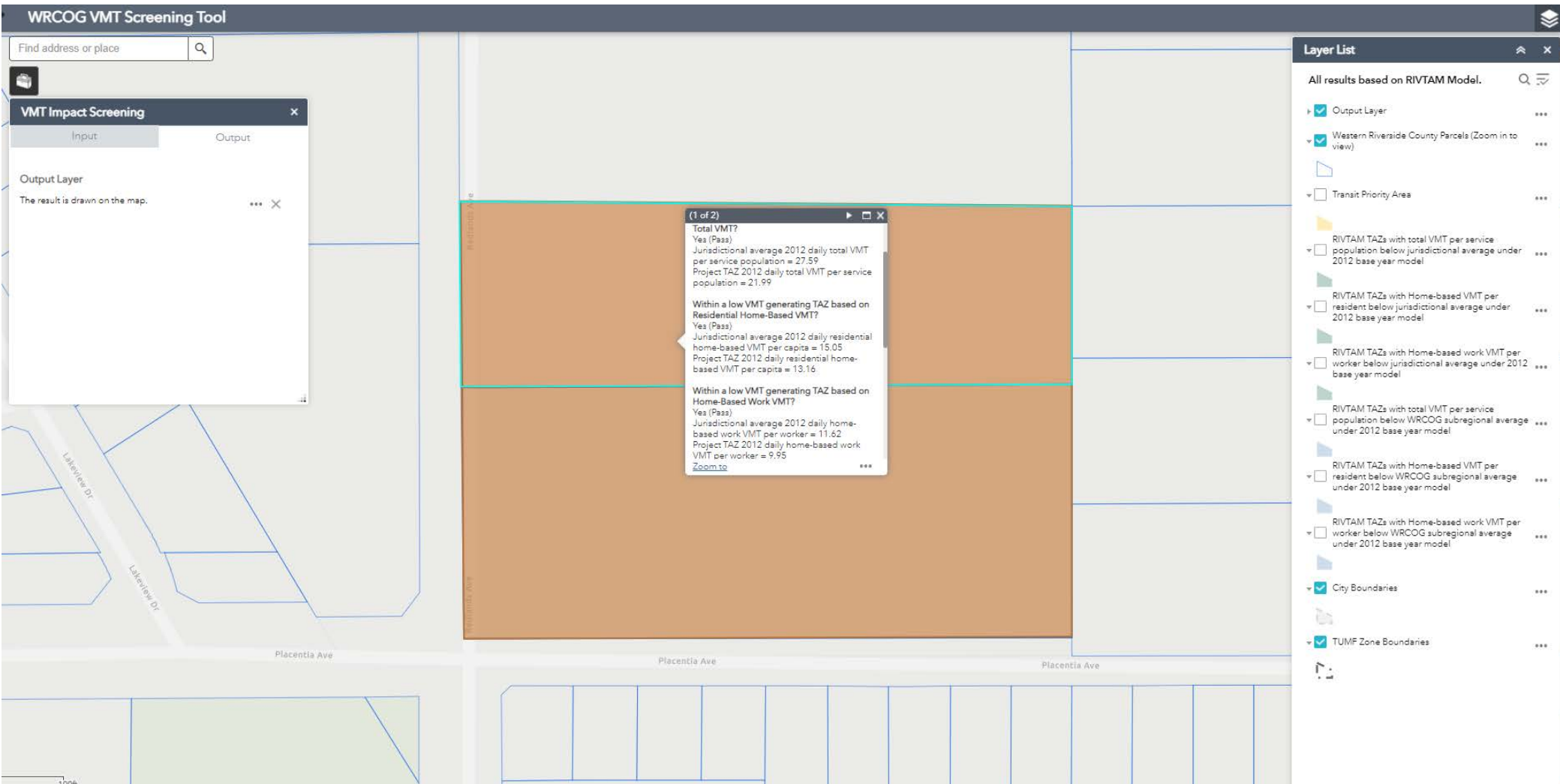
If the mitigated Project VMT rate is below the Citywide Average Rate, then the Project is presumed to have a less than significant impact with mitigation. If the answer is no, then additional VMT modeling may be required and a potentially significant and unavoidable impact may occur. All mitigation measures identified in Section IV.D. are subject to become Conditions of Approval of the project. Development review and processing fees should be submitted with, or prior to the submittal of this Form. The Planning Department staff will not process the Form prior to fees being paid to the City.

Prepared By		Developer/Applicant	
<b>Company:</b>	EPD Solutions	<b>Company:</b>	Dedeaux Properties
<b>Contact:</b>	Meghan Macias, TE	<b>Contact:</b>	Benjamin Horning
<b>Address:</b>	2355 Main Street #100, Irvine, CA 92614	<b>Address:</b>	1299 Ocean Ave., 9th Floor Santa Monica, CA 90401
<b>Phone:</b>	949.794.1186	<b>Phone:</b>	323.981.8226
<b>Email:</b>	meghan@epdsolutions.com	<b>Email:</b>	benh@dedeauxproperties.com
<b>Date:</b>	02/23/2022	<b>Date:</b>	02/23/2022

**Approved by:**

<b>Perris Development Services Dept.</b>	<b>Perris Public Works Dept.</b>
<b>Date</b>	<b>Date</b>

Figure 5: VMT Screening





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*APPENDIX B – COUNT SHEETS*

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### INTERSECTION TURNING MOVEMENT COUNTS

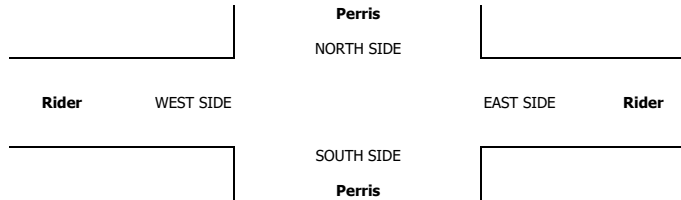
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 5/3/22 TUESDAY	<b>LOCATION:</b> NORTH & SOUTH: EAST & WEST:	Perris Perris Rider	<b>PROJECT #:</b> SC3413 <b>LOCATION #:</b> 5 <b>CONTROL:</b> SIGNAL
-----------------------------------	--	---------------------------	--

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

LANES:	NORTHBOUND <small>Perris</small>			SOUTHBOUND <small>Perris</small>			EASTBOUND <small>Rider</small>			WESTBOUND <small>Rider</small>			TOTAL	U-TURNS				
	NL 1	NT 3	NR 1	SL 1	ST 3	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1		NB	SB	EB	WB	TTL

<b>AM</b>	7:00 AM	9	264	18	12	69	4	12	11	4	24	35	41	499						0
	7:15 AM	4	247	16	11	72	11	4	17	7	41	46	46	520						0
	7:30 AM	10	276	19	9	100	3	6	28	8	26	55	46	584						0
	7:45 AM	12	179	23	12	94	17	13	32	11	43	88	46	568						0
	8:00 AM	8	173	25	8	127	17	10	34	10	57	35	46	547						0
	8:15 AM	3	151	21	14	121	9	7	13	9	35	40	40	460						0
	8:30 AM	8	129	25	11	113	8	11	13	5	41	20	33	414						0
	8:45 AM	2	107	24	7	107	8	3	8	1	27	18	23	332						0
	VOLUMES	54	1,524	169	82	802	77	64	153	54	292	335	318	3,923	0	0	0	0	0	0
	APPROACH %	3%	87%	10%	9%	83%	8%	24%	56%	20%	31%	35%	34%							
APP/DEPART	1,747	/	1,906	960	/	1,148	271	/	404	945	/	466	0							
BEGIN PEAK HR		7:15 AM																		
VOLUMES	34	874	82	40	393	48	32	110	36	166	224	183	2,219							
APPROACH %	3%	88%	8%	8%	82%	10%	18%	62%	20%	29%	39%	32%								
PEAK HR FACTOR		0.814				0.790		0.805			0.813		0.951							
APP/DEPART	989	/	1,089	481	/	595	177	/	231	573	/	305	0							
<b>PM</b>	4:00 PM	2	148	36	24	205	8	7	34	16	49	19	39	586						0
	4:15 PM	4	121	46	23	200	7	6	51	10	44	26	36	571						0
	4:30 PM	4	157	44	15	209	6	13	40	9	46	22	22	586						0
	4:45 PM	6	155	44	22	246	6	5	43	19	44	17	22	626						0
	5:00 PM	4	140	43	11	214	2	20	48	7	44	17	22	570						0
	5:15 PM	6	132	40	31	206	5	9	30	19	44	26	19	566						0
	5:30 PM	2	173	45	17	176	8	9	36	18	36	27	28	573						0
	5:45 PM	3	129	38	23	186	4	9	47	13	41	29	17	538						0
	VOLUMES	31	1,153	334	166	1,640	46	77	326	110	347	182	204	4,614	0	0	0	0	0	0
	APPROACH %	2%	76%	22%	9%	89%	2%	15%	64%	21%	47%	25%	28%							
APP/DEPART	1,518	/	1,433	1,852	/	2,097	513	/	826	732	/	259	0							
BEGIN PEAK HR		4:30 PM																		
VOLUMES	20	583	170	79	874	19	47	160	53	177	82	84	2,347							
APPROACH %	3%	75%	22%	8%	90%	2%	18%	61%	20%	52%	24%	25%								
PEAK HR FACTOR		0.944				0.887		0.871			0.951		0.938							
APP/DEPART	773	/	714	972	/	1,104	260	/	408	343	/	121	0							





### INTERSECTION TURNING MOVEMENT COUNTS

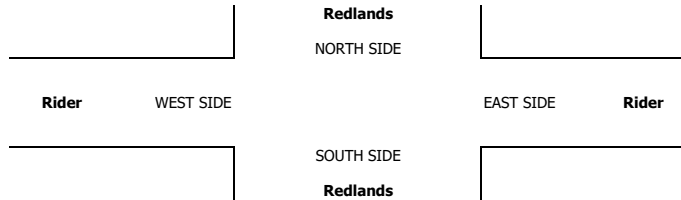
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 5/3/22 TUESDAY	<b>LOCATION:</b> NORTH & SOUTH: EAST & WEST:	Perris Redlands Rider	PROJECT #: LOCATION #: CONTROL:	SC3413 7 SIGNAL
-----------------------------------	--	-----------------------------	---------------------------------------	-----------------------

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

LANES:	NORTHBOUND <small>Redlands</small>			SOUTHBOUND <small>Redlands</small>			EASTBOUND <small>Rider</small>			WESTBOUND <small>Rider</small>			TOTAL	U-TURNS				
	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 1	ER 1	WL 1	WT 2	WR 0		NB	SB	EB	WB	TTL

<b>AM</b>	7:00 AM	3	67	25	5	13	0	3	44	2	10	105	12	288						0
	7:15 AM	9	75	28	5	13	0	1	60	1	23	115	15	343						0
	7:30 AM	10	69	45	5	23	5	3	51	2	18	138	18	386						0
	7:45 AM	8	55	44	8	24	6	7	51	3	26	139	23	393						0
	8:00 AM	7	43	34	18	22	3	0	64	5	37	117	19	368						0
	8:15 AM	4	29	16	13	11	6	2	42	1	29	109	19	280						0
	8:30 AM	3	24	13	6	19	2	2	42	6	19	81	16	232						0
	8:45 AM	5	16	9	5	17	2	0	29	2	10	47	9	150						0
	VOLUMES	48	378	213	64	140	24	18	381	22	172	850	130	2,438	0	0	0	0	0	0
	APPROACH %	8%	59%	33%	28%	62%	10%	4%	91%	5%	15%	74%	11%							
APP/DEPART	639	/	525	228	/	334	420	/	658	1,152	/	922	0							
BEGIN PEAK HR		7:15 AM																		
VOLUMES	34	242	151	36	82	14	11	224	11	104	509	74	1,489							
APPROACH %	8%	57%	35%	27%	62%	11%	4%	91%	4%	15%	74%	11%								
PEAK HR FACTOR		0.858				0.762			0.898			0.912		0.948						
APP/DEPART	426	/	327	131	/	196	246	/	410	686	/	556	0							
<b>PM</b>	4:00 PM	4	31	24	14	50	9	1	88	12	24	87	21	363						0
	4:15 PM	6	19	21	17	40	5	4	99	6	23	75	11	325						0
	4:30 PM	3	30	27	26	56	3	3	92	4	17	87	9	355						0
	4:45 PM	0	26	27	14	33	4	0	98	8	18	78	14	320						0
	5:00 PM	5	23	24	15	56	2	2	97	13	21	74	5	334						0
	5:15 PM	1	19	22	19	34	5	1	76	9	23	79	7	293						0
	5:30 PM	5	33	30	10	33	3	2	100	9	19	75	7	325						0
	5:45 PM	3	16	20	10	22	3	1	91	4	16	71	10	266						0
	VOLUMES	27	196	194	124	321	33	14	740	65	160	625	84	2,580						
	APPROACH %	6%	47%	47%	26%	67%	7%	2%	90%	8%	18%	72%	10%							
APP/DEPART	416	/	294	478	/	545	819	/	1,057	868	/	685	0							
BEGIN PEAK HR		4:00 PM																		
VOLUMES	13	106	99	71	177	21	8	376	30	82	327	55	1,362							
APPROACH %	6%	49%	45%	26%	66%	8%	2%	91%	7%	18%	71%	12%								
PEAK HR FACTOR		0.912				0.798			0.948			0.881		0.939						
APP/DEPART	217	/	169	268	/	288	414	/	545	464	/	361	0							





### INTERSECTION TURNING MOVEMENT COUNTS

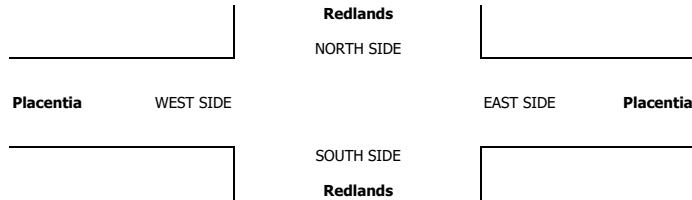
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 5/3/22 TUESDAY	<b>LOCATION:</b> NORTH & SOUTH: EAST & WEST:	Perris Redlands Placentia	<b>PROJECT #:</b> SC3413 <b>LOCATION #:</b> 8 <b>CONTROL:</b> STOP ALL
-----------------------------------	--	---------------------------------	---

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

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0		NB	SB	EB	WB	TTL

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS					
	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0		NB	SB	EB	WB	TTL	
<b>AM</b>	7:00 AM	9	62	2	4	21	3	11	8	6	1	19	9	154					0
	7:15 AM	17	96	1	1	29	6	11	10	3	2	21	8	204					0
	7:30 AM	26	97	5	2	34	5	7	15	12	5	32	9	247					0
	7:45 AM	33	100	3	7	48	3	8	24	19	10	52	8	313					0
	8:00 AM	16	63	8	4	53	5	13	26	4	13	37	12	253					0
	8:15 AM	17	42	1	5	35	6	3	13	8	5	27	3	165					0
	8:30 AM	9	36	0	2	34	5	4	13	4	3	16	6	131					0
	8:45 AM	11	30	0	2	21	1	3	5	14	1	14	4	105					0
	VOLUMES	136	524	20	27	273	34	59	114	69	40	218	59	1,571	0	0	0	0	0
	APPROACH %	20%	77%	3%	8%	82%	10%	24%	47%	29%	13%	69%	19%						
	APP/DEPART	680	/	642	334	/	381	242	/	160	316	/	388	0					
	BEGIN PEAK HR	7:15 AM																	
VOLUMES	91	355	17	14	163	19	39	75	37	30	142	37	1,016						
APPROACH %	20%	77%	4%	7%	83%	10%	26%	50%	25%	14%	68%	18%							
PEAK HR FACTOR	0.855			0.795			0.745			0.745			0.812						
APP/DEPART	462	/	430	196	/	230	151	/	106	209	/	251	0						
<b>PM</b>	4:00 PM	17	32	4	11	60	8	12	20	11	3	27	10	213					0
	4:15 PM	13	46	1	9	61	7	6	14	15	4	17	1	194					0
	4:30 PM	11	43	4	11	56	5	10	15	18	3	6	4	184					0
	4:45 PM	13	46	7	7	54	3	4	20	22	3	11	6	195					0
	5:00 PM	17	38	2	4	63	7	9	14	24	0	15	4	195					0
	5:15 PM	23	36	1	9	66	4	10	11	18	5	10	1	193					0
	5:30 PM	15	52	4	8	50	8	5	12	19	3	13	1	189					0
	5:45 PM	13	40	0	4	34	2	2	12	15	0	14	4	139					0
	VOLUMES	121	332	22	63	441	43	57	118	141	21	112	31	1,500	0	0	0	0	0
	APPROACH %	26%	70%	5%	11%	81%	8%	18%	37%	45%	13%	68%	19%						
	APP/DEPART	475	/	419	547	/	603	315	/	202	164	/	276	0					
	BEGIN PEAK HR	4:00 PM																	
VOLUMES	54	167	15	38	230	23	31	69	66	13	60	21	785						
APPROACH %	23%	71%	6%	13%	79%	8%	19%	42%	40%	14%	64%	22%							
PEAK HR FACTOR	0.897			0.935			0.909			0.595			0.923						
APP/DEPART	235	/	219	290	/	309	166	/	122	94	/	136	0						



---

*APPENDIX C – LEVEL OF SERVICE CALCULATIONS*

---

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 1 Existing AM

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

10/18/2022

**Intersection Analysis Summary**

<b>ID</b>	<b>Intersection Name</b>	<b>Control Type</b>	<b>Method</b>	<b>Worst Mvmt</b>	<b>V/C</b>	<b>Delay (s/veh)</b>	<b>LOS</b>
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.511	37.8	D
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	EB Thru	0.596	18.2	B
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	SB Left	0.504	28.0	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	WB Thru	0.451	13.3	B

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

**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 37.8  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.511

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T T			T T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1500.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	34	874	82	40	393	48	32	110	36	166	224	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	12	0	0	9	0	0	46
Total Hourly Volume [veh/h]	34	874	61	40	393	36	32	110	27	166	224	137
Peak Hour Factor	0.8140	0.8140	0.8140	0.7900	0.7900	0.7900	0.8050	0.8050	0.8050	0.8130	0.8130	0.8130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	268	19	13	124	11	10	34	8	51	69	42
Total Analysis Volume [veh/h]	42	1074	75	51	497	46	40	137	34	204	276	169
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	32	0	11	32	0	11	40	0	17	46	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	28	28	7	28	28	7	36	36	13	42	42
g / C, Green / Cycle	0.07	0.28	0.28	0.07	0.28	0.28	0.07	0.36	0.36	0.13	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.05	0.03	0.11	0.03	0.02	0.04	0.02	0.13	0.08	0.12
s, saturation flow rate [veh/h]	1629	4658	1454	1629	4658	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	114	1304	407	114	1304	407	114	1172	523	212	1367	610
d1, Uniform Delay [s]	44.39	33.69	27.33	44.64	29.02	26.77	44.33	21.38	20.97	43.26	18.38	19.03
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.93	5.99	1.00	12.18	0.85	0.56	8.30	0.20	0.24	53.07	0.33	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.37	0.82	0.18	0.45	0.38	0.11	0.35	0.12	0.06	0.96	0.20	0.28
d, Delay for Lane Group [s/veh]	53.32	39.67	28.33	56.83	29.86	27.33	52.63	21.58	21.21	96.33	18.71	20.16
Lane Group LOS	D	D	C	E	C	C	D	C	C	F	B	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.24	8.37	1.41	1.56	3.15	0.84	1.18	1.05	0.53	7.93	1.95	2.59
50th-Percentile Queue Length [ft/ln]	31.07	209.24	35.31	38.96	78.76	21.11	29.40	26.24	13.24	198.14	48.87	64.75
95th-Percentile Queue Length [veh/ln]	2.24	13.11	2.54	2.80	5.67	1.52	2.12	1.89	0.95	12.54	3.52	4.66
95th-Percentile Queue Length [ft/ln]	55.93	327.86	63.56	70.12	141.76	38.00	52.92	47.22	23.83	313.56	87.97	116.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.32	39.67	28.33	56.83	29.86	27.33	52.63	21.58	21.21	96.33	18.71	20.16
Movement LOS	D	D	C	E	C	C	D	C	C	F	B	C
d_A, Approach Delay [s/veh]	39.44			31.98			27.41			43.49		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	37.80											
Intersection LOS	D											
Intersection V/C	0.511											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.202			3.101			2.616			2.762		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			560			720			840		
d_b, Bicycle Delay [s]	25.92			25.92			20.48			16.82		
I_b,int, Bicycle LOS Score for Intersection	2.226			1.893			1.741			2.133		
Bicycle LOS	B			A			A			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 18.2  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.596

**Intersection Setup**

Name	Perris Blvd		Perris Blvd		Perris Blvd		Placentia Ave		Placentia Ave		Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Entry Pocket	Entry Pocket Length [ft]	No. of Lanes in Exit Pocket	Exit Pocket Length [ft]	Speed [mph]	Grade [%]	Curb Present	Crosswalk	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right														
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	1	180.00	100.00	100.00	100.00	45.00	0.00	Yes	Yes
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	100.00	45.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	1	230.00	100.00	100.00	45.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	100.00	40.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	173.00	100.00	100.00	40.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	100.00	40.00	0.00	Yes	Yes	

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Input [veh/h]	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	7	0	0	5	0	0	36
Total Hourly Volume [veh/h]	30	854	23	40	537	19	14	53	16	36	84	108
Peak Hour Factor	0.8080	0.8080	0.8080	0.8070	0.8070	0.8070	0.4610	0.4610	0.4610	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	264	7	12	166	6	8	29	9	12	27	35
Total Analysis Volume [veh/h]	37	1057	28	50	665	24	30	115	35	46	108	138
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	23	0	11	23	0	11	30	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	42	42	5	42	42	3	9	4	10	10
g / C, Green / Cycle	0.05	0.55	0.55	0.06	0.56	0.56	0.04	0.11	0.06	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.32	0.03	0.20	0.20	0.02	0.09	0.03	0.06	0.09
s, saturation flow rate [veh/h]	1629	1710	1694	1629	1710	1689	1629	1642	1629	1710	1454
c, Capacity [veh/h]	82	946	937	99	963	951	71	189	94	221	188
d1, Uniform Delay [s]	34.59	10.99	10.99	34.14	8.97	8.97	34.93	32.32	34.26	30.36	31.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	2.55	2.58	3.96	1.05	1.06	3.91	7.34	3.88	1.67	5.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.58	0.58	0.51	0.36	0.36	0.42	0.79	0.49	0.49	0.74
d, Delay for Lane Group [s/veh]	38.40	13.54	13.57	38.10	10.02	10.03	38.84	39.66	38.14	32.03	36.93
Lane Group LOS	D	B	B	D	B	B	D	D	D	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.70	5.25	5.21	0.93	2.68	2.65	0.58	2.88	0.87	1.81	2.55
50th-Percentile Queue Length [ft/ln]	17.53	131.31	130.31	23.36	66.92	66.25	14.61	71.98	21.82	45.26	63.65
95th-Percentile Queue Length [veh/ln]	1.26	9.01	8.96	1.68	4.82	4.77	1.05	5.18	1.57	3.26	4.58
95th-Percentile Queue Length [ft/ln]	31.55	225.27	223.92	42.05	120.46	119.26	26.30	129.57	39.28	81.48	114.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.40	13.56	13.57	38.10	10.02	10.03	38.84	39.66	39.66	38.14	32.03	36.93
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	D
d_A, Approach Delay [s/veh]	14.38			11.92			39.52			35.31		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.16											
Intersection LOS	B											
Intersection V/C	0.596											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.851			2.942			2.245			2.344		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	507			507			693			693		
d_b, Bicycle Delay [s]	20.91			20.91			16.01			16.01		
I_b,int, Bicycle LOS Score for Intersection	2.492			2.175			1.865			2.101		
Bicycle LOS	B			B			A			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 28.0  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.504

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	1	0
Entry Pocket Length [ft]	180.00	100.00	180.00	112.00	100.00	160.00	235.00	100.00	235.00	151.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Rider St			Rider St		
Base Volume Input [veh/h]	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	38	0	0	4	0	0	3	0	0	19
Total Hourly Volume [veh/h]	34	242	113	36	82	10	11	224	8	104	509	55
Peak Hour Factor	0.8580	0.8580	0.8580	0.7620	0.7620	0.7620	0.8980	0.8980	0.8980	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	71	33	12	27	3	3	62	2	29	140	15
Total Analysis Volume [veh/h]	40	282	132	47	108	13	12	249	9	114	558	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	11	31	0	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	22	22	7	22	22	7	27	27	13	33	33
g / C, Green / Cycle	0.08	0.26	0.26	0.08	0.26	0.26	0.08	0.32	0.32	0.15	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.09	0.03	0.06	0.01	0.01	0.15	0.01	0.07	0.18	0.18
s, saturation flow rate [veh/h]	1629	1710	1454	1629	1710	1454	1629	1710	1454	1629	1710	1652
c, Capacity [veh/h]	134	443	376	134	443	376	134	543	462	249	664	642
d1, Uniform Delay [s]	36.69	27.96	25.68	36.85	24.92	23.56	36.05	23.16	19.91	32.79	19.48	19.49
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.60	6.85	2.56	7.07	1.31	0.17	1.31	2.77	0.08	5.95	2.41	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.30	0.64	0.35	0.35	0.24	0.03	0.09	0.46	0.02	0.46	0.47	0.47
d, Delay for Lane Group [s/veh]	42.29	34.81	28.24	43.92	26.23	23.73	37.37	25.93	19.99	38.74	21.89	21.99
Lane Group LOS	D	C	C	D	C	C	D	C	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.95	5.55	2.29	1.14	1.77	0.20	0.27	4.07	0.12	2.43	4.63	4.50
50th-Percentile Queue Length [ft/ln]	23.78	138.71	57.28	28.49	44.18	5.02	6.70	101.87	3.09	60.66	115.70	112.48
95th-Percentile Queue Length [veh/ln]	1.71	9.41	4.12	2.05	3.18	0.36	0.48	7.33	0.22	4.37	8.16	7.98
95th-Percentile Queue Length [ft/ln]	42.80	235.28	103.10	51.27	79.52	9.03	12.05	183.37	5.56	109.19	203.91	199.44

**Movement, Approach, & Intersection Results**

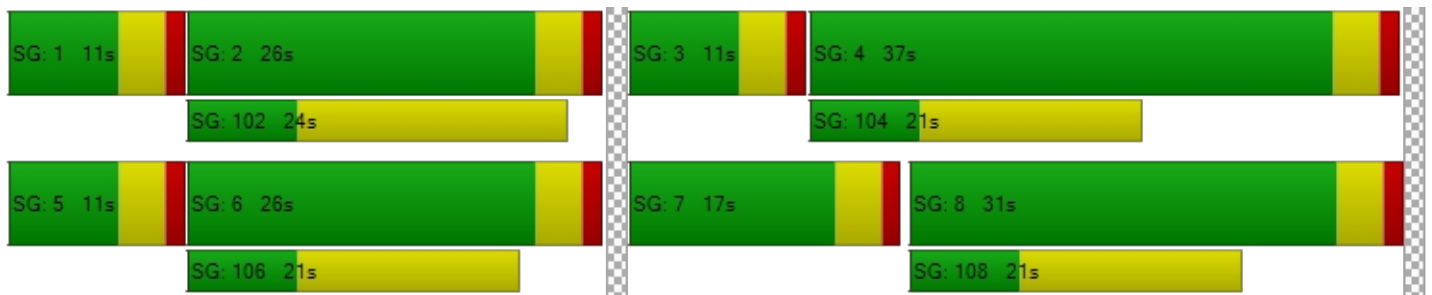
d_M, Delay for Movement [s/veh]	42.29	34.81	28.24	43.92	26.23	23.73	37.37	25.93	19.99	38.74	21.94	21.99
Movement LOS	D	C	C	D	C	C	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	33.56			30.99			26.24			24.56		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.02											
Intersection LOS	C											
Intersection V/C	0.504											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.21	32.21	32.21	32.21
I_p,int, Pedestrian LOS Score for Intersection	2.447	2.333	2.560	2.600
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	518	518	635	776
d_b, Bicycle Delay [s]	23.35	23.35	19.79	15.91
I_b,int, Bicycle LOS Score for Intersection	2.371	1.843	2.010	2.179
Bicycle LOS	B	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	91	355	17	14	163	19	39	75	37	30	142	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	355	17	14	163	19	39	75	37	30	142	37
Peak Hour Factor	0.8550	0.8550	0.8550	0.7950	0.7950	0.7950	0.7450	0.7450	0.7450	0.7450	0.7450	0.7450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	104	5	4	51	6	13	25	12	10	48	12
Total Analysis Volume [veh/h]	106	415	20	18	205	24	52	101	50	40	191	50
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	499	536	541	483	516	571	468	498	549	490	535
Degree of Utilization, x	0.21	0.41	0.40	0.04	0.40	0.04	0.11	0.20	0.09	0.08	0.45

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.80	1.96	1.93	0.12	1.89	0.13	0.37	0.75	0.30	0.27	2.31
95th-Percentile Queue Length [ft]	19.92	48.90	48.19	2.90	47.15	3.29	9.32	18.78	7.48	6.63	57.85
Approach Delay [s/veh]	13.47			13.45			11.20			14.24	
Approach LOS	B			B			B			B	
Intersection Delay [s/veh]	13.27										
Intersection LOS	B										



## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 1 Existing AM

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

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	34	874	82	40	393	48	32	110	36	166	224	183	2222

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	30	854	31	40	537	26	14	53	21	36	84	144	1870

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	34	242	151	36	82	14	11	224	11	104	509	74	1492

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	91	355	17	14	163	19	39	75	37	30	142	37	1019

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 2 Existing PM

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

10/18/2022

**Intersection Analysis Summary**

<b>ID</b>	<b>Intersection Name</b>	<b>Control Type</b>	<b>Method</b>	<b>Worst Mvmt</b>	<b>V/C</b>	<b>Delay (s/veh)</b>	<b>LOS</b>
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.470	37.6	D
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	NB Left	0.477	13.0	B
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	SB Left	0.535	29.1	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	SB Thru	0.415	10.8	B

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

**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 37.6  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.470

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T T			T T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1500.0
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	5	0	0	13	0	0	21
Total Hourly Volume [veh/h]	20	583	127	79	874	14	47	160	40	177	82	63
Peak Hour Factor	0.9440	0.9440	0.9440	0.8870	0.8870	0.8870	0.8710	0.8710	0.8710	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	154	34	22	246	4	13	46	11	47	22	17
Total Analysis Volume [veh/h]	21	618	135	89	985	16	54	184	46	186	86	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	30	0	13	32	0	15	40	0	17	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	26	26	9	28	28	11	36	36	13	38	38
g / C, Green / Cycle	0.07	0.26	0.26	0.09	0.28	0.28	0.11	0.36	0.36	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.01	0.13	0.09	0.05	0.21	0.01	0.03	0.06	0.03	0.11	0.03	0.05
s, saturation flow rate [veh/h]	1629	4658	1454	1629	4658	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	114	1211	378	147	1304	407	179	1172	523	212	1237	552
d1, Uniform Delay [s]	43.81	31.57	30.18	43.80	32.87	26.21	40.96	21.71	21.15	42.72	19.74	20.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.53	1.54	2.62	17.29	4.11	0.18	4.28	0.29	0.33	36.77	0.11	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.18	0.51	0.36	0.61	0.76	0.04	0.30	0.16	0.09	0.88	0.07	0.12
d, Delay for Lane Group [s/veh]	47.34	33.11	32.81	61.09	36.98	26.39	45.24	21.99	21.48	79.49	19.85	20.58
Lane Group LOS	D	C	C	E	D	C	D	C	C	E	B	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.59	4.21	2.80	2.75	7.34	0.29	1.39	1.43	0.72	6.49	0.62	1.01
50th-Percentile Queue Length [ft/ln]	14.64	105.20	70.10	68.71	183.47	7.16	34.86	35.81	18.08	162.20	15.55	25.30
95th-Percentile Queue Length [veh/ln]	1.05	7.57	5.05	4.95	11.78	0.52	2.51	2.58	1.30	10.67	1.12	1.82
95th-Percentile Queue Length [ft/ln]	26.35	189.30	126.18	123.67	294.55	12.89	62.75	64.46	32.55	266.64	27.98	45.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	47.34	33.11	32.81	61.09	36.98	26.39	45.24	21.99	21.48	79.49	19.85	20.58
Movement LOS	D	C	C	E	D	C	D	C	C	E	B	C
d_A, Approach Delay [s/veh]	33.44			38.79			26.33			52.81		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	37.61											
Intersection LOS	D											
Intersection V/C	0.470											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.248			3.076			2.580			2.685		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			560			720			760		
d_b, Bicycle Delay [s]	27.38			25.92			20.48			19.22		
I_b,int, Bicycle LOS Score for Intersection	2.009			2.162			1.805			1.856		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 13.0  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.477

**Intersection Setup**

Name	Perris Blvd		Perris Blvd		Perris Blvd		Placentia Ave		Placentia Ave		Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Entry Pocket	Entry Pocket Length [ft]	No. of Lanes in Exit Pocket	Exit Pocket Length [ft]	Speed [mph]	Grade [%]	Curb Present	Crosswalk	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right														
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	1	0	0	1	0	0	0	0	0	0	0
	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00	1	0	0	1	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Input [veh/h]	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	1	0	0	5	0	0	16
Total Hourly Volume [veh/h]	1	706	46	107	995	4	15	42	14	37	21	47
Peak Hour Factor	0.9170	0.9170	0.9170	0.9410	0.9410	0.9410	0.8520	0.8520	0.8520	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	192	13	28	264	1	4	12	4	9	5	12
Total Analysis Volume [veh/h]	1	770	50	114	1057	4	18	49	16	38	21	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	23	0	11	19	0	11	30	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	43	43	6	50	50	2	5	4	7	7
g / C, Green / Cycle	0.00	0.58	0.58	0.09	0.66	0.66	0.03	0.07	0.05	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.07	0.31	0.31	0.01	0.04	0.02	0.01	0.03
s, saturation flow rate [veh/h]	1629	1710	1674	1629	1710	1708	1629	1639	1629	1710	1454
c, Capacity [veh/h]	4	989	968	141	1133	1132	48	115	83	157	134
d1, Uniform Delay [s]	37.34	8.79	8.79	33.64	6.19	6.19	35.72	33.75	34.56	31.30	31.97
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	28.93	1.30	1.33	10.40	1.39	1.39	4.80	4.27	3.84	0.38	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	0.42	0.42	0.81	0.47	0.47	0.38	0.56	0.46	0.13	0.36
d, Delay for Lane Group [s/veh]	66.27	10.09	10.12	44.05	7.58	7.58	40.51	38.02	38.41	31.67	33.58
Lane Group LOS	E	B	B	D	A	A	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.05	3.20	3.14	2.30	3.09	3.09	0.37	1.22	0.73	0.35	0.83
50th-Percentile Queue Length [ft/ln]	1.25	80.06	78.60	57.58	77.24	77.16	9.28	30.56	18.21	8.70	20.85
95th-Percentile Queue Length [veh/ln]	0.09	5.76	5.66	4.15	5.56	5.56	0.67	2.20	1.31	0.63	1.50
95th-Percentile Queue Length [ft/ln]	2.24	144.11	141.49	103.64	139.03	138.88	16.70	55.02	32.77	15.66	37.52



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	66.27	10.11	10.12	44.05	7.58	7.58	40.51	38.02	38.02	38.41	31.67	33.58
Movement LOS	E	B	B	D	A	A	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	10.18			11.12			38.56			34.92		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	12.97											
Intersection LOS	B											
Intersection V/C	0.477											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.884			2.939			2.165			2.258		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	507			400			693			693		
d_b, Bicycle Delay [s]	20.91			24.00			16.01			16.01		
I_b,int, Bicycle LOS Score for Intersection	2.250			2.530			1.705			1.763		
Bicycle LOS	B			B			A			A		

**Sequence**





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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 29.1  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.535

**Intersection Setup**

Name	Approach			Lane Configuration			Turning Movement			Lane Width [ft]			No. of Lanes in Entry Pocket			Entry Pocket Length [ft]			No. of Lanes in Exit Pocket			Exit Pocket Length [ft]			Speed [mph]			Grade [%]			Curb Present			Crosswalk		
Rider St	Westbound						Right			12.00			1			100.00			0			0.00			45.00			0.00			Yes			Yes		
Rider St	Eastbound						Left			12.00			1			100.00			0			0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Southbound						Left			12.00			1			160.00			0			0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Northbound						Right			12.00			1			112.00			0			0.00			45.00			0.00			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Rider St			Rider St		
Base Volume Input [veh/h]	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	5	0	0	8	0	0	14
Total Hourly Volume [veh/h]	13	106	74	71	177	16	8	376	22	82	327	41
Peak Hour Factor	0.9120	0.9120	0.9120	0.7980	0.7980	0.7980	0.9480	0.9480	0.9480	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	29	20	22	55	5	2	99	6	23	93	12
Total Analysis Volume [veh/h]	14	116	81	89	222	20	8	397	23	93	371	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	23	0	14	26	0	11	28	0	15	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	19	19	10	22	22	7	24	24	11	28	28
g / C, Green / Cycle	0.09	0.24	0.24	0.13	0.28	0.28	0.09	0.30	0.30	0.14	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.06	0.05	0.13	0.01	0.00	0.23	0.02	0.06	0.12	0.13
s, saturation flow rate [veh/h]	1629	1710	1454	1629	1710	1454	1629	1710	1454	1629	1710	1644
c, Capacity [veh/h]	143	406	345	204	470	400	143	513	436	224	599	575
d1, Uniform Delay [s]	33.60	24.95	24.63	32.40	24.16	21.32	33.47	25.53	19.92	31.56	19.29	19.32
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.37	1.76	1.59	6.69	3.38	0.24	0.75	10.85	0.23	5.59	1.64	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.10	0.29	0.23	0.44	0.47	0.05	0.06	0.77	0.05	0.42	0.35	0.36
d, Delay for Lane Group [s/veh]	34.97	26.71	26.22	39.09	27.54	21.56	34.22	36.38	20.14	37.15	20.94	21.05
Lane Group LOS	C	C	C	D	C	C	C	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.29	1.86	1.30	1.87	3.64	0.28	0.16	7.75	0.31	1.89	2.91	2.84
50th-Percentile Queue Length [ft/ln]	7.26	46.59	32.51	46.83	91.04	7.02	4.10	193.65	7.70	47.16	72.72	70.90
95th-Percentile Queue Length [veh/ln]	0.52	3.35	2.34	3.37	6.55	0.51	0.30	12.31	0.55	3.40	5.24	5.10
95th-Percentile Queue Length [ft/ln]	13.06	83.87	58.51	84.30	163.87	12.63	7.38	307.75	13.86	84.90	130.90	127.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.97	26.71	26.22	39.09	27.54	21.56	34.22	36.38	20.14	37.15	20.99	21.05
Movement LOS	C	C	C	D	C	C	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	27.07			30.28			35.46			23.93		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	29.13											
Intersection LOS	C											
Intersection V/C	0.535											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.76			29.76			29.76			29.76		
I_p,int, Pedestrian LOS Score for Intersection	2.373			2.322			2.552			2.553		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	475			550			600			700		
d_b, Bicycle Delay [s]	23.26			21.03			19.60			16.90		
I_b,int, Bicycle LOS Score for Intersection	1.949			2.114			2.279			1.993		
Bicycle LOS	A			B			B			A		

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.415

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	54	167	15	38	230	23	31	69	66	13	60	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	167	15	38	230	23	31	69	66	13	60	21
Peak Hour Factor	0.8970	0.8970	0.8970	0.9350	0.9350	0.9350	0.9090	0.9090	0.9090	0.5950	0.5950	0.5950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	47	4	10	61	6	9	19	18	5	25	9
Total Analysis Volume [veh/h]	60	186	17	41	246	25	34	76	73	22	101	35
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	535	578	589	549	594	670	525	565	632	529	586
Degree of Utilization, x	0.11	0.18	0.17	0.07	0.41	0.04	0.06	0.13	0.12	0.04	0.23

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.38	0.63	0.62	0.24	2.03	0.12	0.21	0.46	0.39	0.13	0.89
95th-Percentile Queue Length [ft]	9.41	15.81	15.46	6.03	50.74	2.90	5.18	11.58	9.74	3.25	22.35
Approach Delay [s/veh]	10.19			12.20			9.69			10.58	
Approach LOS	B			B			A			B	
Intersection Delay [s/veh]	10.84										
Intersection LOS	B										

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 2 Existing PM

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

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	20	583	170	79	874	19	47	160	53	177	82	84	2348

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	1	706	62	107	995	5	15	42	19	37	21	63	2073

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	13	106	99	71	177	21	8	376	30	82	327	55	1365

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	54	167	15	38	230	23	31	69	66	13	60	21	787

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 3 Existing Plus Project AM

Report File: C:\...\Existing Plus Project AM.pdf

10/18/2022

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.512	37.8	D
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	EB Thru	0.617	18.9	B
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	SB Left	0.511	28.4	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	WB Thru	0.466	13.7	B
9	Redlands Ave/Project Dwy 1	Two-way stop	HCM 6th Edition	WB Right	0.007	8.3	A
10	Placentia Ave/Project Dwy 2	Two-way stop	HCM 6th Edition	SB Right	0.006	8.4	A

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

**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 37.8  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.512

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTLT			TTLT			TTLT			TTLT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1500.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	34	874	82	40	393	48	32	110	36	166	224	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	22	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	12	0	0	9	0	0	46
Total Hourly Volume [veh/h]	34	877	61	40	415	36	32	110	27	166	224	137
Peak Hour Factor	0.8140	0.8140	0.8140	0.7900	0.7900	0.7900	0.8050	0.8050	0.8050	0.8130	0.8130	0.8130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	269	19	13	131	11	10	34	8	51	69	42
Total Analysis Volume [veh/h]	42	1077	75	51	525	46	40	137	34	204	276	169
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	32	0	11	32	0	11	40	0	17	46	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	28	28	7	28	28	7	36	36	13	42	42
g / C, Green / Cycle	0.07	0.28	0.28	0.07	0.28	0.28	0.07	0.36	0.36	0.13	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.05	0.03	0.11	0.03	0.02	0.04	0.02	0.13	0.08	0.12
s, saturation flow rate [veh/h]	1629	4658	1454	1629	4658	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	114	1304	407	114	1304	407	114	1172	523	212	1367	610
d1, Uniform Delay [s]	44.39	33.72	27.33	44.64	29.21	26.77	44.33	21.38	20.97	43.26	18.38	19.03
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.93	6.07	1.00	12.18	0.93	0.56	8.30	0.20	0.24	53.07	0.33	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.37	0.83	0.18	0.45	0.40	0.11	0.35	0.12	0.06	0.96	0.20	0.28
d, Delay for Lane Group [s/veh]	53.32	39.79	28.33	56.83	30.14	27.33	52.63	21.58	21.21	96.33	18.71	20.16
Lane Group LOS	D	D	C	E	C	C	D	C	C	F	B	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.24	8.41	1.41	1.56	3.35	0.84	1.18	1.05	0.53	7.93	1.95	2.59
50th-Percentile Queue Length [ft/ln]	31.07	210.19	35.31	38.96	83.83	21.11	29.40	26.24	13.24	198.14	48.87	64.75
95th-Percentile Queue Length [veh/ln]	2.24	13.16	2.54	2.80	6.04	1.52	2.12	1.89	0.95	12.54	3.52	4.66
95th-Percentile Queue Length [ft/ln]	55.93	329.08	63.56	70.12	150.90	38.00	52.92	47.22	23.83	313.56	87.97	116.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.32	39.79	28.33	56.83	30.14	27.33	52.63	21.58	21.21	96.33	18.71	20.16
Movement LOS	D	D	C	E	C	C	D	C	C	F	B	C
d_A, Approach Delay [s/veh]	39.54			32.12			27.41			43.49		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	37.82											
Intersection LOS	D											
Intersection V/C	0.512											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.207			3.107			2.616			2.762		
Crosswalk LOS	C			C			B			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			560			720			840		
d_b, Bicycle Delay [s]	25.92			25.92			20.48			16.82		
I_b,int, Bicycle LOS Score for Intersection	2.228			1.908			1.741			2.133		
Bicycle LOS	B			A			A			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 18.9  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.617

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Input [veh/h]	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	22	0	0	0	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	7	0	0	5	0	0	37
Total Hourly Volume [veh/h]	30	854	23	62	537	19	14	53	16	36	84	110
Peak Hour Factor	0.8080	0.8080	0.8080	0.8070	0.8070	0.8070	0.4610	0.4610	0.4610	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	264	7	19	166	6	8	29	9	12	27	35
Total Analysis Volume [veh/h]	37	1057	28	77	665	24	30	115	35	46	108	141
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	23	0	11	23	0	11	30	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	40	40	6	42	42	3	9	4	10	10
g / C, Green / Cycle	0.05	0.54	0.54	0.07	0.56	0.56	0.04	0.11	0.06	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.32	0.05	0.20	0.20	0.02	0.09	0.03	0.06	0.10
s, saturation flow rate [veh/h]	1629	1710	1694	1629	1710	1689	1629	1642	1629	1710	1454
c, Capacity [veh/h]	82	922	913	122	963	951	71	189	94	221	188
d1, Uniform Delay [s]	34.59	11.69	11.69	33.70	8.97	8.97	34.93	32.32	34.26	30.36	31.50
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	2.78	2.81	5.34	1.05	1.06	3.91	7.34	3.88	1.67	5.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.59	0.59	0.63	0.36	0.36	0.42	0.79	0.49	0.49	0.75
d, Delay for Lane Group [s/veh]	38.40	14.47	14.50	39.04	10.02	10.03	38.84	39.66	38.14	32.03	37.44
Lane Group LOS	D	B	B	D	B	B	D	D	D	C	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.70	5.53	5.49	1.45	2.68	2.65	0.58	2.88	0.87	1.81	2.62
50th-Percentile Queue Length [ft/ln]	17.53	138.23	137.18	36.26	66.93	66.25	14.61	71.98	21.82	45.26	65.58
95th-Percentile Queue Length [veh/ln]	1.26	9.39	9.33	2.61	4.82	4.77	1.05	5.18	1.57	3.26	4.72
95th-Percentile Queue Length [ft/ln]	31.55	234.63	233.22	65.26	120.48	119.24	26.30	129.57	39.28	81.48	118.04

**Movement, Approach, & Intersection Results**

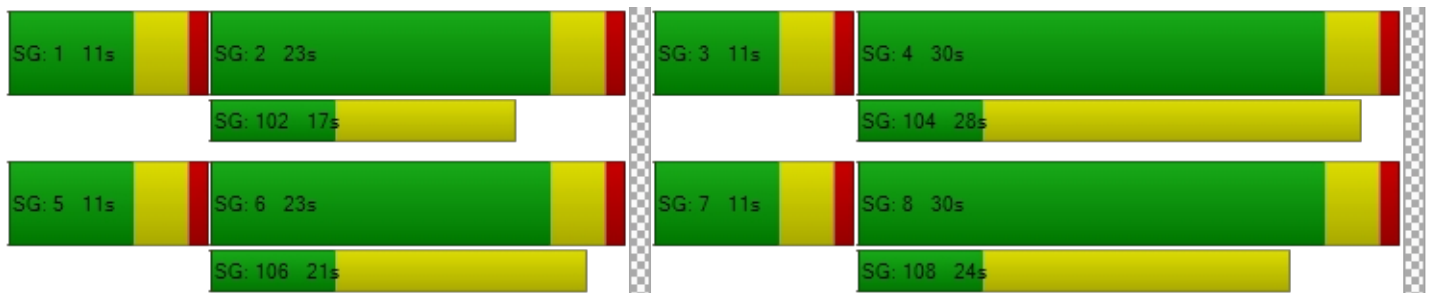
d_M, Delay for Movement [s/veh]	38.40	14.49	14.50	39.04	10.02	10.03	38.84	39.66	39.66	38.14	32.03	37.44
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	D
d_A, Approach Delay [s/veh]	15.28			12.94			39.52			35.57		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.90											
Intersection LOS	B											
Intersection V/C	0.617											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.851			2.950			2.245			2.356		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	507			507			693			693		
d_b, Bicycle Delay [s]	20.91			20.91			16.01			16.01		
I_b,int, Bicycle LOS Score for Intersection	2.492			2.197			1.865			2.107		
Bicycle LOS	B			B			A			B		

**Sequence**





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





**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 28.4  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.511

**Intersection Setup**

Name	Approach			Lane Configuration			Turning Movement			Lane Width [ft]			No. of Lanes in Entry Pocket			Entry Pocket Length [ft]			No. of Lanes in Exit Pocket			Exit Pocket Length [ft]			Speed [mph]			Grade [%]			Curb Present			Crosswalk		
Rider St	Westbound						Left, Thru, Right			12.00, 12.00, 12.00			1, 1, 1			100.00, 100.00, 100.00			0, 0, 0			0.00, 0.00, 0.00			45.00			0.00			Yes			Yes		
Rider St	Eastbound						Left, Thru, Right			12.00, 12.00, 12.00			1, 1, 1			235.00, 151.00, 100.00			0, 0, 0			0.00, 0.00, 0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Southbound						Left, Thru, Right			12.00, 12.00, 12.00			1, 1, 1			160.00, 235.00, 100.00			0, 0, 0			0.00, 0.00, 0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Northbound						Left, Thru, Right			12.00, 12.00, 12.00			1, 1, 1			180.00, 112.00, 100.00			0, 0, 0			0.00, 0.00, 0.00			45.00			0.00			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Rider St			Rider St		
Base Volume Input [veh/h]	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	61	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	38	0	0	4	0	0	3	0	0	19
Total Hourly Volume [veh/h]	34	250	113	36	143	10	11	224	8	104	509	55
Peak Hour Factor	0.8580	0.8580	0.8580	0.7620	0.7620	0.7620	0.8980	0.8980	0.8980	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	73	33	12	47	3	3	62	2	29	140	15
Total Analysis Volume [veh/h]	40	291	132	47	188	13	12	249	9	114	558	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	11	31	0	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	22	22	7	22	22	7	27	27	13	33	33
g / C, Green / Cycle	0.08	0.26	0.26	0.08	0.26	0.26	0.08	0.32	0.32	0.15	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.17	0.09	0.03	0.11	0.01	0.01	0.15	0.01	0.07	0.18	0.18
s, saturation flow rate [veh/h]	1629	1710	1454	1629	1710	1454	1629	1710	1454	1629	1710	1652
c, Capacity [veh/h]	134	443	376	134	443	376	134	543	462	249	664	642
d1, Uniform Delay [s]	36.69	28.13	25.68	36.85	26.23	23.56	36.05	23.16	19.91	32.79	19.48	19.49
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.60	7.45	2.56	7.07	2.97	0.17	1.31	2.77	0.08	5.95	2.41	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.30	0.66	0.35	0.35	0.42	0.03	0.09	0.46	0.02	0.46	0.47	0.47
d, Delay for Lane Group [s/veh]	42.29	35.58	28.24	43.92	29.20	23.73	37.37	25.93	19.99	38.74	21.89	21.99
Lane Group LOS	D	D	C	D	C	C	D	C	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.95	5.80	2.29	1.14	3.31	0.20	0.27	4.07	0.12	2.43	4.63	4.50
50th-Percentile Queue Length [ft/ln]	23.78	145.06	57.28	28.49	82.71	5.02	6.70	101.87	3.09	60.66	115.70	112.48
95th-Percentile Queue Length [veh/ln]	1.71	9.75	4.12	2.05	5.96	0.36	0.48	7.33	0.22	4.37	8.16	7.98
95th-Percentile Queue Length [ft/ln]	42.80	243.82	103.10	51.27	148.88	9.03	12.05	183.37	5.56	109.19	203.91	199.44

**Movement, Approach, & Intersection Results**

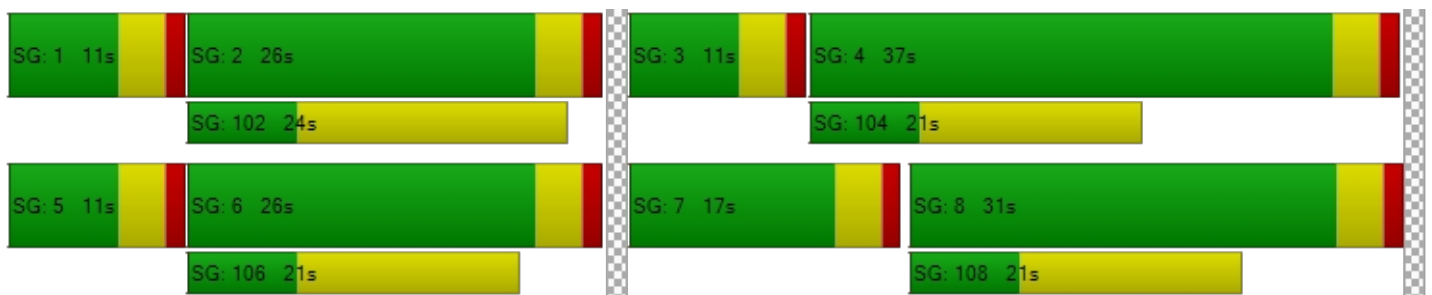
d_M, Delay for Movement [s/veh]	42.29	35.58	28.24	43.92	29.20	23.73	37.37	25.93	19.99	38.74	21.94	21.99
Movement LOS	D	D	C	D	C	C	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	34.07			31.70			26.24			24.56		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	28.43											
Intersection LOS	C											
Intersection V/C	0.511											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	32.21			32.21			32.21			32.21		
I_p,int, Pedestrian LOS Score for Intersection	2.480			2.365			2.560			2.600		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	518			518			635			776		
d_b, Bicycle Delay [s]	23.35			23.35			19.79			15.91		
I_b,int, Bicycle LOS Score for Intersection	2.386			1.975			2.010			2.179		
Bicycle LOS	B			A			B			B		

**Sequence**

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



**Intersection Level Of Service Report  
Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.466

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	91	355	17	14	163	19	39	75	37	30	142	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	17	0	0	0	0	22	0	2	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	355	34	14	163	19	39	97	37	32	145	37
Peak Hour Factor	0.8550	0.8550	0.8550	0.7950	0.7950	0.7950	0.7450	0.7450	0.7450	0.7450	0.7450	0.7450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	104	10	4	51	6	13	33	12	11	49	12
Total Analysis Volume [veh/h]	106	415	40	18	205	24	52	130	50	43	195	50
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	491	526	535	475	507	559	462	492	542	484	526
Degree of Utilization, x	0.22	0.43	0.43	0.04	0.40	0.04	0.11	0.26	0.09	0.09	0.47

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.81	2.16	2.10	0.12	1.94	0.13	0.38	1.05	0.30	0.29	2.44
95th-Percentile Queue Length [ft]	20.35	54.09	52.58	2.95	48.44	3.35	9.44	26.29	7.58	7.28	61.11
Approach Delay [s/veh]	14.03			13.75			11.80			14.69	
Approach LOS	B			B			B			B	
Intersection Delay [s/veh]	13.73										
Intersection LOS	B										



**Intersection Level Of Service Report  
Intersection 9: Redlands Ave/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↪	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	61	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	61	0	0	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	15	0	0	2
Total Analysis Volume [veh/h]	0	0	61	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	0.00	8.32
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.12	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.90	2.90	0.00	0.55
d_A, Approach Delay [s/veh]	0.00		7.29		8.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.41					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 10: Placentia Ave/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↷		↶		↶	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	39	2	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	39	2	0	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	10	1	0	4
Total Analysis Volume [veh/h]	0	7	39	2	0	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.36	7.29	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.02	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.49	1.86	1.86	0.00	0.00
d_A, Approach Delay [s/veh]	8.36		6.93		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.27					
Intersection LOS	A					

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 3 Existing Plus Project AM

Report File: C:\...\Existing Plus Project AM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	34	877	82	40	415	48	32	110	36	166	224	183	2247

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	30	854	31	62	537	26	14	53	21	36	84	147	1895

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	34	250	151	36	143	14	11	224	11	104	509	74	1561

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	91	355	34	14	163	19	39	97	37	32	145	37	1063

ID	Intersection Name	Northbound		Southbound		Westbound	Total Volume
		Thru	Right	Left	Thru	Right	
9	Redlands Ave/Project Dwy 1	0	0	61	0	8	69

ID	Intersection Name	Southbound	Eastbound		Westbound		Total Volume
		Right	Left	Thru	Thru	Right	
10	Placentia Ave/Project Dwy 2	7	39	2	0	17	65

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 4 Existing Plus Project PM

Report File: C:\...\Existing Plus Project PM.pdf

10/18/2022

**Intersection Analysis Summary**

<b>ID</b>	<b>Intersection Name</b>	<b>Control Type</b>	<b>Method</b>	<b>Worst Mvmt</b>	<b>V/C</b>	<b>Delay (s/veh)</b>	<b>LOS</b>
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.471	37.7	D
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	NB Left	0.480	13.2	B
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	SB Left	0.556	29.4	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	SB Thru	0.426	11.2	B
9	Redlands Ave/Project Dwy 1	Two-way stop	HCM 6th Edition	WB Right	0.048	8.5	A
10	Placentia Ave/Project Dwy 2	Two-way stop	HCM 6th Edition	SB Right	0.044	8.5	A

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

**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 37.7  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.471

**Intersection Setup**

Name	Approach	Lane Configuration			Turning Movement			Lane Width [ft]			No. of Lanes in Entry Pocket	Entry Pocket Length [ft]	No. of Lanes in Exit Pocket	Exit Pocket Length [ft]	Speed [mph]	Grade [%]	Curb Present	Crosswalk
Perris Blvd	Northbound				Left	Thru	Right	12.00	12.00	12.00	1	168.00	100.00	168.00	45.00	0.00	Yes	Yes
Perris Blvd	Southbound				Left	Thru	Right	12.00	12.00	12.00	0	210.00	100.00	175.00	45.00	0.00	Yes	Yes
Rider St	Eastbound				Left	Thru	Right	12.00	12.00	12.00	1	150.00	100.00	199.00	45.00	0.00	Yes	Yes
Rider St	Westbound				Left	Thru	Right	12.00	12.00	12.00	0	100.00	199.00	1500.0	45.00	0.00	Yes	Yes

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	3	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	5	0	0	13	0	0	21
Total Hourly Volume [veh/h]	20	603	127	79	877	14	47	160	40	177	82	63
Peak Hour Factor	0.9440	0.9440	0.9440	0.8870	0.8870	0.8870	0.8710	0.8710	0.8710	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	160	34	22	247	4	13	46	11	47	22	17
Total Analysis Volume [veh/h]	21	639	135	89	989	16	54	184	46	186	86	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	30	0	13	32	0	15	40	0	17	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	26	26	9	28	28	11	36	36	13	38	38
g / C, Green / Cycle	0.07	0.26	0.26	0.09	0.28	0.28	0.11	0.36	0.36	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.01	0.14	0.09	0.05	0.21	0.01	0.03	0.06	0.03	0.11	0.03	0.05
s, saturation flow rate [veh/h]	1629	4658	1454	1629	4658	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	114	1211	378	147	1304	407	179	1172	523	212	1237	552
d1, Uniform Delay [s]	43.81	31.73	30.18	43.80	32.91	26.21	40.96	21.71	21.15	42.72	19.74	20.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.53	1.65	2.62	17.29	4.17	0.18	4.28	0.29	0.33	36.77	0.11	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.18	0.53	0.36	0.61	0.76	0.04	0.30	0.16	0.09	0.88	0.07	0.12
d, Delay for Lane Group [s/veh]	47.34	33.38	32.81	61.09	37.08	26.39	45.24	21.99	21.48	79.49	19.85	20.58
Lane Group LOS	D	C	C	E	D	C	D	C	C	E	B	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.59	4.38	2.80	2.75	7.38	0.29	1.39	1.43	0.72	6.49	0.62	1.01
50th-Percentile Queue Length [ft/ln]	14.64	109.48	70.10	68.71	184.55	7.16	34.86	35.81	18.08	162.20	15.55	25.30
95th-Percentile Queue Length [veh/ln]	1.05	7.81	5.05	4.95	11.84	0.52	2.51	2.58	1.30	10.67	1.12	1.82
95th-Percentile Queue Length [ft/ln]	26.35	195.27	126.18	123.67	295.95	12.89	62.75	64.46	32.55	266.64	27.98	45.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	47.34	33.38	32.81	61.09	37.08	26.39	45.24	21.99	21.48	79.49	19.85	20.58
Movement LOS	D	C	C	E	D	C	D	C	C	E	B	C
d_A, Approach Delay [s/veh]	33.65			38.87			26.33			52.81		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	37.68											
Intersection LOS	D											
Intersection V/C	0.471											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	3.252			3.081			2.580			2.685		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	520			560			720			760		
d_b, Bicycle Delay [s]	27.38			25.92			20.48			19.22		
I_b,int, Bicycle LOS Score for Intersection	2.021			2.164			1.805			1.856		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 13.2  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.480

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	1	0	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	3	0	0	0	0	0	0	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	1	0	0	5	0	0	21
Total Hourly Volume [veh/h]	1	706	46	110	995	4	15	42	14	37	21	62
Peak Hour Factor	0.9170	0.9170	0.9170	0.9410	0.9410	0.9410	0.8520	0.8520	0.8520	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	192	13	29	264	1	4	12	4	9	5	16
Total Analysis Volume [veh/h]	1	770	50	117	1057	4	18	49	16	38	21	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	23	0	11	19	0	11	30	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	10	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	43	43	7	50	50	2	5	4	7	7
g / C, Green / Cycle	0.00	0.58	0.58	0.09	0.66	0.66	0.03	0.07	0.05	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.07	0.31	0.31	0.01	0.04	0.02	0.01	0.04
s, saturation flow rate [veh/h]	1629	1710	1674	1629	1710	1708	1629	1639	1629	1710	1454
c, Capacity [veh/h]	4	986	965	144	1133	1132	48	115	83	157	134
d1, Uniform Delay [s]	37.34	8.88	8.88	33.55	6.19	6.19	35.72	33.75	34.56	31.30	32.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	28.93	1.32	1.35	10.23	1.39	1.39	4.80	4.27	3.84	0.38	2.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	0.42	0.42	0.81	0.47	0.47	0.38	0.56	0.46	0.13	0.47
d, Delay for Lane Group [s/veh]	66.27	10.20	10.23	43.79	7.58	7.58	40.51	38.02	38.41	31.67	34.87
Lane Group LOS	E	B	B	D	A	A	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.05	3.23	3.17	2.35	3.09	3.09	0.37	1.22	0.73	0.35	1.12
50th-Percentile Queue Length [ft/ln]	1.25	80.74	79.26	58.86	77.24	77.16	9.28	30.56	18.21	8.70	28.04
95th-Percentile Queue Length [veh/ln]	0.09	5.81	5.71	4.24	5.56	5.56	0.67	2.20	1.31	0.63	2.02
95th-Percentile Queue Length [ft/ln]	2.24	145.32	142.67	105.95	139.03	138.88	16.70	55.02	32.77	15.66	50.47

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	66.27	10.21	10.23	43.79	7.58	7.58	40.51	38.02	38.02	38.41	31.67	34.87
Movement LOS	E	B	B	D	A	A	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	10.28			11.18			38.56			35.42		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	13.22											
Intersection LOS	B											
Intersection V/C	0.480											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.884			2.944			2.165			2.273		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	507			400			693			693		
d_b, Bicycle Delay [s]	20.91			24.00			16.01			16.01		
I_b,int, Bicycle LOS Score for Intersection	2.250			2.532			1.705			1.796		
Bicycle LOS	B			B			A			A		

**Sequence**





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





**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 29.4  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.556

**Intersection Setup**

Name	Approach			Lane Configuration			Turning Movement			Lane Width [ft]			No. of Lanes in Entry Pocket			Entry Pocket Length [ft]			No. of Lanes in Exit Pocket			Exit Pocket Length [ft]			Speed [mph]			Grade [%]			Curb Present			Crosswalk		
Rider St	Westbound						Right			12.00			1			180.00			0			0.00			45.00			0.00			Yes			Yes		
Rider St	Eastbound						Left			12.00			1			235.00			0			0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Southbound						Right			12.00			1			160.00			0			0.00			45.00			0.00			Yes			Yes		
Redlands Ave	Northbound						Left			12.00			1			112.00			0			0.00			45.00			0.00			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Rider St			Rider St		
Base Volume Input [veh/h]	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	0	0	8	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	5	0	0	8	0	0	14
Total Hourly Volume [veh/h]	13	158	74	71	185	16	8	376	22	82	327	41
Peak Hour Factor	0.9120	0.9120	0.9120	0.7980	0.7980	0.7980	0.9480	0.9480	0.9480	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	43	20	22	58	5	2	99	6	23	93	12
Total Analysis Volume [veh/h]	14	173	81	89	232	20	8	397	23	93	371	47
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	23	0	14	26	0	11	28	0	15	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	19	19	10	22	22	7	24	24	11	28	28
g / C, Green / Cycle	0.09	0.24	0.24	0.13	0.28	0.28	0.09	0.30	0.30	0.14	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.06	0.05	0.14	0.01	0.00	0.23	0.02	0.06	0.12	0.13
s, saturation flow rate [veh/h]	1629	1710	1454	1629	1710	1454	1629	1710	1454	1629	1710	1644
c, Capacity [veh/h]	143	406	345	204	470	400	143	513	436	224	599	575
d1, Uniform Delay [s]	33.60	25.87	24.63	32.40	24.33	21.32	33.47	25.53	19.92	31.56	19.29	19.32
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.37	3.25	1.59	6.69	3.67	0.24	0.75	10.85	0.23	5.59	1.64	1.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.10	0.43	0.23	0.44	0.49	0.05	0.06	0.77	0.05	0.42	0.35	0.36
d, Delay for Lane Group [s/veh]	34.97	29.12	26.22	39.09	27.99	21.56	34.22	36.38	20.14	37.15	20.94	21.05
Lane Group LOS	C	C	C	D	C	C	C	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.29	2.94	1.30	1.87	3.85	0.28	0.16	7.75	0.31	1.89	2.91	2.84
50th-Percentile Queue Length [ft/ln]	7.26	73.54	32.51	46.83	96.17	7.02	4.10	193.65	7.70	47.16	72.72	70.90
95th-Percentile Queue Length [veh/ln]	0.52	5.29	2.34	3.37	6.92	0.51	0.30	12.31	0.55	3.40	5.24	5.10
95th-Percentile Queue Length [ft/ln]	13.06	132.37	58.51	84.30	173.10	12.63	7.38	307.75	13.86	84.90	130.90	127.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.97	29.12	26.22	39.09	27.99	21.56	34.22	36.38	20.14	37.15	20.99	21.05
Movement LOS	C	C	C	D	C	C	C	D	C	D	C	C
d_A, Approach Delay [s/veh]	28.55			30.51			35.46			23.93		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	29.37											
Intersection LOS	C											
Intersection V/C	0.556											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.76			29.76			29.76			29.76		
I_p,int, Pedestrian LOS Score for Intersection	2.397			2.347			2.552			2.553		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	475			550			600			700		
d_b, Bicycle Delay [s]	23.26			21.03			19.60			16.90		
I_b,int, Bicycle LOS Score for Intersection	2.043			2.131			2.279			1.993		
Bicycle LOS	B			B			B			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	54	167	15	38	230	23	31	69	66	13	60	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	0	0	0	0	3	0	14	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	167	17	38	230	23	31	72	66	27	80	21
Peak Hour Factor	0.8970	0.8970	0.8970	0.9350	0.9350	0.9350	0.9090	0.9090	0.9090	0.5950	0.5950	0.5950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	47	5	10	61	6	9	20	18	11	34	9
Total Analysis Volume [veh/h]	60	186	19	41	246	25	34	79	73	45	134	35
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	522	562	574	536	578	650	515	553	618	526	578
Degree of Utilization, x	0.12	0.18	0.18	0.08	0.43	0.04	0.07	0.14	0.12	0.09	0.29

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.39	0.66	0.65	0.25	2.12	0.12	0.21	0.50	0.40	0.28	1.21
95th-Percentile Queue Length [ft]	9.68	16.54	16.15	6.19	52.90	3.00	5.28	12.39	10.00	6.99	30.26
Approach Delay [s/veh]	10.45			12.61			9.89			11.20	
Approach LOS	B			B			A			B	
Intersection Delay [s/veh]	11.20										
Intersection LOS	B										

**Intersection Level Of Service Report**  
**Intersection 9: Redlands Ave/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

**Intersection Setup**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↪	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	8	0	0	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	0	0	13
Total Analysis Volume [veh/h]	0	0	8	0	0	52
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	7.21	0.00	0.00	8.47
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.00	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.37	0.37	0.00	3.75
d_A, Approach Delay [s/veh]	0.00		7.21		8.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.30					
Intersection LOS	A					

**Intersection Level Of Service Report**  
**Intersection 10: Placentia Ave/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

**Intersection Setup**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↗		↖		↘	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	48	5	14	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	5	14	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	1	4	0	1
Total Analysis Volume [veh/h]	0	48	5	14	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.46	7.21	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.14	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.45	0.23	0.23	0.00	0.00
d_A, Approach Delay [s/veh]	8.46		1.90		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.41					
Intersection LOS	A					

## Redlands Warehouse Facility

Vistro File: C:\...\Existing Conditions.vistro

Scenario 4 Existing Plus Project PM

Report File: C:\...\Existing Plus Project PM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	20	603	170	79	877	19	47	160	53	177	82	84	2371

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	1	706	62	110	995	5	15	42	19	37	21	83	2096

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	13	158	99	71	185	21	8	376	30	82	327	55	1425

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	54	167	17	38	230	23	31	72	66	27	80	21	826

ID	Intersection Name	Northbound		Southbound		Westbound	Total Volume
		Thru	Right	Left	Thru	Right	
9	Redlands Ave/Project Dwy 1	0	0	8	0	52	60

ID	Intersection Name	Southbound	Eastbound		Westbound		Total Volume
		Right	Left	Thru	Thru	Right	
10	Placentia Ave/Project Dwy 2	48	5	14	0	2	69

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024

Scenario 5 Opening Year AM

Conditions\_NEW4.vistro

Report File: C:\...\Opening Year AM.pdf

10/18/2022

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-215 SB Ramps/Placentia Ave	Signalized	HCM 6th Edition	WB Left	0.283	16.0	B
2	I-215 NB Ramps/Placentia Ave	Signalized	HCM 6th Edition	NB Right	1.273	135.2	F
3	I-215 Frontage Rd/Placentia Ave	Signalized	HCM 6th Edition	SB Left	0.514	34.7	C
4	Indian Ave/Placentia Ave	Signalized	HCM 6th Edition	NB Left	1.455	170.5	F
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.499	25.1	C
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	NB Left	0.691	24.6	C
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	WB Left	0.499	26.2	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	WB Thru	0.599	15.7	C

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

**Intersection Level Of Service Report**  
**Intersection 1: I-215 SB Ramps/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

**Intersection Setup**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	700.00	100.00	700.00	100.00	100.00	288.00	255.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	285	0	38	0	139	29	72	130	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	148	0	0	0	0	0	115	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	450	0	40	0	147	31	191	138	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	118	0	11	0	39	8	50	36	0
Total Analysis Volume [veh/h]	0	0	0	474	0	42	0	155	33	201	145	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	32	0	0	18	0	15	33	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	21	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		39	39	39	7	7	7	18
g / C, Green / Cycle		0.61	0.61	0.61	0.10	0.10	0.11	0.27
(v / s)_i Volume / Saturation Flow Rate		0.13	0.13	0.03	0.04	0.02	0.06	0.04
s, saturation flow rate [veh/h]		1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]		1092	1092	975	383	171	372	988
d1, Uniform Delay [s]		5.87	5.87	5.24	27.15	26.53	27.56	17.88
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	0.46	0.08	0.69	0.54	1.22	0.07
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		0.22	0.22	0.04	0.40	0.19	0.54	0.15
d, Delay for Lane Group [s/veh]		6.33	6.33	5.32	27.84	27.07	28.78	17.95
Lane Group LOS		A	A	A	C	C	C	B
Critical Lane Group		No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.11	1.11	0.18	1.06	0.45	1.41	0.73
50th-Percentile Queue Length [ft/ln]		27.77	27.77	4.41	26.41	11.25	35.13	18.33
95th-Percentile Queue Length [veh/ln]		2.00	2.00	0.32	1.90	0.81	2.53	1.32
95th-Percentile Queue Length [ft/ln]		49.98	49.98	7.93	47.54	20.26	63.23	32.99

**Movement, Approach, & Intersection Results**

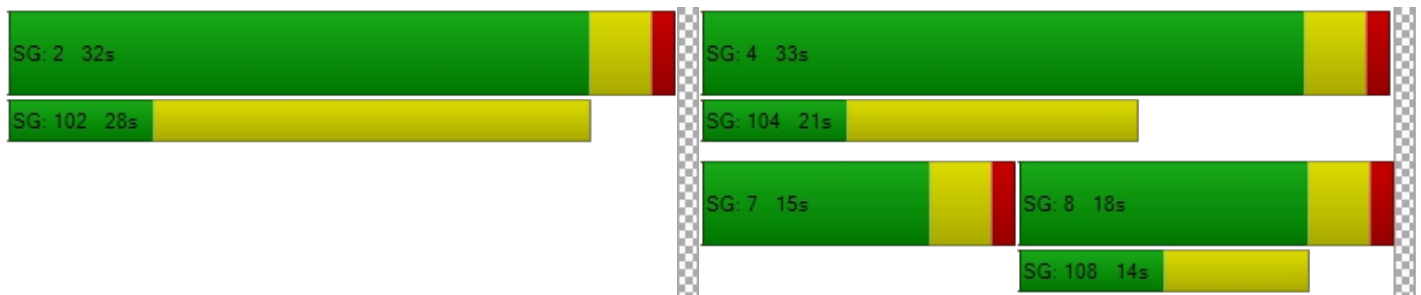
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	6.33	6.33	5.32	0.00	27.84	27.07	28.78	17.95	0.00
Movement LOS				A	A	A		C	C	C	B	
d_A, Approach Delay [s/veh]	0.00			6.25			27.70			24.24		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	16.02											
Intersection LOS	B											
Intersection V/C	0.283											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	1.811	2.302	2.392	2.673
Crosswalk LOS	A	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	862	431	892
d_b, Bicycle Delay [s]	32.50	10.53	20.01	9.97
I_b,int, Bicycle LOS Score for Intersection	4.132	2.411	1.715	1.845
Bicycle LOS	D	B	A	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: I-215 NB Ramps/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 135.2  
 Level Of Service: F  
 Volume to Capacity (v/c): 1.273

**Intersection Setup**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTP						TTTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	700.00	100.00	700.00	100.00	100.00	100.00	257.00	100.00	100.00	100.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes						Yes			Yes		
Crosswalk	Yes						Yes			Yes		

**Volumes**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	20	0	894	0	0	0	59	365	0	0	182	461
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	175	0	0	0	0	148	0	0	115	117
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	0	1123	0	0	0	63	535	0	0	308	606
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	296	0	0	0	17	141	0	0	81	159
Total Analysis Volume [veh/h]	22	0	1182	0	0	0	66	563	0	0	324	638
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	0	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	69	0	0	0	0	12	51	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	0	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	65		6	47	37	37
g / C, Green / Cycle	0.54	0.54	0.54		0.05	0.39	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.73		0.02	0.16	0.09	0.40
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	980	980	875		186	1417	1105	493
d1, Uniform Delay [s]	12.68	12.68	27.50		54.86	26.30	31.78	41.67
k, delay calibration	0.11	0.11	0.50		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	165.59		1.15	0.84	0.67	146.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.01	1.35		0.36	0.40	0.29	1.29
d, Delay for Lane Group [s/veh]	12.69	12.69	193.09		56.02	27.13	32.46	188.00
Lane Group LOS	B	B	F		E	C	C	F
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.13	62.59		0.97	5.74	3.59	33.96
50th-Percentile Queue Length [ft/ln]	3.27	3.27	1564.8		24.30	143.40	89.63	849.04
95th-Percentile Queue Length [veh/ln]	0.24	0.24	93.00		1.75	9.66	6.45	50.40
95th-Percentile Queue Length [ft/ln]	5.89	5.89	2324.9		43.75	241.60	161.34	1260.05

**Movement, Approach, & Intersection Results**

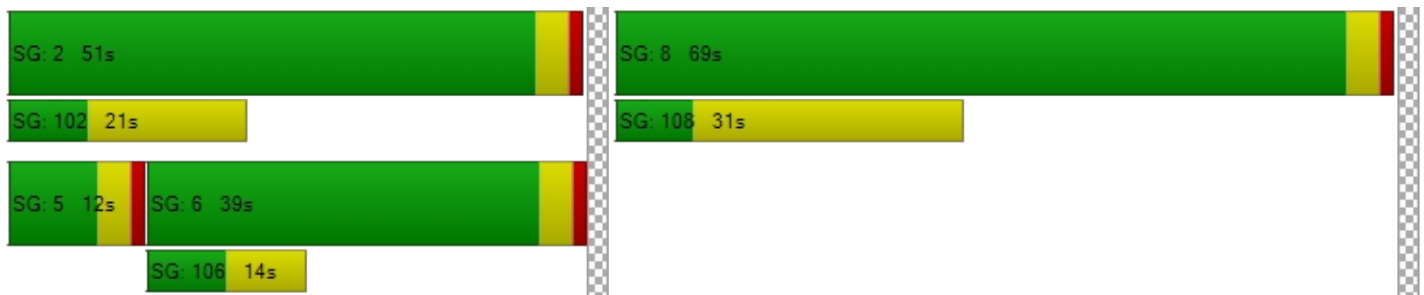
d_M, Delay for Movement [s/veh]	12.69	12.69	193.09	0.00	0.00	0.00	56.02	27.13	0.00	0.00	32.46	188.00
Movement LOS	B	B	F				E	C			C	F
d_A, Approach Delay [s/veh]	189.79			0.00			30.16			135.61		
Approach LOS	F			A			C			F		
d_I, Intersection Delay [s/veh]	135.22											
Intersection LOS	F											
Intersection V/C	1.273											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0		11.0		11.0		11.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	49.50		49.50		49.50		49.50	
I_p,int, Pedestrian LOS Score for Intersection	2.585		2.072		2.811		3.105	
Crosswalk LOS	B		B		C		C	
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1083		0		783		583	
d_b, Bicycle Delay [s]	12.60		60.00		22.20		30.10	
I_b,int, Bicycle LOS Score for Intersection	3.546		4.132		2.079		2.353	
Bicycle LOS	D		D		B		B	

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: I-215 Frontage Rd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh):  
 Level Of Service:  
 Volume to Capacity (v/c):  
 34.7  
 C  
 0.514

**Intersection Setup**

Name	I-21		I-21		I-21		I-21		I-21		I-21		Placentia Ave	Placentia Ave	Westbound
	Approach	Northbound		Southbound		Eastbound		Westbound		Eastbound					
Lane Configuration	TIP		TIP		TIP		TIP		TIP		TIP		Right	Thru	Right
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	230.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	290.00	100.00	210.00	250.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.61
Speed [mph]	45.00		45.00		45.00		45.00		45.00		45.00		45.00		
Grade [%]	0.00		0.00		0.00		0.00		0.00		0.00		0.00		
Curb Present	Yes		Yes		Yes		Yes		Yes		Yes		Yes		
Crosswalk	Yes		Yes		Yes		Yes		Yes		Yes		Yes		



**Volumes**

Name	I-21			I-21			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	4	2	2	4	0	9	255	980	24	6	630	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	323	0	0	232	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	2	2	4	0	10	270	1362	25	6	900	36
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	3	71	358	7	2	237	9
Total Analysis Volume [veh/h]	4	2	2	4	0	11	284	1434	26	6	947	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	12	30	0	20	39	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	36	36	1	36	36	16	41	41	1	26	26
g / C, Green / Cycle	0.01	0.38	0.38	0.01	0.38	0.38	0.17	0.43	0.43	0.01	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.40	0.02	0.00	0.26	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	16	724	615	16	723	614	305	1557	695	21	990	442
d1, Uniform Delay [s]	46.75	18.23	18.23	46.79	0.00	18.36	38.96	25.54	15.67	46.54	33.94	25.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.46	0.01	0.01	8.47	0.00	0.05	12.42	2.71	0.02	7.01	6.49	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.24	0.00	0.00	0.26	0.00	0.02	0.93	0.92	0.04	0.28	0.96	0.09
d, Delay for Lane Group [s/veh]	54.21	18.23	18.24	55.27	0.00	18.41	51.38	28.25	15.69	53.55	40.43	25.74
Lane Group LOS	D	B	B	E	A	B	D	C	B	D	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	0.03	0.03	0.13	0.00	0.15	7.24	14.19	0.31	0.18	10.90	0.62
50th-Percentile Queue Length [ft/ln]	3.12	0.67	0.68	3.18	0.00	3.76	181.08	354.82	7.67	4.43	272.47	15.43
95th-Percentile Queue Length [veh/ln]	0.22	0.05	0.05	0.23	0.00	0.27	11.66	20.37	0.55	0.32	16.31	1.11
95th-Percentile Queue Length [ft/ln]	5.61	1.21	1.22	5.72	0.00	6.77	291.42	509.28	13.81	7.97	407.83	27.78

**Movement, Approach, & Intersection Results**

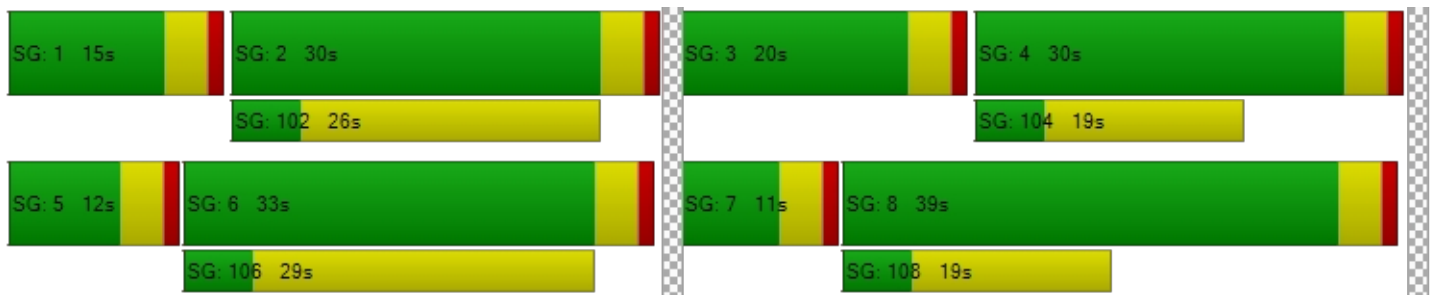
d_M, Delay for Movement [s/veh]	54.21	18.23	18.24	55.27	0.00	18.41	51.38	28.25	15.69	53.55	40.43	25.74
Movement LOS	D	B	B	E	A	B	D	C	B	D	D	C
d_A, Approach Delay [s/veh]	36.22			28.24			31.83			39.95		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	34.74											
Intersection LOS	C											
Intersection V/C	0.514											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	38.93			38.93			38.93			38.93		
I_p,int, Pedestrian LOS Score for Intersection	2.150			2.259			3.117			3.106		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	611			547			737			547		
d_b, Bicycle Delay [s]	22.93			25.06			18.95			25.06		
I_b,int, Bicycle LOS Score for Intersection	1.573			1.584			2.998			2.377		
Bicycle LOS	A			A			C			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Indian Ave/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	170.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.455

**Intersection Setup**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵			↵			↵↻			↵↻		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	238.00	100.00	100.00	100.00	100.00	238.00	240.00	100.00	245.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	300	98	18	5	12	193	626	178	182	33	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	0	1	28	70	225	66	32	0	125	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	104	19	6	41	275	889	255	225	35	306	35
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	27	5	2	11	72	234	67	59	9	81	9
Total Analysis Volume [veh/h]	374	109	20	6	43	289	936	268	237	37	322	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	35	0	11	26	0	0	74	0	0	74	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	R	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	37	1	22	70	70	70	70	70
g / C, Green / Cycle	0.13	0.31	0.01	0.18	0.58	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.21	0.07	0.00	0.20	0.90	0.14	0.15	0.12	0.12
s, saturation flow rate [veh/h]	1810	1849	1810	1647	1039	1900	1615	1582	1674
c, Capacity [veh/h]	241	563	22	302	591	1108	942	958	977
d1, Uniform Delay [s]	52.00	31.19	58.76	49.00	32.47	12.13	12.21	11.63	11.82
k, delay calibration	0.32	0.11	0.11	0.31	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	260.49	0.20	6.61	70.58	271.23	0.52	0.64	0.49	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.55	0.23	0.27	1.10	1.58	0.24	0.25	0.21	0.20
d, Delay for Lane Group [s/veh]	312.49	31.40	65.37	119.58	303.69	12.64	12.85	12.12	12.29
Lane Group LOS	F	C	E	F	F	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	24.51	2.75	0.22	14.67	61.94	3.38	3.04	2.40	2.46
50th-Percentile Queue Length [ft/ln]	612.70	68.72	5.43	366.67	1548.3	84.51	75.88	60.01	61.43
95th-Percentile Queue Length [veh/ln]	38.31	4.95	0.39	21.97	99.00	6.08	5.46	4.32	4.42
95th-Percentile Queue Length [ft/ln]	957.72	123.69	9.77	549.24	2474.8	152.12	136.59	108.03	110.57



**Movement, Approach, & Intersection Results**

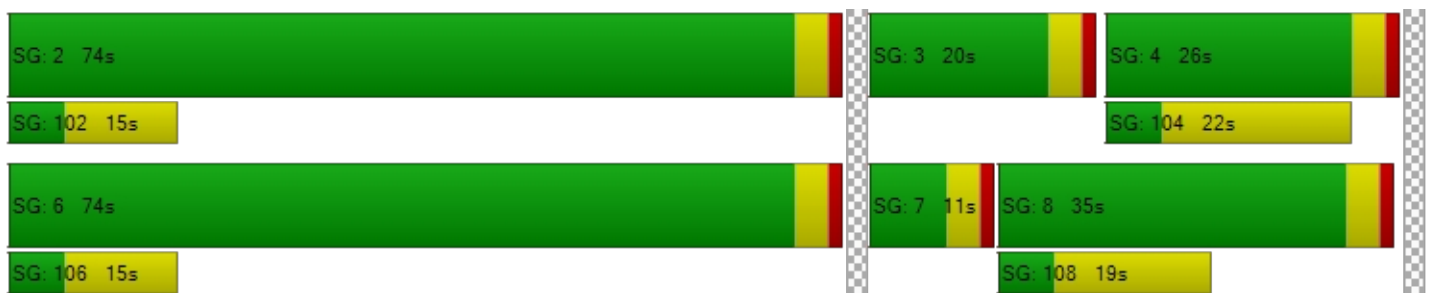
d_M, Delay for Movement [s/veh]	312.49	31.40	31.40	65.37	119.58	119.58	303.69	12.64	12.85	12.12	12.21	12.29
Movement LOS	F	C	C	E	F	F	F	B	B	B	B	B
d_A, Approach Delay [s/veh]	240.40			118.62			201.73			12.21		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	170.48											
Intersection LOS	F											
Intersection V/C	1.455											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.408	3.979	3.025	2.399
Crosswalk LOS	B	D	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	367	1167	1167
d_b, Bicycle Delay [s]	33.00	40.02	10.42	10.42
I_b,int, Bicycle LOS Score for Intersection	2.390	2.117	3.937	1.886
Bicycle LOS	B	B	D	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 25.1  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.499

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T T			T T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	2	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	49.21	0.00	0.00	49.21	0.00	0.00	1500.0
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	34	874	82	40	393	48	32	110	36	166	224	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	7	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	936	87	42	424	51	34	117	38	176	237	194
Peak Hour Factor	0.8140	0.8140	0.8140	0.7900	0.7900	0.7900	0.8050	0.8050	0.8050	0.8130	0.8130	0.8130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	287	27	13	134	16	11	36	12	54	73	60
Total Analysis Volume [veh/h]	44	1150	107	53	537	65	42	145	47	216	292	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	33	0	12	34	0	13	42	0	18	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	60	60	6	61	61	5	9	9	14	18	18
g / C, Green / Cycle	0.05	0.57	0.57	0.05	0.58	0.58	0.05	0.09	0.09	0.13	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.07	0.03	0.10	0.04	0.02	0.04	0.03	0.12	0.08	0.15
s, saturation flow rate [veh/h]	1810	5176	1615	1810	5176	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	87	2966	925	95	2988	932	86	321	143	241	632	282
d1, Uniform Delay [s]	48.73	12.31	10.25	48.54	10.47	9.77	48.77	45.43	44.91	44.78	38.91	41.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.41	0.38	0.25	5.00	0.13	0.14	4.28	1.00	1.32	11.14	0.53	6.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.39	0.12	0.56	0.18	0.07	0.49	0.45	0.33	0.90	0.46	0.85
d, Delay for Lane Group [s/veh]	53.15	12.69	10.51	53.53	10.60	9.92	53.05	46.42	46.23	55.92	39.44	48.95
Lane Group LOS	D	B	B	D	B	A	D	D	D	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.20	4.48	1.08	1.45	1.78	0.63	1.14	1.78	1.17	6.07	3.31	6.30
50th-Percentile Queue Length [ft/ln]	29.96	111.96	27.05	36.16	44.59	15.75	28.59	44.59	29.19	151.81	82.63	157.53
95th-Percentile Queue Length [veh/ln]	2.16	7.95	1.95	2.60	3.21	1.13	2.06	3.21	2.10	10.11	5.95	10.42
95th-Percentile Queue Length [ft/ln]	53.92	198.72	48.69	65.08	80.26	28.35	51.45	80.27	52.53	252.85	148.73	260.45

**Movement, Approach, & Intersection Results**

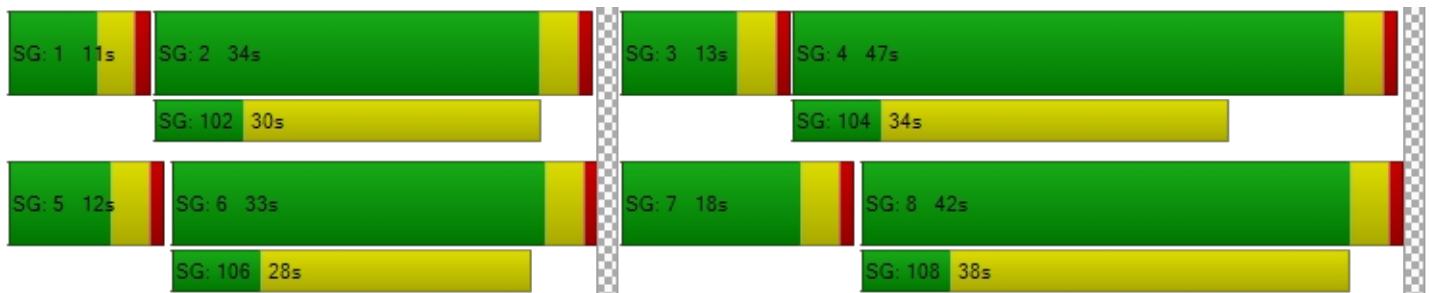
d_M, Delay for Movement [s/veh]	53.15	12.69	10.51	53.53	10.60	9.92	53.05	46.42	46.23	55.92	39.44	48.95
Movement LOS	D	B	B	D	B	A	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	13.88			14.00			47.57			47.25		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	25.08											
Intersection LOS	C											
Intersection V/C	0.499											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersection	3.198			3.114			2.615			2.717		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	552			571			724			819		
d_b, Bicycle Delay [s]	27.50			26.79			21.38			18.30		
I_b,int, Bicycle LOS Score for Intersection	2.275			1.920			1.753			2.176		
Bicycle LOS	B			A			A			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 24.6  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.691

**Intersection Setup**

Name	Perris Blvd		Perris Blvd		Perris Blvd		Placentia Ave		Placentia Ave		Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Entry Pocket	Entry Pocket Length [ft]	No. of Lanes in Exit Pocket	Exit Pocket Length [ft]	Speed [mph]	Grade [%]	Curb Present	Crosswalk	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right														
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	1	180.00	100.00	100.00	100.00	45.00	0.00	Yes	Yes
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	100.00	45.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	1	230.00	100.00	100.00	45.00	0.00	Yes	Yes	
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	40.00	0.00	Yes	Yes		
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	173.00	100.00	40.00	0.00	Yes	Yes		
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	0	100.00	100.00	40.00	0.00	Yes	Yes		
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	Left Thru Right	Left Thru Right	12.00	1	200.00	100.00	40.00	0.00	Yes	Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Input [veh/h]	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	84	10	13	0	7	0	0	39	28	9	45	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	915	46	42	576	28	15	95	50	47	134	153
Peak Hour Factor	0.8080	0.8080	0.8080	0.8070	0.8070	0.8070	0.4610	0.4610	0.4610	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	283	14	13	178	9	8	52	27	15	43	49
Total Analysis Volume [veh/h]	144	1132	57	52	714	35	33	206	108	60	172	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	26	0	11	25	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	38	38	5	35	35	4	16	5	18	18
g / C, Green / Cycle	0.10	0.47	0.47	0.06	0.43	0.43	0.05	0.20	0.06	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.32	0.32	0.03	0.20	0.20	0.02	0.18	0.03	0.09	0.12
s, saturation flow rate [veh/h]	1810	1900	1868	1810	1900	1869	1810	1791	1810	1900	1615
c, Capacity [veh/h]	179	897	882	109	824	810	83	363	117	421	358
d1, Uniform Delay [s]	35.30	16.28	16.30	36.36	16.01	16.01	37.07	30.82	36.18	26.66	27.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.26	3.93	4.02	3.19	1.83	1.87	3.01	6.19	3.42	0.64	1.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	0.67	0.67	0.48	0.46	0.46	0.40	0.86	0.51	0.41	0.55
d, Delay for Lane Group [s/veh]	43.56	20.22	20.32	39.55	17.85	17.88	40.08	37.01	39.61	27.29	28.90
Lane Group LOS	D	C	C	D	B	B	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.99	8.11	8.02	1.02	4.66	4.60	0.67	6.10	1.19	2.72	3.25
50th-Percentile Queue Length [ft/ln]	74.64	202.70	200.46	25.60	116.60	114.94	16.76	152.52	29.86	67.89	81.14
95th-Percentile Queue Length [veh/ln]	5.37	12.78	12.66	1.84	8.21	8.11	1.21	10.15	2.15	4.89	5.84
95th-Percentile Queue Length [ft/ln]	134.35	319.45	316.56	46.08	205.14	202.85	30.17	253.80	53.74	122.21	146.05

**Movement, Approach, & Intersection Results**

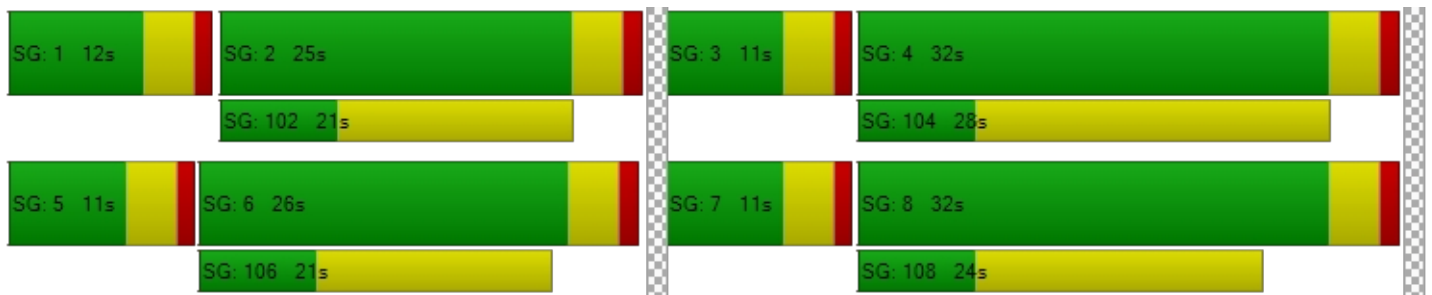
d_M, Delay for Movement [s/veh]	43.56	20.27	20.32	39.55	17.86	17.88	40.08	37.01	37.01	39.61	27.29	28.90
Movement LOS	D	C	C	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	22.79			19.27			37.30			29.75		
Approach LOS	C			B			D			C		
d_I, Intersection Delay [s/veh]	24.57											
Intersection LOS	C											
Intersection V/C	0.691											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.76	29.76	29.76	29.76
I_p,int, Pedestrian LOS Score for Intersection	2.941	2.973	2.351	2.366
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	525	700	700
d_b, Bicycle Delay [s]	21.03	21.76	16.90	16.90
I_b,int, Bicycle LOS Score for Intersection	2.659	2.220	2.132	2.266
Bicycle LOS	B	B	B	B

**Sequence**





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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 26.2  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.499

**Intersection Setup**

Name	Redlands Ave			Southbound			Rider St			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	180.00	100.00	180.00	112.00	100.00	160.00	235.00	100.00	235.00	151.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave						Rider St			Rider St		
	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Input [veh/h]	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	0	5	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	260	160	38	92	15	12	237	12	110	540	78
Peak Hour Factor	0.8580	0.8580	0.8580	0.7620	0.7620	0.7620	0.8980	0.8980	0.8980	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	76	47	12	30	5	3	66	3	30	148	21
Total Analysis Volume [veh/h]	42	303	186	50	121	20	13	264	13	121	592	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	28	0	11	28	0	11	25	0	11	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	36	36	5	36	36	2	12	12	6	17	17
g / C, Green / Cycle	0.05	0.47	0.47	0.06	0.48	0.48	0.02	0.17	0.17	0.09	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.03	0.06	0.01	0.01	0.14	0.01	0.07	0.18	0.18
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1817
c, Capacity [veh/h]	100	899	764	110	910	773	42	317	270	156	436	417
d1, Uniform Delay [s]	34.28	12.39	11.77	34.01	10.88	10.31	36.03	30.23	26.24	33.58	27.22	27.23
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.82	1.02	0.76	2.90	0.30	0.06	4.08	5.68	0.07	8.11	3.32	3.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.34	0.24	0.45	0.13	0.03	0.31	0.83	0.05	0.78	0.79	0.80
d, Delay for Lane Group [s/veh]	37.10	13.41	12.53	36.91	11.18	10.38	40.11	35.90	26.31	41.68	30.54	30.72
Lane Group LOS	D	B	B	D	B	B	D	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.77	2.92	1.72	0.95	1.11	0.17	0.27	4.73	0.19	2.36	5.69	5.47
50th-Percentile Queue Length [ft/ln]	19.29	73.04	42.91	23.67	27.63	4.36	6.69	118.27	4.66	58.93	142.23	136.71
95th-Percentile Queue Length [veh/ln]	1.39	5.26	3.09	1.70	1.99	0.31	0.48	8.30	0.34	4.24	9.60	9.30
95th-Percentile Queue Length [ft/ln]	34.71	131.47	77.24	42.60	49.73	7.85	12.04	207.44	8.38	106.08	240.03	232.59

**Movement, Approach, & Intersection Results**

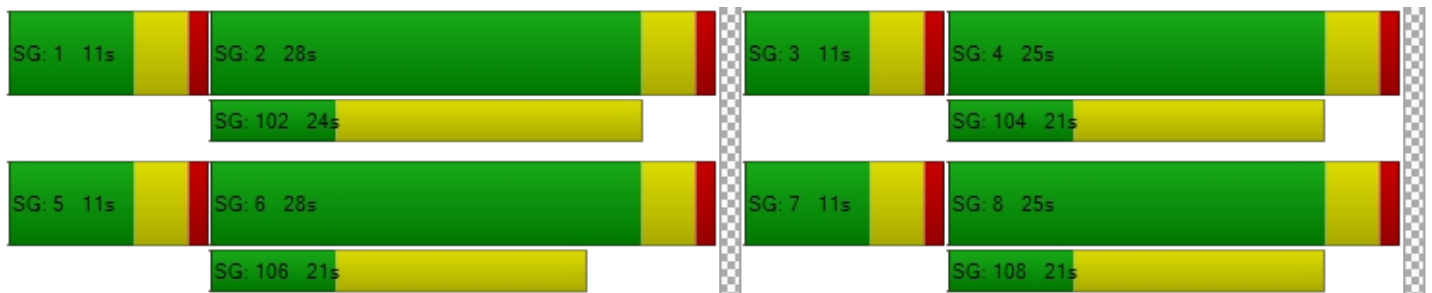
d_M, Delay for Movement [s/veh]	37.10	13.41	12.53	36.91	11.18	10.38	40.11	35.90	26.31	41.68	30.61	30.72
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	14.98			17.83			35.66			32.30		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	26.23											
Intersection LOS	C											
Intersection V/C	0.499											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.408			2.266			2.566			2.596		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	640			640			560			560		
d_b, Bicycle Delay [s]	17.34			17.34			19.44			19.44		
I_b,int, Bicycle LOS Score for Intersection	2.436			1.875			2.038			2.219		
Bicycle LOS	B			A			B			B		

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	91	355	17	14	163	19	39	75	37	30	142	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	3	0	0	5	0	0	22	30	0	39	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	111	379	18	15	178	20	41	102	69	32	190	39
Peak Hour Factor	0.8550	0.8550	0.8550	0.7950	0.7950	0.7950	0.7450	0.7450	0.7450	0.7450	0.7450	0.7450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	111	5	5	56	6	14	34	23	11	64	13
Total Analysis Volume [veh/h]	130	443	21	19	224	25	55	137	93	43	255	52
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	462	493	498	457	485	532	441	468	513	474	513
Degree of Utilization, x	0.28	0.47	0.47	0.04	0.46	0.05	0.12	0.29	0.18	0.09	0.60

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.14	2.48	2.44	0.13	2.40	0.15	0.42	1.21	0.66	0.30	3.90
95th-Percentile Queue Length [ft]	28.58	61.89	61.03	3.25	59.98	3.69	10.59	30.13	16.41	7.44	97.39
Approach Delay [s/veh]	15.61			15.35			12.50			18.63	
Approach LOS	C			C			B			C	
Intersection Delay [s/veh]	15.68										
Intersection LOS	C										

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024

Scenario 5 Opening Year AM

Conditions\_NEW4.vistro

Report File: C:\...\Opening Year AM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
1	I-215 SB Ramps/Placentia Ave	450	0	40	147	31	191	138	997

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
2	I-215 NB Ramps/Placentia Ave	21	0	1123	63	535	308	606	2656

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	I-215 Frontage Rd/Placentia Ave	4	2	2	4	0	10	270	1362	25	6	900	36	2621

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Indian Ave/Placentia Ave	355	104	19	6	41	275	889	255	225	35	306	35	2545

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	36	936	87	42	424	51	34	117	38	176	237	194	2372

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	116	915	46	42	576	28	15	95	50	47	134	153	2217

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	36	260	160	38	92	15	12	237	12	110	540	78	1590

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	111	379	18	15	178	20	41	102	69	32	190	39	1194

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024

Scenario 6 Opening Year PM

Conditions\_NEW4.vistro

Report File: C:\...\Opening Year PM.pdf

10/18/2022

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-215 SB Ramps/Placentia Ave	Signalized	HCM 6th Edition	EB Right	0.610	21.4	C
2	I-215 NB Ramps/Placentia Ave	Signalized	HCM 6th Edition	EB Left	0.844	23.7	C
3	I-215 Frontage Rd/Placentia Ave	Signalized	HCM 6th Edition	WB Left	0.534	27.7	C
4	Indian Ave/Placentia Ave	Signalized	HCM 6th Edition	EB Left	1.352	152.9	F
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	SB Left	0.450	22.3	C
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	SB Left	0.693	23.4	C
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	EB Left	0.523	24.9	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	SB Thru	0.495	12.7	B

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

**Intersection Level Of Service Report**  
**Intersection 1: I-215 SB Ramps/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

**Intersection Setup**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	700.00	100.00	700.00	100.00	100.00	288.00	255.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	355	0	68	0	149	198	430	88	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	125	0	0	0	0	0	261	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	501	0	72	0	158	210	717	93	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	132	0	19	0	42	55	189	24	0
Total Analysis Volume [veh/h]	0	0	0	527	0	76	0	166	221	755	98	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	35	0	0	19	0	11	30	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		25	25	25	11	11	17	32
g / C, Green / Cycle		0.38	0.38	0.38	0.17	0.17	0.26	0.50
(v / s)_i Volume / Saturation Flow Rate		0.15	0.15	0.05	0.05	0.14	0.21	0.03
s, saturation flow rate [veh/h]		1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]		684	684	610	632	282	924	1805
d1, Uniform Delay [s]		14.72	14.72	13.20	23.21	25.65	22.49	8.38
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.64	1.64	0.42	0.22	4.76	1.84	0.01
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		0.39	0.39	0.12	0.26	0.78	0.82	0.05
d, Delay for Lane Group [s/veh]		16.37	16.37	13.62	23.42	30.41	24.33	8.39
Lane Group LOS		B	B	B	C	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		2.68	2.68	0.68	1.01	3.28	4.91	0.28
50th-Percentile Queue Length [ft/ln]		67.03	67.03	17.10	25.14	81.91	122.82	6.96
95th-Percentile Queue Length [veh/ln]		4.83	4.83	1.23	1.81	5.90	8.55	0.50
95th-Percentile Queue Length [ft/ln]		120.65	120.65	30.77	45.25	147.43	213.70	12.52

**Movement, Approach, & Intersection Results**

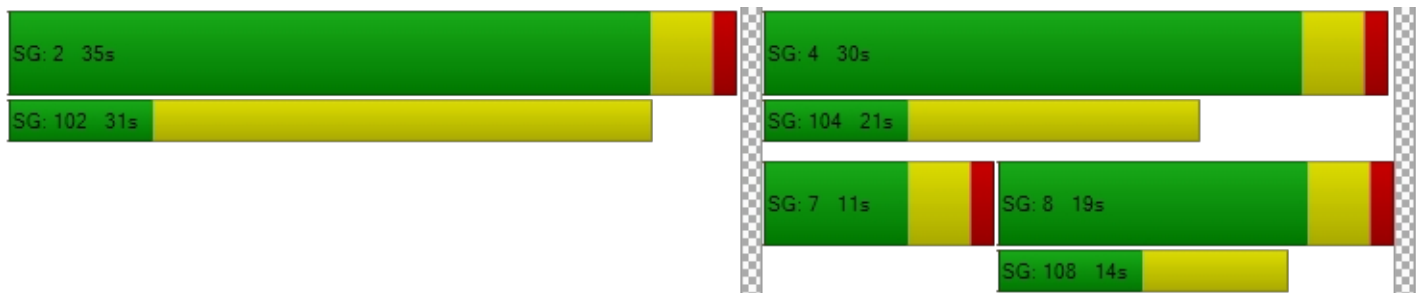
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	16.37	16.37	13.62	0.00	23.42	30.41	24.33	8.39	0.00
Movement LOS				B	B	B		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			16.02			27.42			22.50		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	21.41											
Intersection LOS	C											
Intersection V/C	0.610											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.173	2.334	2.446	2.899
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	954	462	800
d_b, Bicycle Delay [s]	32.50	8.89	19.23	11.70
I_b,int, Bicycle LOS Score for Intersection	4.132	2.555	1.879	2.263
Bicycle LOS	D	B	A	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: I-215 NB Ramps/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 23.7  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.844

**Intersection Setup**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	700.00	100.00	700.00	100.00	100.00	100.00	257.00	100.00	100.00	100.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	28	0	219	0	0	0	67	437	0	0	490	376
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	205	0	0	0	0	125	0	0	261	262
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	437	0	0	0	71	588	0	0	780	661
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	115	0	0	0	19	155	0	0	205	174
Total Analysis Volume [veh/h]	32	0	460	0	0	0	75	619	0	0	821	696
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	0	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	56	0	0	0	0	21	39	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	0	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	95	95	95		95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29		6	58	47	47
g / C, Green / Cycle	0.31	0.31	0.31		0.06	0.61	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.28		0.02	0.17	0.23	0.43
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	562	562	501		229	2190	1801	804
d1, Uniform Delay [s]	22.79	22.79	31.58		42.40	8.92	15.49	21.04
k, delay calibration	0.11	0.11	0.11		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.02	7.27		0.82	0.32	0.83	12.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.03	0.03	0.92		0.33	0.28	0.46	0.87
d, Delay for Lane Group [s/veh]	22.81	22.81	38.86		43.22	9.25	16.32	33.06
Lane Group LOS	C	C	D		D	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	0.24	10.43		0.84	2.65	5.34	14.49
50th-Percentile Queue Length [ft/ln]	5.99	5.99	260.66		20.89	66.36	133.41	362.37
95th-Percentile Queue Length [veh/ln]	0.43	0.43	15.72		1.50	4.78	9.12	20.74
95th-Percentile Queue Length [ft/ln]	10.77	10.77	393.05		37.60	119.45	228.12	518.47

**Movement, Approach, & Intersection Results**

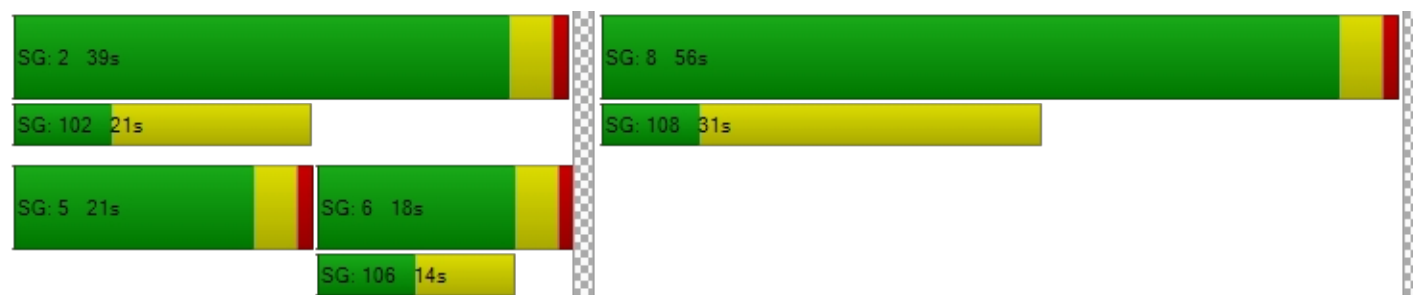
d_M, Delay for Movement [s/veh]	22.81	22.81	38.86	0.00	0.00	0.00	43.22	9.25	0.00	0.00	16.32	33.06
Movement LOS	C	C	D				D	A			B	C
d_A, Approach Delay [s/veh]	37.81			0.00			12.92			24.00		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	23.67											
Intersection LOS	C											
Intersection V/C	0.844											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
I_p,int, Pedestrian LOS Score for Intersection	2.313	2.093	2.919	3.061
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1095	0	737	295
d_b, Bicycle Delay [s]	9.73	47.50	18.95	34.53
I_b,int, Bicycle LOS Score for Intersection	2.371	4.132	2.132	2.811
Bicycle LOS	B	D	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: I-215 Frontage Rd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 27.7  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.534

**Intersection Setup**

Name	I-21		I-21		I-21		I-21		I-21		I-21		Placentia Ave	Placentia Ave	Westbound
	Approach	Northbound	Southbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound			
Lane Configuration	↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	230.00	100.00	100.00	250.00	100.00	100.00	100.00	290.00	100.00	100.00	210.00	250.00	100.00	250.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.61
Speed [mph]	45.00		45.00		45.00		45.00		45.00		45.00		45.00		
Grade [%]	0.00		0.00		0.00		0.00		0.00		0.00		0.00		
Curb Present	Yes		Yes		Yes		Yes		Yes		Yes		Yes		
Crosswalk	Yes		Yes		Yes		Yes		Yes		Yes		Yes		



**Volumes**

Name	I-21			I-21			Placentia Ave			Placentia Ave		
	9	1	11	12	1	52	9	641	6	4	805	5
Base Volume Input [veh/h]	9	1	11	12	1	52	9	641	6	4	805	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	330	0	0	523	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1	12	13	1	55	10	1009	6	4	1376	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	3	3	0	14	3	266	2	1	362	1
Total Analysis Volume [veh/h]	11	1	13	14	1	58	11	1062	6	4	1448	5
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	35	0	11	32	0	13	31	0	23	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	37	37	2	38	38	2	44	44	1	43	43
g / C, Green / Cycle	0.02	0.37	0.37	0.02	0.38	0.38	0.02	0.44	0.44	0.01	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.01	0.01	0.00	0.04	0.01	0.29	0.00	0.00	0.40	0.00
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	34	708	602	41	715	608	34	1580	705	15	1541	688
d1, Uniform Delay [s]	48.44	19.69	19.84	48.12	19.44	20.16	48.44	22.46	15.93	49.30	27.47	16.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.40	0.00	0.07	4.80	0.00	0.31	5.43	0.50	0.00	9.74	3.48	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.32	0.00	0.02	0.34	0.00	0.10	0.32	0.67	0.01	0.27	0.94	0.01
d, Delay for Lane Group [s/veh]	53.84	19.70	19.91	52.92	19.45	20.47	53.87	22.97	15.93	59.05	30.95	16.53
Lane Group LOS	D	B	B	D	B	C	D	C	B	E	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.31	0.01	0.19	0.39	0.01	0.88	0.31	9.18	0.07	0.14	15.68	0.06
50th-Percentile Queue Length [ft/ln]	7.83	0.36	4.82	9.69	0.36	22.00	7.83	229.59	1.84	3.39	392.02	1.57
95th-Percentile Queue Length [veh/ln]	0.56	0.03	0.35	0.70	0.03	1.58	0.56	14.15	0.13	0.24	22.18	0.11
95th-Percentile Queue Length [ft/ln]	14.09	0.66	8.67	17.44	0.65	39.60	14.10	353.84	3.31	6.11	554.38	2.83

**Movement, Approach, & Intersection Results**

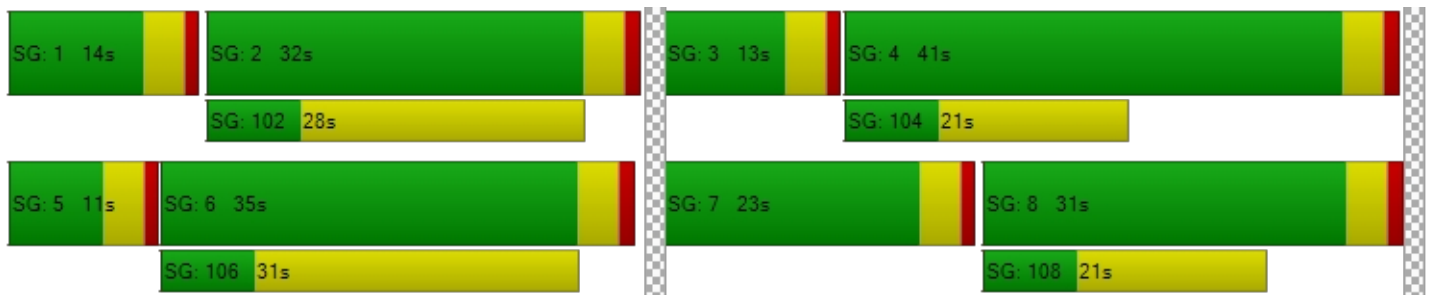
d_M, Delay for Movement [s/veh]	53.84	19.70	19.91	52.92	19.45	20.47	53.87	22.97	15.93	59.05	30.95	16.53
Movement LOS	D	B	B	D	B	C	D	C	B	E	C	B
d_A, Approach Delay [s/veh]	34.83			26.68			23.24			30.98		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.73											
Intersection LOS	C											
Intersection V/C	0.534											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	39.61			39.61			39.61			39.61		
I_p,int, Pedestrian LOS Score for Intersection	2.149			2.169			3.090			3.131		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	620			560			540			740		
d_b, Bicycle Delay [s]	23.81			25.92			26.65			19.85		
I_b,int, Bicycle LOS Score for Intersection	1.601			1.680			2.450			2.762		
Bicycle LOS	A			A			B			C		

**Sequence**

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



**Intersection Level Of Service Report  
Intersection 4: Indian Ave/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	152.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.352

**Intersection Setup**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵			↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	238.00	100.00	100.00	100.00	100.00	100.00	300.00	100.00	245.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	170	13	3	26	113	397	285	143	236	7	247	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	0	0	5	81	294	139	131	60	0	189	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	14	3	33	201	715	441	283	310	7	451	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	4	1	9	53	188	116	74	82	2	119	4
Total Analysis Volume [veh/h]	232	15	3	35	212	753	464	298	326	7	475	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	25	0	40	50	0	0	50	0	0	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	R	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	52	5	46	46	46	46	46	46
g / C, Green / Cycle	0.10	0.45	0.04	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.13	0.01	0.02	0.58	0.50	0.16	0.20	0.14	0.14
s, saturation flow rate [veh/h]	1810	1846	1810	1670	919	1900	1615	1878	1707
c, Capacity [veh/h]	173	837	76	668	325	760	646	784	683
d1, Uniform Delay [s]	52.00	17.33	53.81	34.50	44.24	24.55	25.94	24.00	24.04
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	161.56	0.01	4.28	208.46	209.09	1.52	2.80	1.15	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.34	0.02	0.46	1.44	1.43	0.39	0.50	0.33	0.35
d, Delay for Lane Group [s/veh]	213.56	17.34	58.09	242.96	253.33	26.07	28.74	25.15	25.44
Lane Group LOS	F	B	E	F	F	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	12.61	0.25	1.06	56.05	28.12	5.83	6.88	4.98	4.57
50th-Percentile Queue Length [ft/ln]	315.36	6.36	26.40	1401.32	702.89	145.87	171.89	124.51	114.23
95th-Percentile Queue Length [veh/ln]	20.38	0.46	1.90	84.82	44.87	9.80	11.18	8.64	8.07
95th-Percentile Queue Length [ft/ln]	509.47	11.45	47.52	2120.42	1121.8	244.91	279.39	216.01	201.87



**Movement, Approach, & Intersection Results**

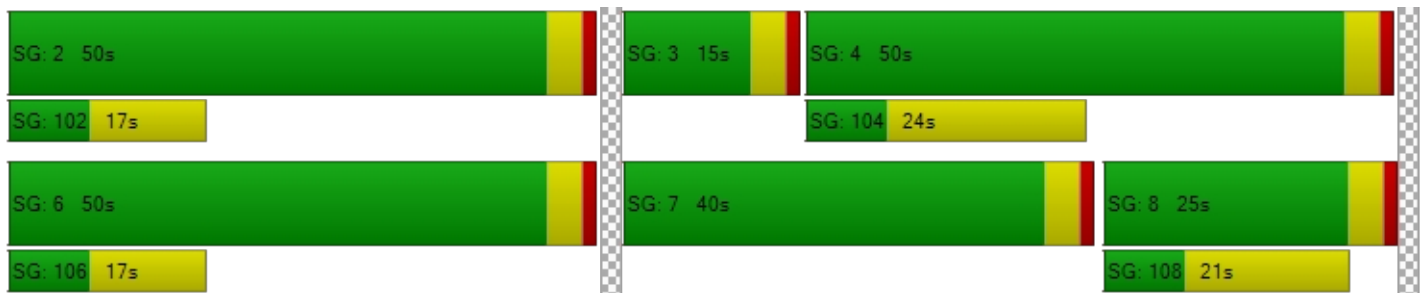
d_M, Delay for Movement [s/veh]	213.56	17.34	17.34	58.09	242.96	242.96	253.33	26.07	28.74	25.15	25.29	25.44
Movement LOS	F	B	B	E	F	F	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	199.43			236.49			123.79			25.29		
Approach LOS	F			F			F			C		
d_I, Intersection Delay [s/veh]	152.86											
Intersection LOS	F											
Intersection V/C	1.352											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	47.03			47.03			47.03			47.03		
I_p,int, Pedestrian LOS Score for Intersection	2.349			3.341			3.057			2.448		
Crosswalk LOS	B			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	365			800			800			800		
d_b, Bicycle Delay [s]	38.42			20.70			20.70			20.70		
I_b,int, Bicycle LOS Score for Intersection	1.972			3.210			3.355			1.971		
Bicycle LOS	A			C			C			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 22.3  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.450

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTLT			TTLT			TTLT			TTLT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	2	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	49.21	0.00	0.00	49.21	0.00	0.00	1500.0
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Input [veh/h]	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	635	180	84	946	20	50	170	56	188	87	89
Peak Hour Factor	0.9440	0.9440	0.9440	0.8870	0.8870	0.8870	0.8710	0.8710	0.8710	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	168	48	24	267	6	14	49	16	49	23	23
Total Analysis Volume [veh/h]	22	673	191	95	1067	23	57	195	64	198	91	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	32	0	14	35	0	21	42	0	17	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	61	61	7	65	65	6	8	8	13	15	15
g / C, Green / Cycle	0.03	0.58	0.58	0.07	0.61	0.61	0.05	0.08	0.08	0.12	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.13	0.12	0.05	0.21	0.01	0.03	0.05	0.04	0.11	0.03	0.06
s, saturation flow rate [veh/h]	1810	5176	1615	1810	5176	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	58	2996	935	121	3177	991	99	282	126	224	532	237
d1, Uniform Delay [s]	49.82	10.70	10.56	48.25	9.86	7.94	48.42	47.16	46.46	45.26	39.18	40.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.11	0.17	0.49	10.64	0.29	0.04	5.14	3.01	3.13	10.92	0.15	1.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.38	0.22	0.20	0.79	0.34	0.02	0.57	0.69	0.51	0.88	0.17	0.40
d, Delay for Lane Group [s/veh]	53.92	10.87	11.05	58.90	10.15	7.98	53.57	50.17	49.60	56.18	39.33	41.63
Lane Group LOS	D	B	B	E	B	A	D	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.62	2.29	2.01	2.73	3.52	0.19	1.56	2.52	1.67	5.57	1.01	2.20
50th-Percentile Queue Length [ft/ln]	15.38	57.23	50.27	68.23	88.01	4.77	38.88	63.10	41.64	139.22	25.16	54.97
95th-Percentile Queue Length [veh/ln]	1.11	4.12	3.62	4.91	6.34	0.34	2.80	4.54	3.00	9.44	1.81	3.96
95th-Percentile Queue Length [ft/ln]	27.69	103.01	90.48	122.81	158.41	8.59	69.98	113.58	74.96	235.97	45.29	98.95

**Movement, Approach, & Intersection Results**

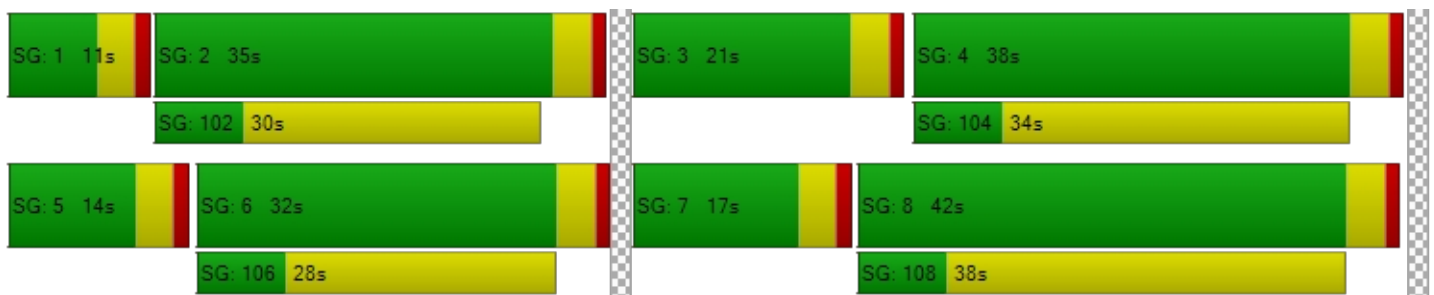
d_M, Delay for Movement [s/veh]	53.92	10.87	11.05	58.90	10.15	7.98	53.57	50.17	49.60	56.18	39.33	41.63
Movement LOS	D	B	B	E	B	A	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	11.98			14.01			50.67			48.60		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.33											
Intersection LOS	C											
Intersection V/C	0.450											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersection	3.216			3.100			2.570			2.671		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			590			724			648		
d_b, Bicycle Delay [s]	28.23			26.08			21.38			24.00		
I_b,int, Bicycle LOS Score for Intersection	2.047			2.211			1.820			1.876		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**  
 Signalized HCM 6th Edition 15 minutes  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 23.4  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.693

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	1	0	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Input [veh/h]	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	135	17	20	0	20	0	0	55	81	24	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	136	765	86	113	1075	5	16	100	101	63	79	67
Peak Hour Factor	0.9170	0.9170	0.9170	0.9410	0.9410	0.9410	0.8520	0.8520	0.8520	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	209	23	30	286	1	5	29	30	16	20	17
Total Analysis Volume [veh/h]	148	834	94	120	1142	5	19	117	119	64	80	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	25	0	12	25	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	39	39	7	38	38	2	13	5	16	16
g / C, Green / Cycle	0.10	0.49	0.49	0.08	0.47	0.47	0.03	0.16	0.07	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.25	0.25	0.07	0.30	0.30	0.01	0.14	0.04	0.04	0.04
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1897	1810	1745	1810	1900	1615
c, Capacity [veh/h]	181	925	892	152	894	893	56	284	121	377	320
d1, Uniform Delay [s]	35.29	14.03	14.03	35.93	16.05	16.05	37.95	32.44	36.12	26.84	26.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.72	2.01	2.09	8.70	3.53	3.53	3.50	6.28	3.57	0.28	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	0.51	0.51	0.79	0.64	0.64	0.34	0.83	0.53	0.21	0.21
d, Delay for Lane Group [s/veh]	44.01	16.04	16.12	44.63	19.58	19.59	41.46	38.73	39.69	27.12	27.17
Lane Group LOS	D	B	B	D	B	B	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.09	5.43	5.26	2.53	7.60	7.59	0.40	4.67	1.27	1.24	1.06
50th-Percentile Queue Length [ft/ln]	77.19	135.85	131.60	63.14	190.03	189.81	10.10	116.67	31.87	30.98	26.44
95th-Percentile Queue Length [veh/ln]	5.56	9.26	9.03	4.55	12.12	12.11	0.73	8.21	2.29	2.23	1.90
95th-Percentile Queue Length [ft/ln]	138.94	231.43	225.67	113.66	303.07	302.79	18.19	205.24	57.36	55.76	47.59

**Movement, Approach, & Intersection Results**

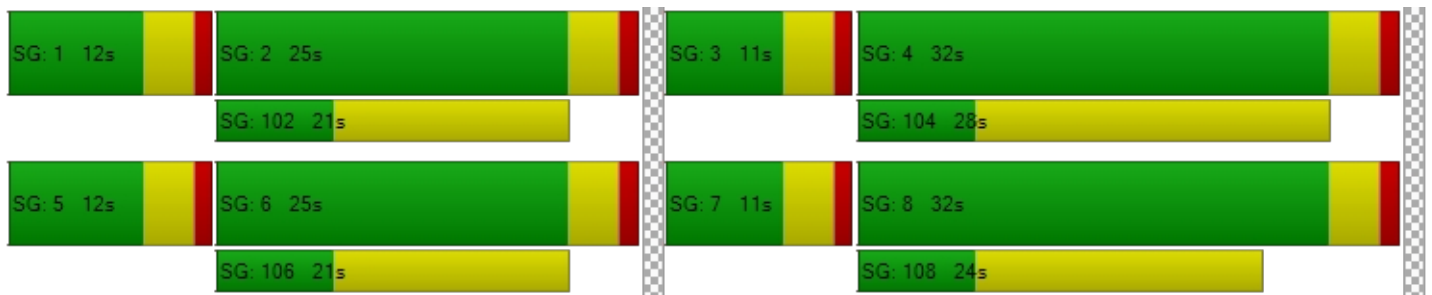
d_M, Delay for Movement [s/veh]	44.01	16.08	16.12	44.63	19.58	19.59	41.46	38.73	38.73	39.69	27.12	27.17
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	19.92			21.96			38.93			30.93		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	23.39											
Intersection LOS	C											
Intersection V/C	0.693											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.76			29.76			29.76			29.76		
I_p,int, Pedestrian LOS Score for Intersection	2.996			2.980			2.283			2.301		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	525			525			700			700		
d_b, Bicycle Delay [s]	21.76			21.76			16.90			16.90		
I_b,int, Bicycle LOS Score for Intersection	2.447			2.605			1.980			1.909		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 24.9  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.523

**Intersection Setup**

Name	Redlands Ave			Southbound			Rider St			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	180.00	100.00	180.00	112.00	100.00	160.00	235.00	100.00	235.00	151.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave						Rider St			Rider St		
	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Input [veh/h]	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	4	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	118	105	75	192	22	8	399	32	87	347	58
Peak Hour Factor	0.9120	0.9120	0.9120	0.7980	0.7980	0.7980	0.9480	0.9480	0.9480	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	32	29	23	60	7	2	105	8	25	98	16
Total Analysis Volume [veh/h]	15	129	115	94	241	28	8	421	34	99	394	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	25	0	14	28	0	11	25	0	11	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	28	28	6	32	32	1	19	19	6	24	24
g / C, Green / Cycle	0.03	0.38	0.38	0.08	0.43	0.43	0.01	0.25	0.25	0.08	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.07	0.05	0.13	0.02	0.00	0.22	0.02	0.05	0.12	0.12
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1807
c, Capacity [veh/h]	47	716	609	147	820	697	28	469	399	148	595	566
d1, Uniform Delay [s]	35.86	15.62	15.67	33.41	13.86	12.32	36.50	27.31	21.72	33.46	20.18	20.21
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.12	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.55	0.69	4.61	0.91	0.11	5.39	7.12	0.09	5.17	0.43	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.32	0.18	0.19	0.64	0.29	0.04	0.28	0.90	0.09	0.67	0.39	0.40
d, Delay for Lane Group [s/veh]	39.64	16.17	16.36	38.02	14.77	12.43	41.89	34.43	21.81	38.62	20.61	20.66
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.30	1.41	1.28	1.80	2.67	0.28	0.18	7.48	0.43	1.84	2.95	2.83
50th-Percentile Queue Length [ft/ln]	7.57	35.28	32.02	45.03	66.87	6.89	4.46	187.10	10.78	46.06	73.64	70.83
95th-Percentile Queue Length [veh/ln]	0.54	2.54	2.31	3.24	4.81	0.50	0.32	11.97	0.78	3.32	5.30	5.10
95th-Percentile Queue Length [ft/ln]	13.62	63.50	57.63	81.05	120.36	12.40	8.03	299.26	19.40	82.91	132.55	127.49

**Movement, Approach, & Intersection Results**

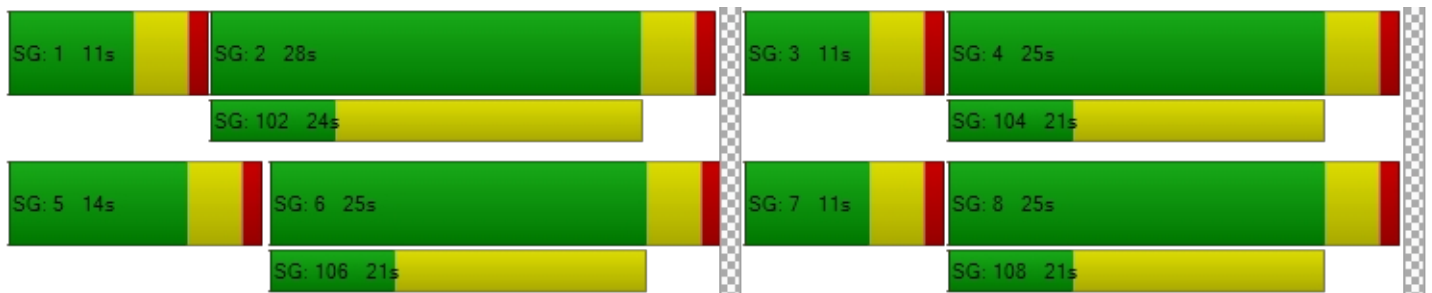
d_M, Delay for Movement [s/veh]	39.64	16.17	16.36	38.02	14.77	12.43	41.89	34.43	21.81	38.62	20.63	20.66
Movement LOS	D	B	B	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.61			20.61			33.63			23.82		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	24.90											
Intersection LOS	C											
Intersection V/C	0.523											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.352			2.259			2.553			2.556		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			640			560			560		
d_b, Bicycle Delay [s]	19.44			17.34			19.44			19.44		
I_b,int, Bicycle LOS Score for Intersection	1.987			2.159			2.324			2.021		
Bicycle LOS	A			B			B			B		

**Sequence**

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





**Intersection Level Of Service Report  
Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	54	167	15	38	230	23	31	69	66	13	60	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	6	0	0	4	0	0	53	22	0	43	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	183	16	40	248	24	33	126	92	14	107	22
Peak Hour Factor	0.8970	0.8970	0.8970	0.9350	0.9350	0.9350	0.9090	0.9090	0.9090	0.5950	0.5950	0.5950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	51	4	11	66	6	9	35	25	6	45	9
Total Analysis Volume [veh/h]	106	204	18	43	265	26	36	139	101	24	180	37
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	486	521	530	500	536	596	487	521	577	503	547
Degree of Utilization, x	0.22	0.21	0.21	0.09	0.49	0.04	0.07	0.27	0.17	0.05	0.40

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.82	0.80	0.78	0.28	2.72	0.14	0.24	1.07	0.63	0.15	1.89
95th-Percentile Queue Length [ft]	20.56	20.00	19.60	7.03	67.97	3.42	5.96	26.70	15.74	3.75	47.20
Approach Delay [s/veh]	11.64			14.62			11.24			13.22	
Approach LOS	B			B			B			B	
Intersection Delay [s/veh]	12.71										
Intersection LOS	B										

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024

Scenario 6 Opening Year PM

Conditions\_NEW4.vistro

Report File: C:\...\Opening Year PM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
1	I-215 SB Ramps/Placentia Ave	501	0	72	158	210	717	93	1751

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
2	I-215 NB Ramps/Placentia Ave	30	0	437	71	588	780	661	2567

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	I-215 Frontage Rd/Placentia Ave	10	1	12	13	1	55	10	1009	6	4	1376	5	2502

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Indian Ave/Placentia Ave	220	14	3	33	201	715	441	283	310	7	451	16	2694

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	21	635	180	84	946	20	50	170	56	188	87	89	2526

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	136	765	86	113	1075	5	16	100	101	63	79	67	2606

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	14	118	105	75	192	22	8	399	32	87	347	58	1457

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	95	183	16	40	248	24	33	126	92	14	107	22	1000

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024  
Conditions\_NEW4.vistro

Scenario 3 Opening Year Plus Project AM

Report File: C:\...\Opening Year Plus Project AM.pdf

10/18/2022

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-215 SB Ramps/Placentia Ave	Signalized	HCM 6th Edition	WB Left	0.298	14.8	B
2	I-215 NB Ramps/Placentia Ave	Signalized	HCM 6th Edition	NB Right	1.288	139.6	F
3	I-215 Frontage Rd/Placentia Ave	Signalized	HCM 6th Edition	SB Left	0.517	35.8	D
4	Indian Ave/Placentia Ave	Signalized	HCM 6th Edition	EB Left	1.474	174.1	F
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	WB Left	0.503	24.5	C
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	NB Left	0.744	26.1	C
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	WB Left	0.505	25.5	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	WB Thru	0.628	16.6	C
9	Redlands Ave/Project Dwy 1	Two-way stop	HCM 6th Edition	WB Right	0.007	8.3	A
10	Placentia Ave/Project Dwy 2	Two-way stop	HCM 6th Edition	SB Right	0.007	8.5	A

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

**Intersection Level Of Service Report**  
**Intersection 1: I-215 SB Ramps/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

**Intersection Setup**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	700.00	100.00	700.00	100.00	100.00	288.00	255.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	285	0	38	0	139	29	72	130	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	170	0	0	0	0	0	118	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	472	0	40	0	147	31	194	138	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	124	0	11	0	39	8	51	36	0
Total Analysis Volume [veh/h]	0	0	0	497	0	42	0	155	33	204	145	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	93.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	30	0	0	16	0	14	30	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	21	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		34	34	34	7	7	7	18
g / C, Green / Cycle		0.57	0.57	0.57	0.11	0.11	0.11	0.29
(v / s)_i Volume / Saturation Flow Rate		0.14	0.14	0.03	0.04	0.02	0.06	0.04
s, saturation flow rate [veh/h]		1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]		1038	1038	926	409	182	399	1061
d1, Uniform Delay [s]		6.33	6.33	5.60	24.66	24.10	25.02	15.61
k, delay calibration		0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.55	0.55	0.09	0.58	0.47	1.01	0.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity		0.24	0.24	0.05	0.38	0.18	0.51	0.14
d, Delay for Lane Group [s/veh]		6.87	6.87	5.70	25.24	24.57	26.04	15.67
Lane Group LOS		A	A	A	C	C	C	B
Critical Lane Group		Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.17	1.17	0.18	0.94	0.40	1.27	0.63
50th-Percentile Queue Length [ft/ln]		29.32	29.32	4.39	23.56	10.05	31.77	15.76
95th-Percentile Queue Length [veh/ln]		2.11	2.11	0.32	1.70	0.72	2.29	1.13
95th-Percentile Queue Length [ft/ln]		52.78	52.78	7.91	42.40	18.10	57.18	28.37

**Movement, Approach, & Intersection Results**

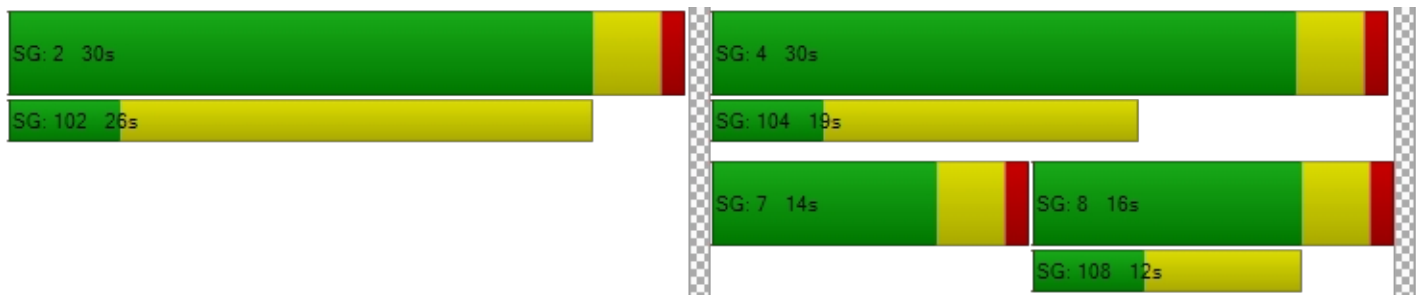
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	6.87	6.87	5.70	0.00	25.24	24.57	26.04	15.67	0.00
Movement LOS				A	A	A		C	C	C	B	
d_A, Approach Delay [s/veh]	0.00			6.78				25.12		21.73		
Approach LOS	A			A				C		C		
d_I, Intersection Delay [s/veh]	14.83											
Intersection LOS	B											
Intersection V/C	0.298											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	1.811	2.309	2.390	2.678
Crosswalk LOS	A	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	867	400	867
d_b, Bicycle Delay [s]	30.00	9.63	19.20	9.63
I_b,int, Bicycle LOS Score for Intersection	4.132	2.449	1.715	1.848
Bicycle LOS	D	B	A	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: I-215 NB Ramps/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 139.6  
 Level Of Service: F  
 Volume to Capacity (v/c): 1.288

**Intersection Setup**

Name	I-215 NB Ramps		I-215 NB Ramps			Placentia Ave			Placentia Ave			
	Approach	Lane Configuration	Turning Movement	Lane Width [ft]	No. of Lanes in Entry Pocket	Entry Pocket Length [ft]	No. of Lanes in Exit Pocket	Exit Pocket Length [ft]	Speed [mph]	Grade [%]	Curb Present	Crosswalk
I-215 NB Ramps	Northbound		Left Right Thru	12.00 12.00 12.00	1 0 1	100.00 700.00 100.00	0 0 0	0.00 0.00 0.00	45.00	0.00	Yes	Yes
I-215 NB Ramps	Southbound		Right Thru Left	12.00 12.00 12.00	0 0 2	100.00 100.00 257.00	0 0 0	0.00 0.00 0.00	30.00	0.00	Yes	Yes
Placentia Ave	Eastbound		Left Right Thru	12.00 12.00 12.00	0 0 0	100.00 100.00 100.00	0 0 0	0.00 0.00 0.00	45.00	0.00	Yes	Yes
Placentia Ave	Westbound		Left Thru Right	12.00 12.00 12.00	0 0 1	100.00 300.00 100.00	0 0 0	0.00 0.00 0.00	45.00	0.00	Yes	Yes

**Volumes**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	20	0	894	0	0	0	59	365	0	0	182	461
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	193	0	0	0	0	170	0	0	118	120
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	0	1141	0	0	0	63	557	0	0	311	609
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	300	0	0	0	17	147	0	0	82	160
Total Analysis Volume [veh/h]	22	0	1201	0	0	0	66	586	0	0	327	641
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	2.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	0	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	69	0	0	0	0	11	51	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	0	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	120	120	120		120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	65		6	47	37	37
g / C, Green / Cycle	0.54	0.54	0.54		0.05	0.39	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.74		0.02	0.16	0.09	0.40
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	980	980	875		188	1417	1103	492
d1, Uniform Delay [s]	12.68	12.68	27.50		54.78	26.50	31.88	41.71
k, delay calibration	0.11	0.11	0.50		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.00	175.07		1.12	0.89	0.69	150.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.01	1.37		0.35	0.41	0.30	1.30
d, Delay for Lane Group [s/veh]	12.69	12.69	202.57		55.90	27.39	32.56	191.86
Lane Group LOS	B	B	F		E	C	C	F
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.13	0.13	64.90		0.97	6.02	3.62	34.40
50th-Percentile Queue Length [ft/ln]	3.27	3.27	1622.3		24.28	150.48	90.61	860.05
95th-Percentile Queue Length [veh/ln]	0.24	0.24	96.93		1.75	10.04	6.52	51.15
95th-Percentile Queue Length [ft/ln]	5.89	5.89	2423.3		43.70	251.07	163.10	1278.68

**Movement, Approach, & Intersection Results**

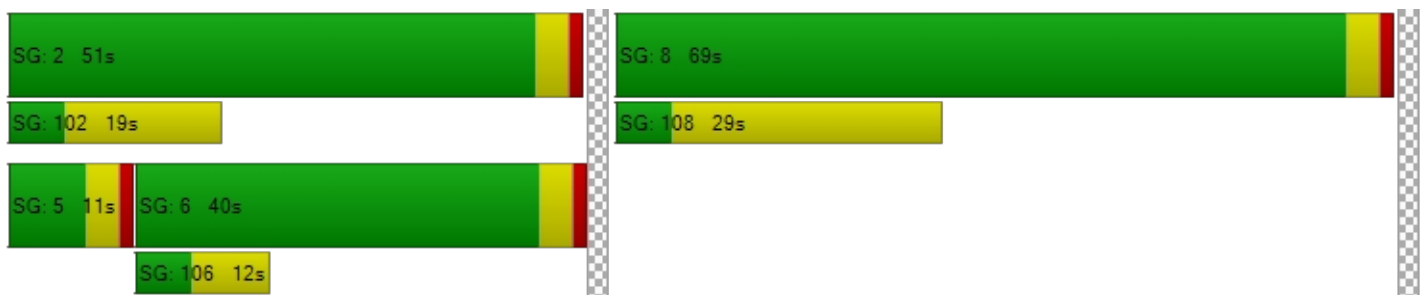
d_M, Delay for Movement [s/veh]	12.69	12.69	202.57	0.00	0.00	0.00	55.90	27.39	0.00	0.00	32.56	191.86
Movement LOS	B	B	F				E	C			C	F
d_A, Approach Delay [s/veh]	199.15			0.00			30.27			138.05		
Approach LOS	F			A			C			F		
d_I, Intersection Delay [s/veh]	139.62											
Intersection LOS	F											
Intersection V/C	1.288											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	2.593	2.075	2.818	3.121
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1083	0	783	600
d_b, Bicycle Delay [s]	12.60	60.00	22.20	29.40
I_b,int, Bicycle LOS Score for Intersection	3.578	4.132	2.098	2.358
Bicycle LOS	D	D	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 3: I-215 Frontage Rd/Placentia Ave**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 35.8  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.517

**Intersection Setup**

Name	I-215		I-215		I-215		I-215		I-215		I-215			
	Approach	Southbound	Eastbound	Westbound	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Entry Pocket	1	0	1	1	1	0	1	1	0	1	1	1	1	
Entry Pocket Length [ft]	230.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	290.00	100.00	210.00	250.00	100.00	
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Speed [mph]	45.00		45.00		45.00		45.00		45.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00		0.00		0.00		0.00		0.00	
Curb Present	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Crosswalk	Yes		Yes		Yes		Yes		Yes		Yes		Yes	



**Volumes**

Name	I-21			I-21			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	4	2	2	4	0	9	255	980	24	6	630	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	363	0	0	238	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	2	2	4	0	10	270	1402	25	6	906	36
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	3	71	369	7	2	238	9
Total Analysis Volume [veh/h]	4	2	2	4	0	11	284	1476	26	6	954	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing major street	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing minor street	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	53.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	12	30	0	20	39	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	36	36	1	36	36	16	41	41	1	26	26
g / C, Green / Cycle	0.01	0.38	0.38	0.01	0.38	0.38	0.17	0.43	0.43	0.01	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.41	0.02	0.00	0.26	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	16	724	615	16	723	614	305	1557	695	21	990	442
d1, Uniform Delay [s]	46.75	18.23	18.23	46.79	0.00	18.36	38.96	26.04	15.67	46.54	34.03	25.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.46	0.01	0.01	8.47	0.00	0.05	12.42	3.91	0.02	7.01	7.21	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.24	0.00	0.00	0.26	0.00	0.02	0.93	0.95	0.04	0.28	0.96	0.09
d, Delay for Lane Group [s/veh]	54.21	18.23	18.24	55.27	0.00	18.41	51.38	29.95	15.69	53.55	41.25	25.74
Lane Group LOS	D	B	B	E	A	B	D	C	B	D	D	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	0.03	0.03	0.13	0.00	0.15	7.24	15.13	0.31	0.18	11.10	0.62
50th-Percentile Queue Length [ft/ln]	3.12	0.67	0.68	3.18	0.00	3.76	181.08	378.14	7.67	4.43	277.48	15.43
95th-Percentile Queue Length [veh/ln]	0.22	0.05	0.05	0.23	0.00	0.27	11.66	21.50	0.55	0.32	16.56	1.11
95th-Percentile Queue Length [ft/ln]	5.61	1.21	1.22	5.72	0.00	6.77	291.42	537.59	13.81	7.97	414.08	27.78

**Movement, Approach, & Intersection Results**

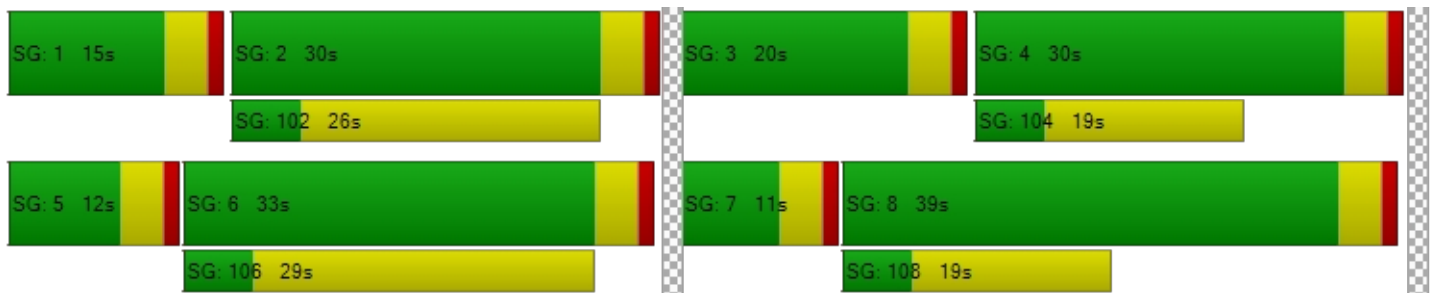
d_M, Delay for Movement [s/veh]	54.21	18.23	18.24	55.27	0.00	18.41	51.38	29.95	15.69	53.55	41.25	25.74
Movement LOS	D	B	B	E	A	B	D	C	B	D	D	C
d_A, Approach Delay [s/veh]	36.22			28.24			33.15			40.73		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	35.83											
Intersection LOS	D											
Intersection V/C	0.517											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	38.93			38.93			38.93			38.93		
I_p,int, Pedestrian LOS Score for Intersection	2.150			2.259			3.129			3.116		
Crosswalk LOS	B			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	611			547			737			547		
d_b, Bicycle Delay [s]	22.93			25.06			18.95			25.06		
I_b,int, Bicycle LOS Score for Intersection	1.573			1.584			3.033			2.383		
Bicycle LOS	A			A			C			B		

**Sequence**

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



**Intersection Level Of Service Report  
Intersection 4: Indian Ave/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	174.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.474

**Intersection Setup**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵			↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	238.00	100.00	100.00	100.00	100.00	238.00	240.00	100.00	245.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	300	98	18	5	12	193	626	178	182	33	171	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	0	1	28	72	237	94	32	0	129	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	104	19	6	41	277	901	283	225	35	310	35
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	27	5	2	11	73	237	74	59	9	82	9
Total Analysis Volume [veh/h]	374	109	20	6	43	292	948	298	237	37	326	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	7
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	20	35	0	11	26	0	0	74	0	0	74	74
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	R	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	37	1	22	70	70	70	70	70
g / C, Green / Cycle	0.13	0.31	0.01	0.18	0.58	0.58	0.58	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.21	0.07	0.00	0.20	0.92	0.16	0.15	0.13	0.12
s, saturation flow rate [veh/h]	1810	1849	1810	1647	1035	1900	1615	1544	1675
c, Capacity [veh/h]	241	563	22	302	587	1108	942	937	977
d1, Uniform Delay [s]	52.00	31.19	58.76	49.00	32.55	12.35	12.21	11.65	11.85
k, delay calibration	0.32	0.11	0.11	0.31	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	260.49	0.20	6.61	74.46	284.23	0.60	0.64	0.51	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.55	0.23	0.27	1.11	1.61	0.27	0.25	0.21	0.21
d, Delay for Lane Group [s/veh]	312.49	31.40	65.37	123.46	316.79	12.95	12.85	12.17	12.34
Lane Group LOS	F	C	E	F	F	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	24.51	2.75	0.22	14.99	63.73	3.83	3.04	2.40	2.52
50th-Percentile Queue Length [ft/ln]	612.70	68.72	5.43	374.74	1593.1	95.81	75.88	60.02	62.92
95th-Percentile Queue Length [veh/ln]	38.31	4.95	0.39	22.48	102.31	6.90	5.46	4.32	4.53
95th-Percentile Queue Length [ft/ln]	957.72	123.69	9.77	561.97	2557.7	172.45	136.59	108.04	113.26



**Movement, Approach, & Intersection Results**

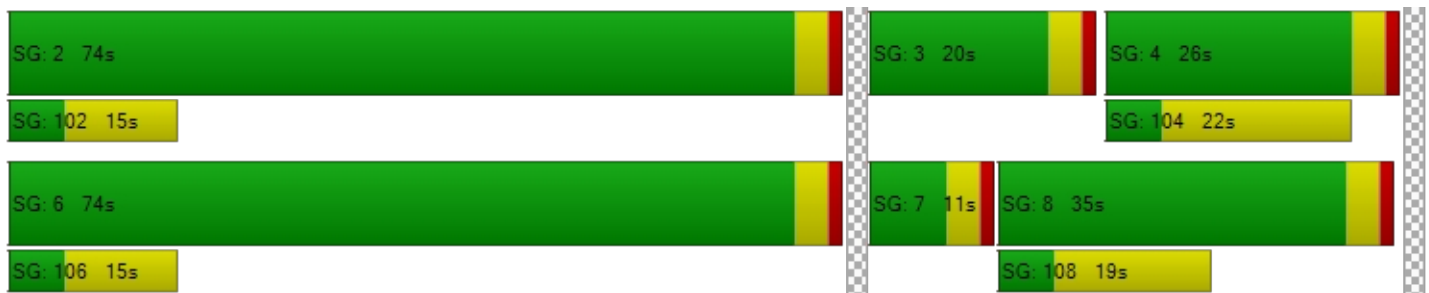
d_M, Delay for Movement [s/veh]	312.49	31.40	31.40	65.37	123.46	123.46	316.79	12.95	12.85	12.17	12.25	12.34
Movement LOS	F	C	C	E	F	F	F	B	B	B	B	B
d_A, Approach Delay [s/veh]	240.40			122.44			207.16			12.25		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	174.11											
Intersection LOS	F											
Intersection V/C	1.474											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.34			51.34			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	2.408			4.004			3.039			2.411		
Crosswalk LOS	B			D			C			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	517			367			1167			1167		
d_b, Bicycle Delay [s]	33.00			40.02			10.42			10.42		
I_b,int, Bicycle LOS Score for Intersection	2.390			2.122			4.007			1.890		
Bicycle LOS	B			B			D			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 24.5  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.503

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTLT			TTLT			TTLT			TTLT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	2	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	49.21	0.00	0.00	49.21	0.00	0.00	1500.0
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Base Volume Input [veh/h]	34	874	82	40	393	48	32	110	36	166	224	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	7	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	936	87	42	424	51	34	117	38	176	237	194
Peak Hour Factor	0.8140	0.8140	0.8140	0.7900	0.7900	0.7900	0.8050	0.8050	0.8050	0.8130	0.8130	0.8130
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	287	27	13	134	16	11	36	12	54	73	60
Total Analysis Volume [veh/h]	44	1150	107	53	537	65	42	145	47	216	292	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	31	0	12	32	0	13	40	0	17	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	56	56	5	57	57	5	9	9	13	18	18
g / C, Green / Cycle	0.05	0.56	0.56	0.05	0.57	0.57	0.05	0.09	0.09	0.13	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.07	0.03	0.10	0.04	0.02	0.04	0.03	0.12	0.08	0.15
s, saturation flow rate [veh/h]	1810	5176	1615	1810	5176	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	90	2906	907	98	2930	914	88	341	152	235	636	284
d1, Uniform Delay [s]	46.29	12.36	10.30	46.08	10.50	9.81	46.34	42.72	42.24	42.97	36.95	39.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.11	0.41	0.27	4.58	0.14	0.15	3.99	0.84	1.13	13.56	0.52	6.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.49	0.40	0.12	0.54	0.18	0.07	0.48	0.42	0.31	0.92	0.46	0.84
d, Delay for Lane Group [s/veh]	50.40	12.77	10.56	50.66	10.64	9.96	50.33	43.56	43.37	56.54	37.46	46.52
Lane Group LOS	D	B	B	D	B	A	D	D	D	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.13	4.35	1.05	1.36	1.73	0.61	1.08	1.67	1.09	5.94	3.12	5.95
50th-Percentile Queue Length [ft/ln]	28.31	108.68	26.31	34.11	43.24	15.30	27.02	41.79	27.35	148.49	77.92	148.74
95th-Percentile Queue Length [veh/ln]	2.04	7.77	1.89	2.46	3.11	1.10	1.95	3.01	1.97	9.94	5.61	9.95
95th-Percentile Queue Length [ft/ln]	50.95	194.17	47.35	61.41	77.83	27.54	48.63	75.22	49.22	248.41	140.26	248.74

**Movement, Approach, & Intersection Results**

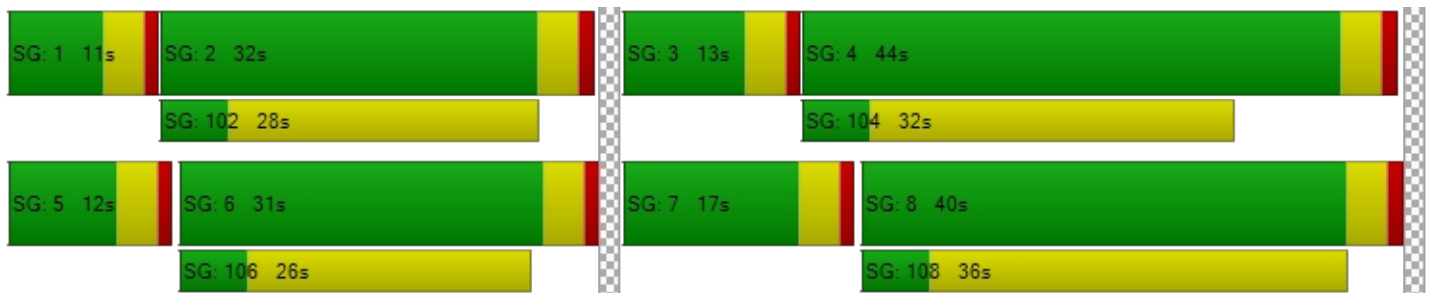
d_M, Delay for Movement [s/veh]	50.40	12.77	10.56	50.66	10.64	9.96	50.33	43.56	43.37	56.54	37.46	46.52
Movement LOS	D	B	B	D	B	A	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	13.86			13.81			44.74			45.88		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.45											
Intersection LOS	C											
Intersection V/C	0.503											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	41.41			41.41			41.41			41.41		
I_p,int, Pedestrian LOS Score for Intersection	3.197			3.113			2.614			2.716		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	540			560			720			800		
d_b, Bicycle Delay [s]	26.65			25.92			20.48			18.00		
I_b,int, Bicycle LOS Score for Intersection	2.275			1.920			1.753			2.176		
Bicycle LOS	B			A			A			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 26.1  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.744

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	1	0	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Input [veh/h]	30	854	31	40	537	26	14	53	21	36	84	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	84	10	13	0	7	0	0	67	28	9	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	915	46	42	576	28	15	123	50	47	138	153
Peak Hour Factor	0.8080	0.8080	0.8080	0.8070	0.8070	0.8070	0.4610	0.4610	0.4610	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	283	14	13	178	9	8	67	27	15	44	49
Total Analysis Volume [veh/h]	144	1132	57	52	714	35	33	267	108	60	177	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	23	0	11	23	0	11	30	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	32	32	5	29	29	4	18	5	19	19
g / C, Green / Cycle	0.09	0.42	0.42	0.06	0.39	0.39	0.05	0.24	0.07	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.08	0.32	0.32	0.03	0.20	0.20	0.02	0.21	0.03	0.09	0.12
s, saturation flow rate [veh/h]	1810	1900	1868	1810	1900	1869	1810	1808	1810	1900	1615
c, Capacity [veh/h]	169	800	787	113	741	729	85	427	121	487	414
d1, Uniform Delay [s]	33.49	18.34	18.36	33.95	17.41	17.41	34.68	27.60	33.76	22.88	23.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.37	6.33	6.49	2.93	2.49	2.54	2.85	5.92	3.10	0.46	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.85	0.75	0.75	0.46	0.51	0.51	0.39	0.88	0.49	0.36	0.47
d, Delay for Lane Group [s/veh]	44.86	24.68	24.85	36.88	19.90	19.95	37.53	33.52	36.86	23.34	24.46
Lane Group LOS	D	C	C	D	B	B	D	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.93	8.82	8.73	0.95	4.82	4.75	0.62	6.65	1.10	2.44	2.81
50th-Percentile Queue Length [ft/ln]	73.27	220.58	218.35	23.67	120.39	118.71	15.57	166.32	27.59	60.88	70.24
95th-Percentile Queue Length [veh/ln]	5.28	13.69	13.58	1.70	8.41	8.32	1.12	10.88	1.99	4.38	5.06
95th-Percentile Queue Length [ft/ln]	131.89	342.36	339.52	42.61	210.36	208.05	28.03	272.07	49.67	109.58	126.43

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.86	24.76	24.85	36.88	19.92	19.95	37.53	33.52	33.52	36.86	23.34	24.46
Movement LOS	D	C	C	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	26.94			21.02			33.84			25.72		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.11											
Intersection LOS	C											
Intersection V/C	0.744											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	29.04
I_p,int, Pedestrian LOS Score for Intersection	2.940	2.972	2.372	2.386
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	507	507	693	693
d_b, Bicycle Delay [s]	20.91	20.91	16.01	16.01
I_b,int, Bicycle LOS Score for Intersection	2.659	2.220	2.233	2.274
Bicycle LOS	B	B	B	B

**Sequence**





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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 25.5  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.505

**Intersection Setup**

Name	Redlands Ave			Southbound			Rider St			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	180.00	100.00	180.00	112.00	100.00	160.00	235.00	100.00	235.00	151.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave						Rider St			Rider St		
	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Input [veh/h]	34	242	151	36	82	14	11	224	11	104	509	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	2	0	66	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	268	162	38	153	15	12	237	12	110	540	78
Peak Hour Factor	0.8580	0.8580	0.8580	0.7620	0.7620	0.7620	0.8980	0.8980	0.8980	0.9120	0.9120	0.9120
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	78	47	12	50	5	3	66	3	30	148	21
Total Analysis Volume [veh/h]	42	312	189	50	201	20	13	264	13	121	592	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	11	23	0	15	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	35	35	5	36	36	2	13	13	6	17	17
g / C, Green / Cycle	0.05	0.47	0.47	0.06	0.48	0.48	0.02	0.17	0.17	0.09	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.03	0.11	0.01	0.01	0.14	0.01	0.07	0.18	0.18
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1817
c, Capacity [veh/h]	100	897	762	110	908	772	42	318	270	157	438	419
d1, Uniform Delay [s]	34.28	12.52	11.85	34.01	11.44	10.36	36.03	30.21	26.22	33.51	27.14	27.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.82	1.07	0.78	2.90	0.56	0.06	4.08	5.62	0.07	7.74	3.23	3.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.35	0.25	0.45	0.22	0.03	0.31	0.83	0.05	0.77	0.79	0.79
d, Delay for Lane Group [s/veh]	37.10	13.58	12.62	36.91	12.00	10.42	40.11	35.83	26.30	41.25	30.38	30.55
Lane Group LOS	D	B	B	D	B	B	D	D	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.77	3.03	1.75	0.95	1.93	0.17	0.27	4.72	0.19	2.34	5.67	5.45
50th-Percentile Queue Length [ft/ln]	19.29	75.87	43.81	23.67	48.37	4.37	6.69	118.11	4.66	58.59	141.85	136.34
95th-Percentile Queue Length [veh/ln]	1.39	5.46	3.15	1.70	3.48	0.31	0.48	8.29	0.34	4.22	9.58	9.28
95th-Percentile Queue Length [ft/ln]	34.71	136.57	78.85	42.60	87.06	7.87	12.04	207.23	8.38	105.46	239.51	232.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	37.10	13.58	12.62	36.91	12.00	10.42	40.11	35.83	26.30	41.25	30.45	30.55
Movement LOS	D	B	B	D	B	B	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	15.07			16.48			35.60			32.10		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	25.55											
Intersection LOS	C											
Intersection V/C	0.505											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.04			29.04			29.04			29.04		
I_p,int, Pedestrian LOS Score for Intersection	2.444			2.290			2.568			2.600		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	587			587			507			613		
d_b, Bicycle Delay [s]	18.73			18.73			20.91			18.03		
I_b,int, Bicycle LOS Score for Intersection	2.456			2.007			2.038			2.219		
Bicycle LOS	B			B			B			B		

**Sequence**

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





**Intersection Level Of Service Report  
Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	91	355	17	14	163	19	39	75	37	30	142	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	3	11	0	5	0	0	50	30	1	43	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	111	379	29	15	178	20	41	130	69	33	194	41
Peak Hour Factor	0.8550	0.8550	0.8550	0.7950	0.7950	0.7950	0.7450	0.7450	0.7450	0.7450	0.7450	0.7450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	111	8	5	56	6	14	44	23	11	65	14
Total Analysis Volume [veh/h]	130	443	34	19	224	25	55	174	93	44	260	55
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	450	480	486	446	473	517	434	460	504	465	502
Degree of Utilization, x	0.29	0.50	0.49	0.04	0.47	0.05	0.13	0.38	0.18	0.09	0.63

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.18	2.72	2.66	0.13	2.50	0.15	0.43	1.74	0.67	0.31	4.28
95th-Percentile Queue Length [ft]	29.56	67.95	66.45	3.33	62.40	3.80	10.78	43.45	16.78	7.80	107.03
Approach Delay [s/veh]	16.49			15.89			13.60			20.01	
Approach LOS	C			C			B			C	
Intersection Delay [s/veh]	16.60										
Intersection LOS	C										

**Intersection Level Of Service Report  
Intersection 9: Redlands Ave/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	61	5	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	61	5	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	16	1	0	2
Total Analysis Volume [veh/h]	5	0	64	5	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.30	0.00	0.00	8.35
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.06	0.00	0.00	0.56
d_A, Approach Delay [s/veh]	0.00		6.77		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.51					
Intersection LOS	A					

**Intersection Level Of Service Report**  
**Intersection 10: Placentia Ave/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	39	22	39	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	39	22	39	17
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	10	6	10	4
Total Analysis Volume [veh/h]	0	7	41	23	41	18
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.54	7.37	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.02	0.08	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.52	2.03	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.54		4.72		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.79					
Intersection LOS	A					

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024  
Conditions\_NEW4.vistro

Scenario 3 Opening Year Plus Project AM

Report File: C:\...\Opening Year Plus Project AM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
1	I-215 SB Ramps/Placentia Ave	472	0	40	147	31	194	138	1022

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
2	I-215 NB Ramps/Placentia Ave	21	0	1141	63	557	311	609	2702

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	I-215 Frontage Rd/Placentia Ave	4	2	2	4	0	10	270	1402	25	6	906	36	2667

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Indian Ave/Placentia Ave	355	104	19	6	41	277	901	283	225	35	310	35	2591

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	36	936	87	42	424	51	34	117	38	176	237	194	2372

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	116	915	46	42	576	28	15	123	50	47	138	153	2249

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	36	268	162	38	153	15	12	237	12	110	540	78	1661

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	111	379	29	15	178	20	41	130	69	33	194	41	1240

ID	Intersection Name	Northbound		Southbound		Westbound	Total Volume
		Thru	Right	Left	Thru	Right	
9	Redlands Ave/Project Dwy 1	5	0	61	5	8	79

ID	Intersection Name	Southbound	Eastbound		Westbound		Total Volume
		Right	Left	Thru	Thru	Right	
10	Placentia Ave/Project Dwy 2	7	39	22	39	17	124



## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024  
Conditions\_NEW4.vistro

Scenario 4 Opening Year Plus Project PM

Report File: C:\...\Opening Year Plus Project PM.pdf

10/18/2022

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	I-215 SB Ramps/Placentia Ave	Signalized	HCM 6th Edition	EB Right	0.617	21.5	C
2	I-215 NB Ramps/Placentia Ave	Signalized	HCM 6th Edition	EB Left	0.861	24.7	C
3	I-215 Frontage Rd/Placentia Ave	Signalized	HCM 6th Edition	WB Left	0.541	27.6	C
4	Indian Ave/Placentia Ave	Signalized	HCM 6th Edition	EB Left	1.390	159.8	F
5	Perris Blvd/Rider St	Signalized	HCM 6th Edition	SB Left	0.450	22.3	C
6	Perris Blvd/Placentia Ave	Signalized	HCM 6th Edition	SB Left	0.696	23.6	C
7	Redlands Ave/Rider St	Signalized	HCM 6th Edition	EB Left	0.542	24.6	C
8	Redlands Ave/Placentia Ave	All-way stop	HCM 6th Edition	SB Thru	0.519	13.7	B
9	Redlands Ave/Project Dwy 1	Two-way stop	HCM 6th Edition	WB Right	0.052	8.6	A
10	Placentia Ave/Project Dwy 2	Two-way stop	HCM 6th Edition	SB Right	0.050	8.7	A

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

**Intersection Level Of Service Report**  
**Intersection 1: I-215 SB Ramps/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

**Intersection Setup**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	700.00	100.00	700.00	100.00	100.00	288.00	255.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 SB Ramps			I-215 SB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	0	0	0	355	0	68	0	149	198	430	88	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	128	0	0	0	0	0	276	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	504	0	72	0	158	210	732	93	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	133	0	19	0	42	55	193	24	0
Total Analysis Volume [veh/h]	0	0	0	531	0	76	0	166	221	771	98	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	7	0	0	7	0	7	7	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	35	0	0	19	0	11	30	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	24	0	0	7	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	C	R	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	11	11	17	33
g / C, Green / Cycle	0.37	0.37	0.37	0.17	0.17	0.27	0.50
(v / s)_i Volume / Saturation Flow Rate	0.15	0.15	0.05	0.05	0.14	0.22	0.03
s, saturation flow rate [veh/h]	1810	1810	1615	3618	1615	3514	3618
c, Capacity [veh/h]	675	675	603	632	282	940	1822
d1, Uniform Delay [s]	14.96	14.96	13.40	23.21	25.65	22.33	8.23
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.72	1.72	0.43	0.22	4.76	1.84	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.39	0.39	0.13	0.26	0.78	0.82	0.05
d, Delay for Lane Group [s/veh]	16.68	16.68	13.83	23.42	30.41	24.18	8.24
Lane Group LOS	B	B	B	C	C	C	A
Critical Lane Group	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.74	2.74	0.69	1.01	3.28	5.00	0.27
50th-Percentile Queue Length [ft/ln]	68.48	68.48	17.29	25.14	81.91	125.05	6.85
95th-Percentile Queue Length [veh/ln]	4.93	4.93	1.24	1.81	5.90	8.67	0.49
95th-Percentile Queue Length [ft/ln]	123.26	123.26	31.12	45.25	147.43	216.75	12.33

**Movement, Approach, & Intersection Results**

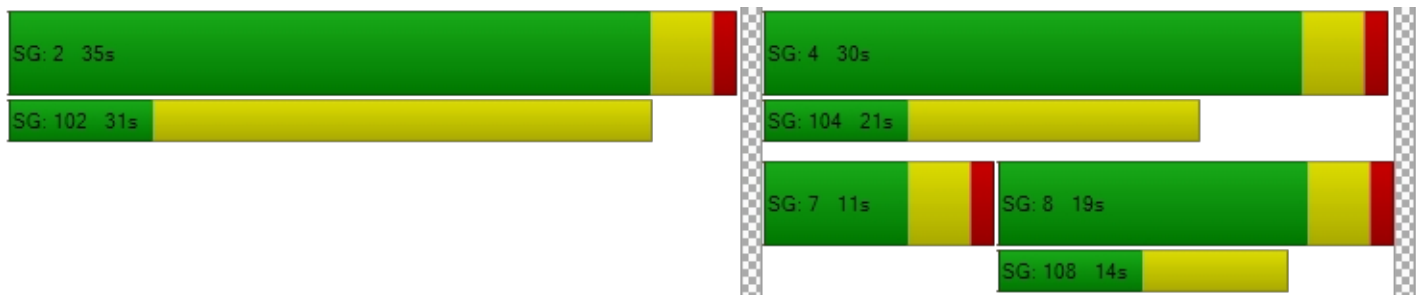
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	16.68	16.68	13.83	0.00	23.42	30.41	24.18	8.24	0.00
Movement LOS				B	B	B		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			16.32			27.42			22.38		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	21.45											
Intersection LOS	C											
Intersection V/C	0.617											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.43	22.43	22.43	22.43
I_p,int, Pedestrian LOS Score for Intersection	2.180	2.335	2.446	2.903
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	954	462	800
d_b, Bicycle Delay [s]	32.50	8.89	19.23	11.70
I_b,int, Bicycle LOS Score for Intersection	4.132	2.561	1.879	2.277
Bicycle LOS	D	B	A	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 2: I-215 NB Ramps/Placentia Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 24.7  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.861

**Intersection Setup**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	1
Entry Pocket Length [ft]	700.00	100.00	700.00	100.00	100.00	100.00	257.00	100.00	100.00	100.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	28	0	219	0	0	0	67	437	0	0	490	376
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	208	0	0	0	0	128	0	0	276	282
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	440	0	0	0	71	591	0	0	795	681
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	116	0	0	0	19	156	0	0	209	179
Total Analysis Volume [veh/h]	32	0	463	0	0	0	75	622	0	0	837	717
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	0	0	5	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	7	0	0	0	0	7	7	0	0	7	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	56	0	0	0	0	21	39	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	0	0	0	14	0	0	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	95	95	95		95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	30		6	57	47	47
g / C, Green / Cycle	0.31	0.31	0.31		0.06	0.60	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.29		0.02	0.17	0.23	0.44
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	565	565	504		229	2183	1795	801
d1, Uniform Delay [s]	22.67	22.67	31.49		42.40	9.02	15.69	21.69
k, delay calibration	0.11	0.11	0.11		0.11	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.02	7.42		0.82	0.33	0.87	14.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.03	0.03	0.92		0.33	0.28	0.47	0.89
d, Delay for Lane Group [s/veh]	22.69	22.69	38.91		43.22	9.35	16.57	36.31
Lane Group LOS	C	C	D		D	A	B	D
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.24	0.24	10.51		0.84	2.69	5.50	15.77
50th-Percentile Queue Length [ft/ln]	5.97	5.97	262.67		20.89	67.23	137.55	394.20
95th-Percentile Queue Length [veh/ln]	0.43	0.43	15.82		1.50	4.84	9.35	22.28
95th-Percentile Queue Length [ft/ln]	10.74	10.74	395.57		37.60	121.01	233.72	557.00

**Movement, Approach, & Intersection Results**

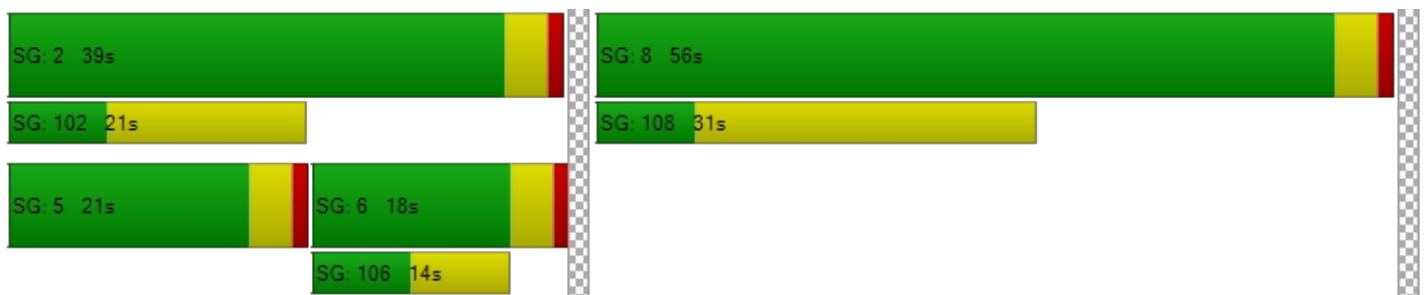
d_M, Delay for Movement [s/veh]	22.69	22.69	38.91	0.00	0.00	0.00	43.22	9.35	0.00	0.00	16.57	36.31
Movement LOS	C	C	D				D	A			B	D
d_A, Approach Delay [s/veh]	37.86			0.00			12.99			25.67		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	24.65											
Intersection LOS	C											
Intersection V/C	0.861											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
I_p,int, Pedestrian LOS Score for Intersection	2.314	2.103	2.923	3.074
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1095	0	737	295
d_b, Bicycle Delay [s]	9.73	47.50	18.95	34.53
I_b,int, Bicycle LOS Score for Intersection	2.376	4.132	2.135	2.842
Bicycle LOS	B	D	B	C

**Sequence**

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



Name	Approach		Lane Configuration			Turning Movement			Lane Width [ft]			No. of Lanes in Entry Pocket			Entry Pocket Length [ft]			No. of Lanes in Exit Pocket			Exit Pocket Length [ft]			Speed [mph]			Grade [%]			Curb Present			Crosswalk		
	Placentia Ave	Westbound	Left	Thru	Right	Left	Thru	Right	12.00	12.00	12.00	1	0	1	1	1	230.00	100.00	100.00	0	0	0	0.00	0.00	0.00	45.00	45.00	45.00	0.00	0.00	0.00	Yes	Yes	Yes	
I-21	Northbound		Left	Thru	Right	12.00	12.00	12.00	12.00	12.00	12.00	1	1	1	1	250.00	100.00	100.00	0	0	0	0.00	0.00	0.00	45.00	45.00	45.00	0.00	0.00	0.00	Yes	Yes	Yes		
I-21	Southbound		Left	Thru	Right	12.00	12.00	12.00	12.00	12.00	12.00	1	1	1	1	290.00	100.00	100.00	0	0	0	0.00	0.00	0.00	45.00	45.00	45.00	0.00	0.00	0.00	Yes	Yes	Yes		
Placentia Ave	Eastbound		Left	Thru	Right	12.00	12.00	12.00	12.00	12.00	12.00	1	1	1	1	210.00	100.00	100.00	0	0	0	0.00	0.00	0.00	45.00	45.00	45.00	0.00	0.00	0.00	Yes	Yes	Yes		
Placentia Ave	Westbound		Left	Thru	Right	12.00	12.00	12.00	12.00	12.00	12.00	1	0	1	1	250.00	100.00	100.00	0	0	0	0.00	0.00	0.00	45.00	45.00	45.00	0.00	0.00	0.00	Yes	Yes	Yes		

**Intersection Setup**

<b>Control Type:</b>	Signalized	<b>Analysis Method:</b>	HCM 6th Edition
<b>Analysis Period:</b>	15 minutes	<b>Volume to Capacity (v/c):</b>	0.541
<b>Delay (sec / veh):</b>	27.6	<b>Level Of Service:</b>	C
<b>Intersection 3: I-215 Frontage Rd/Placentia Ave</b>			

**Intersection Level Of Service Report**

**Volumes**

Name	I-21			I-21			Placentia Ave			Placentia Ave		
	9	1	11	12	1	52	9	641	6	4	805	5
Base Volume Input [veh/h]	9	1	11	12	1	52	9	641	6	4	805	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	336	0	0	558	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1	12	13	1	55	10	1015	6	4	1411	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	3	3	0	14	3	267	2	1	371	1
Total Analysis Volume [veh/h]	11	1	13	14	1	58	11	1068	6	4	1485	5
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	35	0	11	32	0	11	42	0	17	48	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	38	38	2	39	39	2	48	48	1	46	46
g / C, Green / Cycle	0.02	0.36	0.36	0.02	0.37	0.37	0.02	0.45	0.45	0.01	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.01	0.01	0.00	0.04	0.01	0.30	0.00	0.00	0.41	0.00
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	34	692	589	41	700	595	34	1636	730	15	1598	714
d1, Uniform Delay [s]	50.84	21.22	21.38	50.53	20.97	21.74	50.87	22.35	15.81	51.75	27.74	16.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.30	0.00	0.07	4.82	0.00	0.33	5.46	0.45	0.00	9.27	2.92	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.32	0.00	0.02	0.34	0.00	0.10	0.33	0.65	0.01	0.27	0.93	0.01
d, Delay for Lane Group [s/veh]	56.14	21.22	21.45	55.35	20.97	22.06	56.32	22.79	15.81	61.02	30.66	16.41
Lane Group LOS	E	C	C	E	C	C	E	C	B	E	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	0.02	0.21	0.41	0.02	0.95	0.33	9.49	0.08	0.14	16.65	0.06
50th-Percentile Queue Length [ft/ln]	8.19	0.39	5.19	10.17	0.39	23.69	8.21	237.34	1.89	3.50	416.34	1.61
95th-Percentile Queue Length [veh/ln]	0.59	0.03	0.37	0.73	0.03	1.71	0.59	14.55	0.14	0.25	23.35	0.12
95th-Percentile Queue Length [ft/ln]	14.75	0.71	9.34	18.31	0.70	42.65	14.79	363.67	3.40	6.31	583.66	2.90

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.14	21.22	21.45	55.35	20.97	22.06	56.32	22.79	15.81	61.02	30.66	16.41
Movement LOS	E	C	C	E	C	C	E	C	B	E	C	B
d_A, Approach Delay [s/veh]	36.71			28.43			23.10			30.70		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	27.61											
Intersection LOS	C											
Intersection V/C	0.541											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	42.08
I_p,int, Pedestrian LOS Score for Intersection	2.152	2.171	3.103	3.142
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	590	533	724	838
d_b, Bicycle Delay [s]	26.08	28.23	21.38	17.72
I_b,int, Bicycle LOS Score for Intersection	1.601	1.680	2.455	2.792
Bicycle LOS	A	A	B	C

**Sequence**

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





**Intersection Level Of Service Report  
Intersection 4: Indian Ave/Placentia Ave**

Control Type:	Signalized	Delay (sec / veh):	159.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.390

**Intersection Setup**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵			↵			↵↻			↵↻		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	1	0	1	0	0	0
Entry Pocket Length [ft]	238.00	100.00	100.00	100.00	100.00	100.00	300.00	100.00	245.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	170	13	3	26	113	397	285	143	236	7	247	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	0	0	5	81	304	141	135	60	0	214	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	14	3	33	201	725	443	287	310	7	476	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	4	1	9	53	191	117	76	82	2	125	4
Total Analysis Volume [veh/h]	232	15	3	35	212	763	466	302	326	7	501	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	0	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	7
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	14	25	0	34	45	0	0	46	0	0	46	46
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	L	C	L	C	R	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	46	5	41	42	42	42	42	42
g / C, Green / Cycle	0.10	0.44	0.04	0.39	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.13	0.01	0.02	0.58	0.52	0.16	0.20	0.15	0.15
s, saturation flow rate [veh/h]	1810	1846	1810	1669	897	1900	1615	1880	1708
c, Capacity [veh/h]	172	814	81	652	318	760	646	787	683
d1, Uniform Delay [s]	47.50	16.56	48.87	32.00	41.04	22.47	23.68	22.10	22.14
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	164.12	0.01	3.65	231.09	225.48	1.55	2.80	1.22	1.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.35	0.02	0.43	1.50	1.46	0.40	0.50	0.35	0.37
d, Delay for Lane Group [s/veh]	211.62	16.57	52.52	263.09	266.52	24.02	26.48	23.32	23.65
Lane Group LOS	F	B	D	F	F	C	C	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	12.20	0.23	0.95	57.05	28.08	5.33	6.19	4.75	4.36
50th-Percentile Queue Length [ft/ln]	305.10	5.84	23.75	1426.16	701.98	133.29	154.87	118.78	109.11
95th-Percentile Queue Length [veh/ln]	19.83	0.42	1.71	87.21	45.25	9.12	10.28	8.33	7.79
95th-Percentile Queue Length [ft/ln]	495.74	10.50	42.75	2180.16	1131.2	227.96	256.91	208.15	194.77

**Movement, Approach, & Intersection Results**

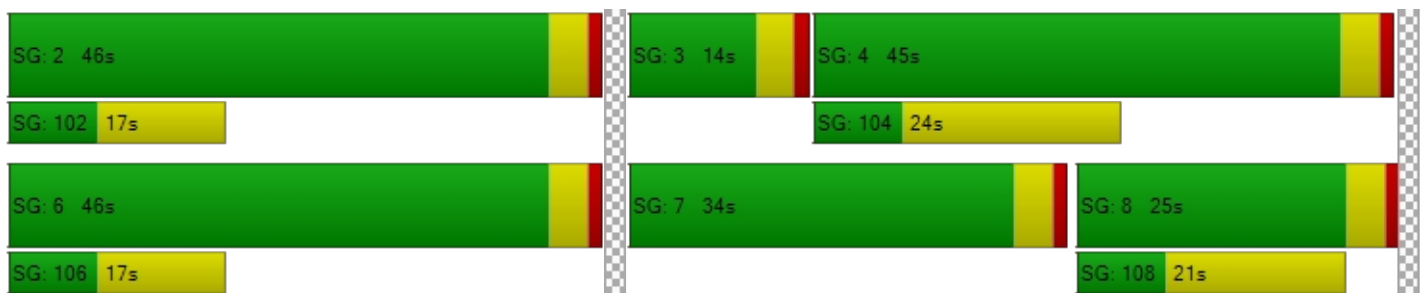
d_M, Delay for Movement [s/veh]	211.62	16.57	16.57	52.52	263.09	263.09	266.52	24.02	26.48	23.32	23.47	23.65
Movement LOS	F	B	B	D	F	F	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	197.58			255.80			128.05			23.48		
Approach LOS	F			F			F			C		
d_I, Intersection Delay [s/veh]	159.83											
Intersection LOS	F											
Intersection V/C	1.390											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersection	2.345			3.345			3.065			2.455		
Crosswalk LOS	B			C			C			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			781			800			800		
d_b, Bicycle Delay [s]	33.60			19.50			18.90			18.90		
I_b,int, Bicycle LOS Score for Intersection	1.972			3.226			3.365			1.993		
Bicycle LOS	A			C			C			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 5: Perris Blvd/Rider St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 22.3  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.450

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTLT			TTLT			TTLT			TTLT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	168.00	100.00	168.00	210.00	100.00	175.00	195.00	100.00	199.00	150.00	100.00	199.00
No. of Lanes in Exit Pocket	0	0	2	0	0	2	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	550.00	0.00	0.00	49.21	0.00	0.00	49.21	0.00	0.00	1500.0
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Rider St			Rider St		
	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Input [veh/h]	20	583	170	79	874	19	47	160	53	177	82	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	635	180	84	946	20	50	170	56	188	87	89
Peak Hour Factor	0.9440	0.9440	0.9440	0.8870	0.8870	0.8870	0.8710	0.8710	0.8710	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	168	48	24	267	6	14	49	16	49	23	23
Total Analysis Volume [veh/h]	22	673	191	95	1067	23	57	195	64	198	91	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	32	0	14	35	0	21	42	0	17	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	23	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	61	61	7	65	65	6	8	8	13	15	15
g / C, Green / Cycle	0.03	0.58	0.58	0.07	0.61	0.61	0.05	0.08	0.08	0.12	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.01	0.13	0.12	0.05	0.21	0.01	0.03	0.05	0.04	0.11	0.03	0.06
s, saturation flow rate [veh/h]	1810	5176	1615	1810	5176	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	58	2996	935	121	3177	991	99	282	126	224	532	237
d1, Uniform Delay [s]	49.82	10.70	10.56	48.25	9.86	7.94	48.42	47.16	46.46	45.26	39.18	40.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.11	0.17	0.49	10.64	0.29	0.04	5.14	3.01	3.13	10.92	0.15	1.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.38	0.22	0.20	0.79	0.34	0.02	0.57	0.69	0.51	0.88	0.17	0.40
d, Delay for Lane Group [s/veh]	53.92	10.87	11.05	58.90	10.15	7.98	53.57	50.17	49.60	56.18	39.33	41.63
Lane Group LOS	D	B	B	E	B	A	D	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.62	2.29	2.01	2.73	3.52	0.19	1.56	2.52	1.67	5.57	1.01	2.20
50th-Percentile Queue Length [ft/ln]	15.38	57.23	50.27	68.23	88.01	4.77	38.88	63.10	41.64	139.22	25.16	54.97
95th-Percentile Queue Length [veh/ln]	1.11	4.12	3.62	4.91	6.34	0.34	2.80	4.54	3.00	9.44	1.81	3.96
95th-Percentile Queue Length [ft/ln]	27.69	103.01	90.48	122.81	158.41	8.59	69.98	113.58	74.96	235.97	45.29	98.95

**Movement, Approach, & Intersection Results**

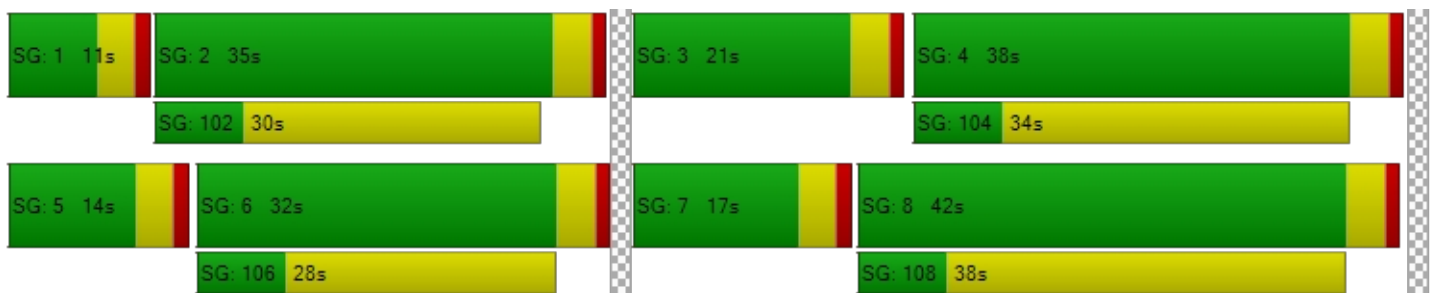
d_M, Delay for Movement [s/veh]	53.92	10.87	11.05	58.90	10.15	7.98	53.57	50.17	49.60	56.18	39.33	41.63
Movement LOS	D	B	B	E	B	A	D	D	D	E	D	D
d_A, Approach Delay [s/veh]	11.98			14.01			50.67			48.60		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.33											
Intersection LOS	C											
Intersection V/C	0.450											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	42.08			42.08			42.08			42.08		
I_p,int, Pedestrian LOS Score for Intersection	3.216			3.100			2.570			2.671		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			590			724			648		
d_b, Bicycle Delay [s]	28.23			26.08			21.38			24.00		
I_b,int, Bicycle LOS Score for Intersection	2.047			2.211			1.820			1.876		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Perris Blvd/Placentia Ave**  
 Signalized HCM 6th Edition 15 minutes  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 23.6  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.696

**Intersection Setup**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	1	0	1	0
Entry Pocket Length [ft]	180.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	173.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Perris Blvd			Perris Blvd			Placentia Ave			Placentia Ave		
	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Input [veh/h]	1	706	62	107	995	5	15	42	19	37	21	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	135	17	20	0	20	0	0	59	81	24	82	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	136	765	86	113	1075	5	16	104	101	63	104	67
Peak Hour Factor	0.9170	0.9170	0.9170	0.9410	0.9410	0.9410	0.8520	0.8520	0.8520	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	209	23	30	286	1	5	31	30	16	26	17
Total Analysis Volume [veh/h]	148	834	94	120	1142	5	19	122	119	64	106	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	25	0	12	25	0	11	32	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	14	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	39	39	7	38	38	2	13	5	16	16
g / C, Green / Cycle	0.10	0.48	0.48	0.08	0.47	0.47	0.03	0.16	0.07	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.25	0.25	0.07	0.30	0.30	0.01	0.14	0.04	0.06	0.04
s, saturation flow rate [veh/h]	1810	1900	1833	1810	1900	1897	1810	1748	1810	1900	1615
c, Capacity [veh/h]	181	919	887	152	889	888	56	289	121	382	324
d1, Uniform Delay [s]	35.29	14.18	14.18	35.93	16.22	16.22	37.95	32.33	36.12	27.05	26.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.72	2.05	2.12	8.70	3.60	3.61	3.50	6.27	3.57	0.39	0.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	0.51	0.51	0.79	0.65	0.65	0.34	0.83	0.53	0.28	0.21
d, Delay for Lane Group [s/veh]	44.01	16.23	16.30	44.63	19.82	19.83	41.46	38.61	39.69	27.44	26.98
Lane Group LOS	D	B	B	D	B	B	D	D	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.09	5.48	5.31	2.53	7.66	7.66	0.40	4.76	1.27	1.66	1.05
50th-Percentile Queue Length [ft/ln]	77.19	136.94	132.66	63.14	191.60	191.38	10.10	118.99	31.87	41.53	26.32
95th-Percentile Queue Length [veh/ln]	5.56	9.32	9.08	4.55	12.20	12.19	0.73	8.34	2.29	2.99	1.89
95th-Percentile Queue Length [ft/ln]	138.94	232.90	227.10	113.66	305.11	304.82	18.19	208.44	57.36	74.75	47.37

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.01	16.26	16.30	44.63	19.82	19.83	41.46	38.61	38.61	39.69	27.44	26.98
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	20.08			22.17			38.81			30.60		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	23.61											
Intersection LOS	C											
Intersection V/C	0.696											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	29.76			29.76			29.76			29.76		
I_p,int, Pedestrian LOS Score for Intersection	2.996			2.980			2.293			2.311		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	525			525			700			700		
d_b, Bicycle Delay [s]	21.76			21.76			16.90			16.90		
I_b,int, Bicycle LOS Score for Intersection	2.447			2.605			1.989			1.952		
Bicycle LOS	B			B			A			A		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Redlands Ave/Rider St**  
 Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes  
 Delay (sec / veh): 24.6  
 Level Of Service: C  
 Volume to Capacity (v/c): 0.542

**Intersection Setup**

Name	Redlands Ave			Southbound			Rider St			Rider St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TIP			TIP			TIP			TIP		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	180.00	100.00	180.00	112.00	100.00	160.00	235.00	100.00	235.00	151.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name	Redlands Ave						Rider St			Rider St		
	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Input [veh/h]	13	106	99	71	177	21	8	376	30	82	327	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	58	14	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	170	119	75	200	22	8	399	32	87	347	58
Peak Hour Factor	0.9120	0.9120	0.9120	0.7980	0.7980	0.7980	0.9480	0.9480	0.9480	0.8810	0.8810	0.8810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	47	33	23	63	7	2	105	8	25	98	16
Total Analysis Volume [veh/h]	15	186	130	94	251	28	8	421	34	99	394	66
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	25	0	14	28	0	11	25	0	11	25	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	28	28	6	32	32	1	19	19	6	24	24
g / C, Green / Cycle	0.03	0.38	0.38	0.08	0.43	0.43	0.01	0.25	0.25	0.08	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.08	0.05	0.13	0.02	0.00	0.22	0.02	0.05	0.12	0.12
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1807
c, Capacity [veh/h]	47	716	609	147	820	697	28	469	399	148	595	566
d1, Uniform Delay [s]	35.86	16.14	15.83	33.41	13.95	12.32	36.50	27.31	21.72	33.46	20.18	20.21
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.12	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.88	0.80	4.61	0.96	0.11	5.39	7.12	0.09	5.17	0.43	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.32	0.26	0.21	0.64	0.31	0.04	0.28	0.90	0.09	0.67	0.39	0.40
d, Delay for Lane Group [s/veh]	39.64	17.02	16.63	38.02	14.91	12.43	41.89	34.43	21.81	38.62	20.61	20.66
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.30	2.11	1.47	1.80	2.80	0.28	0.18	7.48	0.43	1.84	2.95	2.83
50th-Percentile Queue Length [ft/ln]	7.57	52.85	36.63	45.03	70.12	6.89	4.46	187.10	10.78	46.06	73.64	70.83
95th-Percentile Queue Length [veh/ln]	0.54	3.81	2.64	3.24	5.05	0.50	0.32	11.97	0.78	3.32	5.30	5.10
95th-Percentile Queue Length [ft/ln]	13.62	95.13	65.93	81.05	126.22	12.40	8.03	299.26	19.40	82.91	132.55	127.49

**Movement, Approach, & Intersection Results**

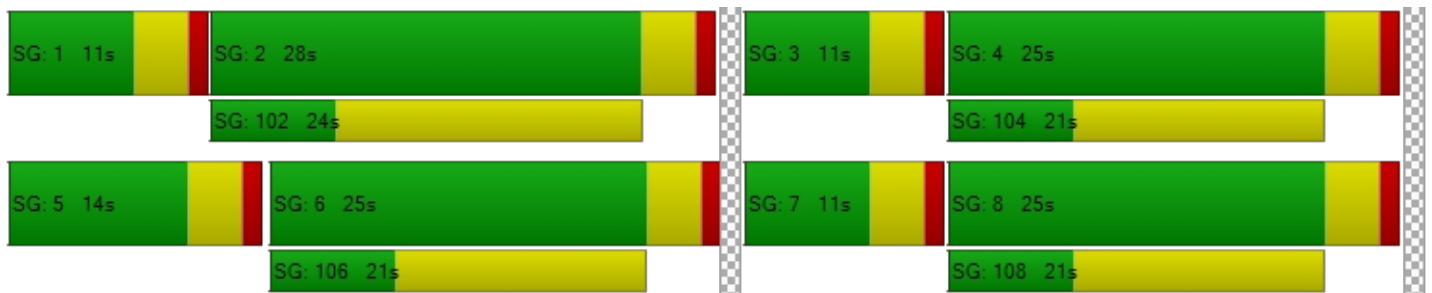
d_M, Delay for Movement [s/veh]	39.64	17.02	16.63	38.02	14.91	12.43	41.89	34.43	21.81	38.62	20.63	20.66
Movement LOS	D	B	B	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	17.89			20.55			33.63			23.82		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	24.61											
Intersection LOS	C											
Intersection V/C	0.542											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	11.0			11.0			11.0			11.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	27.31			27.31			27.31			27.31		
I_p,int, Pedestrian LOS Score for Intersection	2.382			2.275			2.553			2.561		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	560			640			560			560		
d_b, Bicycle Delay [s]	19.44			17.34			19.44			19.44		
I_b,int, Bicycle LOS Score for Intersection	2.106			2.175			2.324			2.021		
Bicycle LOS	B			B			B			B		

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 8: Redlands Ave/Placentia Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

**Intersection Setup**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	135.00	100.00	100.00	150.00	100.00	100.00	130.00	100.00	130.00	110.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Redlands Ave			Redlands Ave			Placentia Ave			Placentia Ave		
Base Volume Input [veh/h]	54	167	15	38	230	23	31	69	66	13	60	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	6	1	0	4	0	0	57	22	9	68	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	183	17	40	248	24	33	130	92	23	132	36
Peak Hour Factor	0.8970	0.8970	0.8970	0.9350	0.9350	0.9350	0.9090	0.9090	0.9090	0.5950	0.5950	0.5950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	51	5	11	66	6	9	36	25	10	55	15
Total Analysis Volume [veh/h]	106	204	19	43	265	26	36	143	101	39	222	61
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	470	502	511	486	519	575	473	505	559	499	545
Degree of Utilization, x	0.23	0.22	0.22	0.09	0.51	0.05	0.08	0.28	0.18	0.08	0.52

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.86	0.84	0.83	0.29	2.87	0.14	0.25	1.15	0.66	0.25	2.97
95th-Percentile Queue Length [ft]	21.46	21.06	20.63	7.25	71.75	3.55	6.14	28.85	16.38	6.33	74.26
Approach Delay [s/veh]	12.06			15.32			11.66			15.53	
Approach LOS	B			C			B			C	
Intersection Delay [s/veh]	13.72										
Intersection LOS	B										

**Intersection Level Of Service Report  
Intersection 9: Redlands Ave/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

**Intersection Setup**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Redlands Ave		Redlands Ave		Project Dwy1	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	8	4	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	8	4	0	52
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	2	1	0	14
Total Analysis Volume [veh/h]	21	0	8	4	0	55
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	0.00	8.57
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.37	0.00	0.00	4.09
d_A, Approach Delay [s/veh]	0.00		4.83		8.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.02					
Intersection LOS	A					



**Intersection Level Of Service Report**  
**Intersection 10: Placentia Ave/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

**Intersection Setup**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Project Dwy 2		Placentia Ave		Placentia Ave	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	48	5	53	43	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	5	53	43	2
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	1	14	11	1
Total Analysis Volume [veh/h]	0	51	5	56	45	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.05	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.68	7.30	0.00	0.00	0.00
Movement LOS		A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.16	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.91	0.24	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.68		0.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.01					
Intersection LOS	A					

## Redlands Warehouse Facility

Vistro File: C:\...\Opening Year 2024  
Conditions\_NEW4.vistro

Scenario 4 Opening Year Plus Project PM

Report File: C:\...\Opening Year Plus Project PM.pdf

10/18/2022

**Turning Movement Volume: Summary**

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
1	I-215 SB Ramps/Placentia Ave	504	0	72	158	210	732	93	1769

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
2	I-215 NB Ramps/Placentia Ave	30	0	440	71	591	795	681	2608

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	I-215 Frontage Rd/Placentia Ave	10	1	12	13	1	55	10	1015	6	4	1411	5	2543

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Indian Ave/Placentia Ave	220	14	3	33	201	725	443	287	310	7	476	16	2735

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Perris Blvd/Rider St	21	635	180	84	946	20	50	170	56	188	87	89	2526

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Perris Blvd/Placentia Ave	136	765	86	113	1075	5	16	104	101	63	104	67	2635

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7	Redlands Ave/Rider St	14	170	119	75	200	22	8	399	32	87	347	58	1531

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Redlands Ave/Placentia Ave	95	183	17	40	248	24	33	130	92	23	132	36	1053

ID	Intersection Name	Northbound		Southbound		Westbound	Total Volume
		Thru	Right	Left	Thru	Right	
9	Redlands Ave/Project Dwy 1	20	0	8	4	52	84

ID	Intersection Name	Southbound	Eastbound		Westbound		Total Volume
		Right	Left	Thru	Thru	Right	
10	Placentia Ave/Project Dwy 2	48	5	53	43	2	151

Number	2											
Intersection	I-215 NB Ramps/Placentia Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	I-215 NB Ramps			I-215 NB Ramps			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	20	0	894	0	0	0	59	365	0	0	182	461
Total Analysis Volume [veh/h]	22	0	1201	0	0	0	66	586	0	0	327	641

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Last time [s]	12.00											
Control Type	Split	Split	Split	Split	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	0	0	5	2	0	0	0	6
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	7	0	0	0	0	7	7	0	0	0	7
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	0	30
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	3.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0
Split [s]	0	69	0	0	0	0	11	51	0	0	0	40
Walk [s]	0	7	0	0	0	0	7	7	0	0	0	7
Pedestrian Clearance [s]	0	24	0	0	0	0	14	14	0	0	0	7
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	2.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.40	0.40	0.40	0.05	0.53	0.45	0.45
(v / s) _ Volume / Saturation Flow Rate	0.01	0.37	0.37	0.02	0.16	0.09	0.40
so, Base Saturation Flow per Lane [pc/h/h]	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3
s, saturation flow rate [veh/h]	1810	1615	1615	3514	3618	3618	1615
c, Capacity [veh/h]	729	651	651	184	1919	1609	718
X, volume / capacity	0.03	0.92	0.92	0.36	0.31	0.20	0.89
d, Delay for Lane Group [s/veh]	21.67	45.82	45.82	56.11	16.20	20.62	46.35
Lane Group LOS	C	D	D	E	B	C	D

Critical Lane Group	NO	Yes	NO		Yes	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.37	17.75	17.75		0.97	4.33	2.75	19.00
50th-Percentile Queue Length [ft/ln]	9.18	443.80	443.80		24.32	108.34	68.67	474.88
95th-Percentile Queue Length [veh/ln]	0.66	24.66	24.66		1.75	7.75	4.94	26.14
95th-Percentile Queue Length [ft/ln]	16.53	616.54	616.54		43.78	193.69	123.61	653.57

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	21.67	45.82	45.82	0.00	0.00	0.00	56.11	16.20	0.00	0.00	20.62	46.35
Movement LOS	C	D	D				E	B			C	D
Critical Movement	No	No	No				Yes	No			No	No
d_A, Approach Delay [s/veh]	45.38			0.00			20.24			37.66		
Approach LOS	D			A			C			D		
d_I, Intersection Delay [s/veh]	36.99											
Intersection LOS	D											
Intersection V/C	0.875											

Option 1: Copy of Indian Ave/Placentia Ave

Number	4											
Intersection	Indian Ave/Placentia Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	300	98	18	5	12	193	626	178	182	33	171	29
Total Analysis Volume [veh/h]	374	109	20	6	43	292	948	298	237	37	326	37

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permis	Permis	Protect	Permis	Permis	ProtPer	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30	0	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	11	26	0	11	26	0	34	53	0	0	19	19
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No			No	
Maximum Recall	No	No		No	No		No	No			No	
Pedestrian Recall	No	No		No	No		No	No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.35	0.29	0.01	0.22	0.57	0.57	0.57	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.29	0.07	0.00	0.20	0.62	0.16	0.15	0.14	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3		
s, saturation flow rate [veh/h]	1278	1849	1810	1647	1522	1900	1615	1293	1679
c, Capacity [veh/h]	354	533	23	368	852	1075	914	291	316
X, volume / capacity	1.06	0.24	0.26	0.91	1.11	0.28	0.26	0.62	0.70
d, Delay for Lane Group [s/veh]	97.56	24.75	49.63	46.69	89.10	10.71	10.64	43.56	46.15
Lane Group LOS	F	C	D	D	F	B	B	D	D

Critical Lane Group	Yes	NO	NO	Yes	Yes	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	11.17	2.01	0.16	7.96	27.50	2.77	2.20	4.35	5.28
50th-Percentile Queue Length [ft/ln]	279.28	50.13	4.10	198.89	687.54	69.20	54.99	108.64	131.98
95th-Percentile Queue Length [veh/ln]	17.22	3.61	0.30	12.58	39.21	4.98	3.96	7.76	9.05
95th-Percentile Queue Length [ft/ln]	430.43	90.23	7.38	314.54	980.25	124.56	98.99	194.10	226.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	97.56	24.75	24.75	49.63	46.69	46.69	89.10	10.71	10.64	43.56	45.01	46.15
Movement LOS	F	C	C	D	D	D	F	B	B	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	78.89			46.74			60.81			44.98		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	60.06											
Intersection LOS	E											
Intersection V/C	0.843											



Option 1: Copy of Indian Ave/Placentia Ave

Number	4											
Intersection	Indian Ave/Placentia Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Indian Ave			Indian Ave			Placentia Ave			Placentia Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	170	13	3	26	113	397	285	143	236	7	247	12
Total Analysis Volume [veh/h]	232	15	3	35	212	763	466	302	326	7	501	17

Intersection Settings

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permis	Permis	Protect	Permis	Permis	ProtPer	Permis	Permis	Permis	Permis	Permis
Signal Group	3	8	0	7	4	0	5	2	0	0	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	0	7	7
Maximum Green [s]	30	30	0	30	30	0	30	30	0	0	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	11	23	0	45	57	0	18	42	0	0	24	24
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	7
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No			No	
Maximum Recall	No	No		No	No		No	No			No	
Pedestrian Recall	No	No		No	No		No	No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.58	0.50	0.04	0.48	0.35	0.35	0.35	0.18	0.18	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.01	0.02	0.58	0.36	0.16	0.20	0.16	0.16	
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3			3			3		3	
s, saturation flow rate [veh/h]	758	1846	1810	1669	1281	1900	1615	1584	1710	
c, Capacity [veh/h]	257	927	78	804	402	656	558	322	311	
X, volume / capacity	0.90	0.02	0.45	1.21	1.16	0.46	0.58	0.79	0.88	
d, Delay for Lane Group [s/veh]	71.47	13.76	55.35	135.38	139.94	30.33	33.95	60.24	71.13	
Lane Group LOS	E	B	E	F	F	C	C	E	E	

Critical Lane Group	Yes	NO	NO	Yes	Yes	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	5.00	0.21	1.00	42.92	19.20	6.32	7.40	7.81	9.30
50th-Percentile Queue Length [ft/ln]	124.94	5.33	25.09	1073.11	480.03	158.09	184.99	195.16	232.51
95th-Percentile Queue Length [veh/ln]	8.66	0.38	1.81	61.55	28.87	10.45	11.86	12.39	14.30
95th-Percentile Queue Length [ft/ln]	216.60	9.60	45.16	1538.72	721.84	261.19	296.51	309.72	357.54

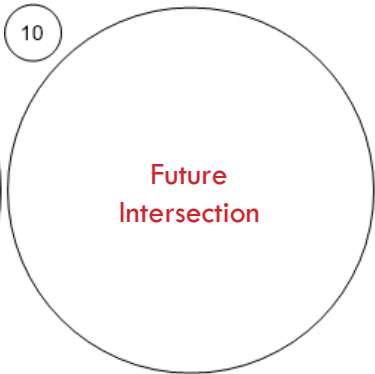
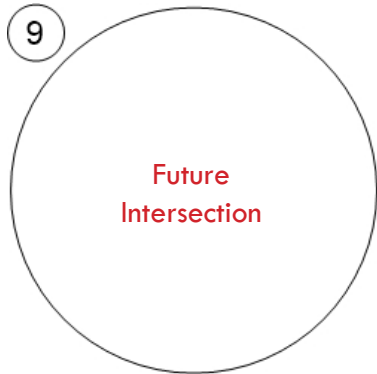
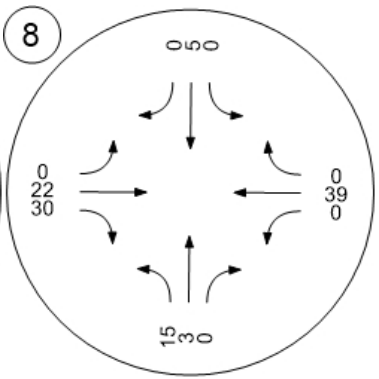
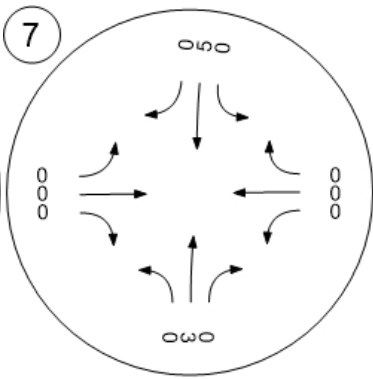
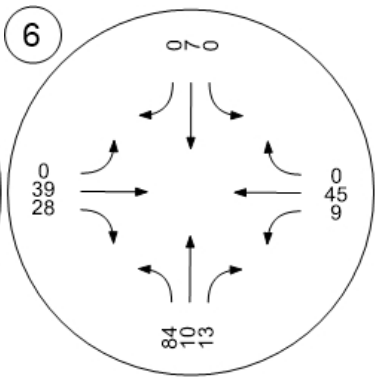
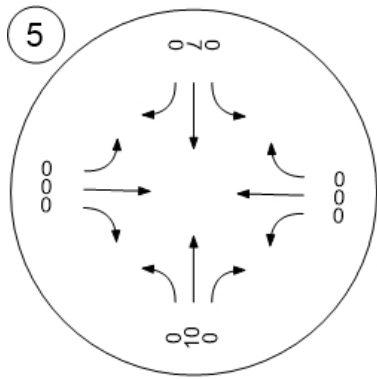
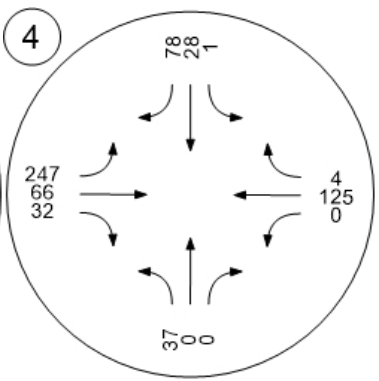
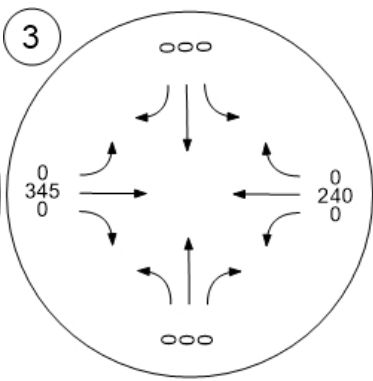
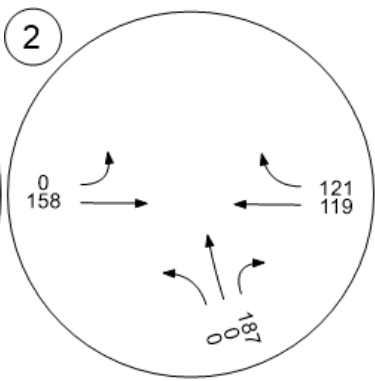
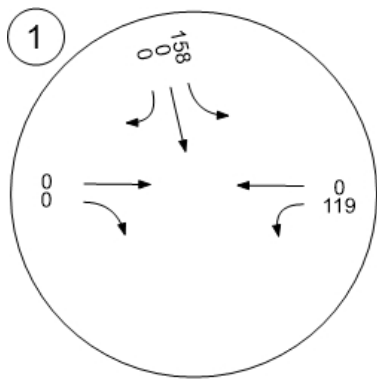
**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	71.47	13.76	13.76	55.35	135.38	135.38	139.94	30.33	33.95	60.24	65.79	71.13
Movement LOS	E	B	B	E	F	F	F	C	C	E	E	E
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	67.32			132.60			78.10			65.89		
Approach LOS	E			F			E			E		
d_I, Intersection Delay [s/veh]	94.06											
Intersection LOS	F											
Intersection V/C	0.971											

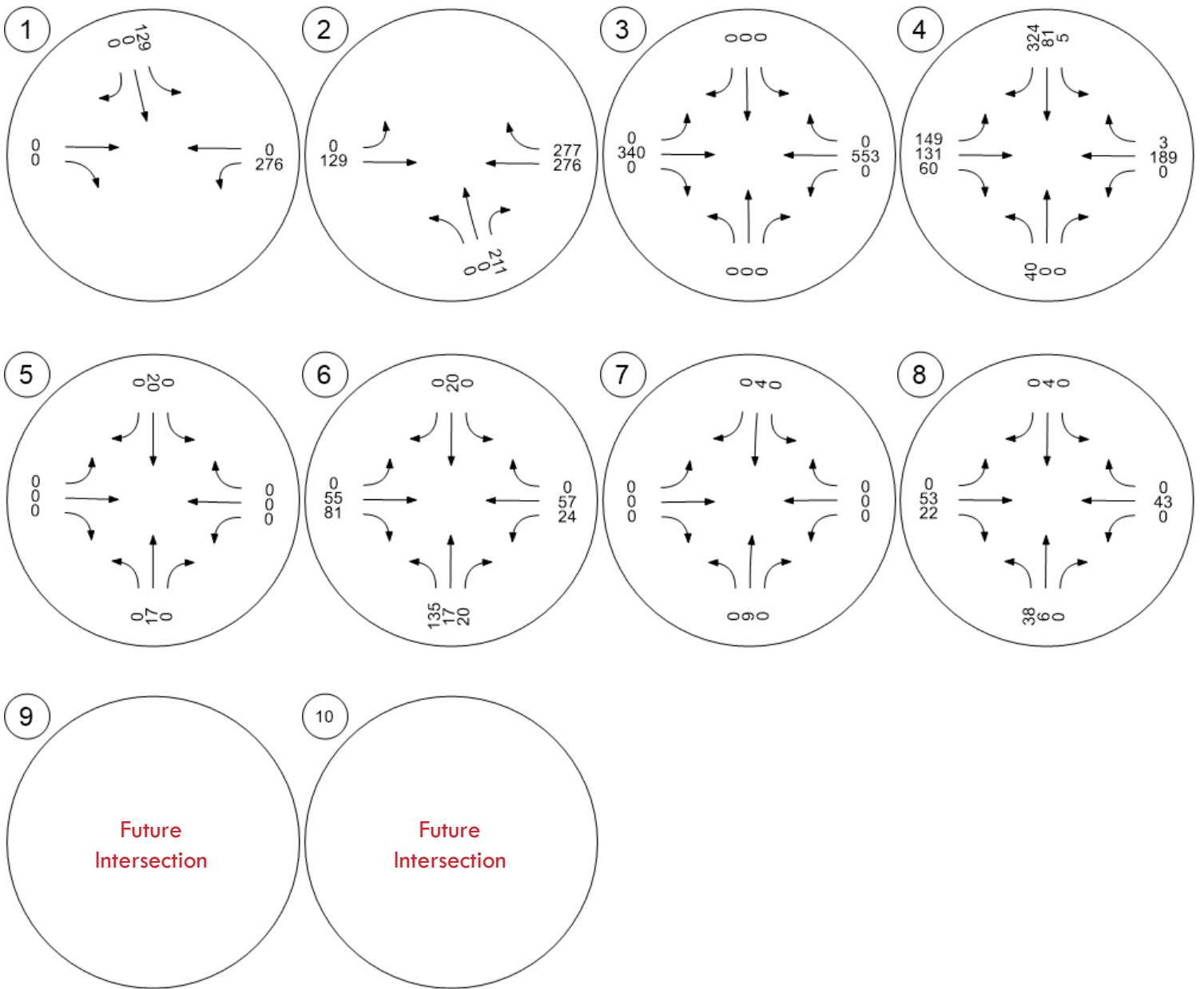
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*APPENDIX D – CUMULATIVE PROJECTS TRIP ASSIGNMENT*

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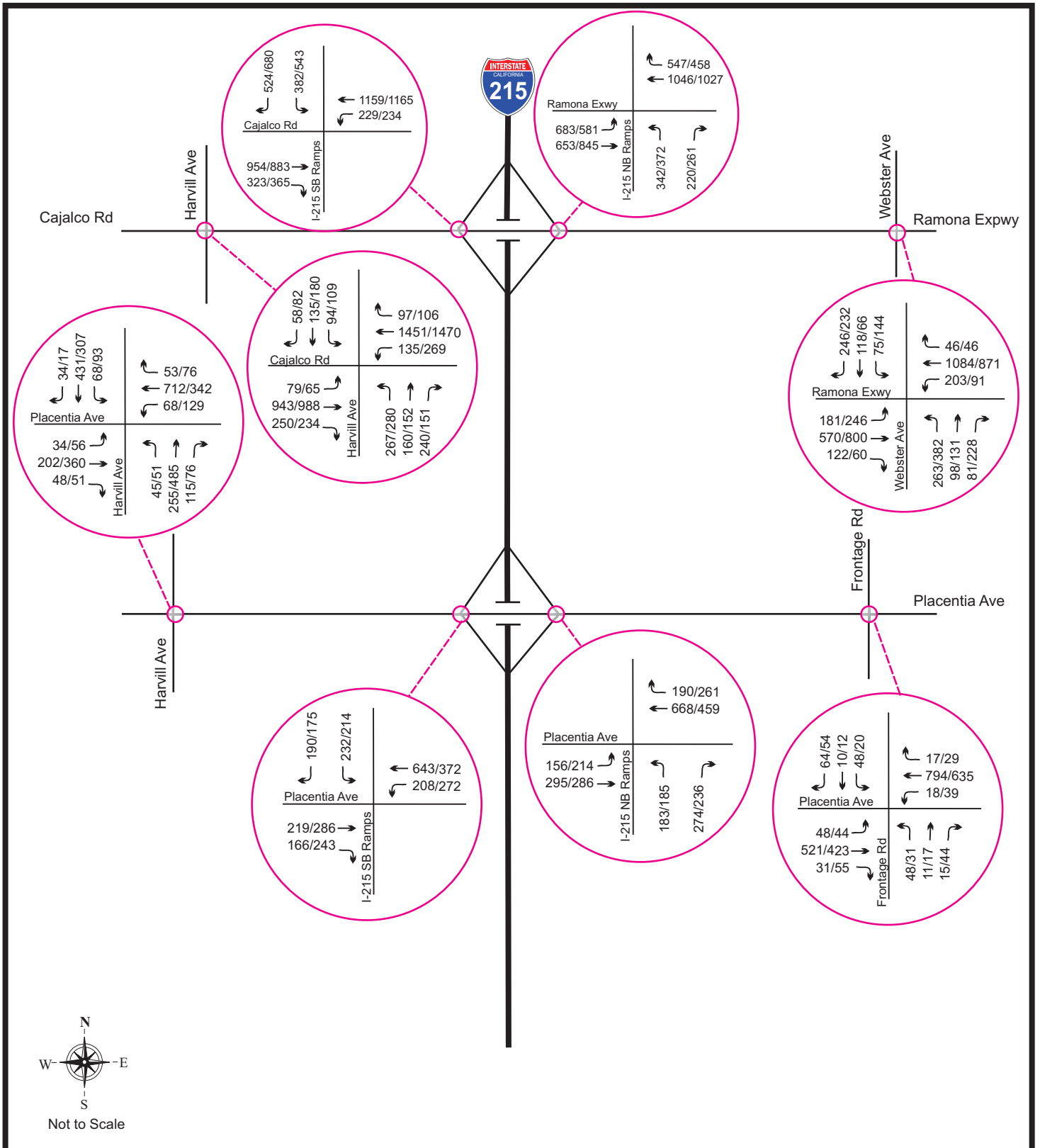




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*APPENDIX E – MID COUNTY PARKWAY 2020 AM/PM PEAK HOUR TRAFFIC  
VOLUMES*

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**Horizon Year (2020) AM/PM Peak Hour Traffic Intersections - Build**

**Figure 6-18h**

XXX/XXX AM/PM Peak Hour



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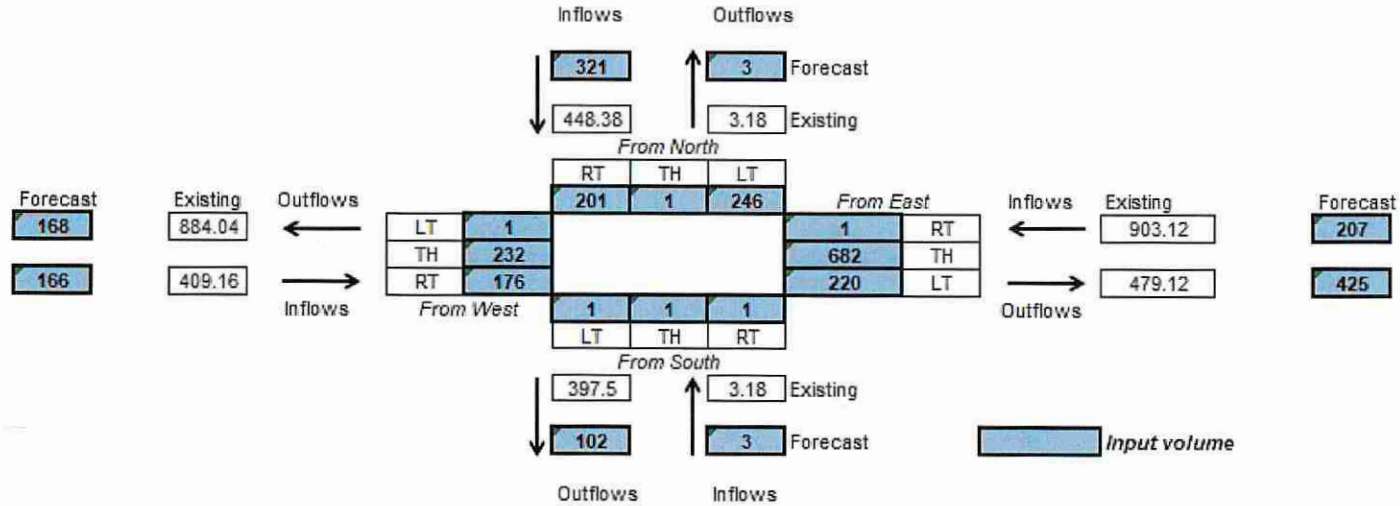
*APPENDIX F – POST-PROCESSING WORK SHEETS*

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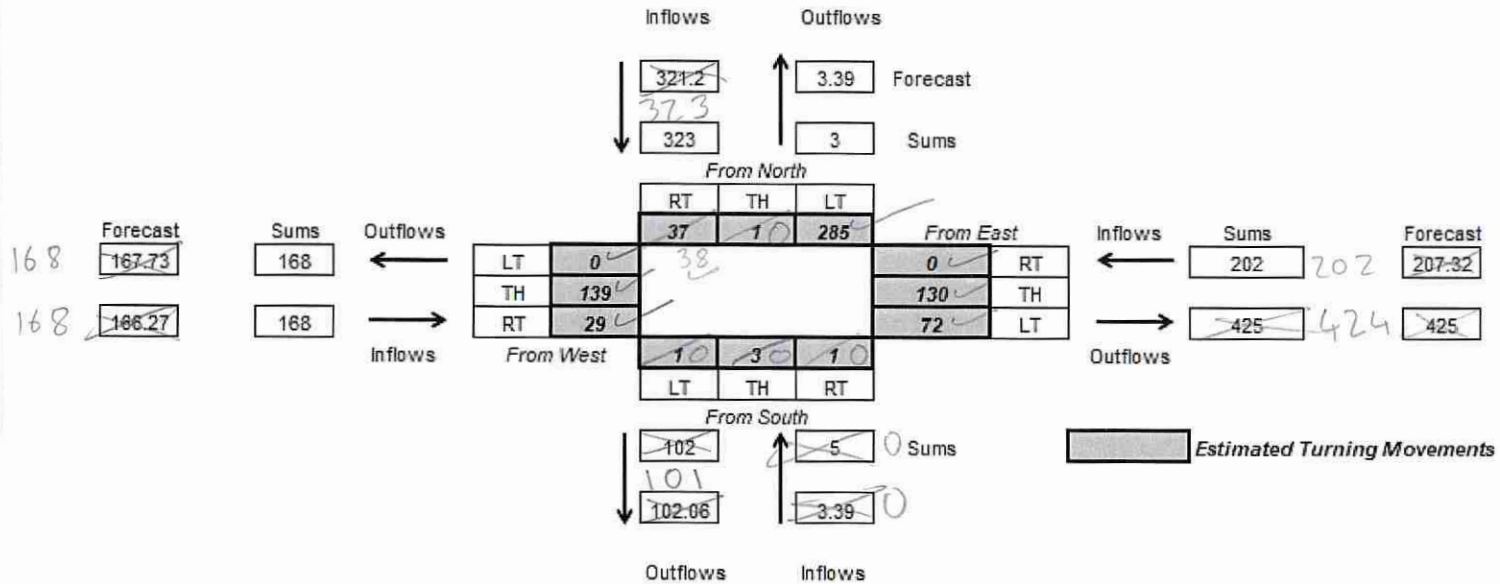


AM

Input Volumes for Placentia Ave-I-215 SB

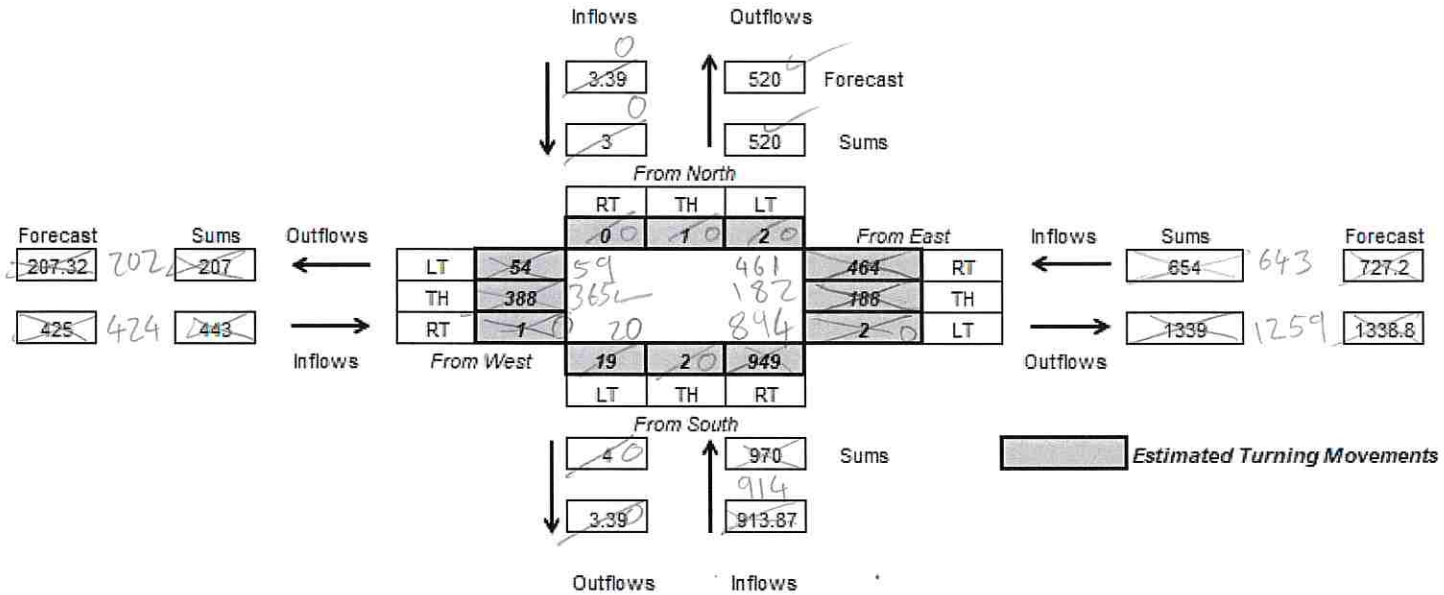
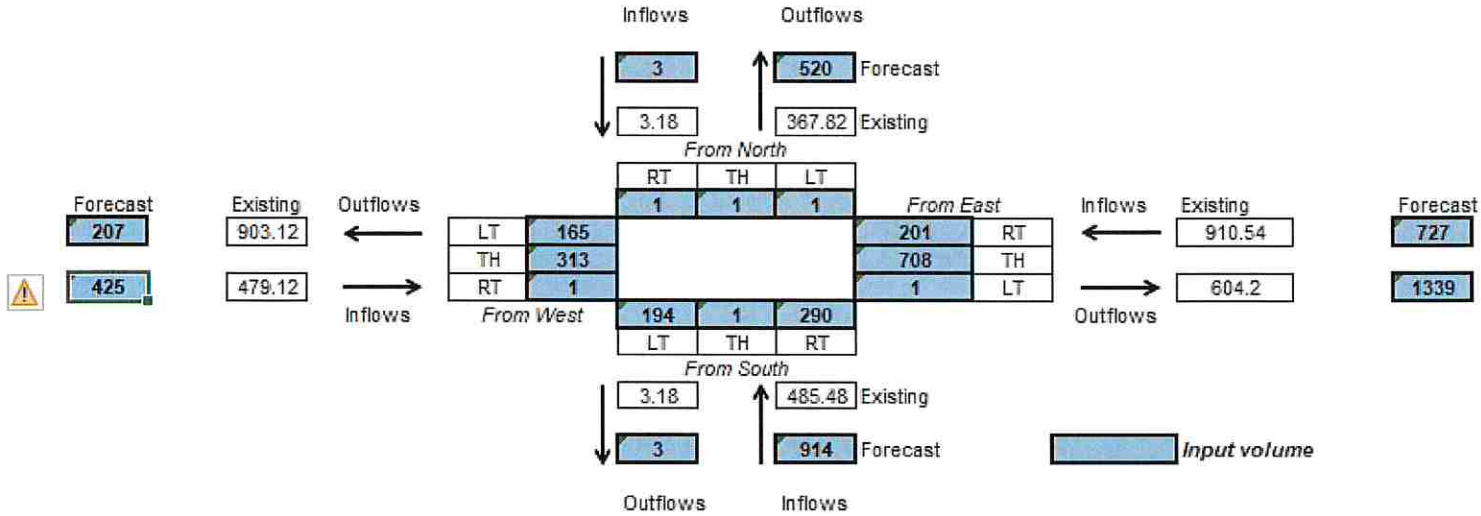


Estimated Turning Movements



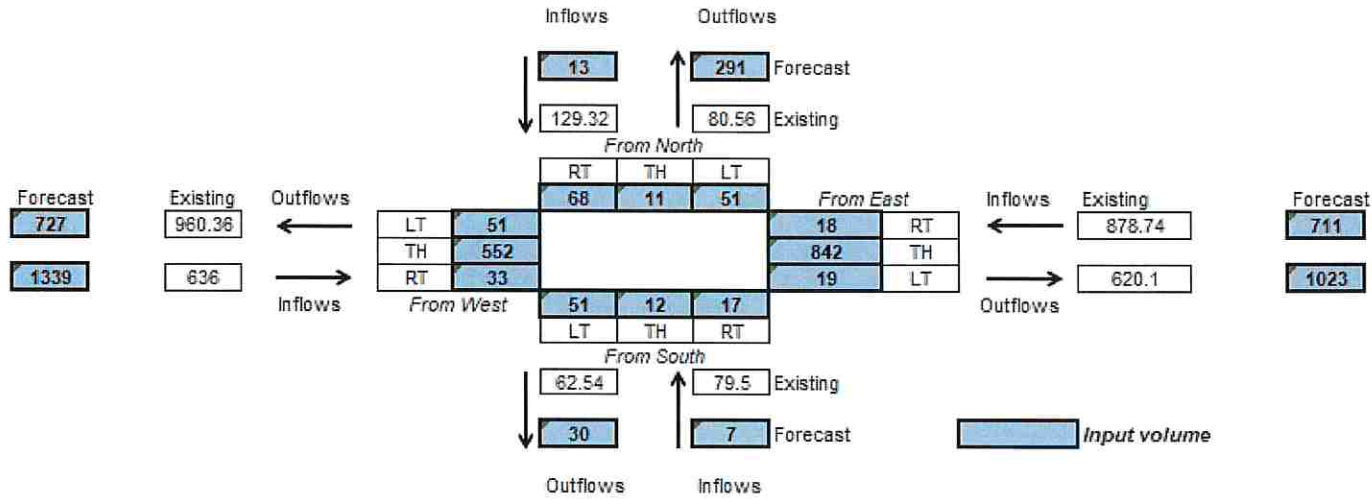
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Input Volumes for Placentia Ave-I-215 NB

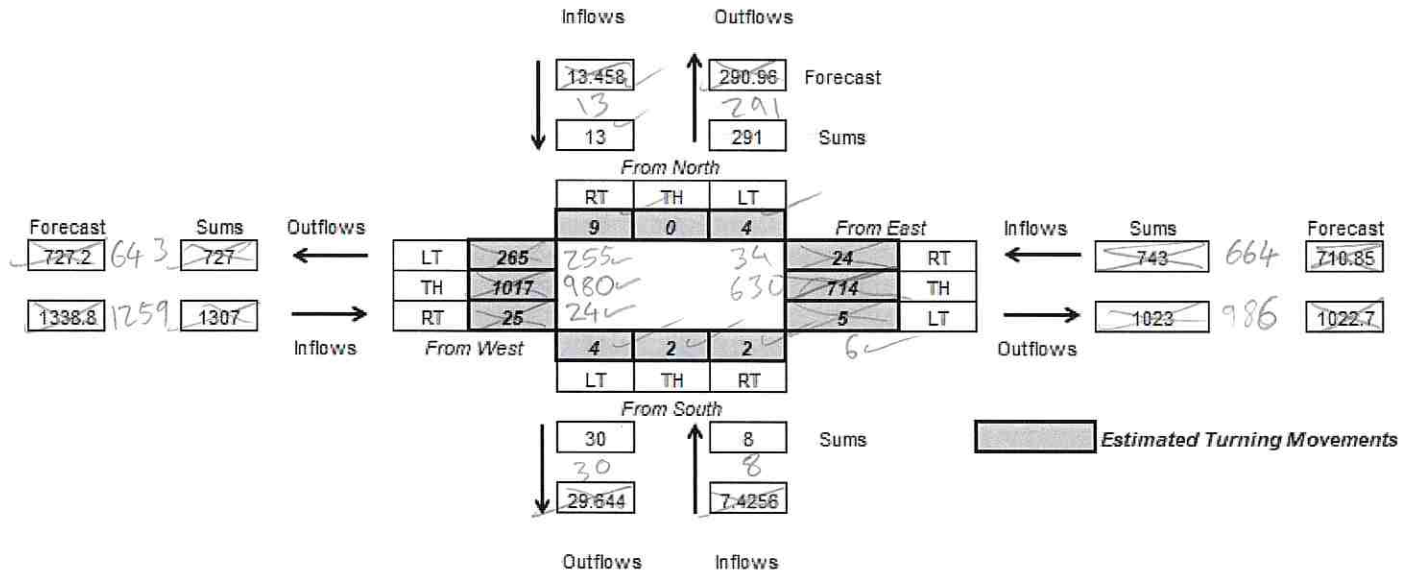


AM

Input Volumes for Placentia Ave/Frontage Rd

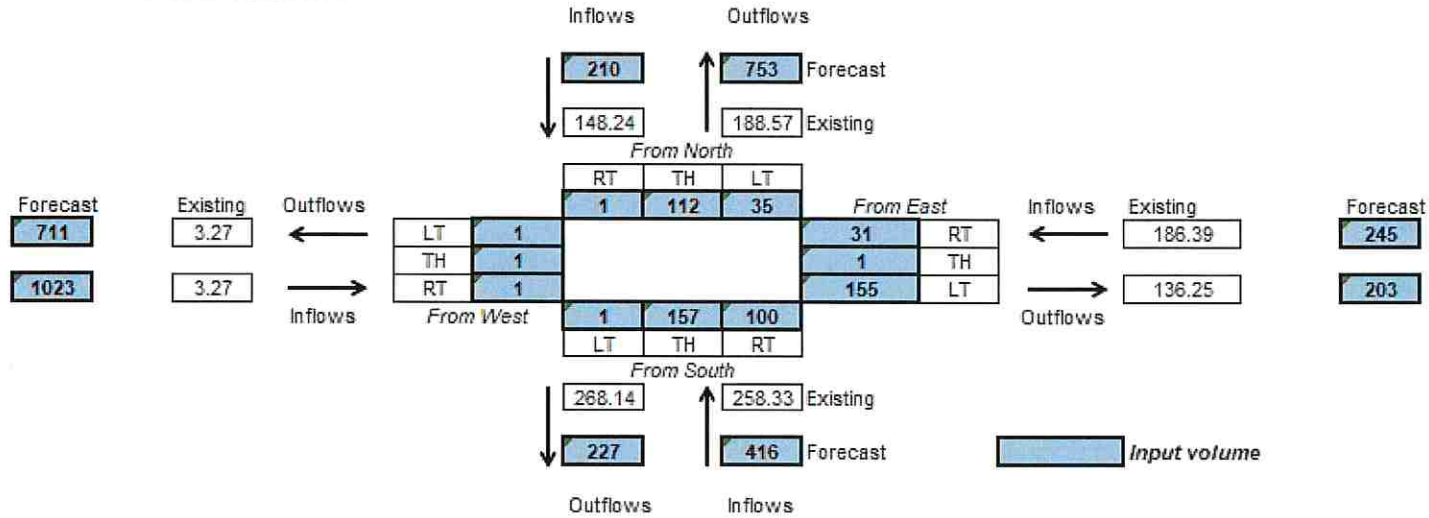


Estimated Turning Movements

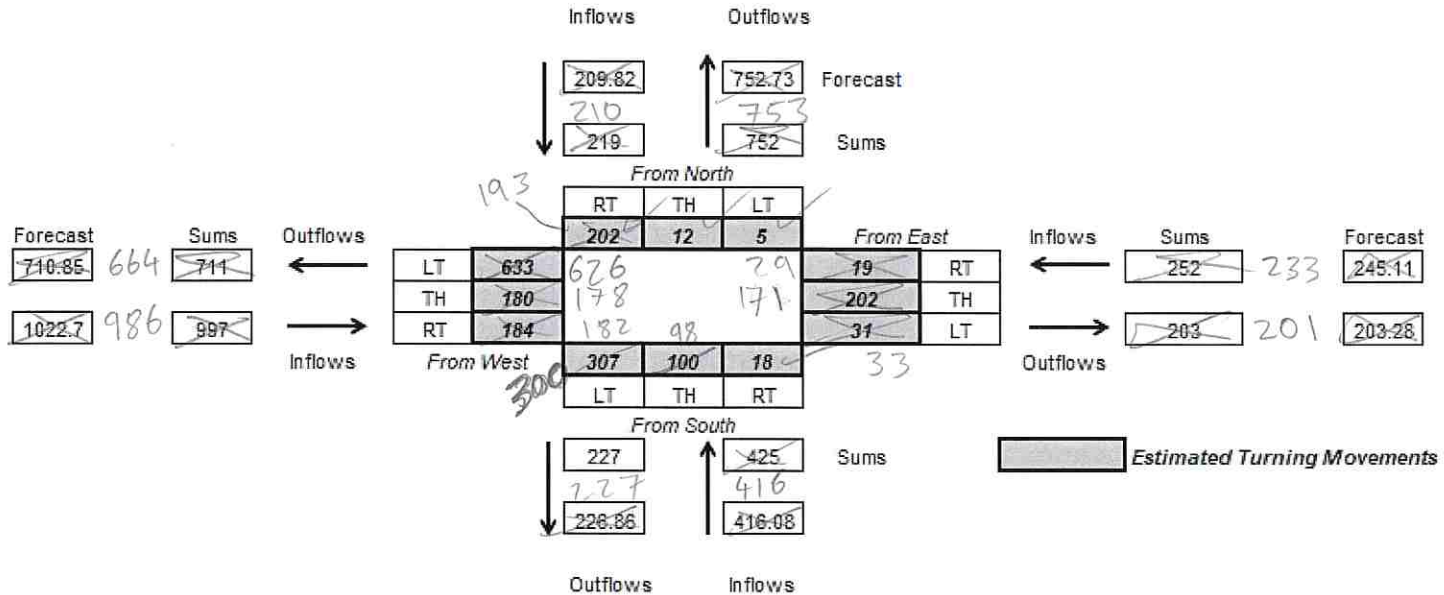


AM

Input Volumes for Placentia Ave/Indian Ave

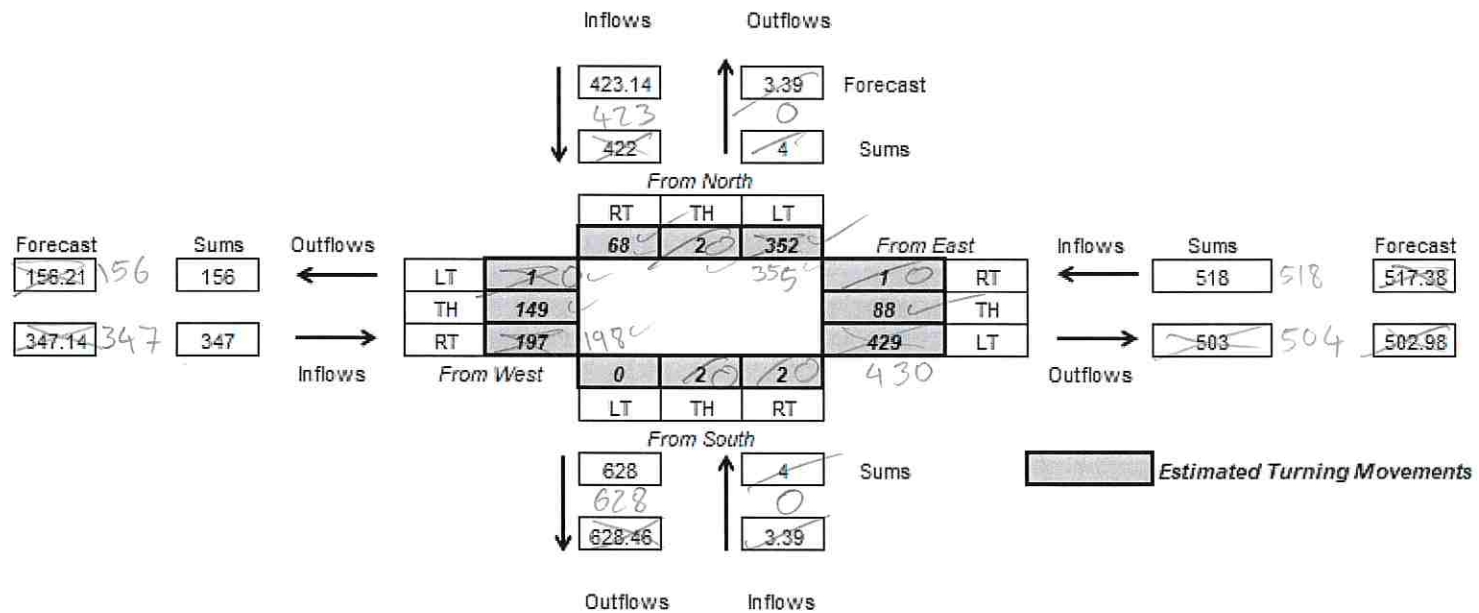
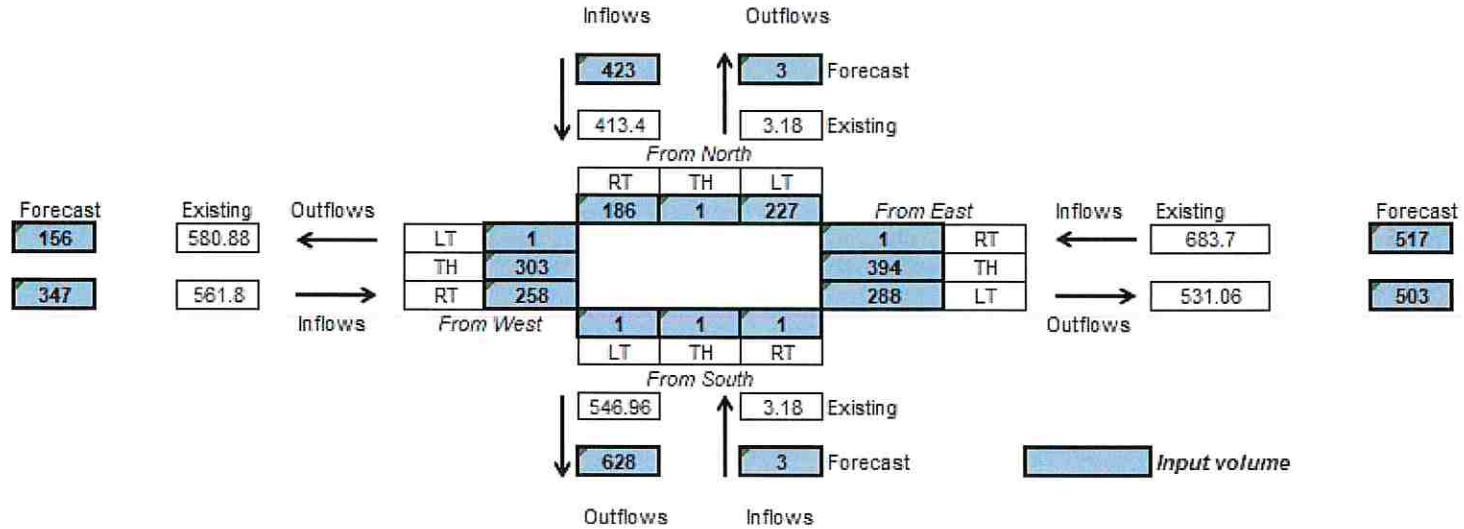


Estimated Turning Movements



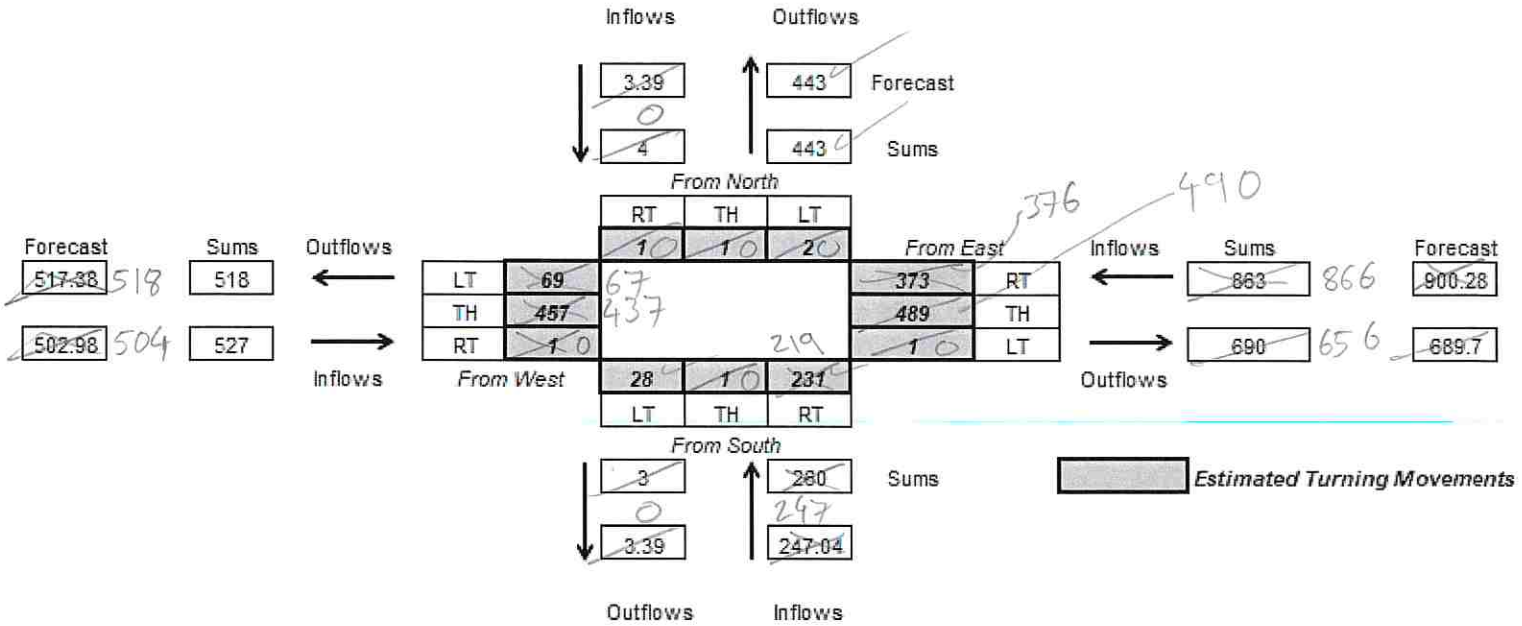
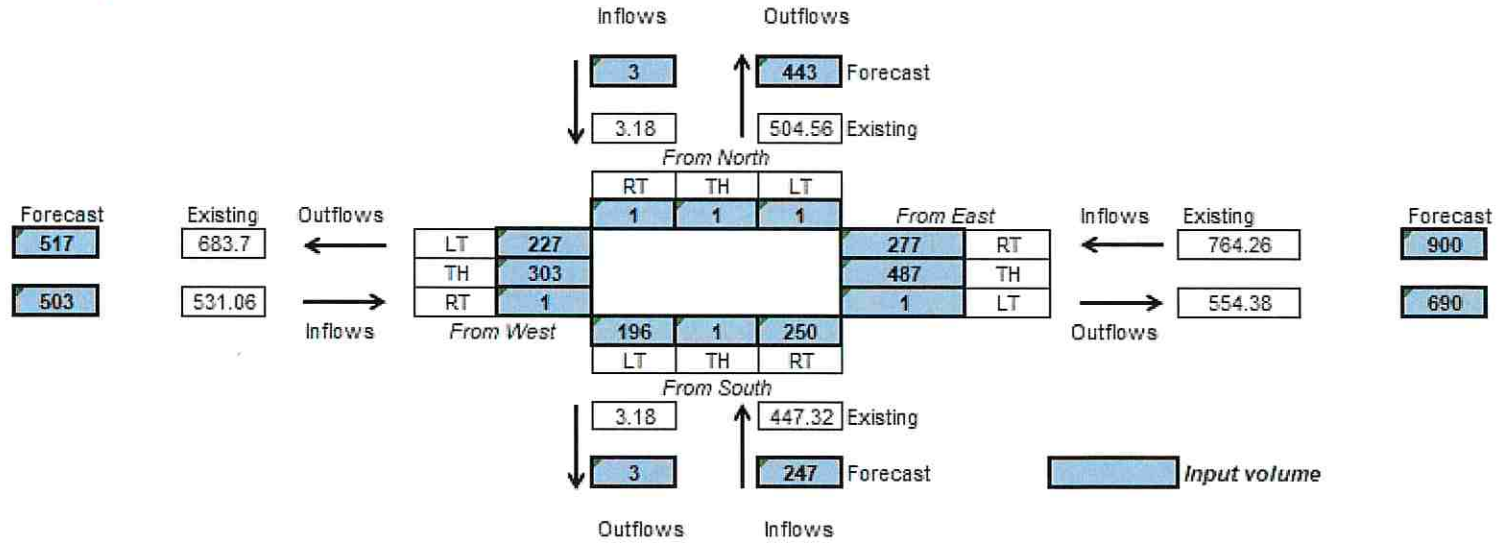
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Input Volumes for Placentia Ave-I-215 SB



PM

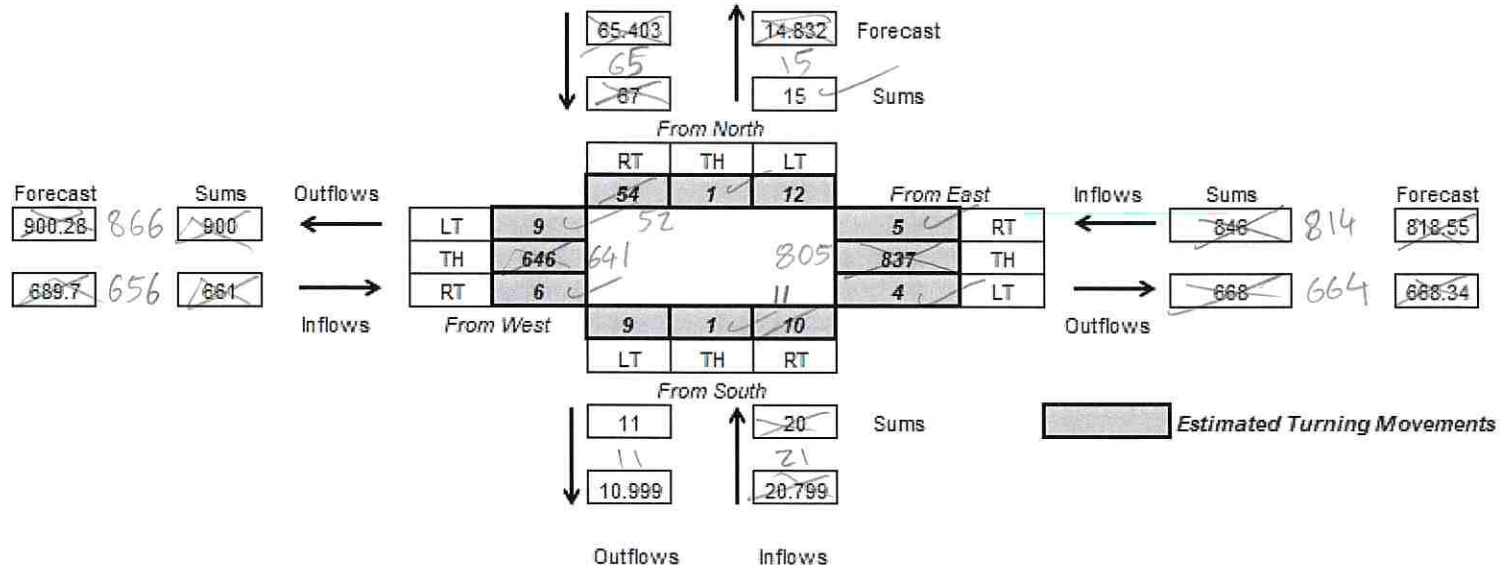
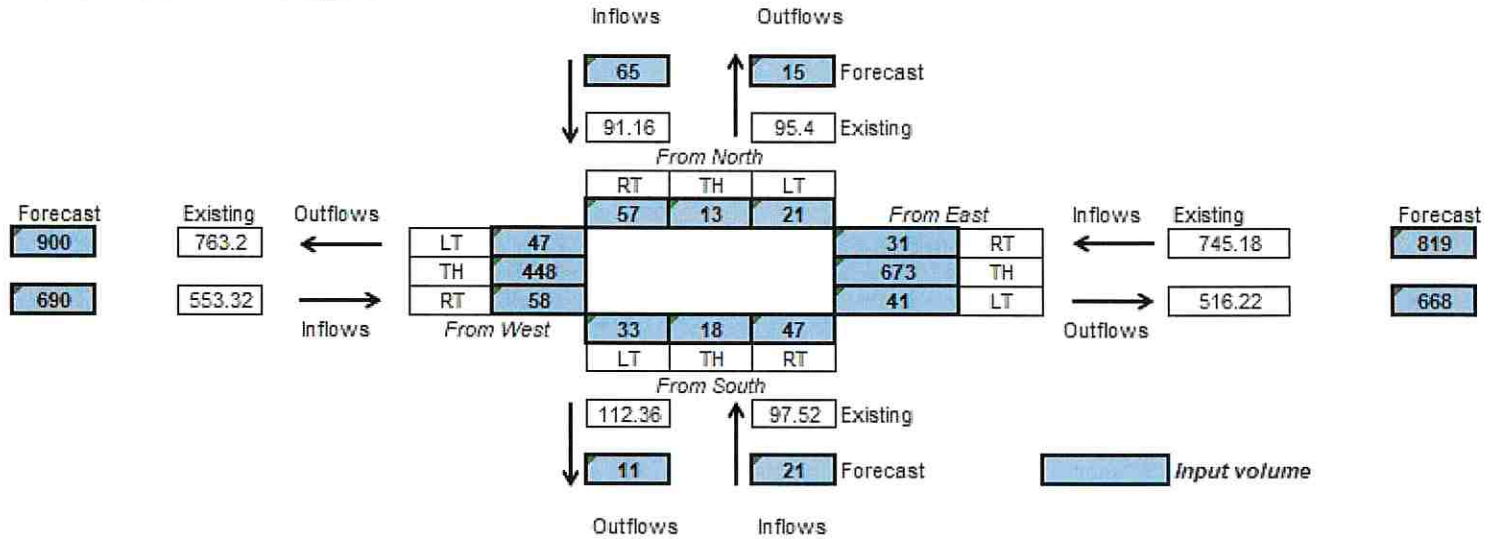
Input Volumes for Placentia Ave-I-215 NB





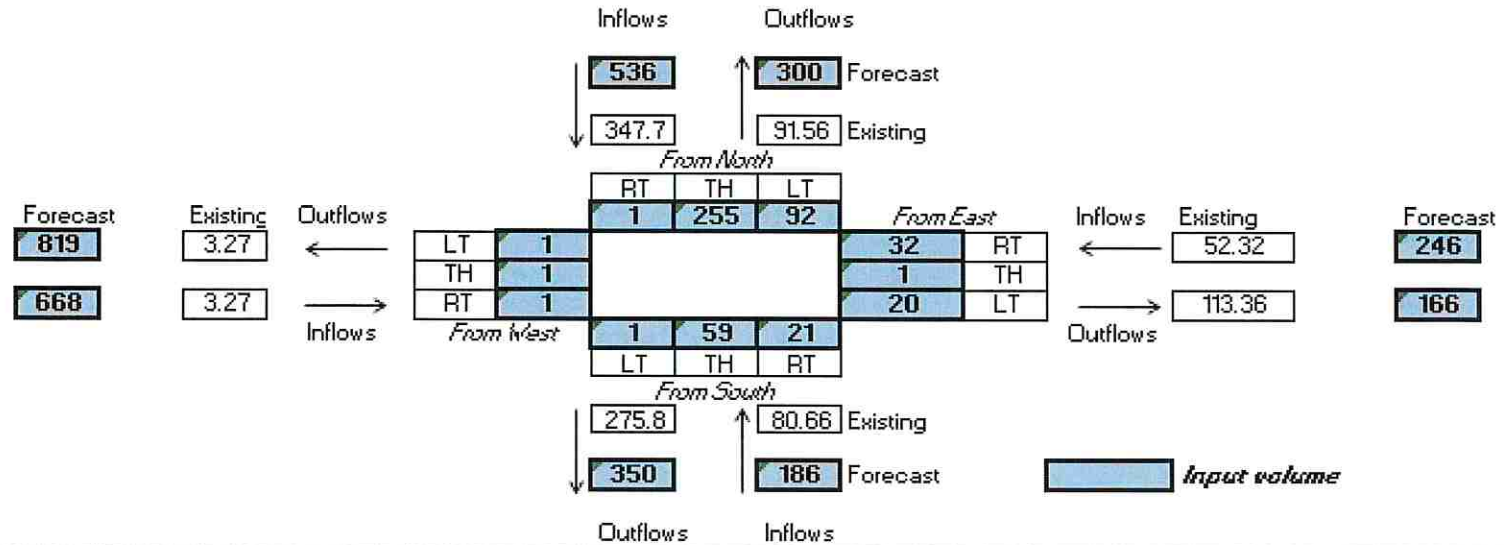
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Input Volumes for Placentia Ave/Frontage Rd

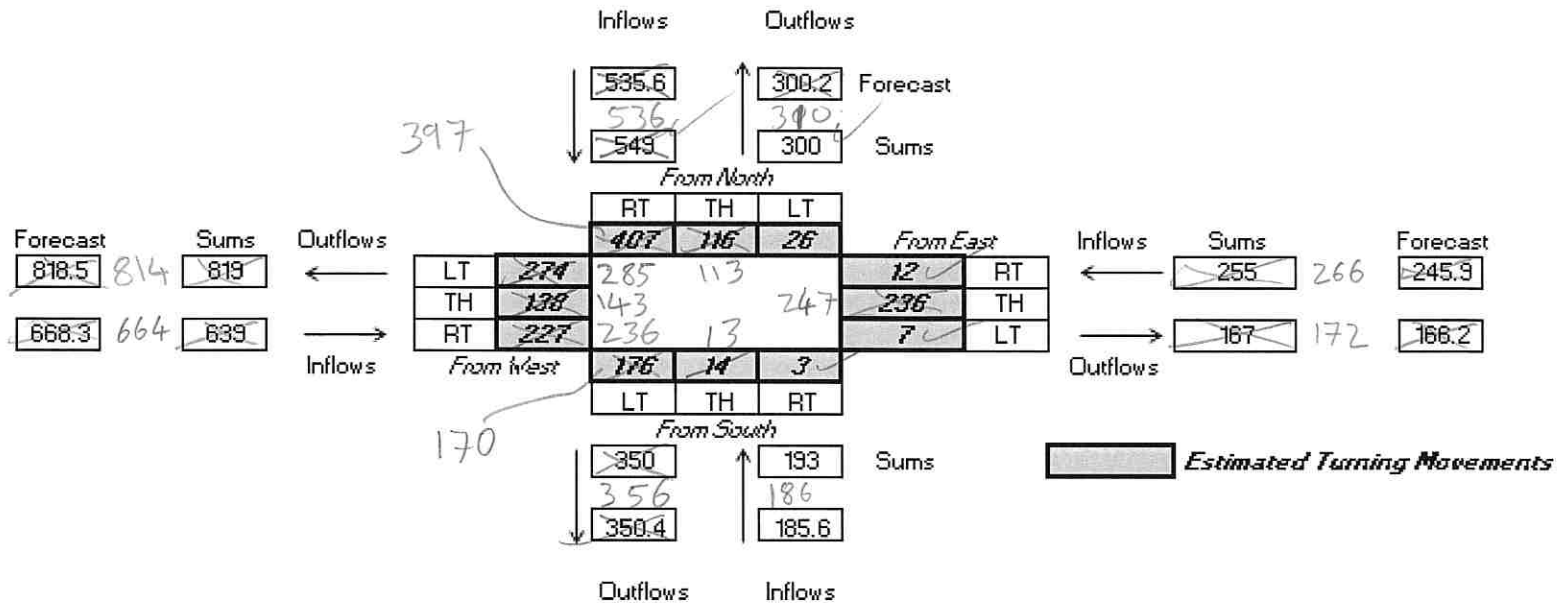


PM

**Input Volumes for Placentia Ave/Indian Ave**



**Estimated Turning Movements**





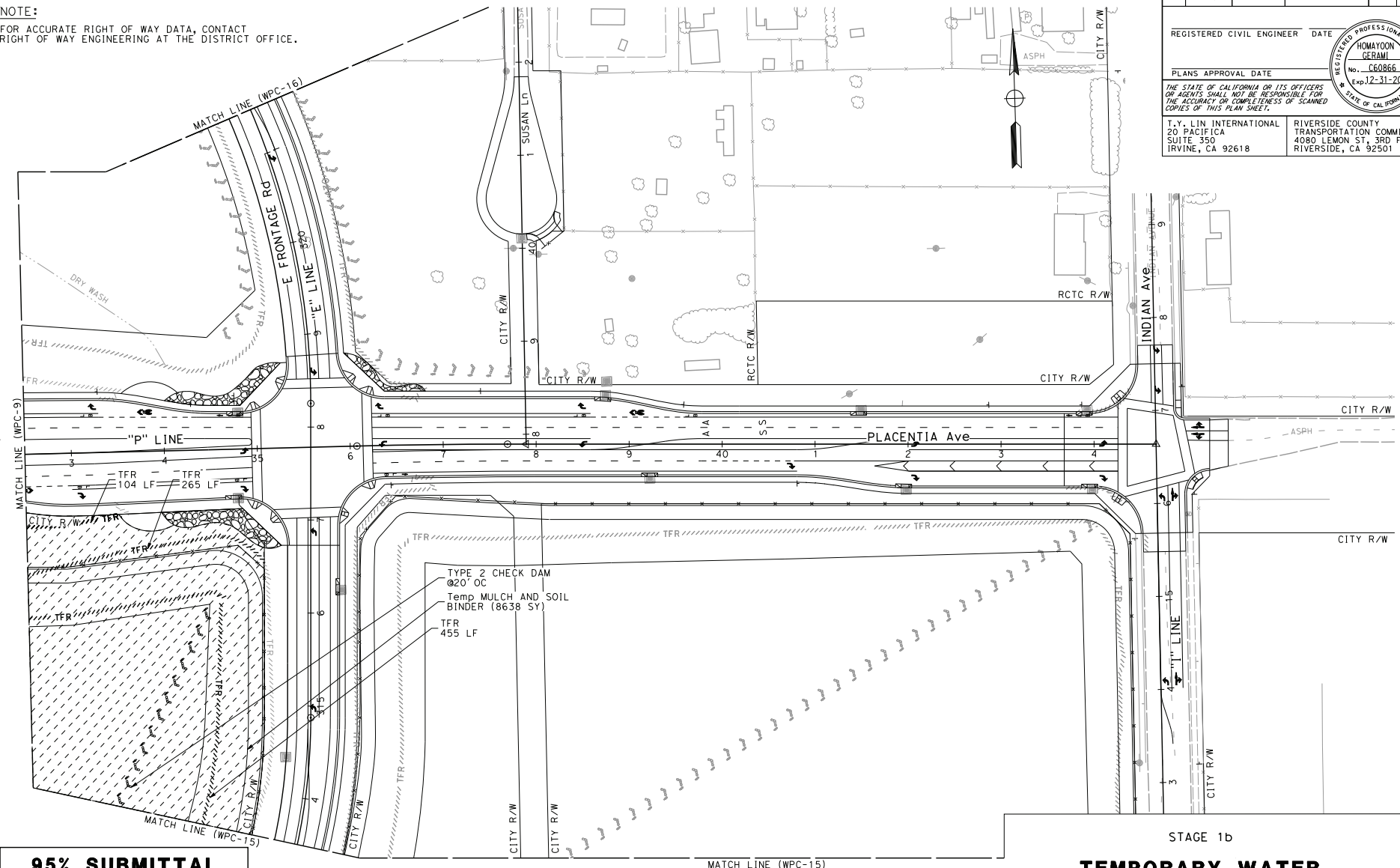
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*APPENDIX G – FUTURE LANE GEOMETRY FROM DESIGN PLANS*

---

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 CONSULTANT FUNCTIONAL SUPERVISOR: KAREN CHAPMAN  
 CALCULATED/DESIGNED BY: HOMAYOON GERAMI  
 CHECKED BY: JEFFREY BURDICK  
 REVISED BY: HOMAYOON GERAMI  
 DATE REVISED: JEFFREY BURDICK

**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**95% SUBMITTAL**  
 NOT FOR CONSTRUCTION  
 FEBRUARY 2019

STAGE 1b  
**TEMPORARY WATER  
 POLLUTION CONTROL PLAN**  
 SCALE: 1" = 50'  
**WPC-14**

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R27.9/R32.8		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_

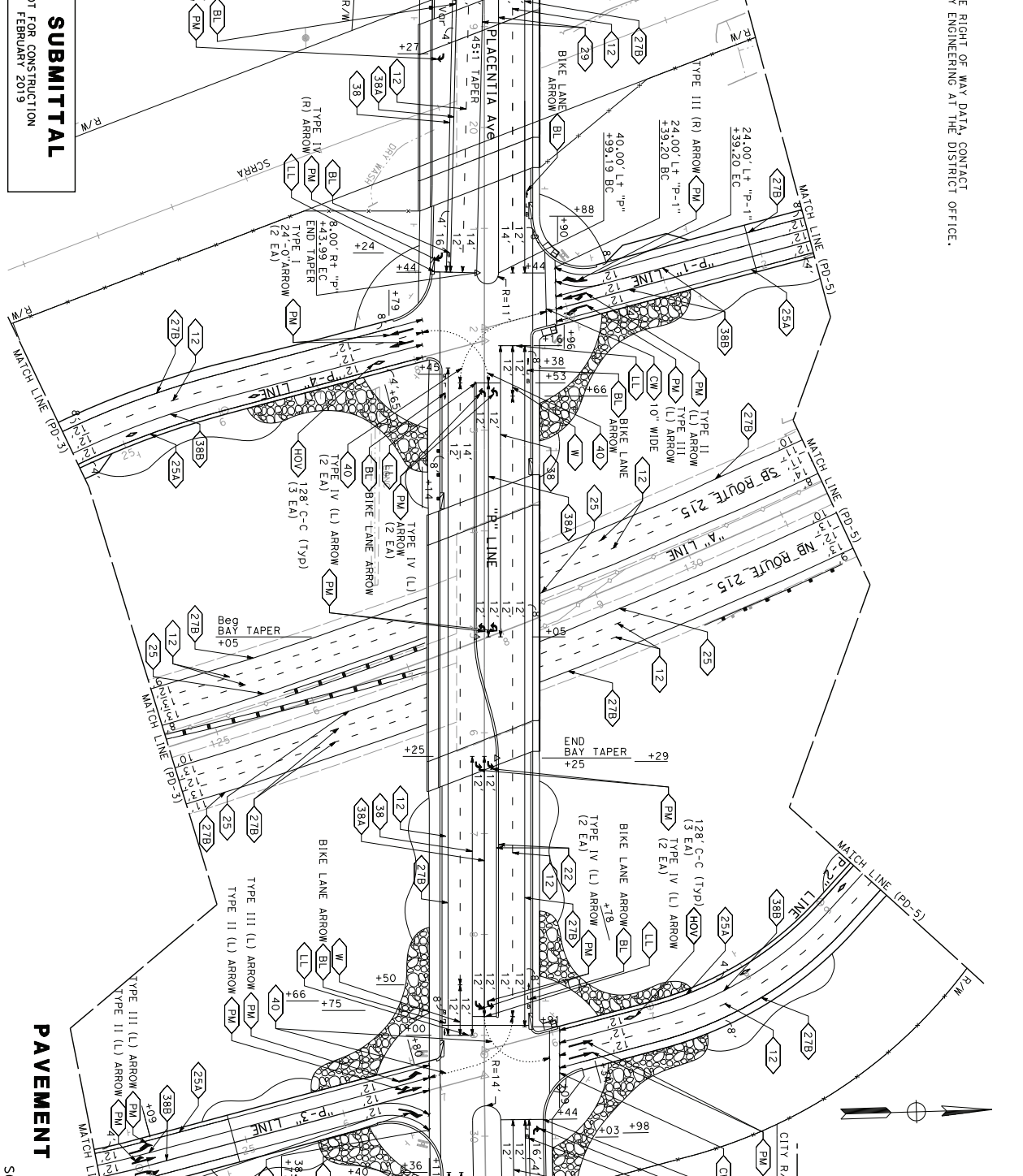
REGISTERED PROFESSIONAL ENGINEER  
 HOMAYOON GERAMI  
 No. C60866  
 Exp. 12-31-20  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

T. Y. LIN INTERNATIONAL RIVERSIDE COUNTY TRANSPORTATION COMMISSION  
 SUITE 350 4080 LEMON ST, 3RD FLOOR  
 IRVINE, CA 92618 RIVERSIDE, CA 92501

LAST REVISION DATE PLOTTED => 2/14/2019 5:32:34 PM

NOTE:  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**PAVEMENT DELINEATION PLAN**  
 SCALE: 1" = 50'

**PD-4**

Dist	COUNTY	ROUTE	POST MILES	SHEET TOTAL
08	RIV	215	R27.9/R32.8	

REGISTERED CIVIL ENGINEER DATE REGISTERED PROFESSIONAL ENGINEER  
 RYAN LAU No. C79299 Exp. 03-31-20

PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA HAS REVIEWED THESE PLANS FOR CONFORMANCE WITH THE REQUIREMENTS OF THE CALIFORNIA PUBLIC SAFETY AND WELFARE ACT AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA PUBLIC SAFETY AND WELFARE ACT. THE STATE OF CALIFORNIA DOES NOT ASSUME ANY LIABILITY FOR THE DESIGN OR CONSTRUCTION OF THE PROJECT OR FOR THE RESULTS THEREOF.

1" = 100' INTERNATIONAL RIVERSIDE COUNTY  
 SUITE 350 LEMON ST. 3RD FLOOR  
 RIVERSIDE, CA 92501

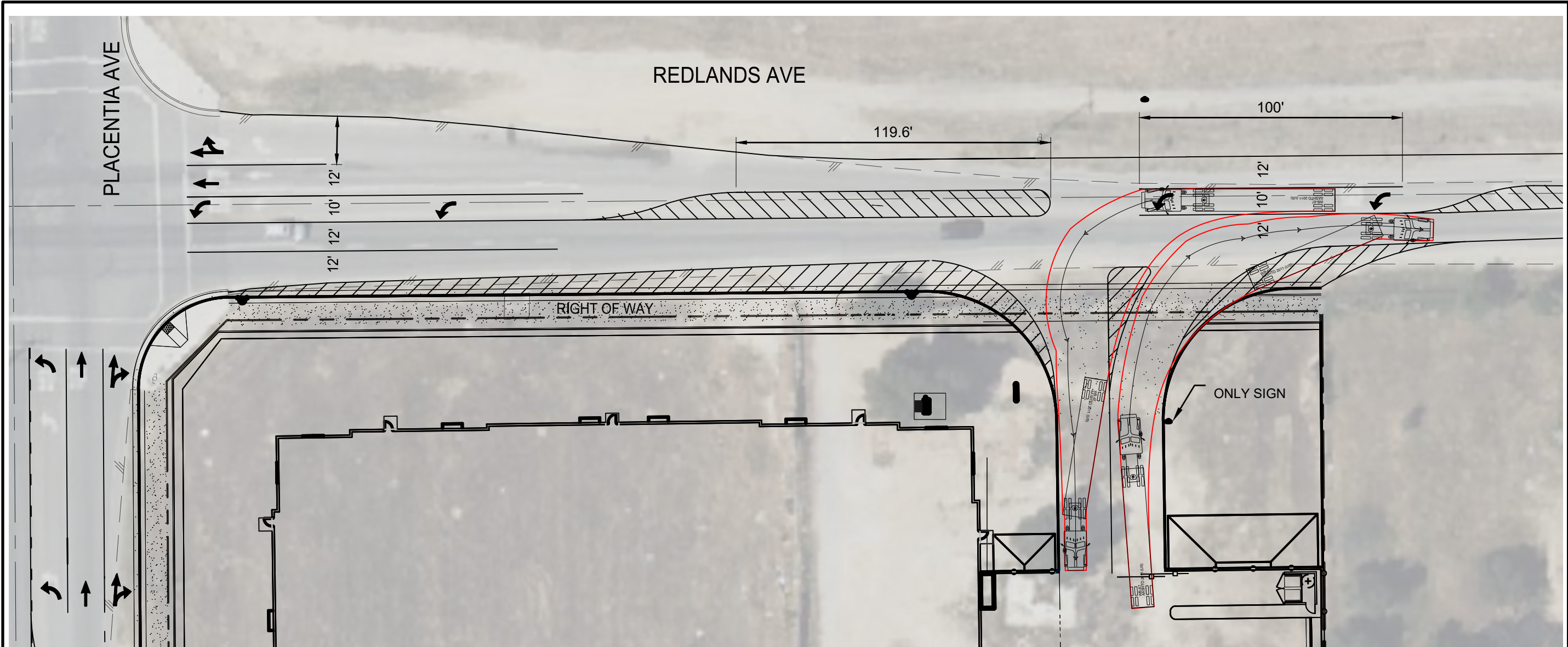
PROJECT NUMBER & PHASE 08170000141

BORDER LAST REVISED 7/27/2010 USERNAME: s3rd15gwzz DON FILE: 08170000141.dgn APPROVED FOR PAVEMENT DELINEATION WORK ONLY RELATIVE BORDER SCALE 0 1 2 3 UNIT XXXX PROJECT NUMBER & PHASE 08170000141



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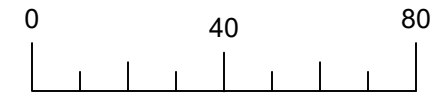
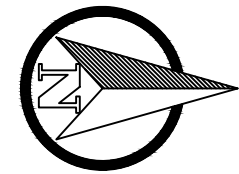
*APPENDIX H – CONCEPTUAL STRIPING PLAN*

---



### LEGEND

-  EXISTING PAVEMENT MARKING
-  PROPOSED PAVEMENT MARKING



**T1**  
 Sheet  
 Scale: Horiz. 1"=40'  
 Vert. -  
 Project: 21-165  
 Drawn By: SJ

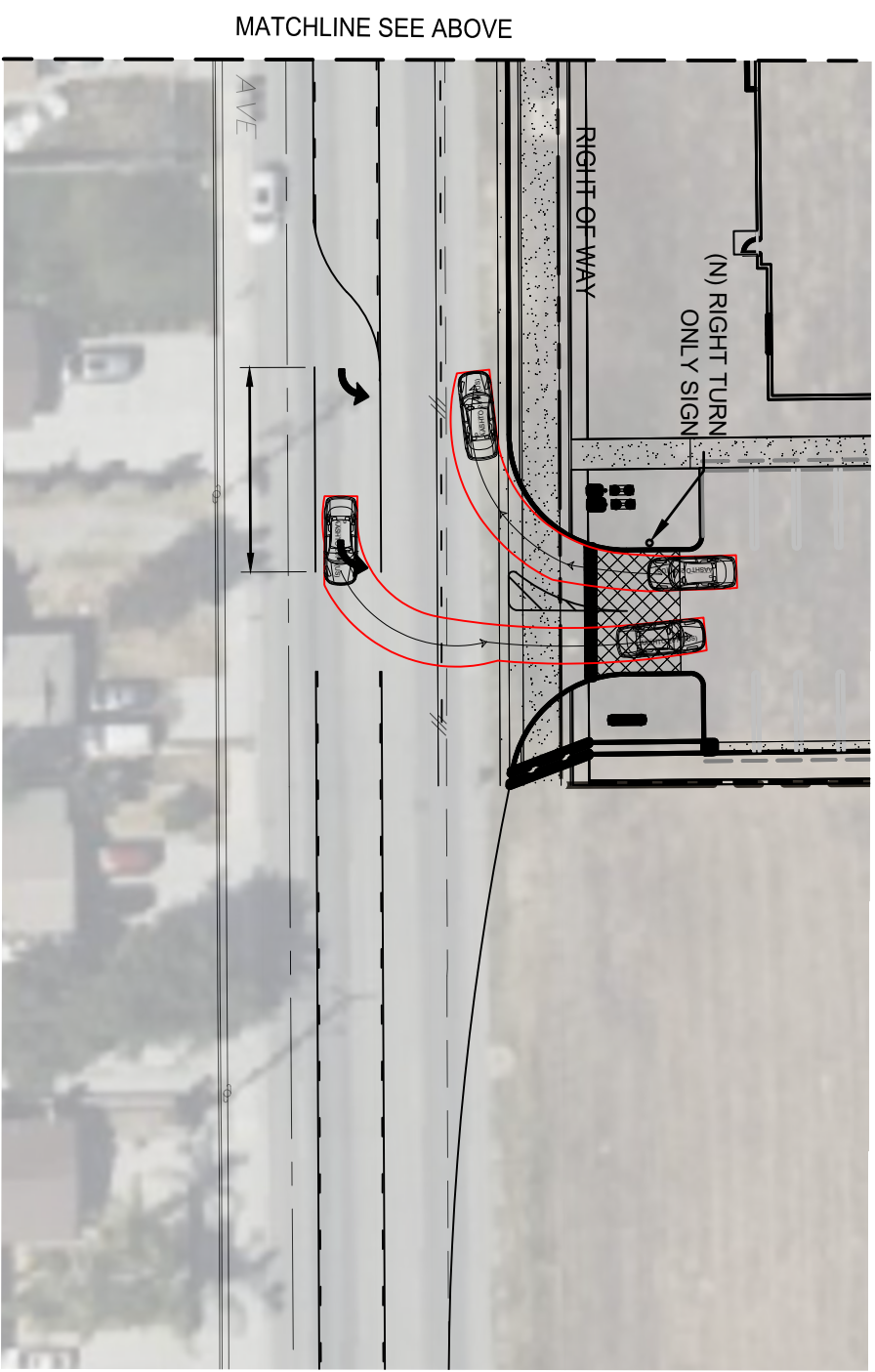
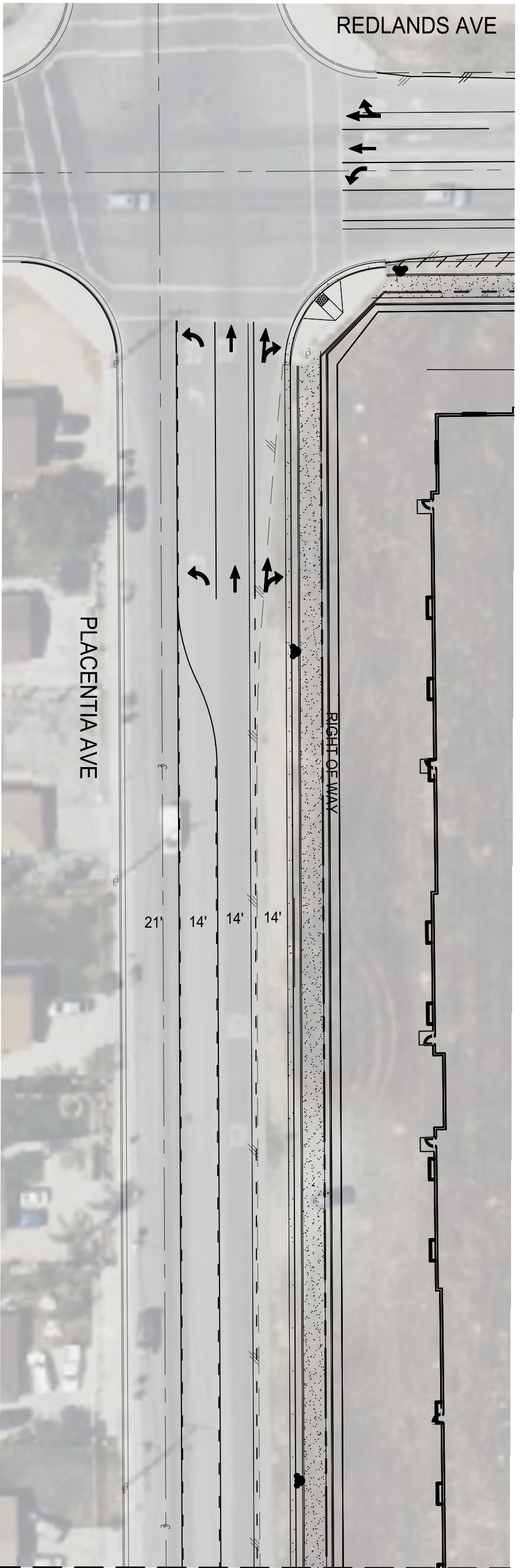
**PERRIS WAREHOUSE  
 CONCEPTUAL STRIPING**

2355 MAIN ST., SUITE 100  
 IRVINE, CA 92614  
 TEL (949) 794-1180  
**EPD SOLUTIONS, INC**  
 www.epdsolutions.com

Rev.	Date	Description	Designed	Checked

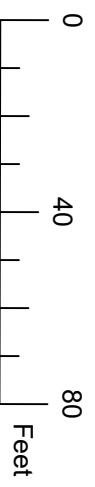
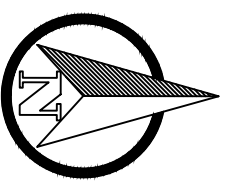
**PRELIMINARY**





**LEGEND**

-  EXISTING PAVEMENT MARKING
-  PROPOSED PAVEMENT MARKING



**PRELIMINARY**

PROJECT: 21-165  
 DRAWN: HB  
 CHECKED: JLD  
 DATE: 08/14/2024  
 TIME: 10:00 AM  
 PROJECT: PERRIS WAREHOUSE CONCEPTUAL STRIPING  
 CLIENT: PERRIS WAREHOUSE  
 LOCATION: 2355 MAIN ST., SUITE 100, IRVINE, CA 92614  
 TEL: (949) 794-1180  
 WWW.EPDSOLUTIONS.COM

Rev.	Date	Description	Designed	Checked

**E | P | D**  
**SOLUTIONS, INC**  
 www.epdsolutions.com

2355 MAIN ST. SUITE 100  
 IRVINE, CA 92614  
 TEL (949) 794-1180

**PERRIS WAREHOUSE**  
**CONCEPTUAL STRIPING**

Sheet	<b>T2</b>
Scale	Horiz. 1"=40' Vert. -
Project	21-165
Drawn By	HB