

# Appendix H

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## Traffic Impact Study



**TRANSPORTATION IMPACT STUDY  
FOR THE  
MODELO MIXED-USE DEVELOPMENT  
COMMERCE, CALIFORNIA**



DECEMBER 2019

PREPARED FOR  
**CITY OF COMMERCE**

PREPARED BY



**TRANSPORTATION IMPACT STUDY  
FOR THE  
MODELO MIXED-USE DEVELOPMENT  
  
COMMERCE, CALIFORNIA**

March 2020

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**CITY OF COMMERCE**

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# **Chapter 1**

## **Introduction**

This study presents the transportation impact analysis conducted for the proposed construction of a mixed-use project that includes residential, community center and park, and entertainment-retail uses (Project) at the site comprised of by 7316 Gage Avenue and 6364 Zindell Avenue in the City of Commerce, California. The methodology and base assumptions used in the analysis were established in conjunction with the City of Commerce (City).

### **PROJECT DESCRIPTION**

The Project site is located on approximately 17.3 acres of contiguous parcels that stretch from the southeast corner of Gage Avenue & Slauson Avenue at the northeast the end of Zindell Avenue, at the southwest. Today, there is a 4.16 acre City public park and a 64,444 sf community center, developed above a previously closed set of landfills operated in the 1940's and 1950's.

The Project will be preceded by a landfill removal and cleanup process overseen and approved by the Los Angeles Regional Water Quality Control Board with additional oversight by the LA County Health Department and CalRecycle. After the approximately 20-foot deep landfill over 17-acres is removed, a 2-level, approximately 2,200 space, parking structure will be erected and serve as subterranean parking for the Project. Access to the subterranean parking is to be provided via multiple driveways from the Project's internal site circulation system.

The new mixed-use Project, anticipated to be complete by 2023, envisions a completely new 70,050 sf community center and a 5.10 acre public park; in addition, the project is to include 850 multi-family dwelling units comprised of apartment and townhomes, a 25,000 square foot class A grocery store, 28,000 sf of various general retail spaces, a 20,000 sf bowling and games center, a 2,200-seat first-run movie theater, a 15,000 sf fitness club, a 6,000 sf pharmacy, 16,000 sf of numerous family-oriented and sports restaurants, and a 5,000 sf Latino Art museum.

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Vehicular access from the local street system is to be provided via two all-way intersections along Gage Avenue – one at the Project Driveway and the second at Zindell Avenue. The Project proposes to signalize the intersection of Gage Avenue & Project Driveway and to improve the existing signal at Zindell Avenue and Gage Avenue to accommodate access to and from the Project site.

The Project site is bounded by Slauson Avenue, Gage Avenue, and commercial activity to the north, I-5 to the east, the Rio Hondo Channel and bike path to the south, and a gated residential community to the west. Figure 1 shows the Project site plan, the access and internal circulation system, and the general locations of the buildings and land uses. Figure 2 illustrates the location of the Project site in relation to the area street network and the locations of the study intersections.

## **STUDY SCOPE AND METHODOLOGY**

The study analyzed the potential Project-generated transportation impacts on the street system in the vicinity of the Project Site as compared to existing conditions and projected future conditions at the time the Project is expected to be completed (Year 2023). Potential traffic impacts were evaluated on a typical weekday during the morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak periods. The base assumptions, technical methodologies, and study area were identified as part of the jointly developed study approach. The following traffic scenarios were developed and analyzed as part of this study:

- Existing Conditions (Year 2019) – The analysis of existing traffic conditions is intended to provide a basis for the remainder of the study. The Existing Conditions analysis includes an assessment of streets, traffic volumes, and operating conditions.
- Existing with Project Conditions (Year 2019) – The California Environmental Quality Act (CEQA) requires an evaluation of Project traffic impacts on the existing environment as part of traffic impact analyses. This analysis evaluates the potential Project-related traffic impacts as compared to existing conditions.
- Future without Project Conditions (Year 2023) – Future traffic conditions were projected for Year 2023 without the Project to forecast the future traffic growth and intersection operating conditions expected to result from general regional growth and specific related projects developed in the vicinity of the Project site by the Year 2023. This scenario is used as the baseline against which potential future Project traffic impacts are evaluated.

- 
- Future with Project Conditions (Year 2023) – This analysis measures future traffic conditions with traffic expected to be generated by the Project added to Year 2023 without the Project traffic conditions. The incremental impacts of the Project on future traffic operating conditions were then identified.

In consultation with the City, 23 signalized and four unsignalized study intersections were selected for detailed analysis, as illustrated in Figure 2 and listed in Table 1.

### **Intersection Analysis Methodology**

A detailed intersection capacity analysis was conducted for the weekday morning and afternoon peak hours for each of these intersections under the four scenarios identified above. Peak period turning movement counts were conducted at the 27 study intersections in April and September 2019 during the weekday morning and afternoon peak periods.

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow on the street system, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum acceptable LOS in urban areas including Commerce, Downey, Bell, Bell Gardens, and Pico Rivera. LOS definitions are provided in Table 2.

Intersection capacity calculations were conducted to measure the LOS of the intersections using an overall intersection capacity of 1,600 vehicles per hour per lane (vphpl) and adding a factor of 0.10 to account for the yellow interval clearance. The existing or projected volumes through an intersection are compared to the capacity of the intersection to calculate a volume-to-capacity (V/C) ratio and that ratio is used to determine the LOS at the intersection.

In accordance with City guidelines, the LOS analyses were conducted using the Vistro software package to analyze signalized and unsignalized intersections. Signalized intersections were analyzed using Intersection Capacity Utilization (ICU) methodology to obtain the corresponding ICU value for signalized intersections. Unsignalized intersections were analyzed using the *Highway Capacity Manual, 6<sup>th</sup> Edition* (Transportation Research Board, 2016) (HCM) methodology to identify the amount of delay for the stop-controlled intersections.

## **Significant Impact Criteria**

The significance of the potential impacts of Project-generated traffic at the signalized study intersections was determined using criteria established by the City. The guidelines indicate that a Project is considered to have a significant traffic impact on a signalized intersection if the increase in the V/C ratio attributable to the Project exceeds a specific threshold based on the final intersection LOS, as described in the table below. For unsignalized intersections that have an approach that operates at LOS E or worse, a signal warrant analysis is needed to determine if the intersection meets the warrants for installation of a traffic signal. The signal warrant analyses for unsignalized intersections are shown in Chapter 7.

<b>CITY OF COMMERCE</b>		
<b>SIGNALIZED INTERSECTION IMPACT THRESHOLD CRITERIA</b>		
<b>Final v/c</b>	<b>Level of Service</b>	<b>Project Related Increase in v/c</b>
> 0.700 – 0.800	C	Equal to or greater than 0.04
> 0.800 – 0.900	D	Equal to or greater than 0.02
> 0.900 – 1.000	E	Equal to or greater than 0.01
> 1.000	F	Equal to or greater than 0.01

## **State of California Senate Bill No. 743**

*Senate Bill 743* (Steinberg, 2013) (SB 743), made effective in January 2014, requires the Governor's Office of Planning and Research to change the CEQA guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis will shift from driver delay to vehicle miles traveled (VMT), reduction of greenhouse gas emissions (GHG), and creation of multimodal networks and promotion of mixed-use developments. Although originally scheduled to be fully implemented in the CEQA guidelines by January 1, 2016, an extension has allowed cities until July 1, 2020 to establish an analysis methodology.

The Project characteristics (e.g., mixed land uses, infill development, its proximity of nearby destinations, pedestrian and bicycle connections, etc.) would encourage localized trips and trips made by walking, biking, carpool, or transit. The Project would, therefore, reduce vehicle trips and



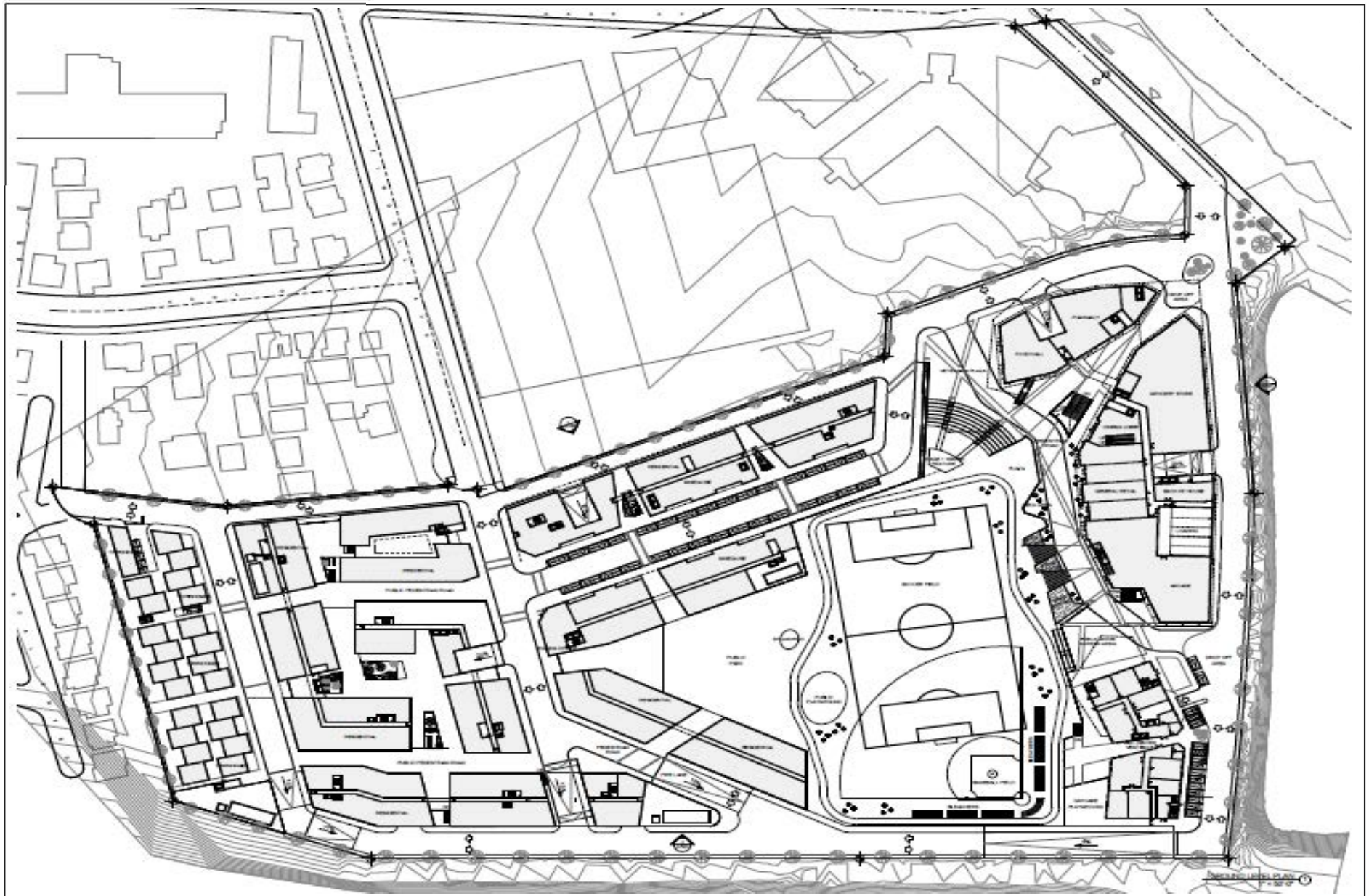
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trip lengths which results in corresponding reductions in VMT, air quality emissions and transportation-related GHG emissions.

However, since the City has not yet adopted VMT criteria, the analysis in this report uses LOS methodology.

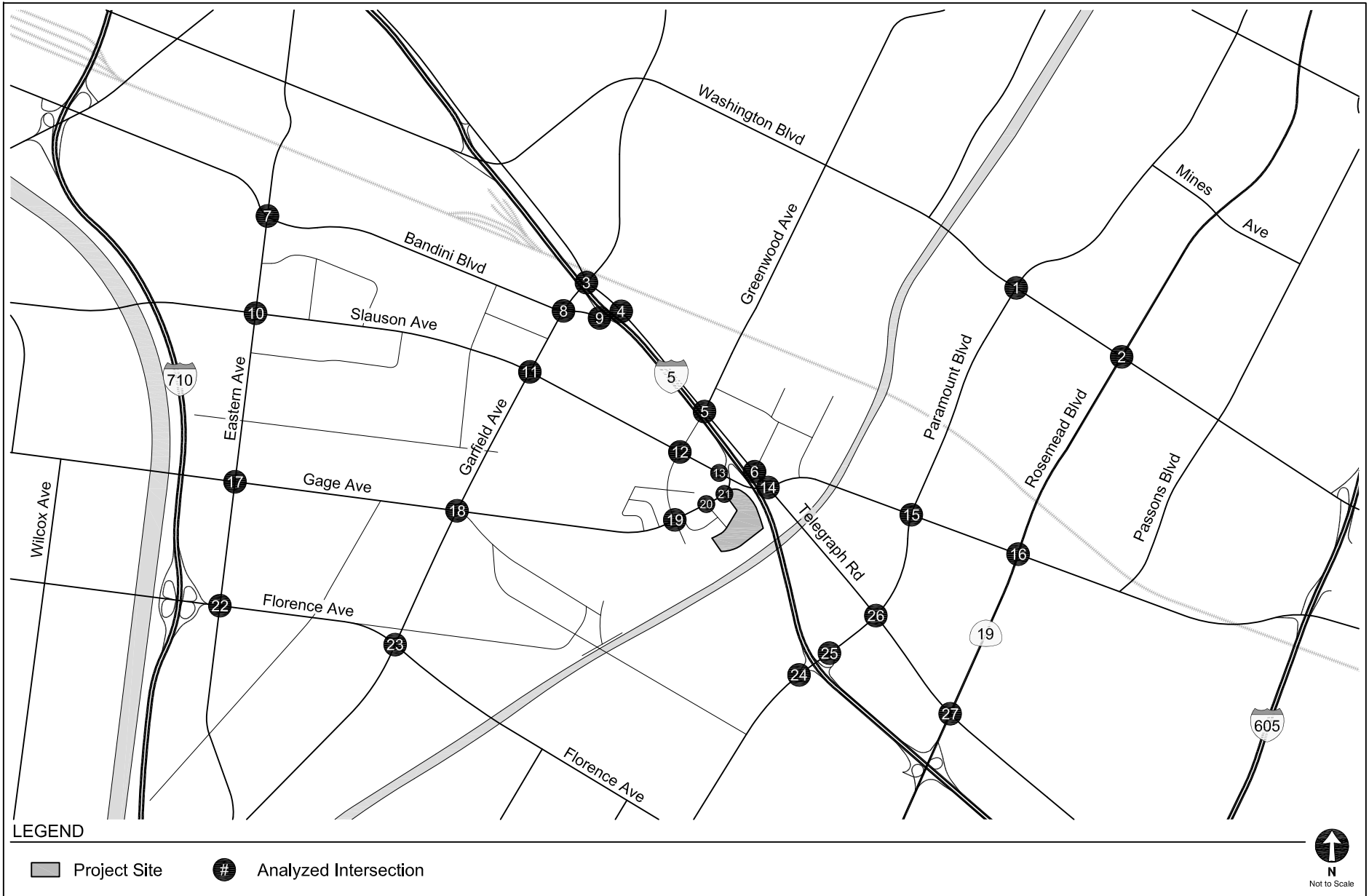
## **ORGANIZATION OF REPORT**

This report is divided into 10 chapters, including this introduction. Chapter 2 presents an analysis of the existing street system and traffic conditions for each of the intersections in the study area. Future traffic projections are presented in Chapter 3. Anticipated Project traffic, trip generation, and distribution are discussed in Chapter 4. Existing with Project Conditions are presented in Chapter 5 and Future with Project Conditions are presented in Chapter 6. The unsignalized intersection analysis is presented in Chapter 7. The identification of measures required to mitigate the Project's potential impacts is discussed in Chapter 8. Chapter 9 contains a summary of the California Department of Transportation (Caltrans) analysis and a summary of the analyses and study conclusions is provided in Chapter 10. Appendices include technical analyses and supporting documentation.



PROJECT SITE PLAN

FIGURE  
1



STUDY AREA & ANALYZED INTERSECTIONS

FIGURE  
2

**TABLE 1  
STUDY INTERSECTIONS**

<b>No</b>	<b>Intersection</b>	<b>Jurisdiction</b>
1.	Paramount Boulevard & Washington Boulevard	City of Pico Rivera
2.	Rosemead Boulevard & Washington Boulevard	City of Pico Rivera
3.	Garfield Avenue & Telegraph Road	City of Commerce
4.	Telegraph Road & I-5 NB Ramps	City of Commerce / Caltrans
5.	Telegraph Road & Greenwood Avenue	City of Commerce
6 [a].	Telegraph Rd & I-5 NB Off Ramp	City of Commerce / Caltrans
7.	Eastern Avenue & Bandini Boulevard	City of Commerce / Bell
8.	Garfield Avenue & Bandini Boulevard	City of Commerce
9 [a].	I-5 SB Ramps & Bandini Boulevard	City of Commerce / Caltrans
10.	Eastern Avenue & Slauson Avenue	City of Commerce
11.	Garfield Avenue & Slauson Avenue	City of Commerce
12.	Greenwood Avenue & Slauson Avenue	City of Commerce
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	City of Commerce / Caltrans
14.	Telegraph Road & Slauson Avenue	City of Commerce
15.	Paramount Boulevard & Slauson Avenue	City of Pico Rivera
16.	Rosemead Boulevard & Slauson Avenue	City of Pico Rivera
17.	Eastern Avenue & Gage Avenue	City of Bell Gardens
18.	Garfield Avenue & Gage Avenue	City of Bell Gardens
19.	Greenwood Avenue & Gage Avenue	City of Bell Gardens
20.	Gage Avenue & Zindell Avenue	City of Commerce
21 [b].	Gage Avenue & Project Driveway	City of Commerce
22.	Eastern Avenue & Florence Avenue	City of Bell Gardens
23.	Garfield Avenue & Florence Avenue	City of Bell Gardens
24 [a].	I-5 SB Ramps & Paramount Boulevard	City of Downey
25.	I-5 NB Ramps & Paramount Boulevard	City of Downey
26.	Telegraph Road & Paramount Boulevard	City of Pico Rivera
27.	Telegraph Road & Rosemead Boulevard	City of Pico Rivera / Downey

Notes:

[a] Unsignalized Intersection

[b] Project is proposing to install signal at intersection

**TABLE 2  
LEVEL OF SERVICE DEFINITIONS FOR INTERSECTIONS**

<b>Level of Service</b>	<b>V/C Ratio</b>	<b>Delay (Unsignalized Intersections) [a]</b>	<b>Definition</b>
A	0.000 - 0.600	$\leq 10$	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	$> 10$ and $\leq 15$	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	$> 15$ and $\leq 25$	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	$> 25$ and $\leq 35$	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.000	$> 35$ and $\leq 50$	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	$> 1.000$	$> 50$	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Notes:

Source: *Transportation Research Circular No. 212, Interim Materials on Highway Capacity* (Transportation Research Board, 1980) and

*Highway Capacity Manual, 6th Edition, A Guide for Multimodal Mobility Analysis* (Transportation Research Board, 2016).

[a] Measured in seconds.

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## **Chapter 2**

### **Existing Conditions**

A comprehensive data collection effort was undertaken to develop a detailed description of existing (Year 2019) transportation conditions in the study area. The assessment of conditions relevant to this study includes an inventory of the street and highway systems, traffic volumes on these facilities, operating conditions at key intersections, and operating conditions for the transit systems serving the Project site.

#### **EXISTING STREET SYSTEM**

Primary regional access to the study area is provided by Interstate 5 (I-5), located directly east of the Project site, and the Long Beach Freeway (I-710), located west of the Project site. I-5 is an eight-lane freeway that runs north-south the entire length of the western United States from Mexico to Canada. Immediately adjacent to the site, I-5 runs in the northwest/southeast direction with ramp access provided via Telegraph Road and Slauson Avenue. I-710 is an eight-lane freeway that runs north-south from Long Beach to Alhambra. The nearest ramp access to I-710 is provided via Bandini Boulevard and Florence Avenue.

Primary local access to the Project site is provided via Telegraph Road, Slauson Avenue, Zindell Avenue and Gage Avenue. Descriptions of key roadways serving the study area are provided below:

- Eastern Avenue – Eastern Avenue provides two lanes in each direction and is located approximately 2.2 miles west of the Project site. The street provides left-turn pockets at signalized intersections. Parking is not allowed on either side of the street. The speed limit on Eastern Avenue is 40 miles per hour (mph).
- Garfield Avenue – Garfield Avenue provides two lanes in each direction and is located approximately 1.0 miles west of the Project site. The street provides left-turn pockets at signalized intersections and a two-way left-turn median. Parking is not allowed on either side of the street. The speed limit on Garfield Avenue is 35 mph.



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- Greenwood Avenue – Greenwood Avenue provides one to two lanes in each direction, with left-turn pockets at most signalized intersections, and is located approximately 1,500 feet west of the Project site. Parking is generally allowed on both sides of the street. A signalized railroad crossing with gate arms is located just south of Slauson Avenue. The rail line serves heavy freight trains and has infrequent service. The speed limit on Greenwood Avenue is 30 mph.
  - Telegraph Road – Telegraph Road provides two lanes in each direction and is located approximately 500 feet northeast of the Project site, on the east side of I-5. The street provides left-turn pockets at signalized intersections and a two-way left-turn median. Two freeway interchanges are located along this road. Parking is not allowed on either side of the street. The speed limit on Telegraph Road is 45 mph.
  - Bandini Boulevard – Bandini Boulevard provides one to two lanes in each direction and is located 0.5 miles north of the Project site. The street provides left-turn pockets at signalized intersections and a two-way left-turn median to the west of the Project site. On-street parking is generally allowed on both sides of the street. The speed limit on Bandini Avenue is 40 mph.
  - Slauson Avenue – Slauson Avenue provides three lanes in each direction and is located adjacent to the north side of the Project site. The street provides left-turn pockets at signalized intersections and a two-way left-turn median to the west of the Project site. Some on-street parking is generally allowed on both sides of the street. The speed limit on Slauson Avenue is 45 mph.
  - Gage Avenue – Gage Avenue provides two lanes in each direction, with left-turn pockets at signalized intersections, and is located approximately 500 feet northwest of the Project site. The street provides driveway access to the Project site and generally provides parking on both sides of the street. A signalized railroad crossing with gate arms is located just south of Slauson Avenue and north of the Project Site. The rail line serves heavy freight trains and has infrequent service. The speed limit on Gage Avenue is 35 mph.
  - Paramount Boulevard – Paramount Boulevard provides two lanes in each direction and is located approximately 0.75 miles southeast of the Project site. The street provides left-turn pockets at signalized intersections and a two-way left-turn median to the west of the Project site. Two freeway interchanges are located along this road. Limited on-street parking is allowed on both sides of the street. The speed limit on Paramount Boulevard is 45 mph.
  - Rosemead Boulevard – Rosemead Boulevard provides two lanes in each direction and is located approximately 1.0 miles southeast of the Project site. The street provides left-turn pockets at signalized intersections. Two freeway interchanges are located along this road and limited on-street parking is allowed on both sides of the street. The speed limit on Rosemead Boulevard is 40 mph.
  - Florence Avenue – Florence Avenue provides three lanes in each direction and is located approximately 1.4 miles southwest of the Project site. The street provides left-turn pockets at signalized intersections and a two-way left-turn median. Two freeway interchanges are located along this road and limited on-street parking is allowed on both sides of the street. The speed limit on Florence Avenue is 40 mph.

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## EXISTING PUBLIC TRANSIT

The Project study area is served by Los Angeles County Metropolitan Transportation Authority (Metro) bus lines, City of Commerce Municipal Bus lines, and Montebello Bus lines. The Commerce Metrolink Station, located approximately 1.5 miles northwest of the Project site, provides access to the Orange County Line, a regional train service running from Oceanside to Los Angeles. The transit routes serving the Project area are described below and shown in Figure 3:

- Metro Line 62 – Line 62 is a local line that travels from downtown Los Angeles to Hawaiian Gardens via Telegraph Road, with average headways of 20 to 25 minutes in the morning and afternoon peak hours. This line travels along Telegraph Road in the vicinity of the Project, with a stop at Telegraph Road & Slauson Avenue.
- Metro Line 108 – Line 108 is a local line that travels from Pico Rivera to Venice via Slauson Avenue, with average headways of 10 to 20 minutes in the morning peak hours and 10 minutes in the afternoon peak hours. This line travels along Slauson Avenue in the vicinity of the Project, with a stop at Gage Avenue & Slauson Avenue.
- Metro Line 110 – Line 110 is a local line that travels from Bell Gardens to Playa Vista via Gage Avenue, with average headways of 15 to 30 minutes in the morning peak hours and 25 to 30 minutes in the afternoon peak hours. This line travels along Slauson Avenue in the vicinity of the Project, with a stop at Gage Avenue & Garfield Avenue.
- Metro Line 265 – Line 265 is a local line that travels from Lakewood to Pico Rivera via Paramount Boulevard, with average headways of 40 to 60 minutes in the morning peak hours and one hour in the afternoon peak hours. This line travels along Slauson Avenue in the vicinity of the Project, with a stop at Paramount Boulevard & Slauson Avenue.
- Metro Line 358 – Line 358 is a local line that travels from Pico Rivera to Venice via Slauson Avenue, with average headways of 10 to 20 minutes in the morning peak hours and 10 minutes in the afternoon peak hours. This line travels along Slauson Avenue in the vicinity of the Project, with a stop at Gage Avenue & Slauson Avenue.
- Commerce Green Line – The Green Line is a local line that provides service to the western portion of Commerce, with average headways of 65 to 75 minutes throughout the day. This line provides service to the Commerce Metrolink Station, Commerce City Hall and a local shopping center, with a stop adjacent to the Project.
- Commerce Orange Line – The Orange Line is a local line that provides service to the western portion of Commerce, with average headways of 85 minutes throughout the day. This line provides service to The Citadel, Commerce Metrolink Station, and Commerce City Hall, with a stop adjacent to the Project.
- Commerce Yellow Line – The Yellow Line is a local line that provides service to the western portion of Commerce, with average headways of 70 minutes throughout the day. This line provides service to Commerce City Hall, Commerce Metrolink Station, and a local shopping center, with a stop within 0.5 miles of the Project.



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- Montebello M-20 – The M-20 Line is a local line that provides service from San Gabriel to Montebello, with average headways of 20 minutes in the morning and afternoon peak hours. This line travels along Telegraph Road in the vicinity of the Project, with a stop at Telegraph Road & Gage Road.

Table 3 summarizes the transit routes operating in the vicinity of the Project site. It shows the routes organized by service providers, the type of service (peak vs. off-peak, rapid vs. local), and frequency of service, as described above. The average Metro headways during the peak hour were estimated using detailed April 2019 trip and ridership data provided by Metro.

Tables 4A and 4B summarize the total available capacity on the Metro bus lines serving the Study Area. Detailed peak hour ridership data for the Commerce and Montebello bus systems was not available, but observations indicated that these bus trips were not all full during the morning and afternoon peak hours. Using the frequency of service of each line, the standing capacity of each bus, and the average peak hour load in each direction, Tables 4A and 4B show that the Metro transit lines within 0.25 miles (walking distance) of the Project site currently have available capacity for approximately 384 additional riders during the morning peak hour and 670 additional riders during the afternoon peak hour. The transit lines with bus stops or stations located more than 0.25 miles from the Project site were not included in this capacity analysis.

## **EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE**

### **Existing Traffic Volumes**

As described, weekday morning and afternoon peak hour traffic counts were conducted at the 27 study intersections in April 2019 and late August 2019 when schools were back in session. These volumes are shown in Figure 4. Intersection lane configurations are shown in Appendix A. Intersection turning movement count data sheets are provided in Appendix B.

### **Existing Conditions Peak Hour LOS**

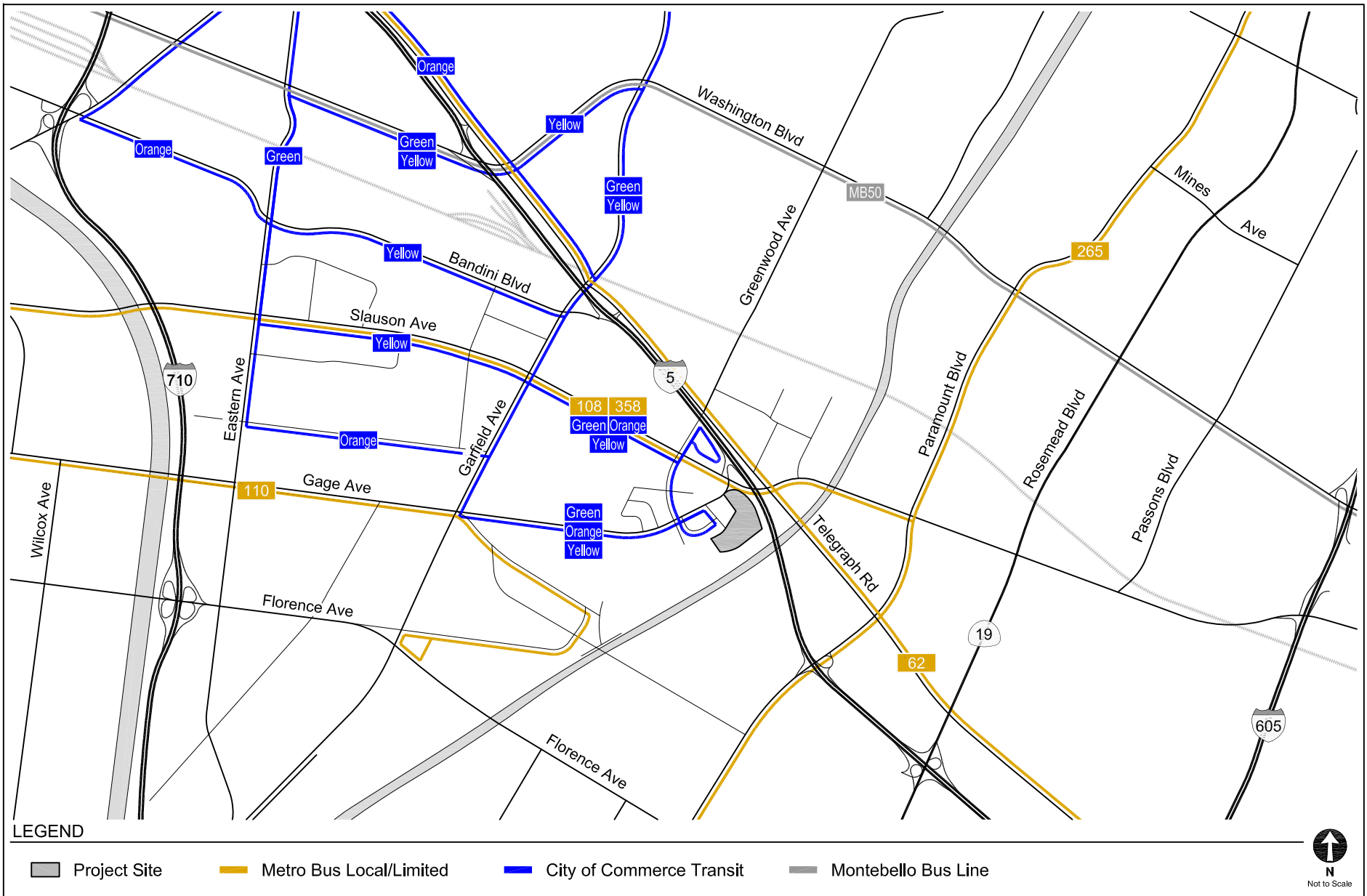
The existing (Year 2019) weekday morning and afternoon peak hour turning movements presented in Figure 4 were used in conjunction with the LOS methodology described above to determine existing (Year 2019) operating conditions at each of the study intersections.

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Table 5 summarizes the weekday morning and afternoon peak hour V/C ratio and corresponding LOS at each study intersection under existing conditions. The results of this analysis indicate that 16 of the 27 study intersections are currently operating at LOS D or better during the weekday morning and afternoon peak hours. The remaining intersections operate at LOS E or F during either the morning or afternoon peak periods:

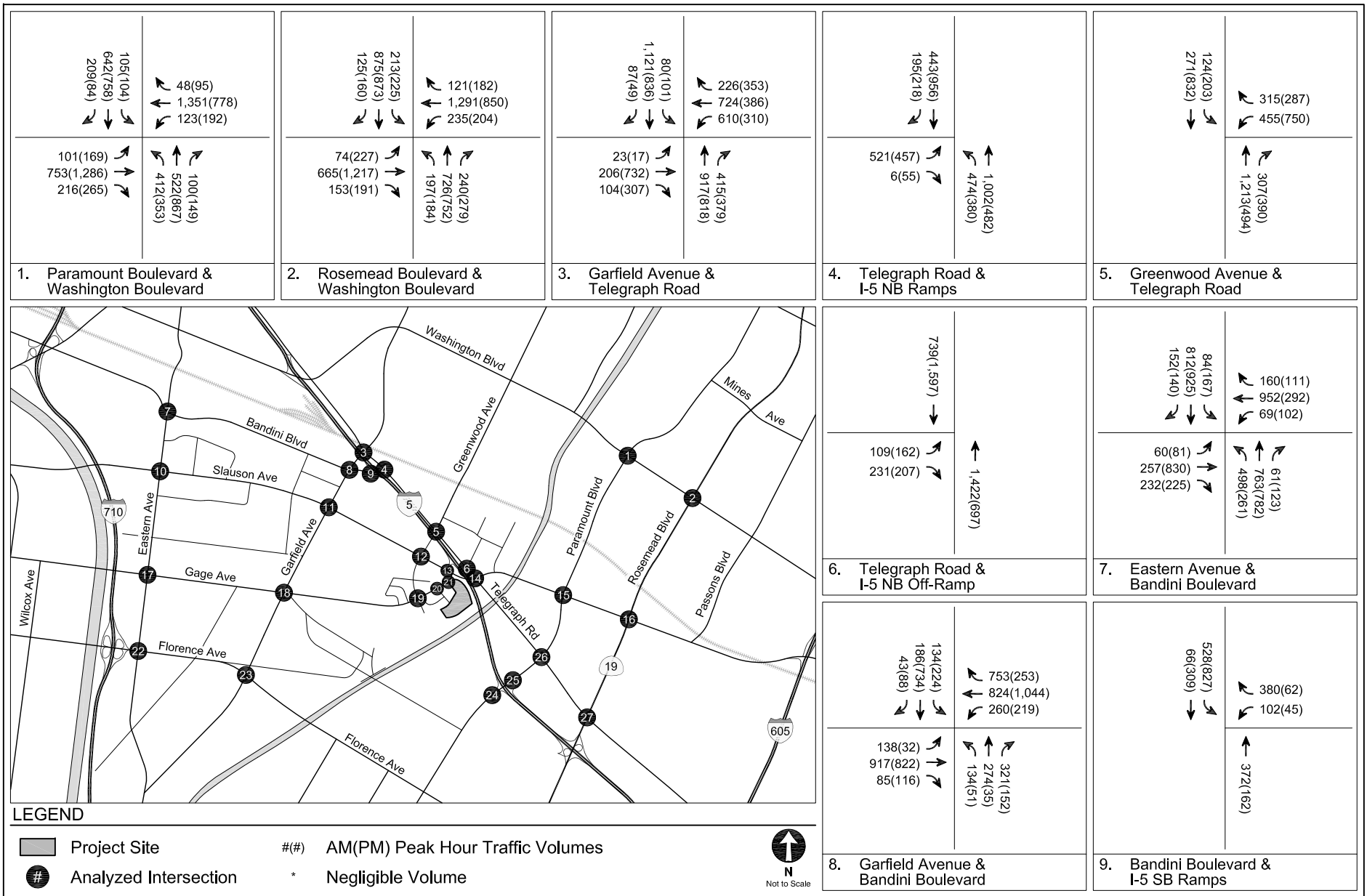
1. Paramount Boulevard & Washington Boulevard (LOS E in the afternoon peak hour)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (LOS E in the afternoon peak hour)
8. Garfield Avenue & Bandini Boulevard (LOS E in the morning peak hour)
9. I-5 Southbound Ramps & Bandini Boulevard (LOS F in the afternoon peak hour)
13. I-5 Southbound Ramps / Gage Avenue & Slauson Avenue (LOS E in the afternoon peak hour)
15. Paramount Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
16. Rosemead Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
17. Eastern Avenue & Gage Avenue (LOS E in the afternoon peak hour)
22. Eastern Avenue & Florence Avenue (LOS E in the afternoon peak hour)
26. Telegraph Road & Paramount Boulevard (LOS E in the afternoon peak hour)
27. Telegraph Road & Rosemead Boulevard (LOS E in the afternoon peak hour)

LOS calculation worksheets are provided in Appendix C.



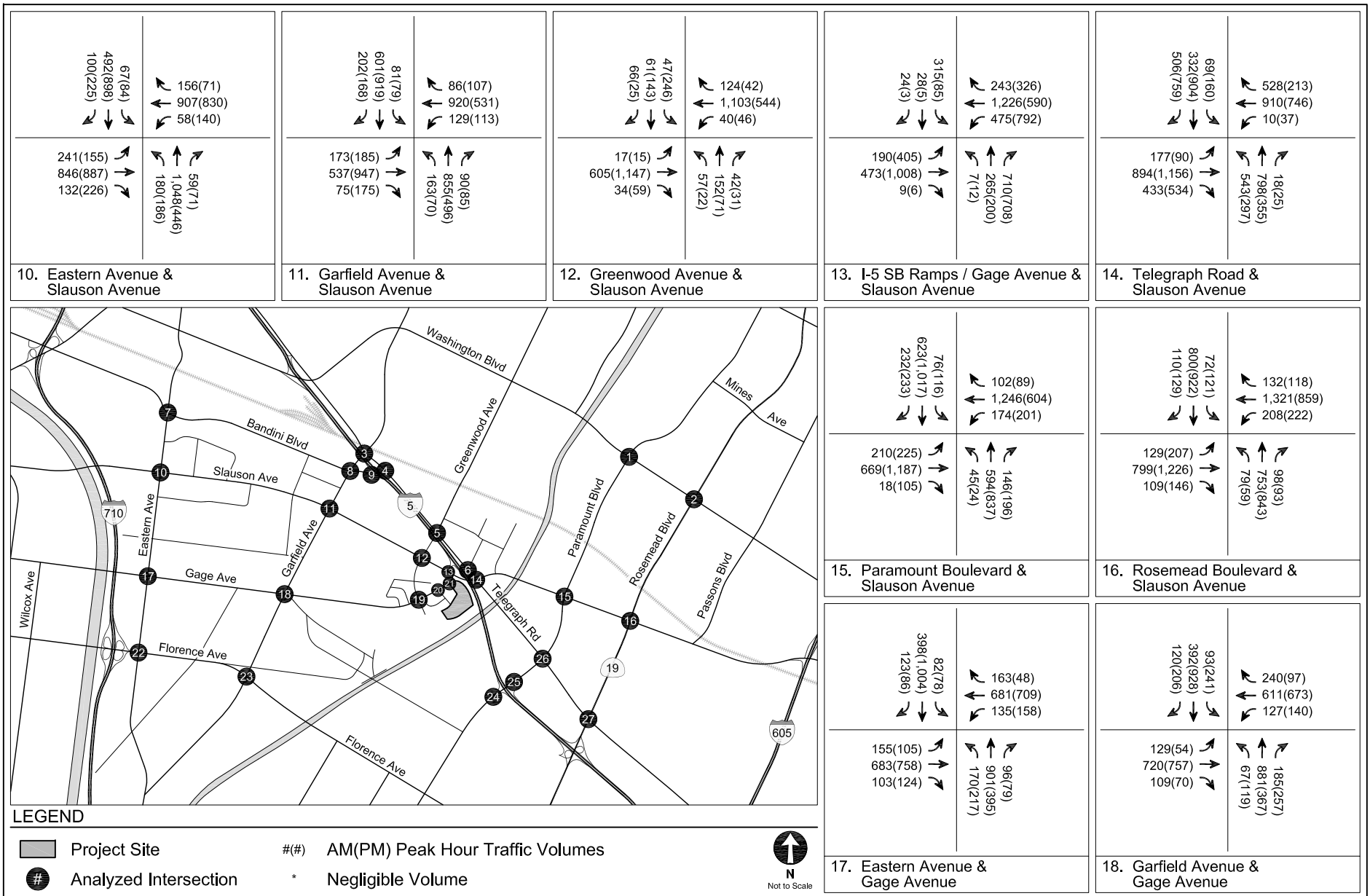
EXISTING TRANSIT SERVICE

FIGURE 3



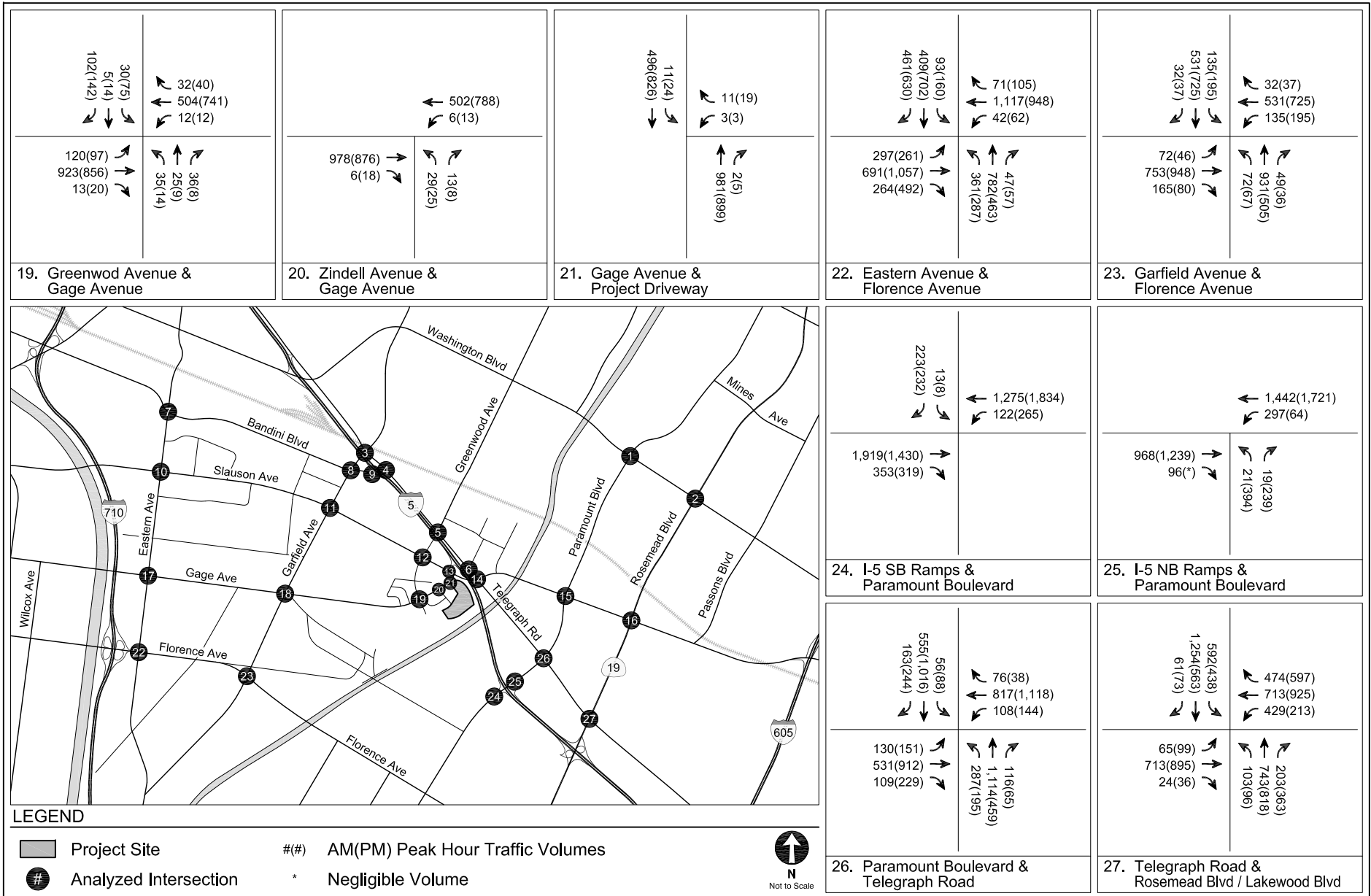
EXISTING CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
4



EXISTING CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
4 (CONT.)



EXISTING CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
4 (CONT.)

**TABLE 3  
EXISTING TRANSIT SERVICE IN STUDY AREA**

Provider, Route, and Service Area	Service Type	Hours of Operation	Average Headway (minutes) [a]			
			Morning Peak Period		Afternoon Peak Period	
			NB/EB	SB/WB	NB/EB	SB/WB
<b><i>Metro Bus Service</i></b>						
62 Downtown Los Angeles to Hawaiian Gardens via Telegraph Road	Local	5:00 A.M. - 12:00 A.M.	22	24	22	24
108/358 Pico Rivera to Venice via Slauson Avenue	Local	5:00 A.M. - 10:00 P.M.	14	18	11	10
110 Bell Gardens to Playa Vista via Gage Avenue	Local	5:00 A.M. - 11:30 P.M.	20	18	27	30
265 Lakewood to Pico Rivera via Paramount Boulevard	Local	5:30 A.M. - 9:00 P.M.	48	40	60	60
<b><i>City of Commerce</i></b>						
Green Loop from the Citidel to southeast Commerce	Local	5:30 A.M. - 9:30 P.M.	65	N/A	75	N/A
Orange Loop from the Citidel to southeast Commerce	Local	5:30 A.M. - 6:30 P.M.	85	N/A	85	N/A
Yellow Loop from the Citidel to southeast Commerce	Local	5:30 A.M. - 12:00 A.M.	70	N/A	70	N/A
<b><i>Montebello Bus Lines</i></b>						
M-20 San Gabriel to south Montebello via San Gabriel Boulevard	Local	7:00 A.M. - 6:00 P.M.	20	20	20	20

**Notes**

Metro: Los Angeles County Metropolitan Transportation Authority

Morning Peak Period from 6:00 AM to 10:00 AM; Afternoon Peak Period from 3:00 PM to 7:00 PM.

[a] Average headways are based on the total number of trips during the peak period as indicated in Metro ridership data from April, 2019.

**TABLE 4A  
TRANSIT SYSTEM CAPACITY IN STUDY AREA - MORNING PEAK HOUR**

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load		NB/EB	SB/WB	NB/EB	SB/WB
			NB/EB	SB/WB	NB/EB	SB/WB				
<b>Metro Bus Service</b>										
62	Downtown Los Angeles to Hawaiian Gardens via Telegraph Road	50	23	23	17	15	33	35	90	88
108/358	Pico Rivera to Venice via Slauson Avenue	50	13	6	3	5	47	45	59	147
<b>City of Commerce</b>										
Green	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
Orange	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
Yellow	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
<b>Montebello Bus Lines</b>										
M-20	San Gabriel to south Montebello via San Gabriel Boulevard	50	<i>Data Not Available</i>							
<b>Total Transit System Capacity</b>									<b>384</b>	

Notes

Metro: Los Angeles County Metropolitan Transportation Authority.

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 standing.

Metro Articulated Bus - 66 seated / 75 seated and standing.

[b] Ridership information based on data from Metro for October 2017.



**TABLE 4B  
TRANSIT SYSTEM CAPACITY IN STUDY AREA - AFTERNOON PEAK HOUR**

Provider, Route, and Service Area		Capacity per Trip [a]	Peak Hour Ridership [b]				Average Remaining Capacity per Trip		Remaining Peak Hour Capacity	
			Peak Load		Average Load		NB/EB	SB/WB	NB/EB	SB/WB
			NB/EB	SB/WB	NB/EB	SB/WB				
<b>Metro Bus Service</b>										
62	Downtown Los Angeles to Hawaiian Gardens via Telegraph Road	50	26	32	15	23	35	27	96	69
108/358	Pico Rivera to Venice via Slauson Avenue	50	4	10	3	5	47	45	247	258
<b>City of Commerce</b>										
Green	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
Orange	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
Yellow	Loop from the Citidel to southeast Commerce	30	<i>Data Not Available</i>							
<b>Montebello Bus Lines</b>										
M-20	San Gabriel to south Montebello via San Gabriel Boulevard	50	<i>Data Not Available</i>							
<b>Total Transit System Capacity</b>									<b>670</b>	

Notes

Metro: Los Angeles County Metropolitan Transportation Authority.

[a] Capacity assumptions:

Metro Bus - 40 seated / 50 standing.

Metro Articulated Bus - 66 seated / 75 seated and standing.

[b] Ridership information based on data from Metro for October 2017.

**TABLE 5  
EXISTING CONDITIONS (YEAR 2019)  
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Existing Conditions	
			V/C or Delay	LOS
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.860	D
		P.M.	0.928	E
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.848	D
		P.M.	0.880	D
3.	Garfield Avenue & Telegraph Road	A.M.	0.717	C
		P.M.	0.755	C
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.771	C
		P.M.	0.875	D
5.	Telegraph Road & Greenwood Avenue	A.M.	0.710	C
		P.M.	0.716	C
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	6.7	A
		P.M.	62.9	E
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.756	C
		P.M.	0.735	C
8.	Garfield Avenue & Bandini Boulevard	A.M.	0.975	E
		P.M.	0.825	D
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	20.8	C
		P.M.	82.2	F
10.	Eastern Avenue & Slauson Avenue	A.M.	0.756	C
		P.M.	0.827	D
11.	Garfield Avenue & Slauson Avenue	A.M.	0.860	D
		P.M.	0.861	D
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.613	B
		P.M.	0.709	C
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.719	C
		P.M.	0.910	E
14.	Telegraph Road & Slauson Avenue	A.M.	0.807	D
		P.M.	0.871	D
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.802	D
		P.M.	0.901	E
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.805	D
		P.M.	0.904	E
17.	Eastern Avenue & Gage Avenue	A.M.	0.805	D
		P.M.	0.935	E
18.	Garfield Avenue & Gage Avenue	A.M.	0.849	D
		P.M.	0.886	D
19.	Greenwood Avenue & Gage Avenue	A.M.	0.497	A
		P.M.	0.513	A
20.	Gage Avenue & Zindell Avenue	A.M.	0.449	A
		P.M.	0.419	A
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A
		P.M.	0.4	A
22.	Eastern Avenue & Florence Avenue	A.M.	0.852	D
		P.M.	0.941	E
23.	Garfield Avenue & Florence Avenue	A.M.	0.777	C
		P.M.	0.738	C
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	4.9	A
		P.M.	10.5	B
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.612	B
		P.M.	0.895	D
26.	Telegraph Road & Paramount Boulevard	A.M.	0.800	C
		P.M.	0.951	E
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.884	D
		P.M.	1.001	F

Notes:

[a] Unsignalized Intersection

[b] Project is proposing to install signal at intersection

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## Chapter 3

### ***Future without Project Conditions***

Estimates of future traffic conditions both with and without the Project, representing cumulative conditions, were developed to evaluate the potential impacts of the Project on the local street system. This discussion details the assumptions used to develop the Future without Project Conditions in Year 2023, which corresponds to anticipated occupancy of the Project.

#### **CEQA GUIDELINES REGARDING FUTURE TRAFFIC CONDITIONS**

The forecast of Future without Project Conditions was prepared in accordance with procedures outlined in Section 15130 of *Guidelines for Implementation of the California Environmental Quality Act, Chapter 3, Title 14, California Code of Regulations* (California Natural Resources Agency, amended July 27, 2007) (*Guidelines*). Specifically, *Guidelines* provides two options for developing the cumulative traffic volume forecast:

“(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or

“(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.”

As described in detail below, this analysis includes traffic growth both from future projects (Option “A” above, the “Related Projects”) and from regional growth projections (Option “B” above, or ambient growth). Given that the ambient growth factor discussed below likely includes some traffic

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growth resulting from the Related Projects, the traffic analysis provides a highly conservative estimate of Future without Project traffic volumes.

## **AMBIENT TRAFFIC GROWTH**

Existing traffic is expected to increase between Year 2019 and Year 2023 as a result of general areawide and regional growth and development. According to the growth projections in the Commerce region, *2010 Congestion Management Program for Los Angeles County* (Metro, 2010) (CMP) recommends an ambient traffic growth factor of 1.46% per year be used to adjust the existing (Year 2019) traffic volumes to reflect the effects of regional growth and development by the Year 2023. The total growth adjustment applied over the four-year period was 5.84%. This growth factor accounts for increases in traffic due to potential projects plus projects not yet proposed or projects outside the Study Area.

## **RELATED PROJECTS**

In accordance with the CEQA requirements in *Guidelines*, this study also considered the effects of the Project in relation to the Related Projects. The list of Related Projects is based on information provided by the City for projects that may contribute directly to traffic approaches at study intersections. Projects located outside of this radius would be captured in the ambient growth. The Related Projects are detailed in Table 6 and their locations are shown in Figure 5. No planned or proposed developments beyond City boundaries are expected to have a noticeable impact on traffic levels in the Project vicinity.

Though the buildout years of many of these Related Projects are uncertain and may be beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this study and conservatively assumed to be completed by the Project buildout Year 2023. Therefore, the traffic growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, substantially overestimates the actual traffic volume growth in the City that would likely occur prior to Project buildout. With the addition of the 1.4% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

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Using these conservative assumptions, the potential transportation impacts of the Project were evaluated. The development of estimated traffic volumes added to the Study Area as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

### **Trip Generation**

Trip generation estimates for the Related Projects were provided by the City or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation, 9<sup>th</sup> Edition* (Institute of Transportation Engineers [ITE], 2012). The Related Projects trip generation estimates, shown in Table 6, are conservative in that they do not in every case account for either the existing uses to be removed or the likely use of other travel modes (transit, walk, etc.) Further, they do not account for the internal capture trips within a multi-use development, nor the interaction of trips between multiple Related Projects within the Study Area, in which one Related Project serves as the origin for a trip destined for another Related Project.

### **Trip Distribution**

The geographic distribution of the traffic generated by the Related Projects is dependent on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors were considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

### **Trip Assignment**

The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution patterns described above. Figure 6 shows the peak hour traffic volumes associated with these Related Projects at the study intersections. These volumes were then added to the existing traffic volumes after adjustment for ambient growth through the Project buildout Year

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2023. As discussed above, this is a conservative approach as many of the Related Projects may be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., existing traffic volumes added to ambient traffic growth and Related Project traffic growth) for Year 2023 and are shown in Figure 7 for the 27 study intersections.

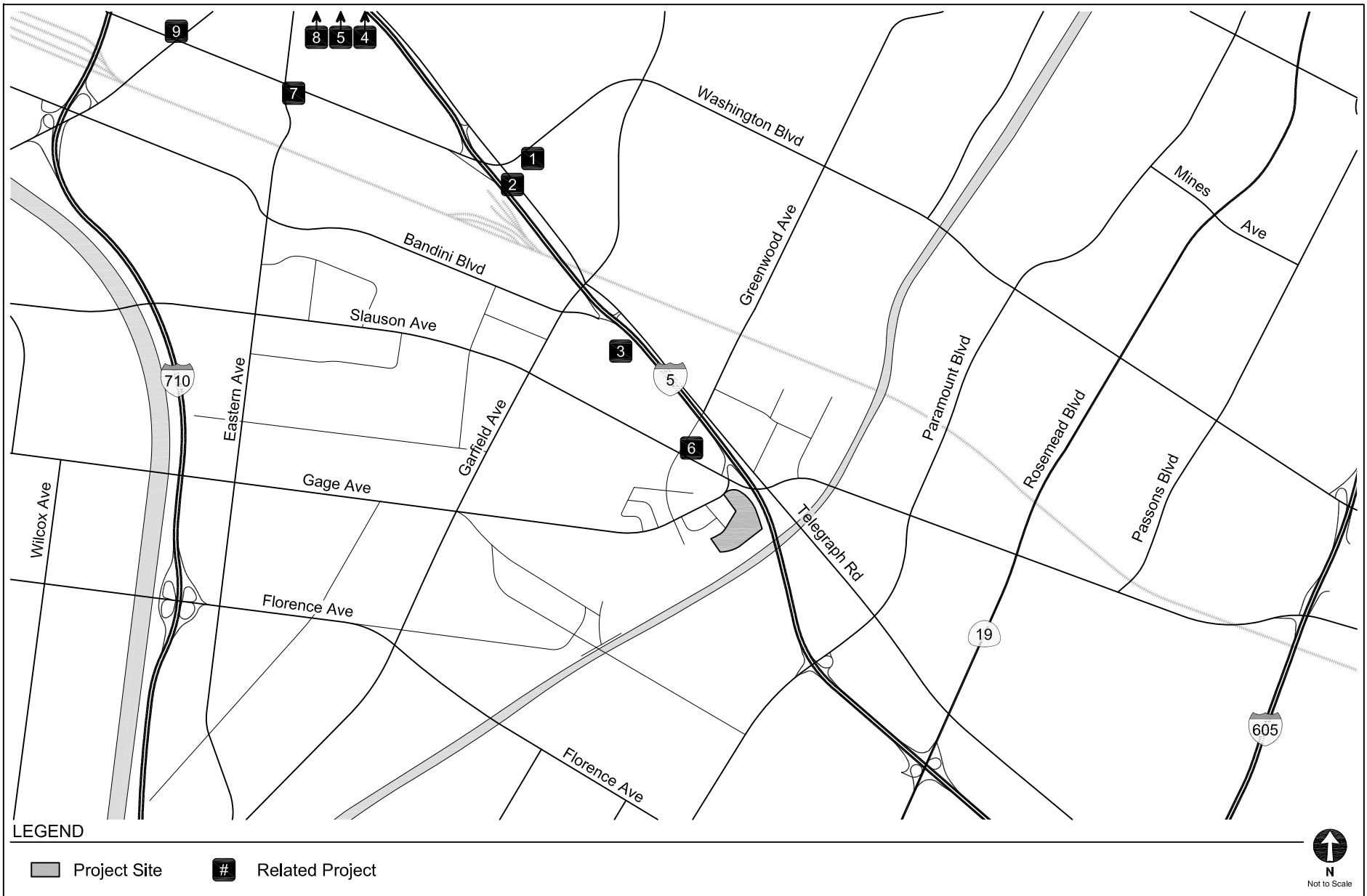
## **FUTURE WITHOUT PROJECT INTERSECTION LEVEL OF SERVICE**

### **Future without Project Conditions (Year 2023)**

Table 7 summarizes the weekday morning and afternoon peak hour LOS results for each of the study intersections under Future without Project Conditions for Year 2023. As shown, 10 of the 27 study intersections are anticipated to operate at LOS D or better during both the weekday morning and afternoon peak hours. The remaining intersections operate at LOS E or F during at least one of the peak periods. The intersections projected to operate at LOS E or LOS F include:

1. Paramount Boulevard & Washington Boulevard (LOS E in the morning and afternoon peak hour)
2. Rosemead Boulevard & Washington Boulevard (LOS E in the afternoon peak hour)
4. Telegraph Road & I-5 Northbound Off-Ramp (Garfield Avenue) (LOS E in the afternoon peak hours)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (LOS F in the afternoon peak hour)
8. Garfield Avenue & Bandini Boulevard (LOS F in the morning peak hour)
9. I-5 Southbound Ramps & Bandini Boulevard (LOS F in the afternoon peak hour)
11. Garfield Avenue & Slauson Avenue (LOS E in the morning and afternoon peak hours)
13. I-5 Southbound Ramps / Gage Avenue & Slauson Avenue (LOS E in the afternoon peak hour)
14. Telegraph Road & Slauson Avenue (LOS E in the afternoon peak hour)
15. Paramount Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
16. Rosemead Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
17. Eastern Avenue & Gage Avenue (LOS E in the afternoon peak hour)
18. Garfield Avenue & Gage Avenue (LOS E in the afternoon peak hour)
22. Eastern Avenue & Florence Avenue (LOS E in the afternoon peak hour)
25. I-5 Northbound Ramps & Paramount Boulevard (LOS E in the afternoon peak hour)

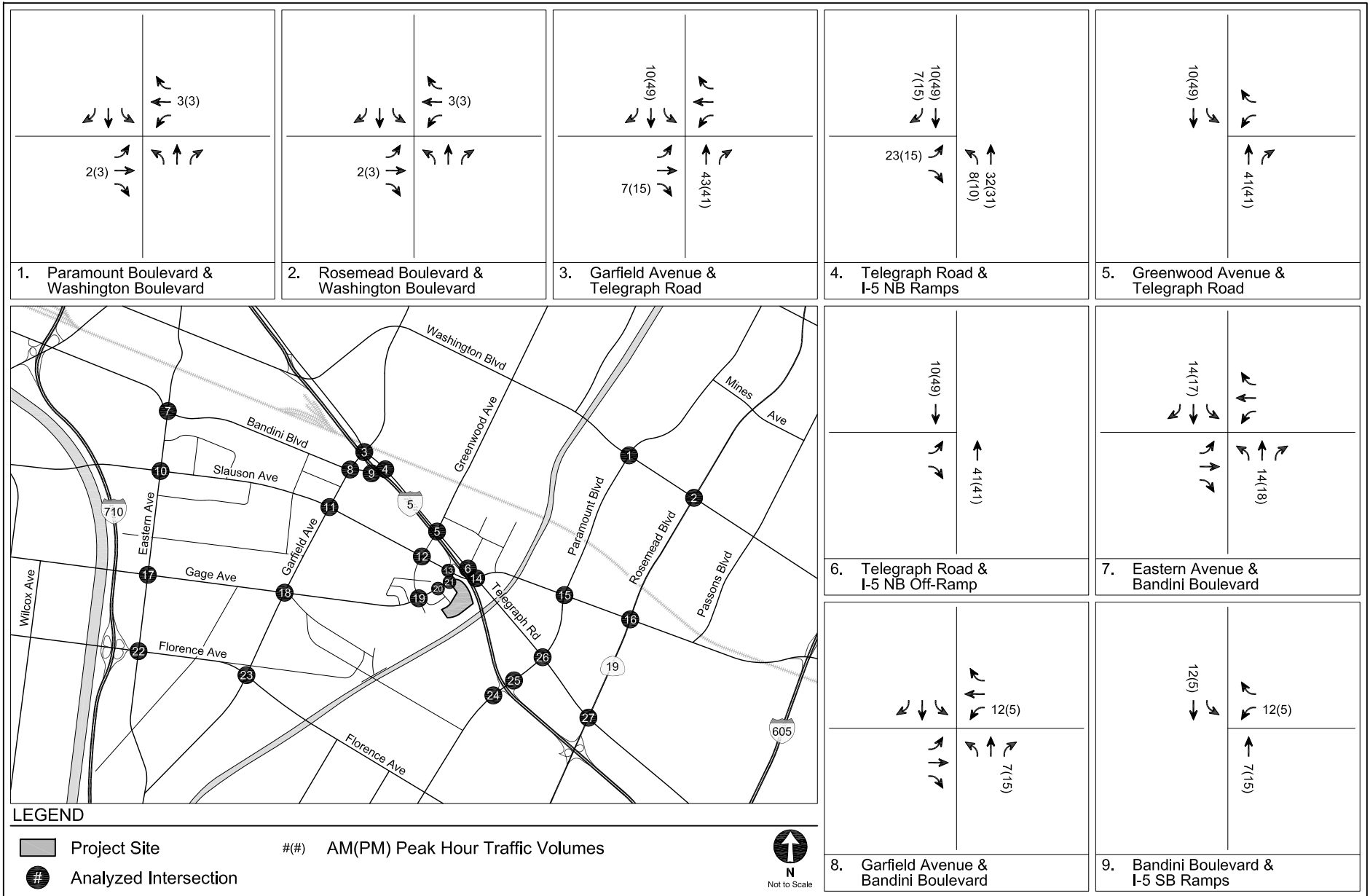
- 
26. Telegraph Road & Paramount Boulevard (LOS F in the afternoon peak hour)
  27. Telegraph Road & Rosemead Boulevard (LOS E in the morning peak hour, LOS F in the afternoon peak hour)



LOCATIONS OF RELATED PROJECTS

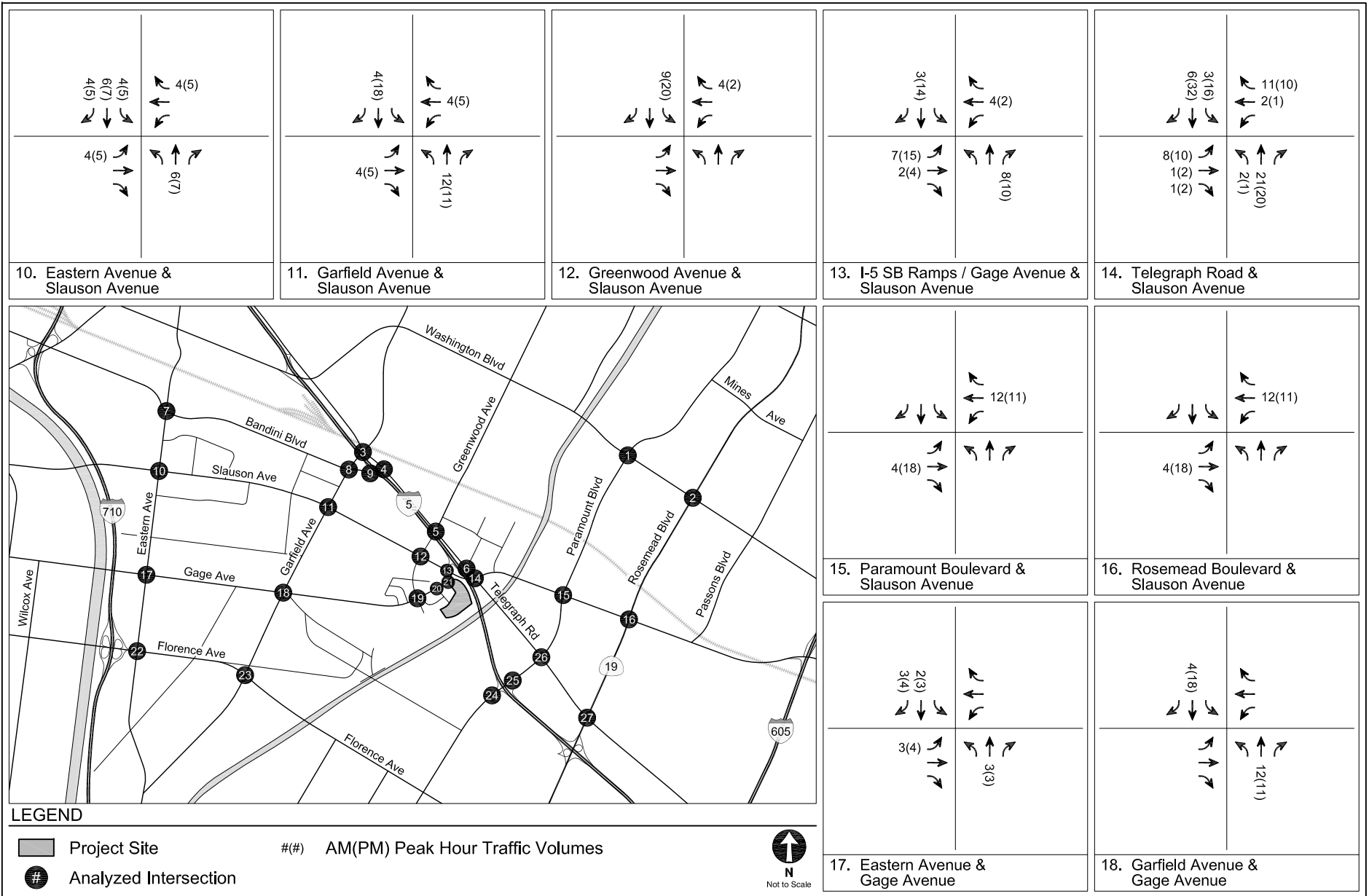
FIGURE 5





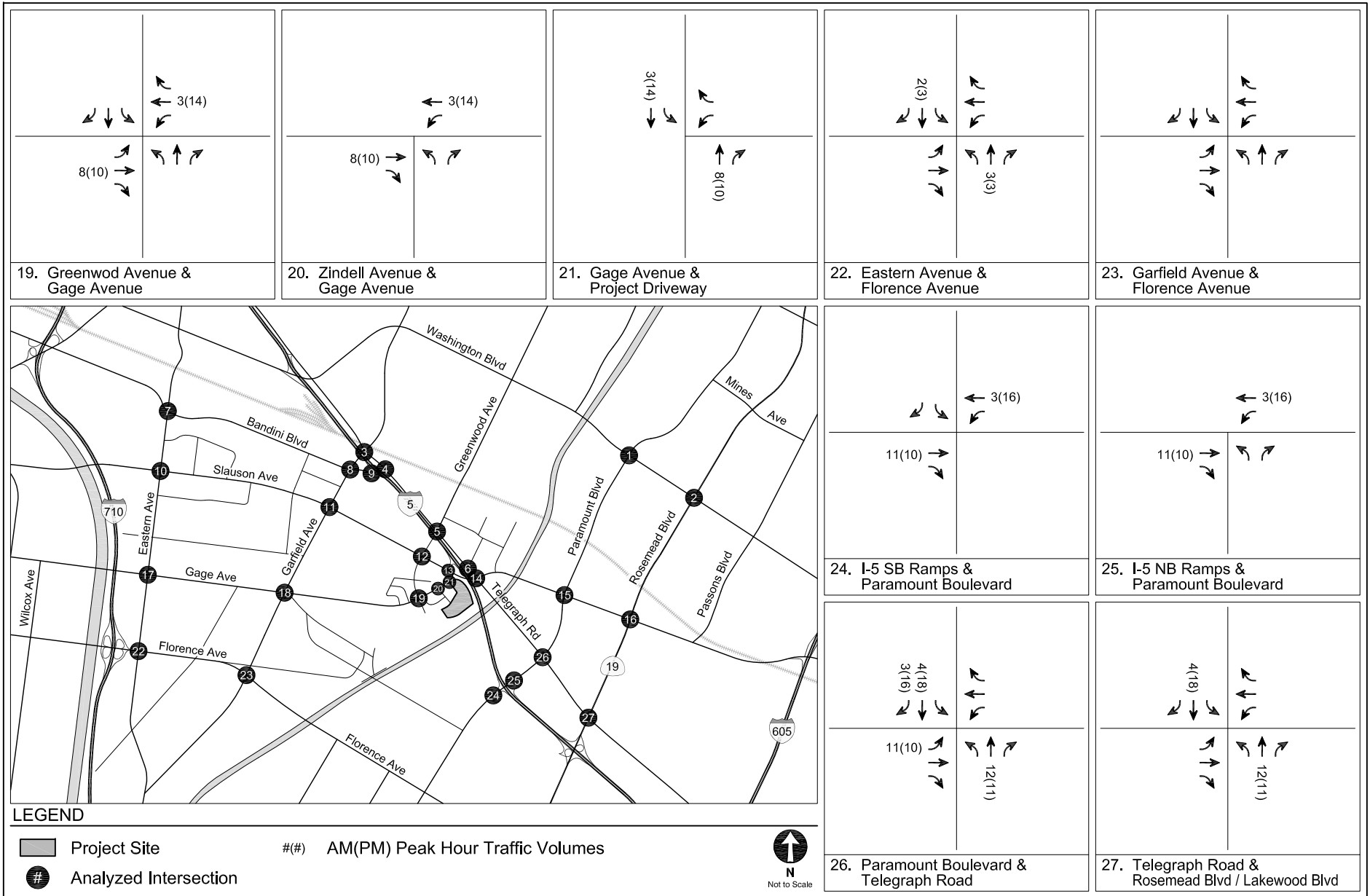
RELATED PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
6



RELATED PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
6 (CONT.)



**LEGEND**

Project Site

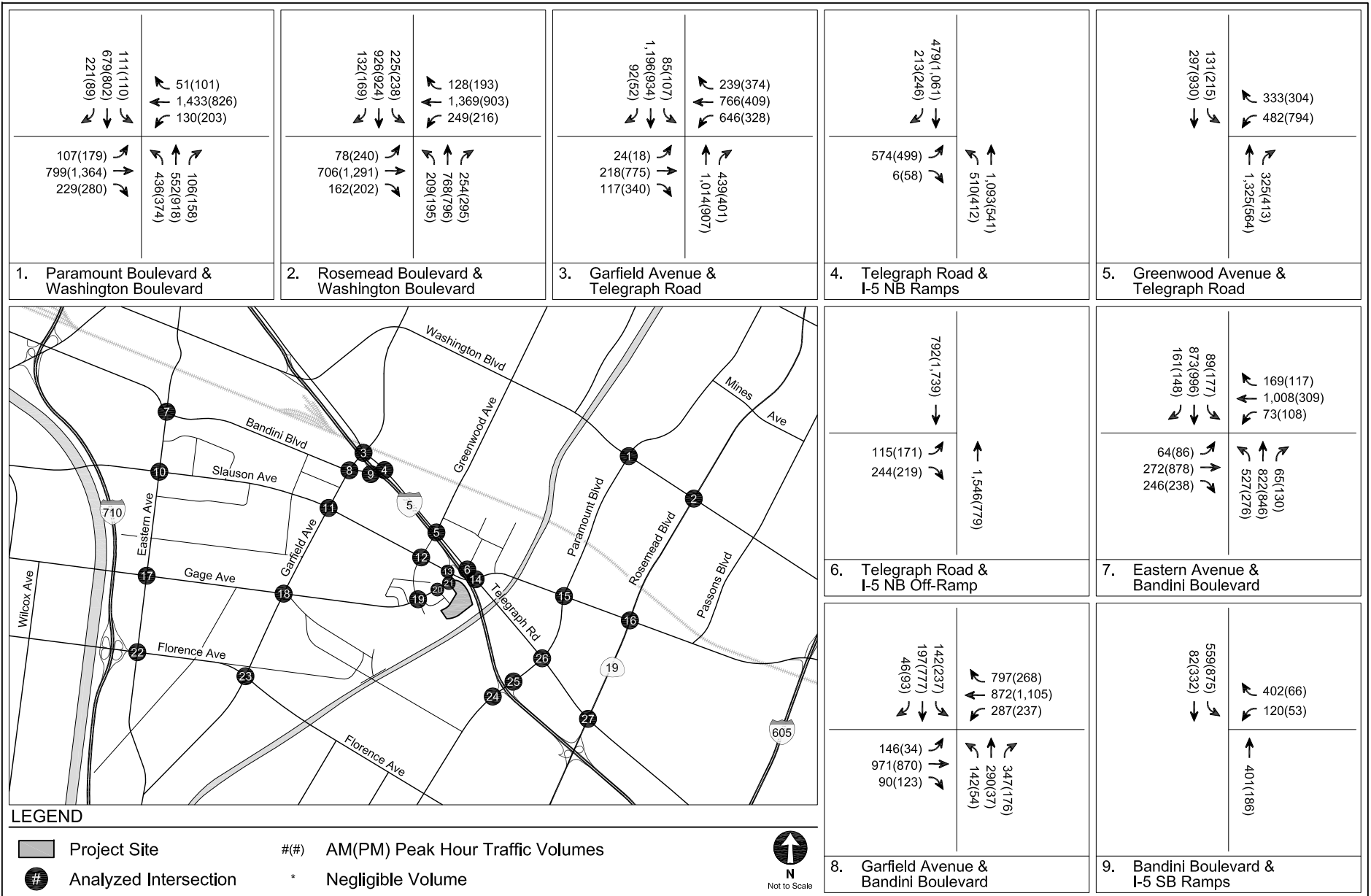
#(##) AM(PM) Peak Hour Traffic Volumes

Analyzed Intersection



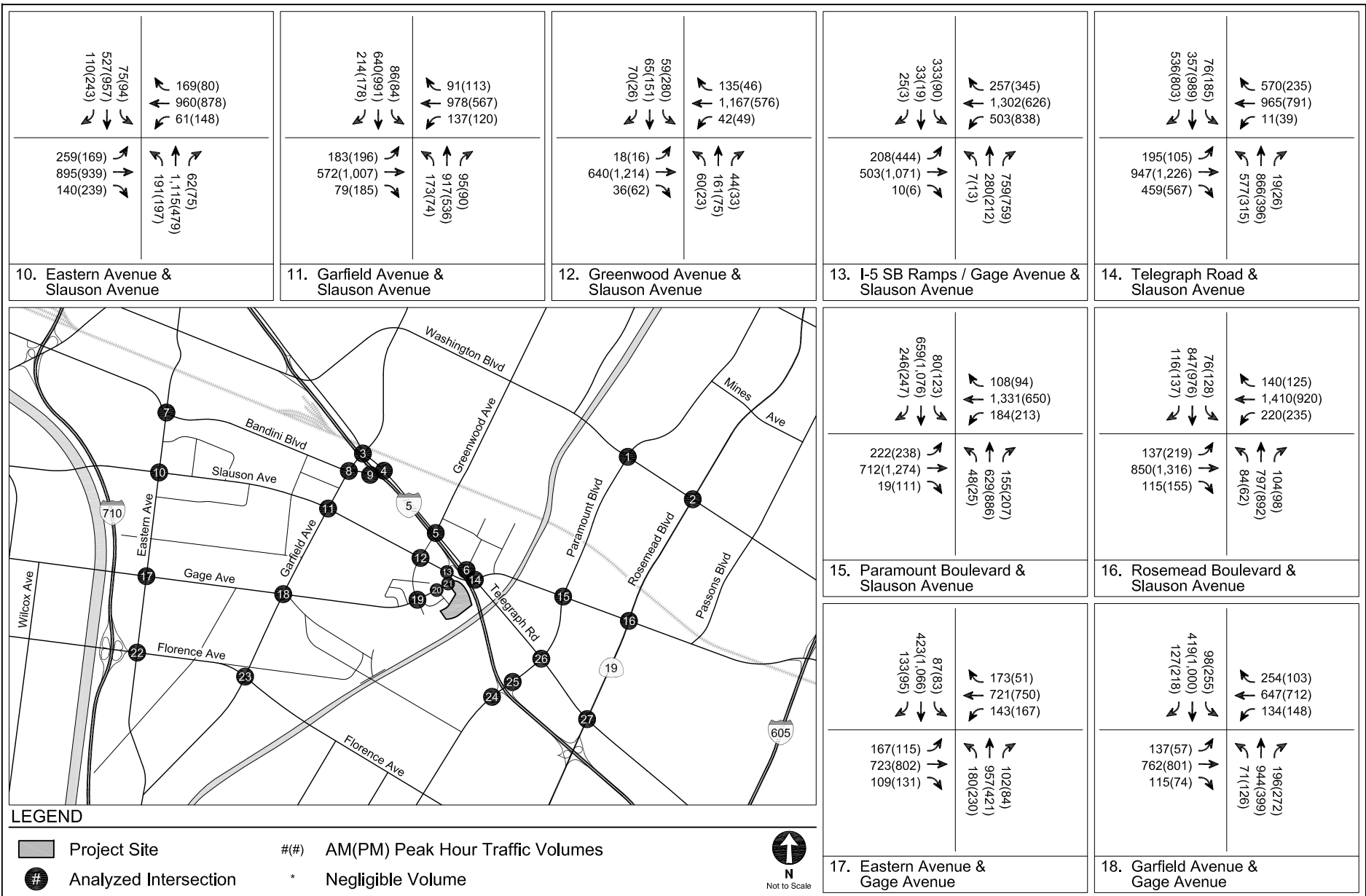
**RELATED PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
6 (CONT.)**



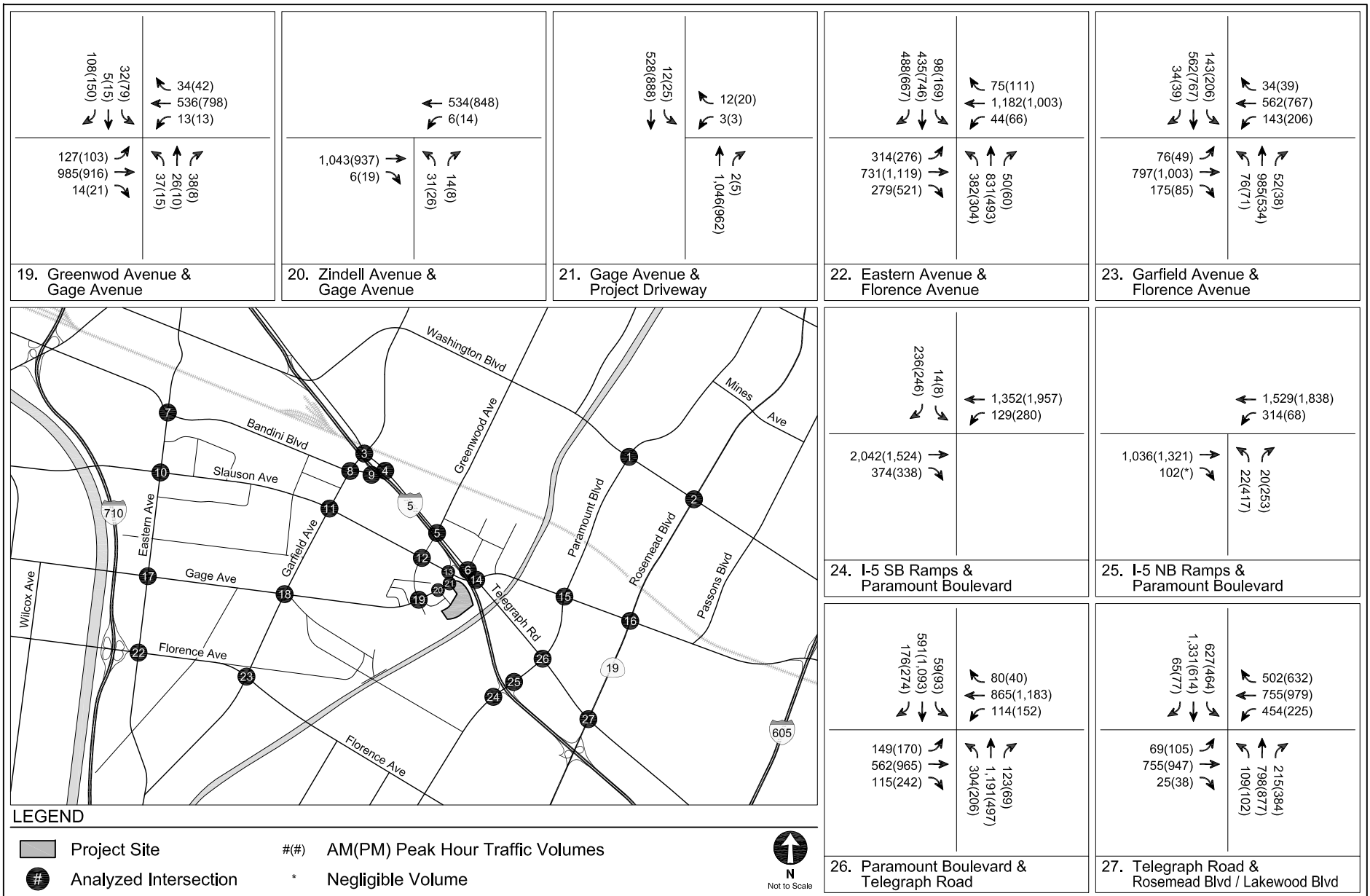
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
7



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
7 (CONT.)



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
7 (CONT.)

**TABLE 6  
RELATED PROJECTS**

No.	Project	Land Use	Size	Units	WEEKDAY						
					Daily Trips	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	Costco Gas Station 6340 Washington Boulevard	Gas Station	1	pump	169	6	6	12	7	7	14
2	Warehouse Building 6300 Telegraph Road	Warehousing	83,000	SF	295	20	5	25	7	20	27
3	Warehouse Building 7140 Bandini Boulevard	Warehousing	185,000	SF	659	35	21	56	15	44	59
4	The Citadel 100 Citadel Drive	Shopping Outlet Center	317,000	SF	7,316	168	86	254	321	331	652
5	AltaMed Office Conversion 2035 Camfield Avenue	Office	78,316	SF	792	87	1	88	(2)	99	97
6	Vehicle Repair 7500 Wellman Street	Auto Care Center	2,000	SF	80	3	2	5	3	3	6
7	Fast Food Restaurant 5556 East Washington Blvd	Fast Food	2,600	SF	1,290	38	36	74	44	41	85
8	Retail 5200 Triggs Street	Shopping Center	16,000	SF	683	9	6	15	28	31	59
9	Gas Station and Convenience Store 2425 South Atlantic Boulevard	Convenience Store Gas Station	2,306	SF	1,950	47	47	94	59	58	117
<b>Total Related Project Trips</b>					<b>13,234</b>	<b>413</b>	<b>210</b>	<b>623</b>	<b>482</b>	<b>634</b>	<b>1,116</b>

**TABLE 7  
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023)  
INTERSECTION LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project Conditions	
			V/C Ratio	LOS
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.905	E
		P.M.	0.976	E
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.892	D
		P.M.	0.926	E
3.	Garfield Avenue & Telegraph Road	A.M.	0.760	C
		P.M.	0.806	D
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.827	D
		P.M.	0.951	E
5.	Telegraph Road & Greenwood Avenue	A.M.	0.758	C
		P.M.	0.752	C
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	10.1	B
		P.M.	94.5	F
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.799	C
		P.M.	0.777	C
8.	Garfield Avenue & Bandini Boulevard	A.M.	1.030	F
		P.M.	0.867	D
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	25.1	C
		P.M.	101.0	F
10.	Eastern Avenue & Slauson Avenue	A.M.	0.800	C
		P.M.	0.871	D
11.	Garfield Avenue & Slauson Avenue	A.M.	0.906	E
		P.M.	0.912	E
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.649	B
		P.M.	0.756	C
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.760	C
		P.M.	0.958	E
14.	Telegraph Road & Slauson Avenue	A.M.	0.866	D
		P.M.	0.926	E
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.845	D
		P.M.	0.951	E
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.849	D
		P.M.	0.954	E
17.	Eastern Avenue & Gage Avenue	A.M.	0.848	D
		P.M.	0.984	E
18.	Garfield Avenue & Gage Avenue	A.M.	0.896	D
		P.M.	0.936	E
19.	Greenwood Avenue & Gage Avenue	A.M.	0.522	A
		P.M.	0.541	A
20.	Gage Avenue & Zindell Avenue	A.M.	0.471	A
		P.M.	0.440	A
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A
		P.M.	0.4	A
22.	Eastern Avenue & Florence Avenue	A.M.	0.895	D
		P.M.	0.990	E
23.	Garfield Avenue & Florence Avenue	A.M.	0.816	D
		P.M.	0.774	C
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	7.9	A
		P.M.	17.5	B
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.645	B
		P.M.	0.946	E
26.	Telegraph Road & Paramount Boulevard	A.M.	0.849	D
		P.M.	1.013	F
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.932	E
		P.M.	1.055	F

**Notes:**

[a] Unsignalized Intersection

[b] Project is proposing to install signal at intersection



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## **Chapter 4**

### **Project Traffic**

This chapter describes the assumptions and methodology used in developing the traffic volumes associated with the proposed Project within the Study Area.

#### **PROJECT DESCRIPTION**

The Project site is located on several parcels from the southeast corner of Gage Avenue & Slauson Avenue and at the southern end of Zindell Avenue, on the site of two former landfills on which, today there is a 4.75 acre City public park and a 64,444 sf community center. The mixed-use Project consists of a new 70,050 sf community center and a 4.75 acre public park, 850 multi-family units, 25,000 square feet (sf) of grocery store, 28,000 sf of general retail, a 20,000 sf bowling alley, a 2,200-seat movie theater, a 15,000 sf fitness club, a 5,000 sf museum, a 6,000 sf pharmacy, and 16,000 sf of restaurants.

As part of the Project, the intersection of Gage Avenue & Project Driveway would be signalized. A signal warrant analysis was conducted for this intersection, as discussed in Chapter 7.

#### **PROJECT TRIP GENERATION**

The trip generation estimates for the Project were developed based on the rates documented in *Trip Generation, 9<sup>th</sup> Edition*, *Trip Generation, 10<sup>th</sup> Edition* (ITE, 2017), and *(not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (San Diego Association of Governments, April 2002). These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. They relate the number of vehicle trips traveling to and from the Project Site to the size of development of each land use.

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Appropriate trip generation reductions to account for trips shared between the different uses within the Project and pass-by trips were made when appropriate. Internal capture adjustments were considered as part of the trip generation estimates to account for person trips made between the different uses of the Project without using an off-site road connection. These internal capture values were determined by using *National Cooperative Highway Research Program (NCHRP) 8-51 Internal Trip Capture Estimation Tool* (Transportation Research Board and National Research Council, 2011). The resulting worksheets are provided in Appendix D.

Pass-by adjustments were also applied to the Project trip generation estimates to account for Project trips made by drivers stopping on the way to another destination. The pass-by trips are not new trips to the Study Area. Because the City does not have guidelines for trip credits, the report used pass-by credits allowed by the Los Angeles Department of Transportation in *Transportation Impact Study Guidelines* (LADOT, December 2016).


Table 8 presents the trip generation estimates for the Project site. As shown, the Project is expected to generate a net increase of 10,902 weekday daily trips, including an increase of 510 weekday morning peak hour trips (207 inbound trips and 303 outbound trips) and an increase of 695 weekday afternoon peak hour trips (390 inbound trips and 305 outbound trips).

### **Project Trip Distribution**

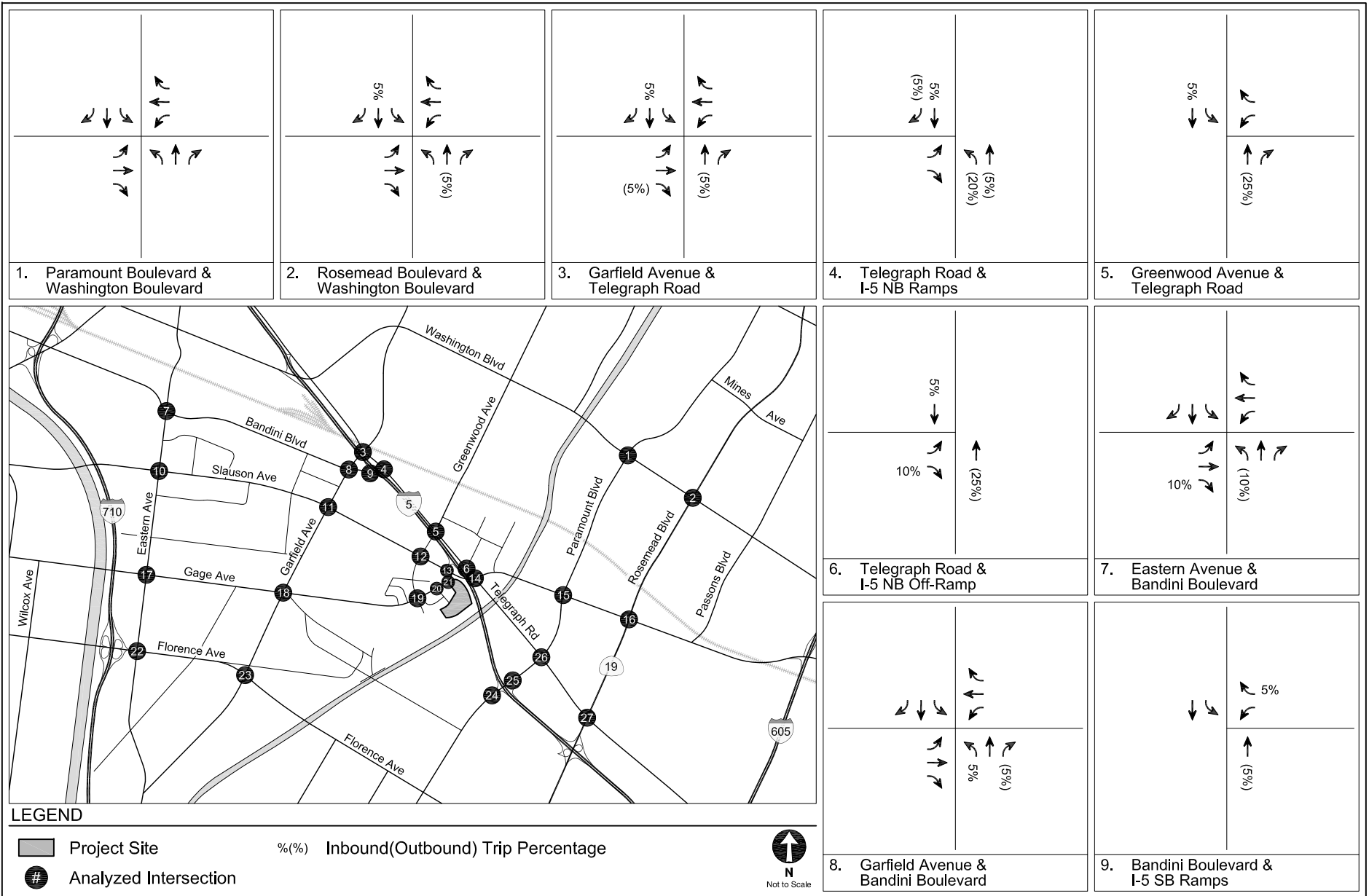
The geographic distribution of traffic generated by the Project was derived using the methods described previously for related project trip distribution. The general geographic trip distribution pattern used in the assignment of Project-generated traffic for the residential uses is illustrated in Figure 8A and for the non-residential uses in Figure 8B.

### **Project Trip Assignment**

The Project trip generation estimates summarized in Table 8 and the distribution patterns illustrated in Figure 8A and 8B were used to assign the Project-generated traffic to the local and regional street system and through the eight study intersections. Figure 9 illustrates the

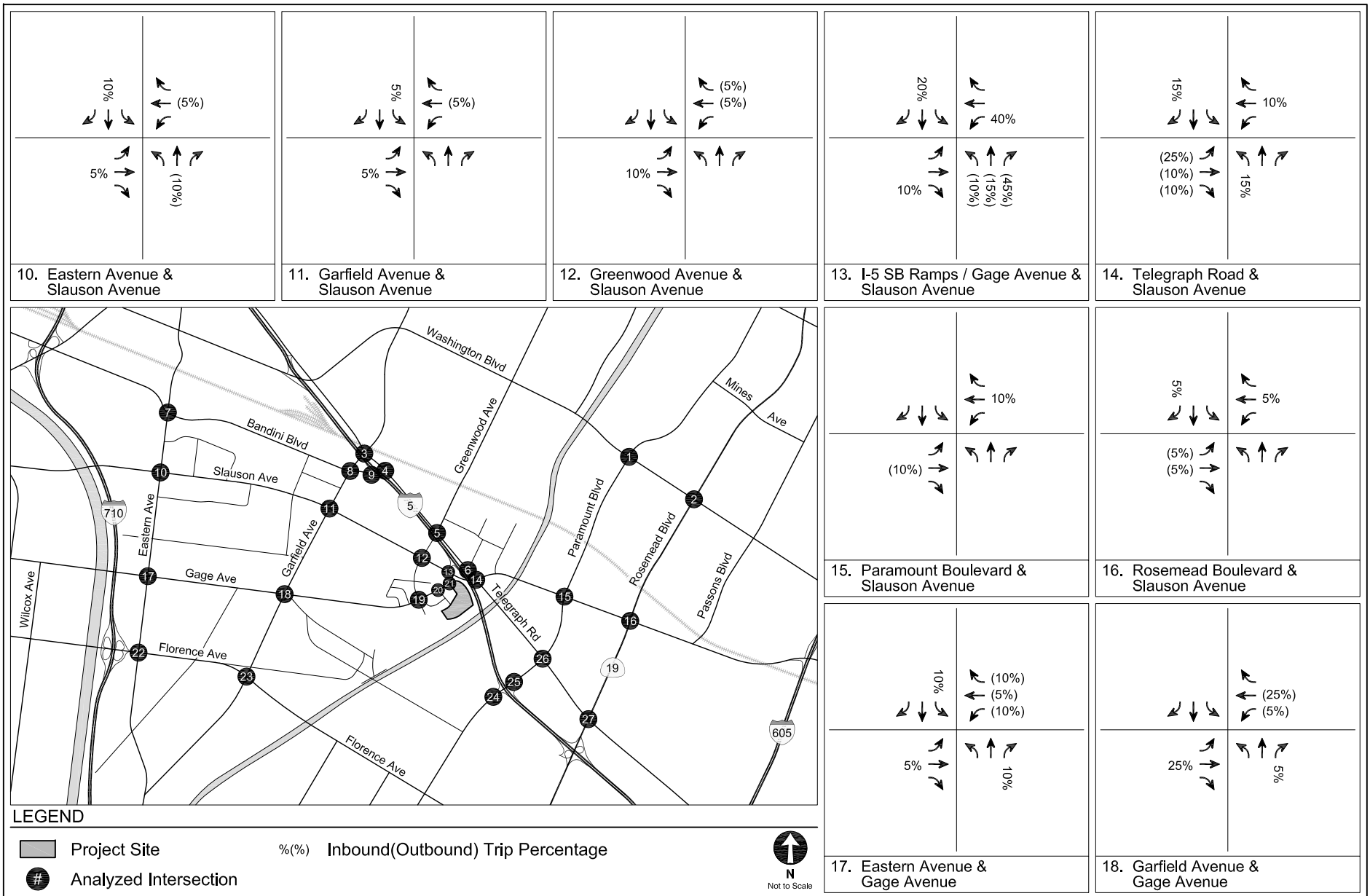


assignment of Project-generated peak hour traffic volumes at each of the 27 study intersections during a typical weekday.



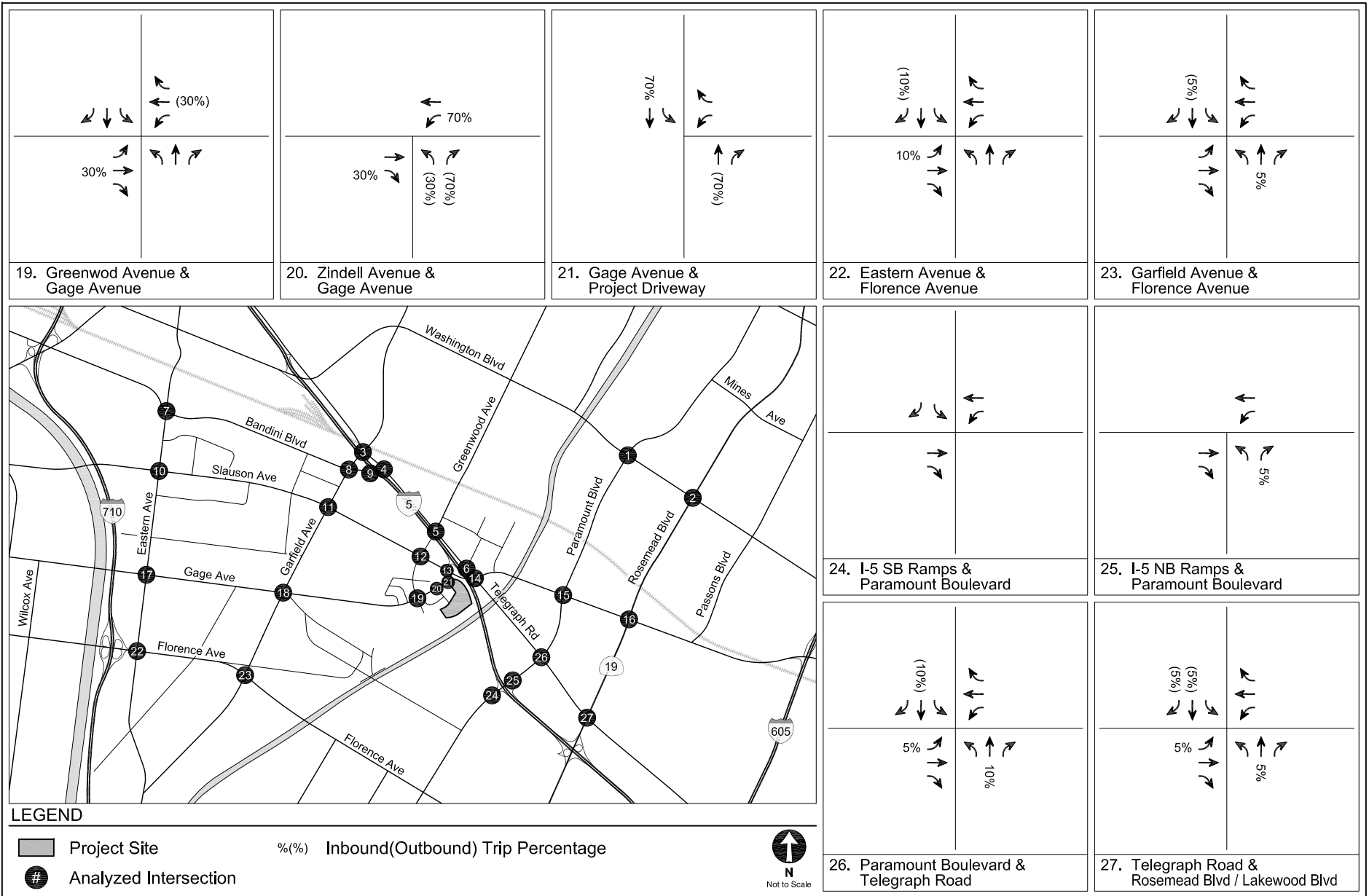
**PROJECT TRIP DISTRIBUTION  
RESIDENTIAL**

**FIGURE  
8A**



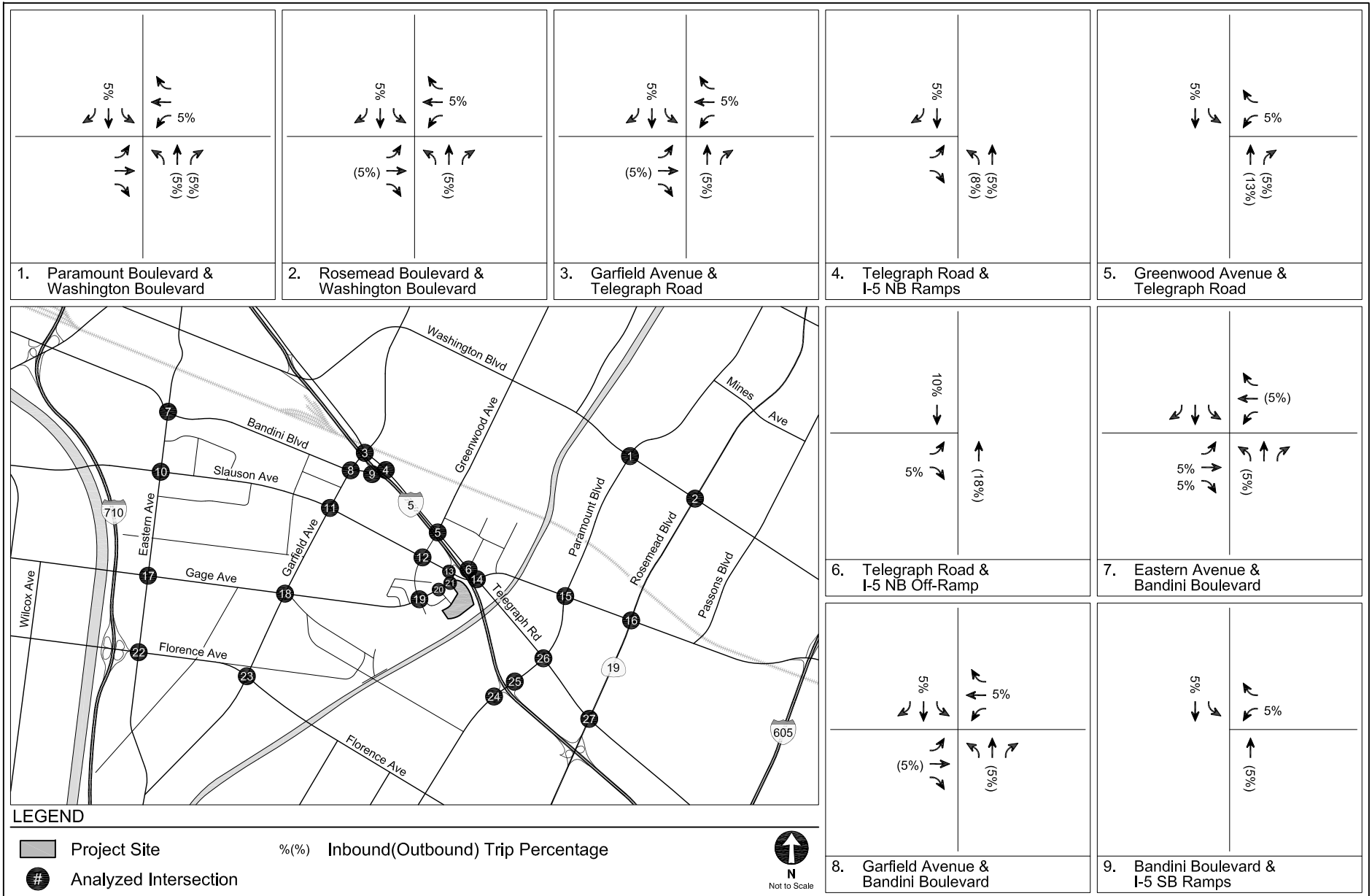
**PROJECT TRIP DISTRIBUTION  
RESIDENTIAL**

**FIGURE  
8A (CONT.)**



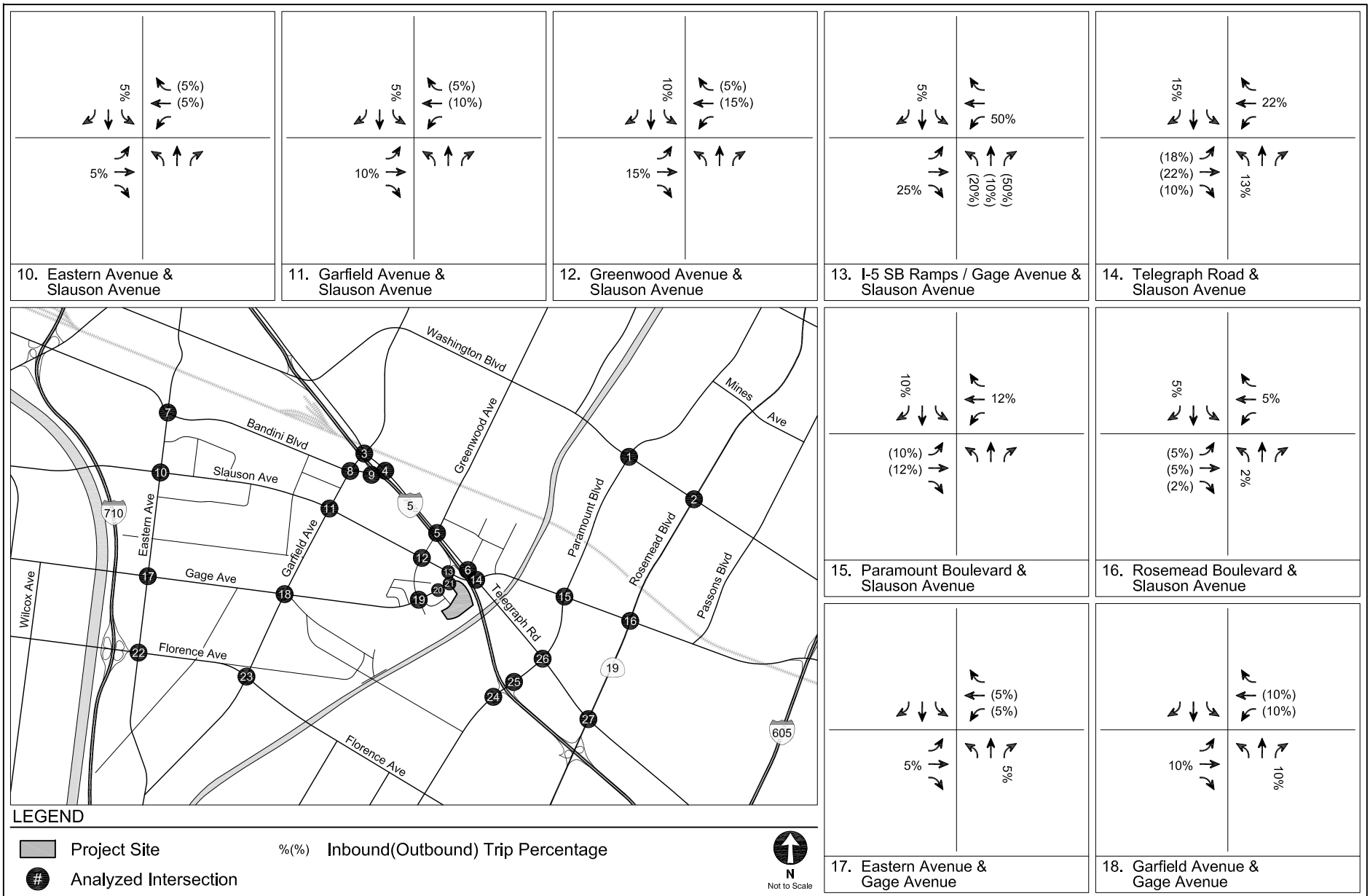
PROJECT TRIP DISTRIBUTION  
RESIDENTIAL

FIGURE  
8A (CONT.)



PROJECT TRIP DISTRIBUTION  
COMMERCIAL

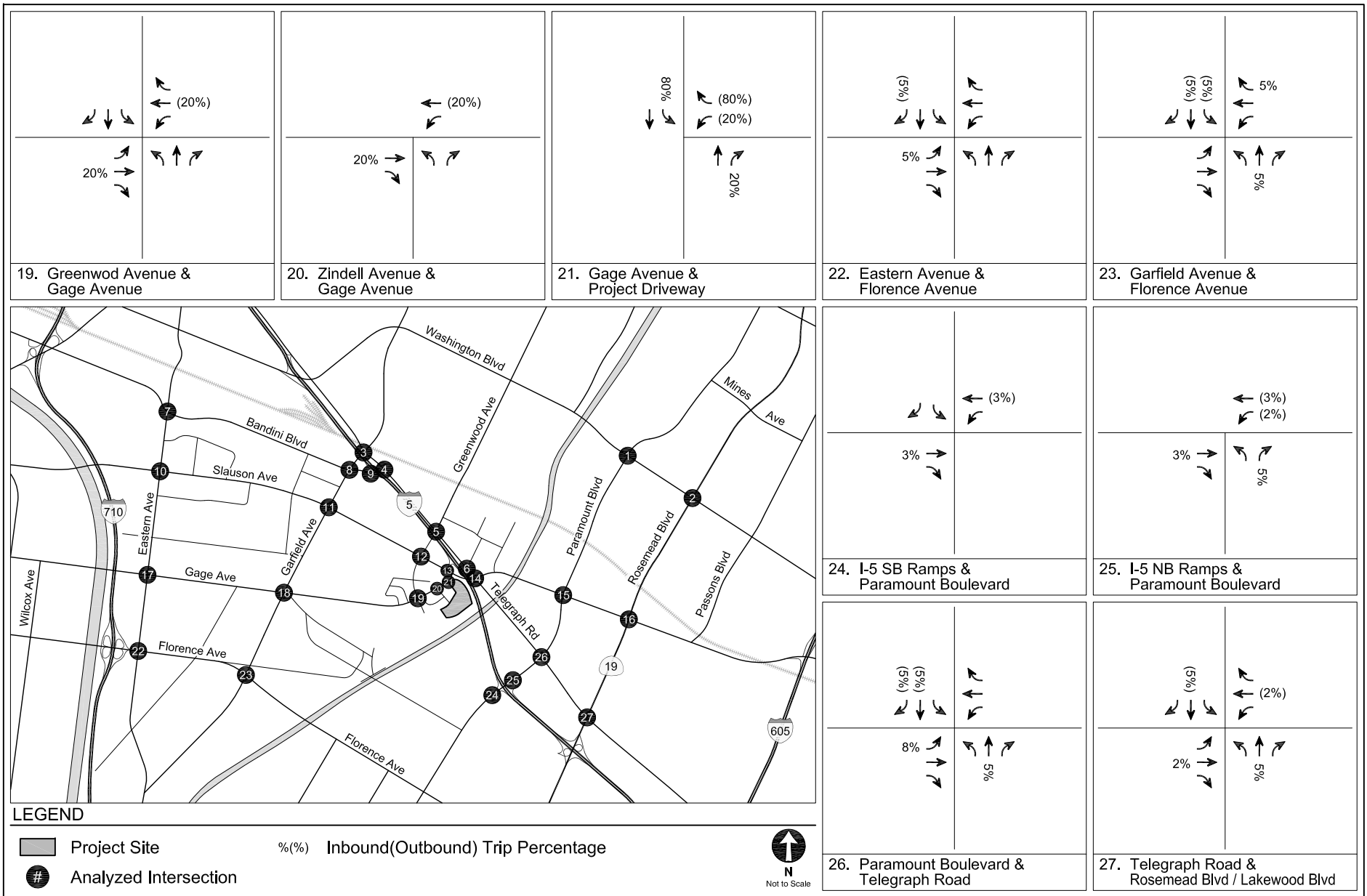
FIGURE  
8B



PROJECT TRIP DISTRIBUTION  
COMMERCIAL

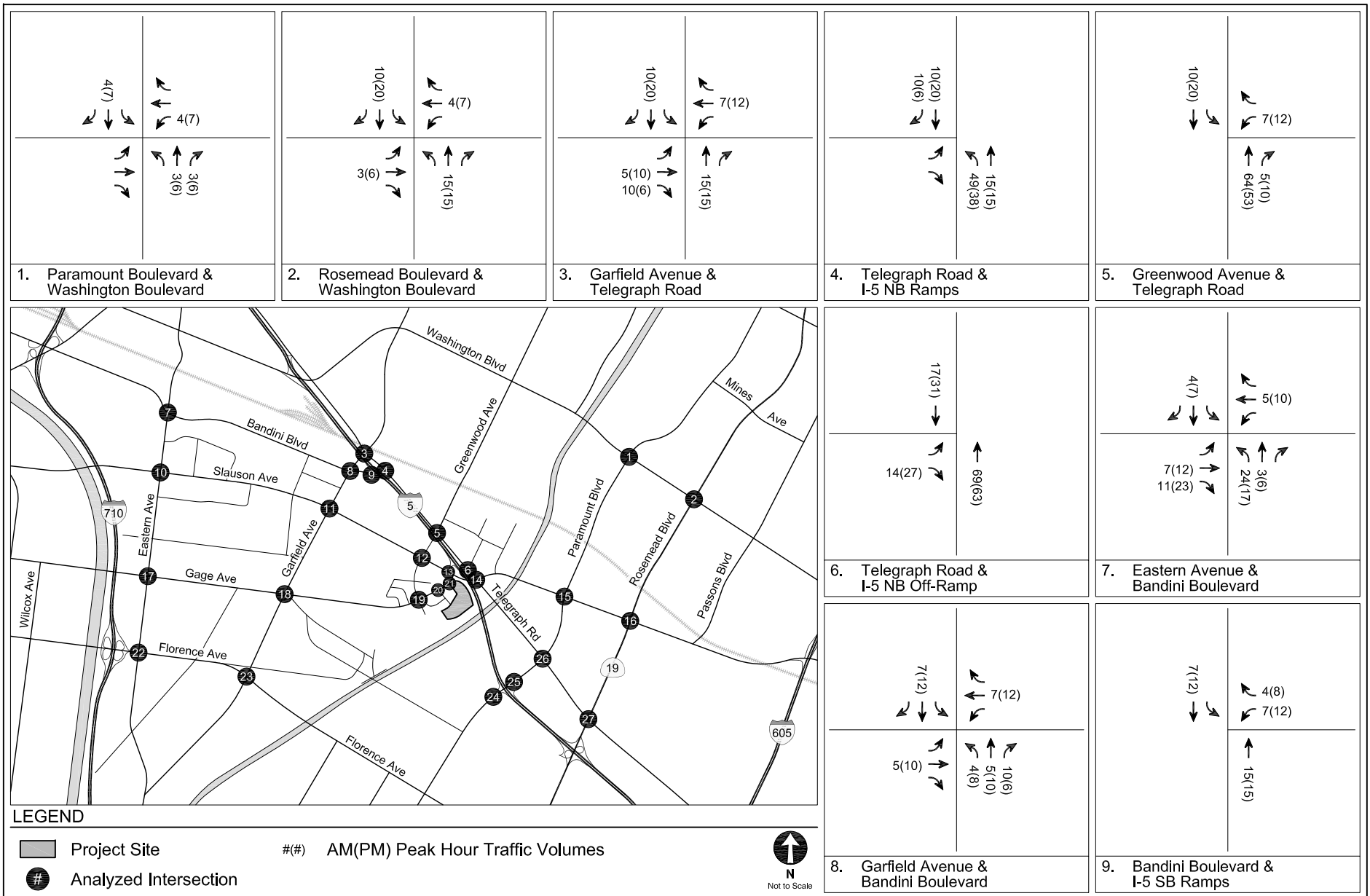
FIGURE  
8B (CONT.)





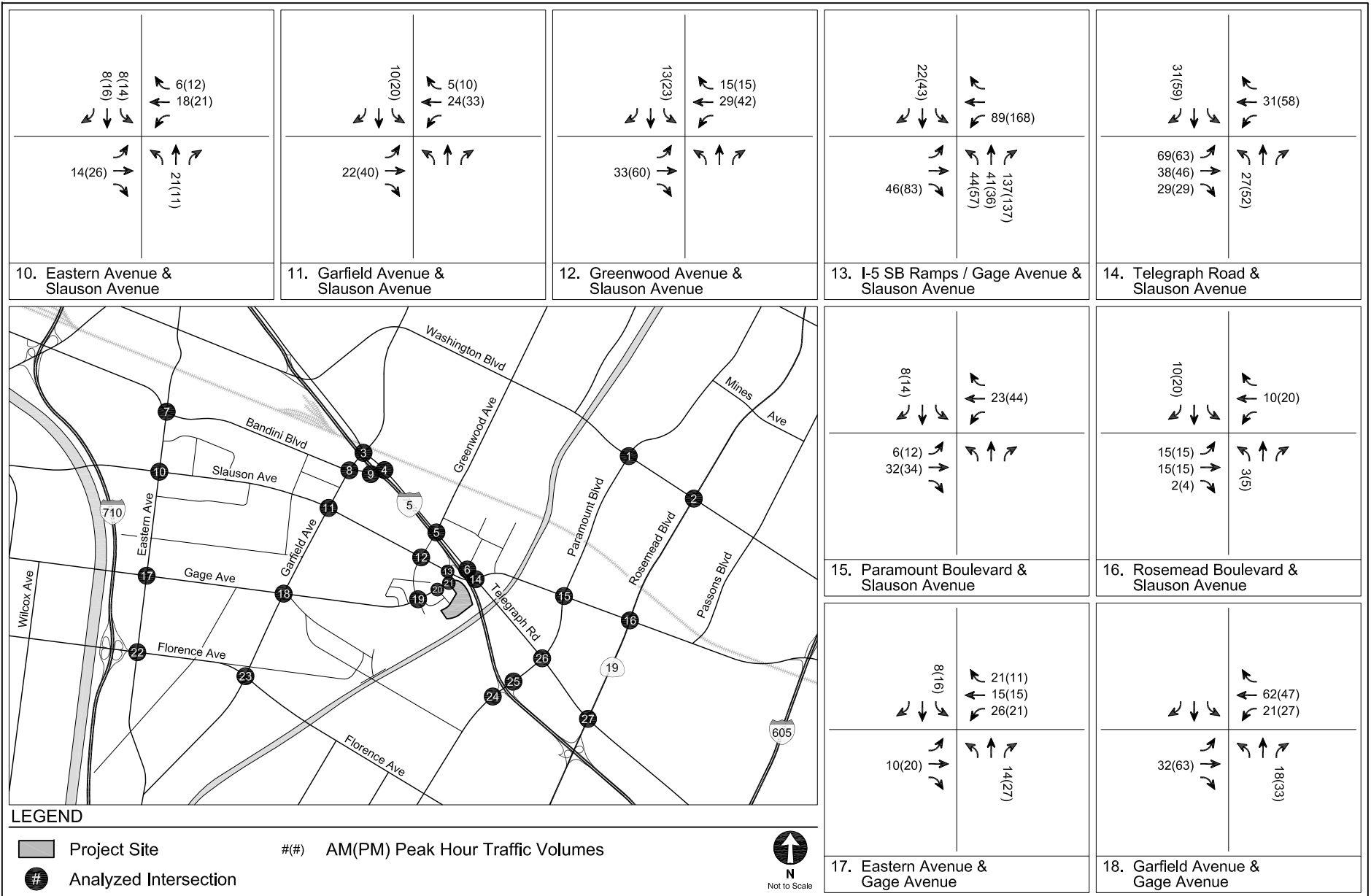
**PROJECT TRIP DISTRIBUTION  
COMMERCIAL**

**FIGURE  
8B (CONT.)**



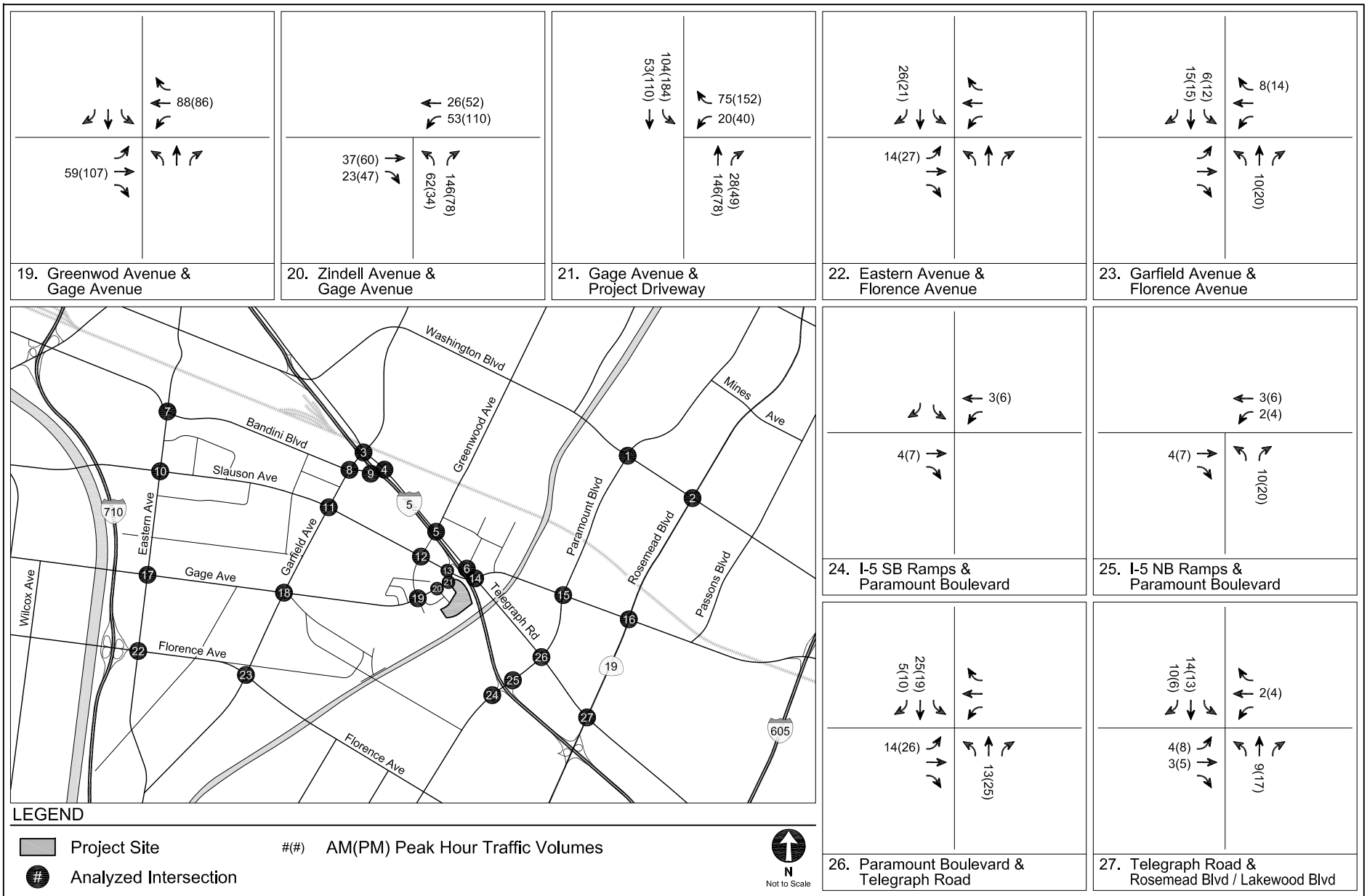
PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
9



PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
9 (CONT.)



PROJECT-ONLY  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
9 (CONT.)

**TABLE 8  
PROJECT TRIP GENERATION ESTIMATES**

TRIP GENERATION RATES [a]									
Land Use	ITE Land Use	Rate	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) Residential	221	per du	5.44	26%	74%	0.36	61%	39%	0.44
Public Park	411	per acre	0.78	59%	41%	0.02	55%	45%	0.11
Bowling Alley	437	per ksf	11.60	95%	5%	0.81	65%	35%	1.16
Movie Theater	445 [b]	per seat	1.8	0%	0%	0	36%	64%	0.08
Health Club	492 [c]	per ksf	32.93	51%	49%	1.31	57%	43%	3.45
Recreational Community Center	495	per ksf	28.82	66%	34%	1.76	47%	53%	2.31
Shopping Center	820	per ksf	37.75	62%	38%	0.94	48%	52%	3.81
Supermarket	850	per ksf	106.78	60%	40%	3.82	51%	49%	9.24
Pharmacy	880	per ksf	90.08	65%	35%	2.94	49%	51%	8.51
High Turnover Sit-Down Restaurant	932	per ksf	112.18	55%	45%	9.94	62%	38%	9.77
Mixed Use Internal Capture Credit [d]									
Multifamily Housing (Mid-Rise) Residential	221	per du	18%	6%	8%	8%	31%	23%	28%
Cinema/Entertainment	437, 445, 492, 495	Various	4%	0%	0%	0%	7%	8%	8%
Retail	820, 850, 880	per ksf	25%	11%	16%	13%	26%	45%	25%
High-Turnover (Sit-Down) Restaurant	932	per ksf	38%	28%	14%	21%	46%	68%	54%
TRIP GENERATION ESTIMATES									
Land Use	ITE Land Use	Size	Daily	Morning Peak Hour			Afternoon Peak Hour		
				In	Out	Total	In	Out	Total
<b>Existing Active Land Use Credits</b>									
Public Park	411	6 acres	4	0	0	0	0	1	1
Recreational Community Center	495	64.444 ksf	1,857 (371)	75 (15)	38 (8)	113 (23)	70 (14)	79 (16)	149 (30)
<b>Existing Land Use Credits Subtotal</b>			<b>1,491</b>	<b>60</b>	<b>31</b>	<b>91</b>	<b>56</b>	<b>63</b>	<b>119</b>
<b>Proposed Project</b>									
Multifamily Housing (Mid-Rise) Residential	221	850 du	4,624 (832)	80 (5)	226 (18)	306 (23)	228 (71)	146 (34)	374 (105)
<b>Residential Subtotal</b>			<b>3,792</b>	<b>75</b>	<b>208</b>	<b>283</b>	<b>157</b>	<b>112</b>	<b>269</b>
Public Park	411	5 acres	4	0	0	0	0	1	1
Bowling Alley	437	20.000 ksf	232 (10)	15 (0)	1 (0)	16 (0)	15 (1)	8 (1)	23 (2)
Movie Theater	445 [b]	2,200 seats	3,960 (139) (382)	0 (0) (0)	0 (0) (0)	0 (0) (0)	63 (4) (6)	113 (9) (10)	176 (13) (16)
Health Club	492 [c]	15.000 ksf	494 (20) (99)	10 (2)	10 (2)	20 (4)	29 (2) (6)	23 (2) (4)	52 (4) (10)
Recreational Community Center [f]	495	81.361 ksf	2,345 (82) (453)	95 (19)	48 (10)	143 (29)	88 (6) (16)	100 (8) (19)	188 (14) (35)
Shopping Center	820	28.000 ksf	1,057 (270) (394)	16 (2) (7)	10 (2) (4)	26 (4) (11)	51 (13) (16)	56 (25) (18)	107 (38) (34)
Supermarket	850	25.000 ksf	2,670 (641) (811)	57 (6) (20)	39 (6) (13)	96 (12) (33)	118 (31) (29)	113 (51) (31)	231 (82) (60)
Pharmacy	880	6.000 ksf	540 (130) (164)	11 (1) (4)	7 (1) (2)	18 (2) (6)	25 (7) (6)	26 (12) (7)	51 (19) (13)
High Turnover Sit-Down Restaurant	932	16.000 ksf	1,795 (673) (224)	87 (24) (14)	72 (10) (11)	159 (34) (25)	97 (45) (9)	59 (40) (5)	156 (85) (14)
<b>Commercial / Recreational Subtotal</b>			<b>8,601</b>	<b>192</b>	<b>126</b>	<b>318</b>	<b>289</b>	<b>256</b>	<b>545</b>
<b>TOTAL - NET NEW PROJECT TRIPS</b>			<b>10,902</b>	<b>207</b>	<b>303</b>	<b>510</b>	<b>390</b>	<b>305</b>	<b>695</b>

**Notes:**

ksf: 1,000 square feet  
du: Dwelling unit

[a] Source: *Trip Generation, 10th Edition*, Institute of Transportation Engineers, 2017.

[b] Weekday Daily trip generation rates source: *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, San Diego Association of Governments, April 2002.

[c] Weekday Daily trip generation rate source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[d] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system. Based on the NCHRP 8-51 Internal Trip Capture Estimation Tool (National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, Transportation Research Board and National Research Council, 2011), the Project trips can potentially be adjusted for over 25% internal capture adjustments.

[e] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

[f] Includes 76,361 sf community center and 5,000 sf museum.

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## ***Chapter 5***

### ***Existing with Project Conditions***

This chapter describes the results of the analysis of intersection operating conditions associated with the Project compared to the Existing Conditions data and analysis presented in Chapter 2. The Existing with Project Conditions reflect existing conditions with the addition of Project traffic.

#### **EXISTING WITH PROJECT TRAFFIC VOLUMES**

The Project-only morning and afternoon peak hour traffic volumes described in Chapter 4 and shown in Figure 9 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 4. The resulting volumes are illustrated in Figure 10 and represent Existing with Project Conditions.

#### **EXISTING WITH PROJECT INTERSECTION LEVELS OF SERVICE**

Table 9 summarizes the results of the Existing with Project Conditions during the weekday morning and afternoon peak hours for the 27 study intersections. As shown in Table 9, the results of this analysis indicate that 13 of the 27 study intersections are currently operating at LOS D or better during the weekday morning and afternoon peak hours. The remaining intersections operate at LOS E or F during the morning or afternoon peak periods. The intersections projected to operate at LOS E or LOS F include:

1. Paramount Boulevard & Washington Boulevard (LOS E in the afternoon peak hour)
4. Telegraph Road & I-5 Northbound Ramps (Garfield Avenue) (LOS E in the afternoon peak hour)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (LOS E in the afternoon peak hour)
8. Garfield Avenue & Bandini Boulevard (LOS E in the morning peak hour)

- 
9. I-5 Northbound Ramps & Bandini Boulevard (LOS F in the afternoon peak hour)
  13. I-5 Northbound Ramps / Gage Avenue & Slauson Avenue (LOS F in the afternoon peak hour)
  14. Telegraph Road & Slauson Avenue (LOS E in the afternoon peak hour)
  15. Paramount Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
  16. Rosemead Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
  17. Eastern Avenue & Gage Avenue (LOS E in the afternoon peak hour)
  18. Garfield Avenue & Gage Avenue (LOS E in the afternoon peak hour)
  22. Eastern Avenue & Florence Avenue (LOS E in the afternoon peak hour)
  26. Telegraph Road & Paramount Boulevard (LOS E in the afternoon peak hour)
  27. Telegraph Road & Rosemead Boulevard (LOS F in the afternoon peak hour)

## **EXISTING WITH PROJECT IMPACTS BEFORE MITIGATION**

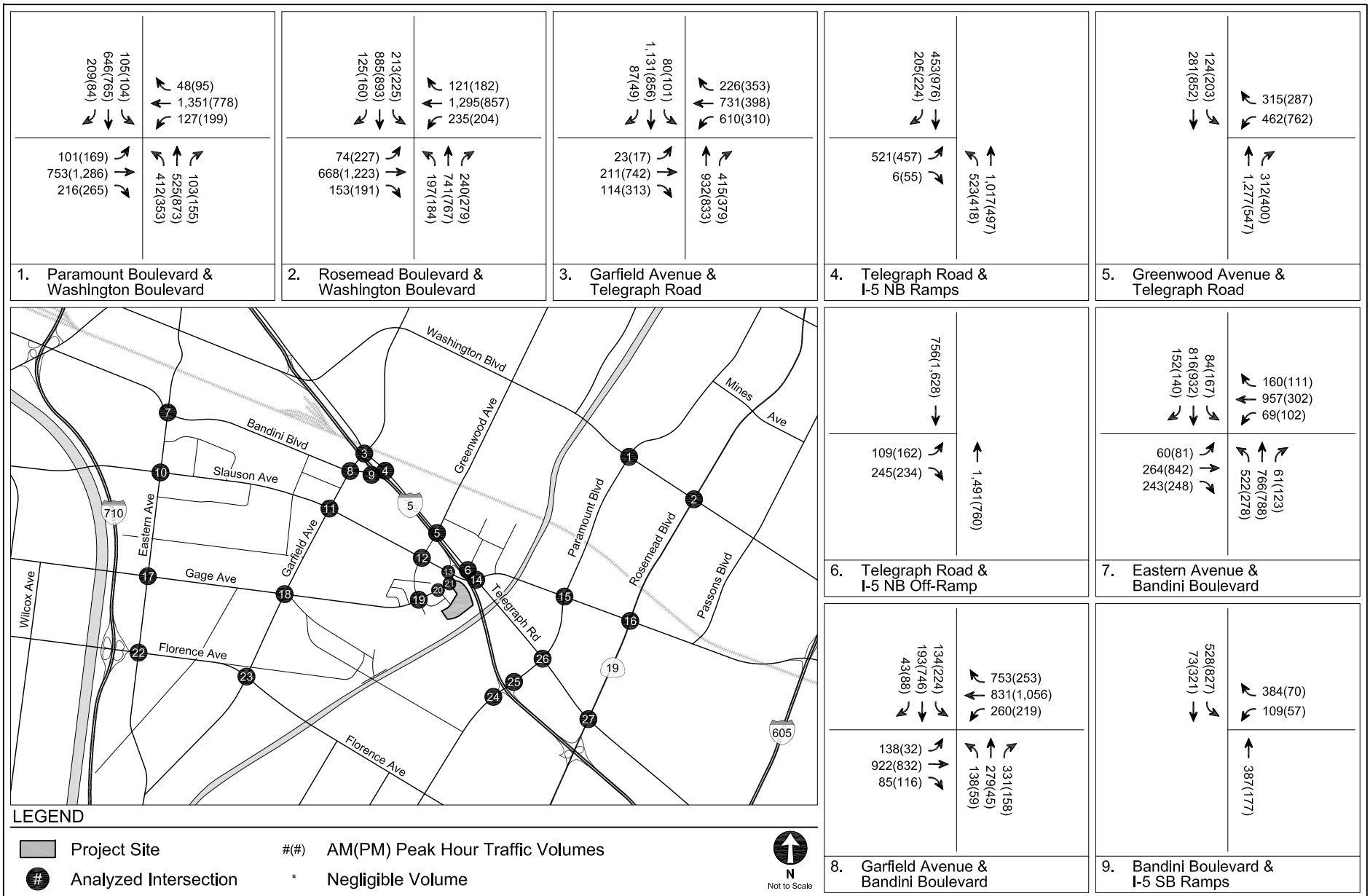
As detailed in Table 9, when measuring the Existing with Project Conditions against Existing Conditions, the incremental increases in the V/C ratios resulting from Project traffic would exceed the thresholds of the significant impact criteria at eight of the 27 study intersections under Existing with Project Conditions.

The relative impact of the added Project traffic volumes during the peak hours was evaluated based on analysis of existing operating conditions at the study intersections without and with the Project. The previously discussed significance criteria and thresholds summarized in Chapter 1 were then used to determine the significance of a transportation impact caused by the Project on the study intersection, prior to any Project improvements or trip reduction measures. The potential Project impacts on the Existing with Project Conditions during the weekday morning and afternoon peak hours are shown in Table 9. The Project would meet the criteria for significant impacts at eight of the 27 analyzed intersections:

4. Telegraph Road & I-5 Northbound Ramps (Garfield Avenue) (Morning and afternoon peak hour)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (Afternoon peak hour)
13. I-5 Northbound Ramps / Gage Avenue & Slauson Avenue (Morning and afternoon peak hour)
14. Telegraph Road & Slauson Avenue (Morning and afternoon peak hour)

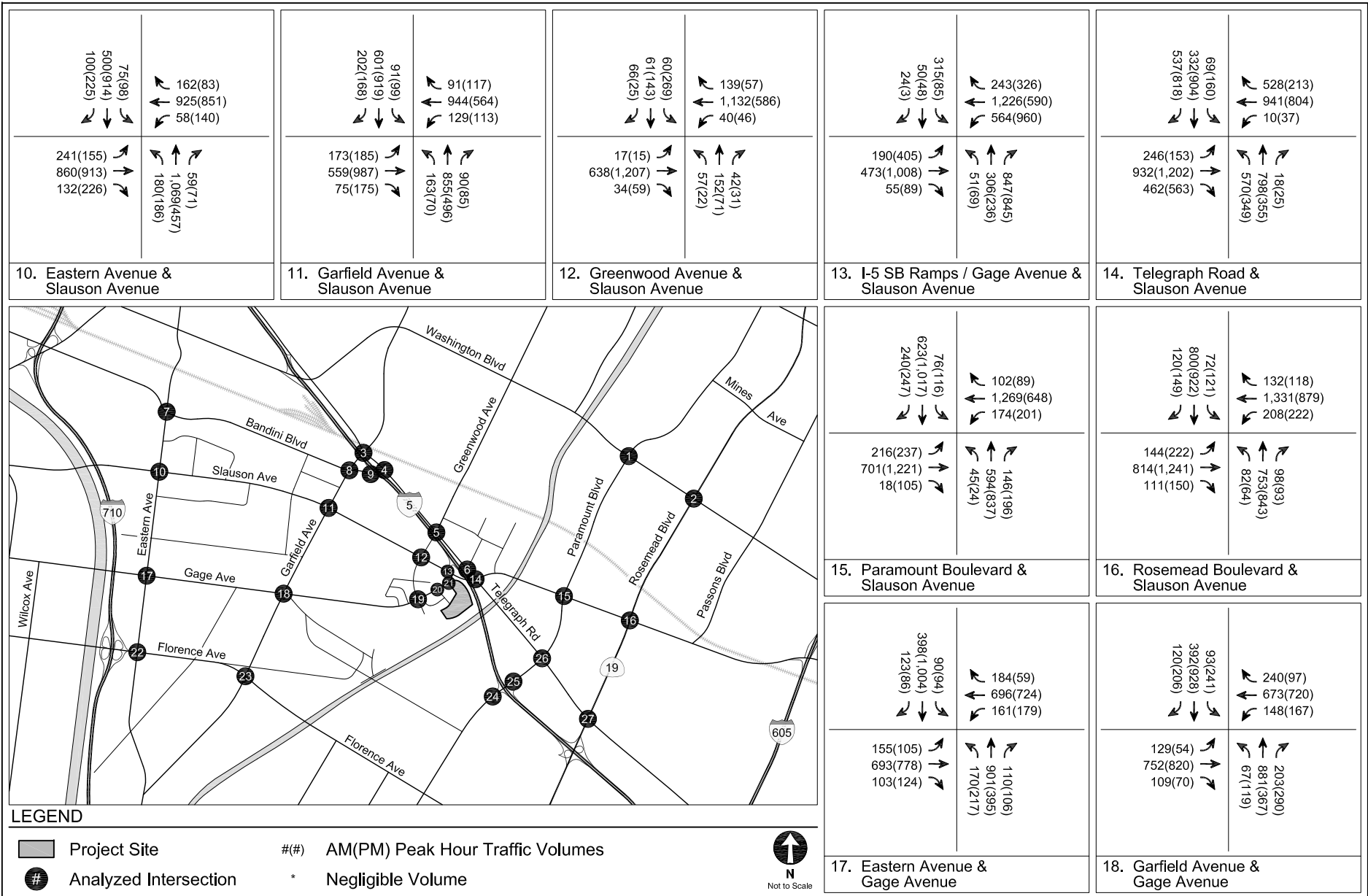
- 
17. Eastern Avenue & Gage Avenue (Afternoon peak hour)
  18. Garfield Avenue & Gage Avenue (Morning and afternoon peak hour)
  22. Eastern Avenue & Florence Avenue (Morning and afternoon peak hour)
  26. Telegraph Road & Paramount Boulevard (Afternoon peak hour)





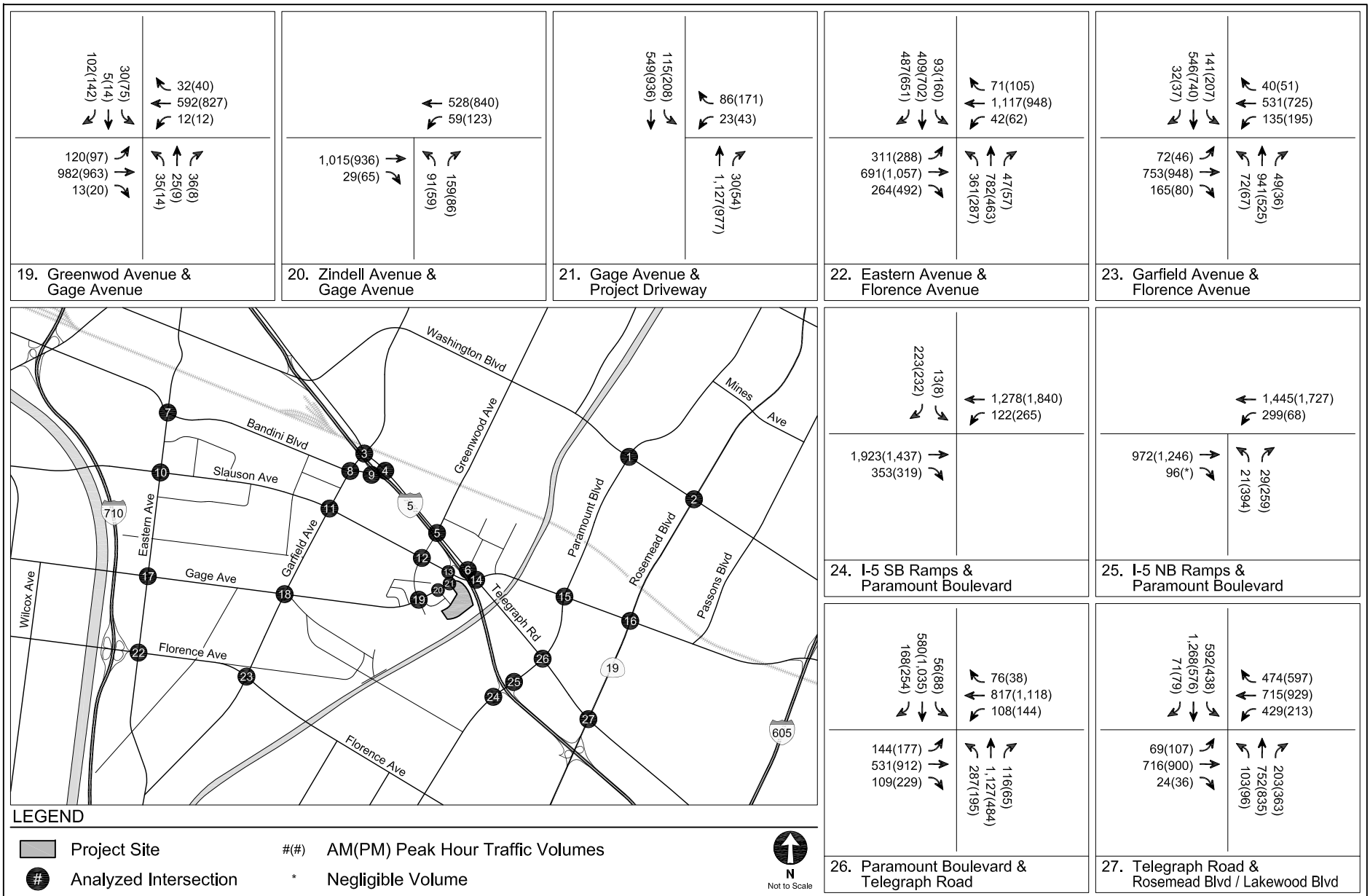
EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
10



**EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE  
10 (CONT.)**



EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
10 (CONT.)

**TABLE 9  
EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions			
			V/C or Delay	LOS	V/C or Delay	LOS	Δ V/C	Impact
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.860	D	0.862	D	0.002	NO
		P.M.	0.928	E	0.934	E	0.006	NO
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.848	D	0.852	D	0.004	NO
		P.M.	0.880	D	0.887	D	0.007	NO
3.	Garfield Avenue & Telegraph Road	A.M.	0.717	C	0.726	C	0.009	NO
		P.M.	0.755	C	0.763	C	0.008	NO
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.771	C	0.808	D	0.037	YES
		P.M.	0.875	D	0.907	E	0.032	YES
5.	Telegraph Road & Greenwood Avenue	A.M.	0.710	C	0.732	C	0.022	NO
		P.M.	0.716	C	0.726	C	0.010	NO
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	6.7	A	7.6	A	0.9	NO
		P.M.	62.9	E	69.5	E	6.6	YES
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.756	C	0.766	C	0.010	NO
		P.M.	0.735	C	0.739	C	0.004	NO
8.	Garfield Avenue & Bandini Boulevard	A.M.	0.975	E	0.983	E	0.008	NO
		P.M.	0.825	D	0.838	D	0.013	NO
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	20.8	C	21.1	C	0.3	NO
		P.M.	82.2	F	83.0	F	0.8	NO
10.	Eastern Avenue & Slauson Avenue	A.M.	0.756	C	0.770	C	0.014	NO
		P.M.	0.827	D	0.838	D	0.011	NO
11.	Garfield Avenue & Slauson Avenue	A.M.	0.860	D	0.867	D	0.007	NO
		P.M.	0.861	D	0.874	D	0.013	NO
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.613	B	0.635	B	0.022	NO
		P.M.	0.709	C	0.742	C	0.033	NO
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.719	C	0.784	C	0.065	YES
		P.M.	0.910	E	1.062	F	0.152	YES
14.	Telegraph Road & Slauson Avenue	A.M.	0.807	D	0.857	D	0.050	YES
		P.M.	0.871	D	0.901	E	0.030	YES
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.802	D	0.810	D	0.008	NO
		P.M.	0.901	E	0.908	E	0.007	NO
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.805	D	0.817	D	0.012	NO
		P.M.	0.904	E	0.908	E	0.004	NO
17.	Eastern Avenue & Gage Avenue	A.M.	0.805	D	0.821	D	0.016	NO
		P.M.	0.935	E	0.954	E	0.019	YES
18.	Garfield Avenue & Gage Avenue	A.M.	0.849	D	0.874	D	0.025	YES
		P.M.	0.886	D	0.922	E	0.036	YES
19.	Greenwood Avenue & Gage Avenue	A.M.	0.497	A	0.515	A	0.018	NO
		P.M.	0.513	A	0.540	A	0.027	NO
20.	Gage Avenue & Zindell Avenue	A.M.	0.449	A	0.630	B	0.181	NO
		P.M.	0.419	A	0.591	A	0.172	NO
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A	4.8	A	4.5	NO
		P.M.	0.4	A	8.1	A	7.7	NO
22.	Eastern Avenue & Florence Avenue	A.M.	0.852	D	0.873	D	0.021	YES
		P.M.	0.941	E	0.954	E	0.013	YES
23.	Garfield Avenue & Florence Avenue	A.M.	0.777	C	0.784	C	0.007	NO
		P.M.	0.738	C	0.752	C	0.014	NO
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	4.9	A	4.9	A	0.0	NO
		P.M.	10.5	B	10.8	B	0.3	NO
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.612	B	0.615	B	0.003	NO
		P.M.	0.895	D	0.897	D	0.002	NO
26.	Telegraph Road & Paramount Boulevard	A.M.	0.800	C	0.815	D	0.015	NO
		P.M.	0.951	E	0.973	E	0.022	YES
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.884	D	0.888	D	0.004	NO
		P.M.	1.001	F	1.008	F	0.007	NO

**Notes:**

[a] Unsignalized Intersection

[b] Project is proposing to install signal at intersection

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## **Chapter 6**

### ***Future with Project Conditions***

This chapter describes the results of the analysis of intersection operating conditions associated with the Project compared to the Future without Project Conditions data and analysis presented in Chapter 3. The analysis Year 2023 corresponds to the anticipated buildout year of the Project.

#### **FUTURE WITH PROJECT TRAFFIC VOLUMES**

The Project-only morning and afternoon peak hour traffic volumes described in Chapter 4 and shown in Figure 9 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 7. The resulting volumes are illustrated in Figure 11 and represent Future with Project Conditions after development of the Project under Future without Project Conditions.

#### **FUTURE WITH PROJECT INTERSECTION LEVELS OF SERVICE**

Table 10 summarizes the results of the Future with Project Conditions during the weekday morning and afternoon peak hours for the 27 study intersections. As shown in Table 10, the results of this analysis indicate that 10 of the 27 study intersections are currently operating at LOS D or better during the weekday morning and afternoon peak hours. The remaining intersections operate at LOS E or F during at least one of the peak periods:

1. Paramount Boulevard & Washington Boulevard (LOS E in the morning and afternoon peak hour)
2. Rosemead Boulevard & Washington Boulevard (LOS E in the afternoon peak hour)
4. Telegraph Road & I-5 Northbound Off-Ramp (Garfield Avenue) (LOS E in the afternoon peak hour)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (LOS F in the afternoon peak hour)
8. Garfield Avenue & Bandini Boulevard (LOS F in the morning peak hour)

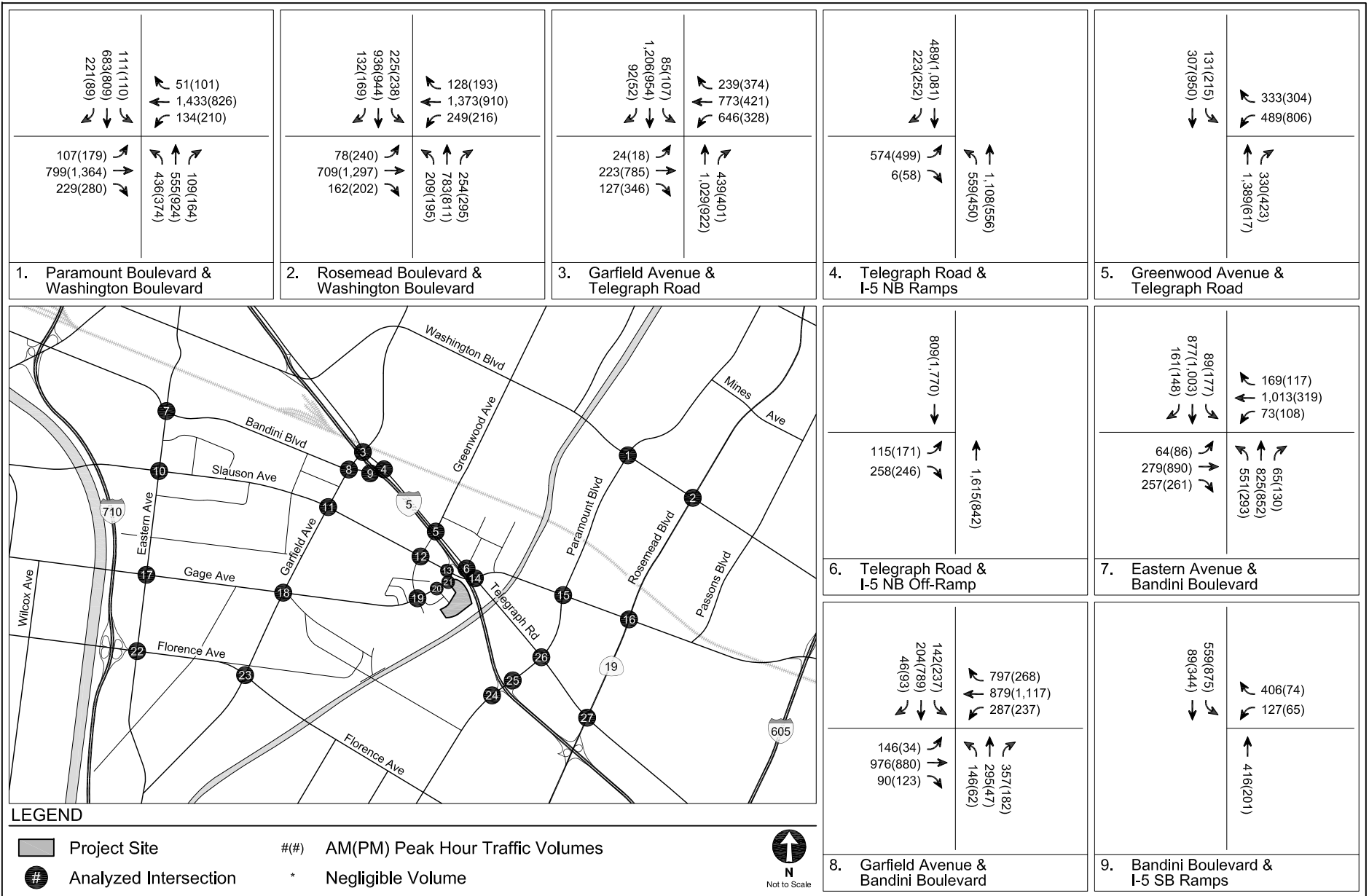
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9. I-5 Southbound Ramps & Bandini Boulevard (LOS F in the afternoon peak hour)
  11. Garfield Avenue & Slauson Avenue (LOS E in the morning and afternoon peak hour)
  13. I-5 Southbound Ramps / Gage Avenue & Slauson Avenue (LOS F in the afternoon peak hour)
  14. Telegraph Road & Slauson Avenue (LOS E in the morning and afternoon peak hour)
  15. Paramount Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
  16. Rosemead Boulevard & Slauson Avenue (LOS E in the afternoon peak hour)
  17. Eastern Avenue & Gage Avenue (LOS F in the afternoon peak hour)
  18. Garfield Avenue & Gage Avenue (LOS E in the morning and afternoon peak hour)
  22. Eastern Avenue & Florence Avenue (LOS E in the morning peak hour, LOS F in the afternoon peak hour)
  25. I-5 Northbound Ramps & Paramount Boulevard (LOS E in the afternoon peak hour)
  26. Telegraph Road & Paramount Boulevard (LOS F in the afternoon peak hour)
  27. Telegraph Road & Rosemead Boulevard (LOS E in the morning peak hour, LOS F in the afternoon peak hour)

#### **FUTURE WITH PROJECT IMPACTS BEFORE MITIGATION**

The relative impact of the added Project traffic volumes during the peak hours was evaluated based on analysis of existing operating conditions at the study intersections without and with the Project. The previously discussed significance criteria and thresholds summarized in Chapter 1 were then used to determine the significance of a transportation impact caused by the Project on the study intersection, prior to any Project improvements or trip reduction measures. The potential Project impacts on the Future with Project Conditions during the weekday morning and afternoon peak hours are shown in Table 10. The Project would meet the criteria for significant impacts at eight of the 27 analyzed intersections:

4. Telegraph Road & I-5 Northbound Ramps (Garfield Avenue) (Morning and afternoon peak hour)
6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) (Afternoon peak hour)
11. Garfield Avenue & Slauson Avenue (Afternoon peak hour)
13. I-5 Southbound Ramps / Gage Avenue & Slauson Avenue (Morning and afternoon peak hour)
14. Telegraph Road & Slauson Avenue (Morning and afternoon peak hour)
17. Eastern Avenue & Gage Avenue (Afternoon peak hour)

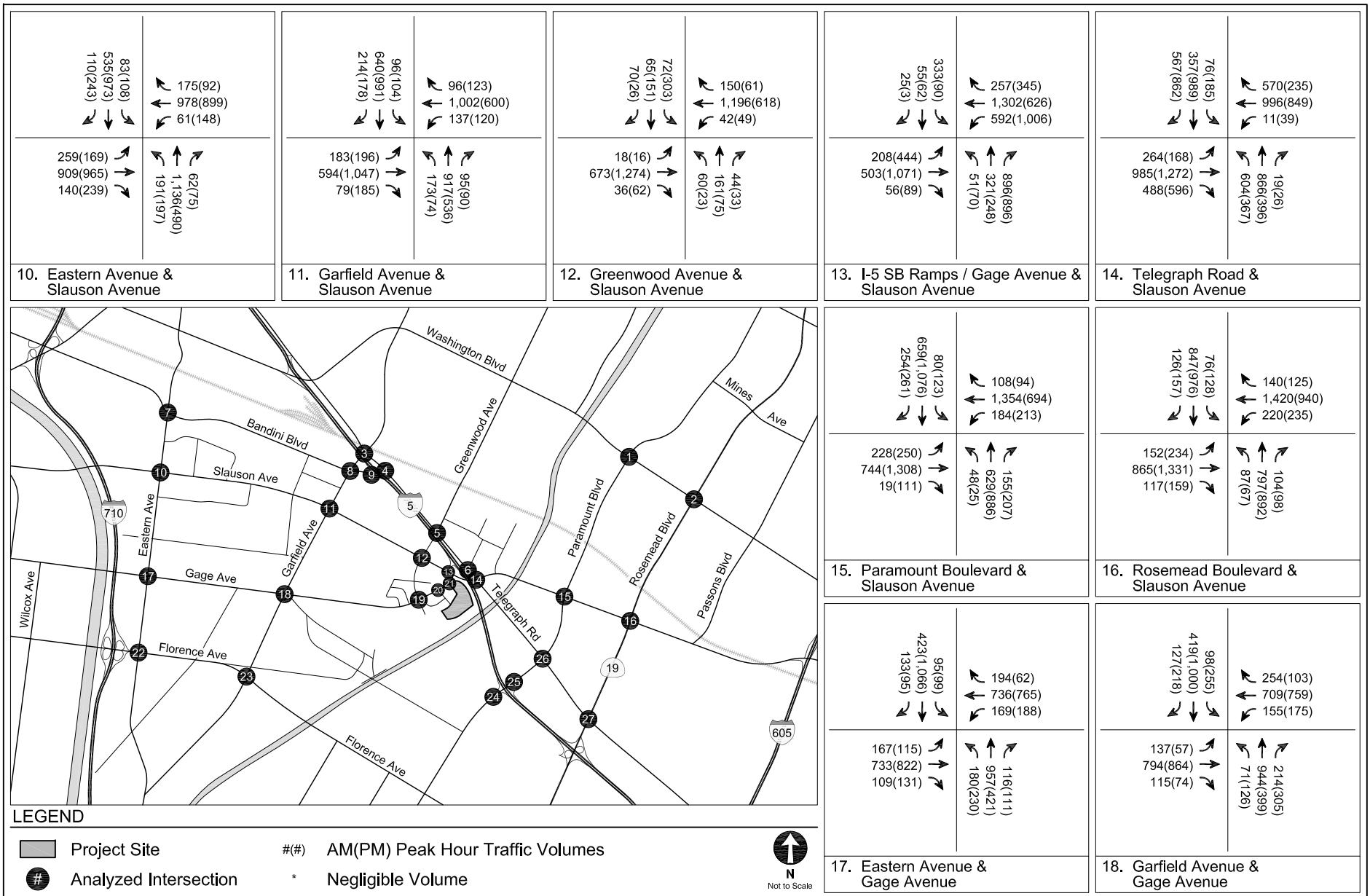
- 
18. Garfield Avenue & Gage Avenue (Morning and afternoon peak hour)
  22. Eastern Avenue & Florence Avenue (Morning and afternoon peak hour)
  26. Telegraph Road & Paramount Boulevard (Afternoon peak hour)



FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

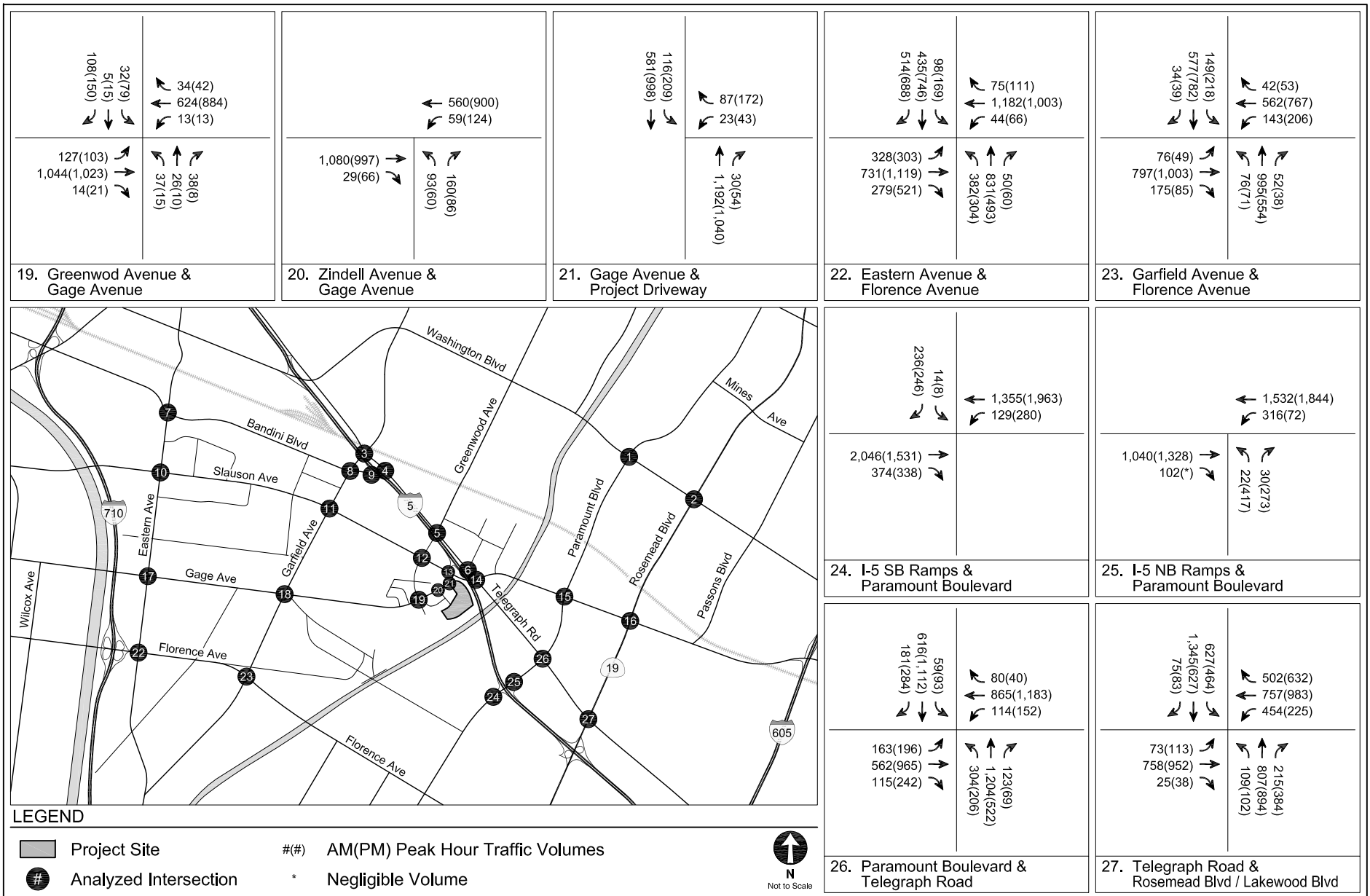
FIGURE  
11





FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
11 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
PEAK HOUR TRAFFIC VOLUMES

FIGURE  
11 (CONT.)

**TABLE 10  
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions			
			V/C or Delay	LOS	V/C or Delay	LOS	Δ V/C	Impact
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.905	E	0.906	E	0.001	NO
		P.M.	0.976	E	0.982	E	0.006	NO
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.892	D	0.896	D	0.004	NO
		P.M.	0.926	E	0.933	E	0.007	NO
3.	Garfield Avenue & Telegraph Road	A.M.	0.760	C	0.769	C	0.009	NO
		P.M.	0.806	D	0.814	D	0.008	NO
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.827	D	0.864	D	0.037	YES
		P.M.	0.951	E	0.983	E	0.032	YES
5.	Telegraph Road & Greenwood Avenue	A.M.	0.758	C	0.780	C	0.022	NO
		P.M.	0.752	C	0.762	C	0.010	NO
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	10.1	B	11.5	B	1.4	NO
		P.M.	94.5	F	103.9	F	9.4	YES
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.799	C	0.808	D	0.009	NO
		P.M.	0.777	C	0.782	C	0.005	NO
8.	Garfield Avenue & Bandini Boulevard	A.M.	1.030	F	1.038	F	0.008	NO
		P.M.	0.867	D	0.880	D	0.013	NO
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	25.1	C	25.7	C	0.6	NO
		P.M.	101.0	F	101.7	F	0.7	NO
10.	Eastern Avenue & Slauson Avenue	A.M.	0.800	C	0.815	D	0.015	NO
		P.M.	0.871	D	0.882	D	0.011	NO
11.	Garfield Avenue & Slauson Avenue	A.M.	0.906	E	0.915	E	0.009	NO
		P.M.	0.912	E	0.925	E	0.013	YES
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.649	B	0.671	B	0.022	NO
		P.M.	0.756	C	0.790	C	0.034	NO
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.760	C	0.818	D	0.058	YES
		P.M.	0.958	E	1.109	F	0.151	YES
14.	Telegraph Road & Slauson Avenue	A.M.	0.866	D	0.911	E	0.045	YES
		P.M.	0.926	E	0.957	E	0.031	YES
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.845	D	0.853	D	0.008	NO
		P.M.	0.951	E	0.958	E	0.007	NO
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.849	D	0.860	D	0.011	NO
		P.M.	0.954	E	0.958	E	0.004	NO
17.	Eastern Avenue & Gage Avenue	A.M.	0.848	D	0.865	D	0.017	NO
		P.M.	0.984	E	1.003	F	0.019	YES
18.	Garfield Avenue & Gage Avenue	A.M.	0.896	D	0.921	E	0.025	YES
		P.M.	0.936	E	0.973	E	0.037	YES
19.	Greenwood Avenue & Gage Avenue	A.M.	0.522	A	0.540	A	0.018	NO
		P.M.	0.541	A	0.568	A	0.027	NO
20.	Gage Avenue & Zindell Avenue	A.M.	0.471	A	0.653	B	0.182	NO
		P.M.	0.440	A	0.612	B	0.172	NO
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A	4.8	A	4.5	NO
		P.M.	0.4	A	8.1	A	7.7	NO
22.	Eastern Avenue & Florence Avenue	A.M.	0.895	D	0.916	E	0.021	YES
		P.M.	0.990	E	1.003	F	0.013	YES
23.	Garfield Avenue & Florence Avenue	A.M.	0.816	D	0.823	D	0.007	NO
		P.M.	0.774	C	0.788	C	0.014	NO
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	7.9	A	8.0	A	0.1	NO
		P.M.	17.5	B	17.9	B	0.5	NO
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.645	B	0.647	B	0.002	NO
		P.M.	0.946	E	0.948	E	0.002	NO
26.	Telegraph Road & Paramount Boulevard	A.M.	0.849	D	0.864	D	0.015	NO
		P.M.	1.013	F	1.035	F	0.022	YES
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.932	E	0.936	E	0.004	NO
		P.M.	1.055	F	1.062	F	0.007	NO

**Notes:**

[a] Unsignalized Intersection

[b] Project is proposing to install signal at intersection

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## **Chapter 7**

### **Unsignalized Intersection Analysis**

As described in Chapter 1, the four unsignalized study intersections were analyzed using the HCM methodology to determine the overall intersection delay under both Existing and Future Conditions. A signal warrant analysis was conducted for unsignalized intersections to evaluate the potential installation of a new traffic signal. The signal warrant analysis was conducted per the guidelines set forth in *California Manual on Uniform Traffic Control Devices* (Caltrans, 2012) (California MUTCD).

#### **SIGNAL WARRANT ANALYSIS**

Signal warrant analyses were performed for the four unsignalized study intersections under Existing Conditions:

6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue)
9. I-5 Southbound Ramps & Bandini Boulevard
21. Gage Avenue & Project Driveway
24. I-5 Ramps & Paramount Boulevard

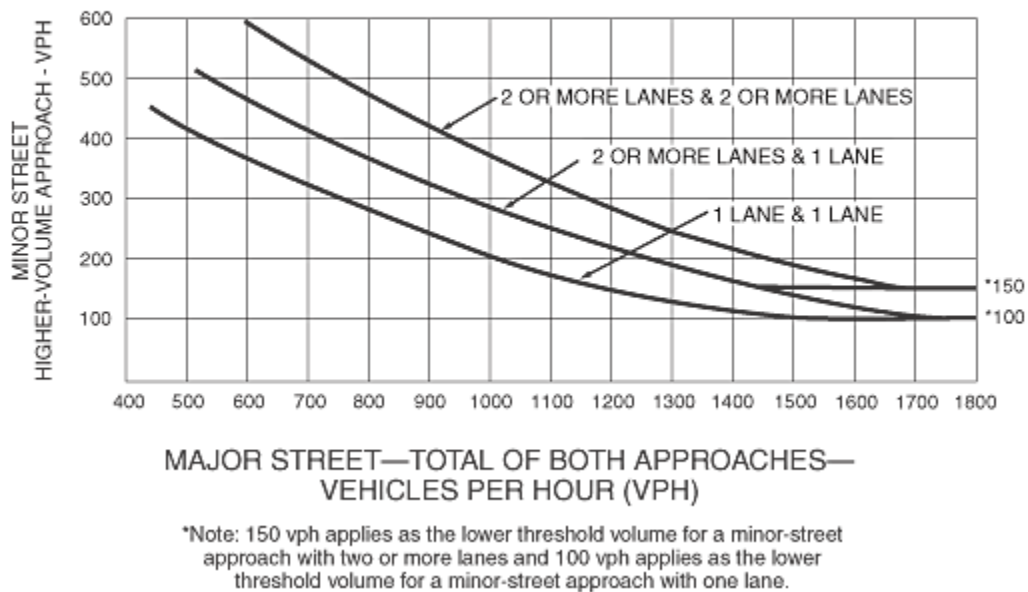
The intersections were analyzed according to Warrant 3 (peak hour). The following methodologies, as quoted from the California MUTCD, were used to evaluate signal warrants at the intersection:

#### **Warrant 3, Peak-Hour Vehicular Volume Warrant**

*Signal Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. Combined volumes for both approaches of the major street are included while only the volume from the higher minor street approach is*

included. At an intersection with a high volume of left-turn traffic from the major street, the analysis may include the major street left-turn volumes plus the minor street approach volume as the total “minor street” volume. The warrant is satisfied if traffic volumes for any one hour of an average day exceed the plotted lines shown in the following figure.

**Figure 4C-3. Warrant 3, Peak Hour**



The traffic signal warrant analyses indicated the following:

- Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) met warrants for signal installation in the morning and afternoon peak hour under Existing, Existing with Project, Future without Project and Future with Project Conditions.
- Gage Avenue & Project Driveway met warrants for signal installation in the afternoon peak hour under Existing with Project and Future with Project Conditions.
- The remaining two study intersections did not meet warrants for signal installation in any of the peak hour periods analyzed.

Detailed signal warrant worksheets are provided in Appendix E.

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The determination that an unsignalized intersection meets the criteria of a traffic signal warrant does not in itself require the installation of a signal. Rather, the decision on whether a traffic signal should be installed is made by the governing jurisdictions taking into consideration other factors such as distance to adjacent signalized intersections and interruption to traffic flow along the major street.

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## **Chapter 8**

### **Traffic Mitigation Program**

This chapter describes the traffic mitigation measures considered in order to mitigate the significant traffic impacts at study intersections associated with construction of the Project and to improve traffic operations in the Project vicinity. The various guidelines, methods, and assumptions mandated by the City, wherever applicable, were used in the preparation of this analysis.

The mitigation measures described in this chapter relate to the significant traffic impacts previously described with respect to both the Existing with Project Conditions (Year 2019) and Future with Project Conditions (Year 2023) analyses. As described, under Existing with Project Conditions and Future with Project Conditions, before mitigation, the Project is expected to result in significant traffic impacts at nine of the 27 study intersections.

#### **MITIGATION MEASURES**

Intersection improvements designed to alleviate the significant impacts of the Project consist of changes to lane configurations and/or the installation or upgrades of traffic control devices in the area. Widening and/or other improvements to the intersections would need to be designed to meet the requirements of the appropriate jurisdiction based on the location of the intersection. The following is a description of the feasible proposed intersection mitigation measures:

#### **4. Telegraph Road & I-5 Northbound Ramps (Garfield Avenue)**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the southbound approach of the intersection to accommodate a right-turn lane. This would result in a southbound approach providing two through lanes and one right-turn lane. This

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improvement could be implemented by restriping the existing lanes and no widening would be required. The proposed mitigation is shown in Figure 12A.

#### **6. Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue)**

The significant traffic impact at this intersection could be mitigated and reduced to less than significant levels by signalizing the intersection. A signal warrant is met for this intersection under existing conditions. Signalization would reduce the delay experienced by drivers exiting the freeway as they attempt to turn left onto Telegraph Road. It should be noted that the Project does not add any traffic to the eastbound left-turn movement (the intersection movement that experiences the highest delay and is responsible for the poor overall operating LOS of the intersection). A signal warrant analysis was completed for this intersection and is provided in Appendix E.

Other proposed projects within the Study Area also contribute traffic to this intersection and, therefore, the Project should be required to pay its fair share of the cost of this intersection signalization.

Since this intersection is controlled by both the City and Caltrans, Caltrans would have to approve the design of a traffic signal at this location. This study also considered whether the installation of a traffic signal could queue off-ramp traffic back onto the freeway mainline lanes. In this case, however, the proposed traffic signal would likely give the exiting traffic more gaps in Telegraph Road traffic, thereby reducing the off-ramp queues.

Caltrans has proposed long-range improvements to the I-5 section through the Study Area and may be unwilling to permit improvements to ramps that may be removed or modified as part of that improvement program. The latest schedule for these I-5 improvements suggests that this corridor improvement could be more than 15-20 years away.

#### **12. Garfield Avenue & Slauson Avenue**

The significant traffic impact at this intersection could be mitigated and reduced to less than significant levels by reconfiguring the southbound approach of the intersection to accommodate



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a right-turn lane. This would result in a southbound approach providing a left-turn lane, two through lanes, and a right-turn lane. This improvement could be implemented by restriping the existing lanes and no widening would be required. The proposed mitigation is shown in Figure 12B.

### **13. I-5 Southbound Ramps & Slauson Avenue**

The significant traffic impact at this intersection could be mitigated and reduced to less than significant levels by reconfiguring the intersection into two three-legged intersections. Intersection 13a would be a T intersection between the I-5 Southbound Ramps & Slauson Avenue and Intersection 13b would be a T intersection between Gage Avenue & Slauson Avenue. To implement this mitigation measure, street widening, new signals, reconfiguration with the existing rail crossing, and signal timing work would be necessary. The proposed mitigation is shown on Figure 12C.

Intersection 13a would be restriped to provide one left-turn lane, two through lanes, and one through/right-turn lane in the eastbound direction; two left-turn lanes and one free right-turn lane in the southbound direction; two through lanes and one free right-turn lane in the westbound direction; and a left-turn/through/right-turn lane out of the northbound driveway. Wellman Street, which is adjacent to the proposed intersection, would be closed off to Slauson Avenue completely with a cul-de-sac. Neighbors wishing to leave the neighborhood would instead use Greenwood Avenue.

Intersection 13b would be restriped to provide two through lanes and one right-turn lane in the eastbound direction; one left-turn/through/right-turn lane for the southbound driveway; two left-turn lanes, two through lanes, and a through/right-turn lane in the westbound direction; and two left-turn lanes and a free right-turn lane in the northbound direction. The railroad crossing would shift to the right and would need reconstruction.

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#### **14. Telegraph Road & Slauson Avenue**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the eastbound approach of the intersection to accommodate an additional through lane, resulting in an eastbound approach providing one left-turn lane, three through lanes, and one right-turn lane. The westbound approach of the intersection would be modified to accommodate a new through/right-turn lane, resulting in one left-turn lane, two through lanes, one through/right-turn lane, and one right-turn lane. The overlap phase on the westbound approach would be eliminated with the addition of the through/right-turn lane. The southbound approach would be modified to accommodate a second right-turn lane and would eliminate the existing free right-turn lane. The approach would provide a left-turn lane, two through lanes, and two right-turn lanes. No changes are proposed for the northbound lanes along Telegraph Road. This improvement could be implemented by restriping the existing lanes in both directions and no widening would be required, although reconfiguration of the “pork-chop” right-turn island on the southbound approach would be necessary. The proposed mitigation is shown in Figure 12D.

#### **17. Eastern Avenue & Gage Avenue**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the southbound approach of the intersection to accommodate a through/right-turn lane. This would result in a southbound approach providing one left-turn lane, two through lanes, and one through/right-turn lane. This improvement could be implemented by restriping the existing lanes and no widening would be required. The through lane would need to be striped south of the intersection. The proposed mitigation is shown in Figure 12E.

#### **18. Garfield Avenue & Gage Avenue**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the northbound approach of the intersection to accommodate a right-turn lane and the southbound approach of the intersection to accommodate a right-turn lane. This would result in a northbound approach providing one left-turn lane, two through lanes, and one right-turn lane and a southbound approach providing one left-turn lane, two through lanes, and one right-turn

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lane. This improvement could be implemented by restriping the existing wide through/right-turn lanes in each direction into two lanes – one through lane and one right-turn lane. No widening would be required. The proposed mitigation is shown in Figure 12F.

## **22. Eastern Avenue & Florence Avenue**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the southbound approach of the intersection to accommodate a through/right-turn lane. This would result in a southbound approach providing two left-turn lanes, two through lanes, one through/right-turn lane, and one right-turn lane. This improvement could be implemented by restriping one of the existing through lanes and, therefore, no widening would be required. The right-turn lane immediately adjacent to the curb would have to be signed as a “Freeway Only” turn lane. The proposed mitigation is shown in Figure 12G.

## **26. Paramount Boulevard & Telegraph Road**

The significant traffic impact at this intersection could be reduced to less than significant levels by reconfiguring the westbound approach of the intersection to accommodate a through/right-turn lane. This would result in a westbound approach providing one left-turn lane, two through lanes, and one through/right-turn lane. This improvement could be implemented by removing part of the median and moving back the stop bar at the adjacent intersection. The existing crosswalk would have to be relocated as a result of the right-turn lane. No widening would be required. The proposed mitigation is shown in Figure 12H.

## **MITIGATION EFFECTIVENESS**

The components of the Project’s mitigation program described above would result in operational improvements as a result of the specific intersection improvements. The effectiveness of the proposed traffic mitigation program was analyzed by applying the capacity enhancements from the implementation of the mitigation measures, resulting in the Existing with Project with Mitigation

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Conditions and Future with Project with Mitigation Conditions. The intersections were analyzed using the methodology described in Chapter 1.

### **Existing with Project with Mitigation Conditions (Year 2019)**

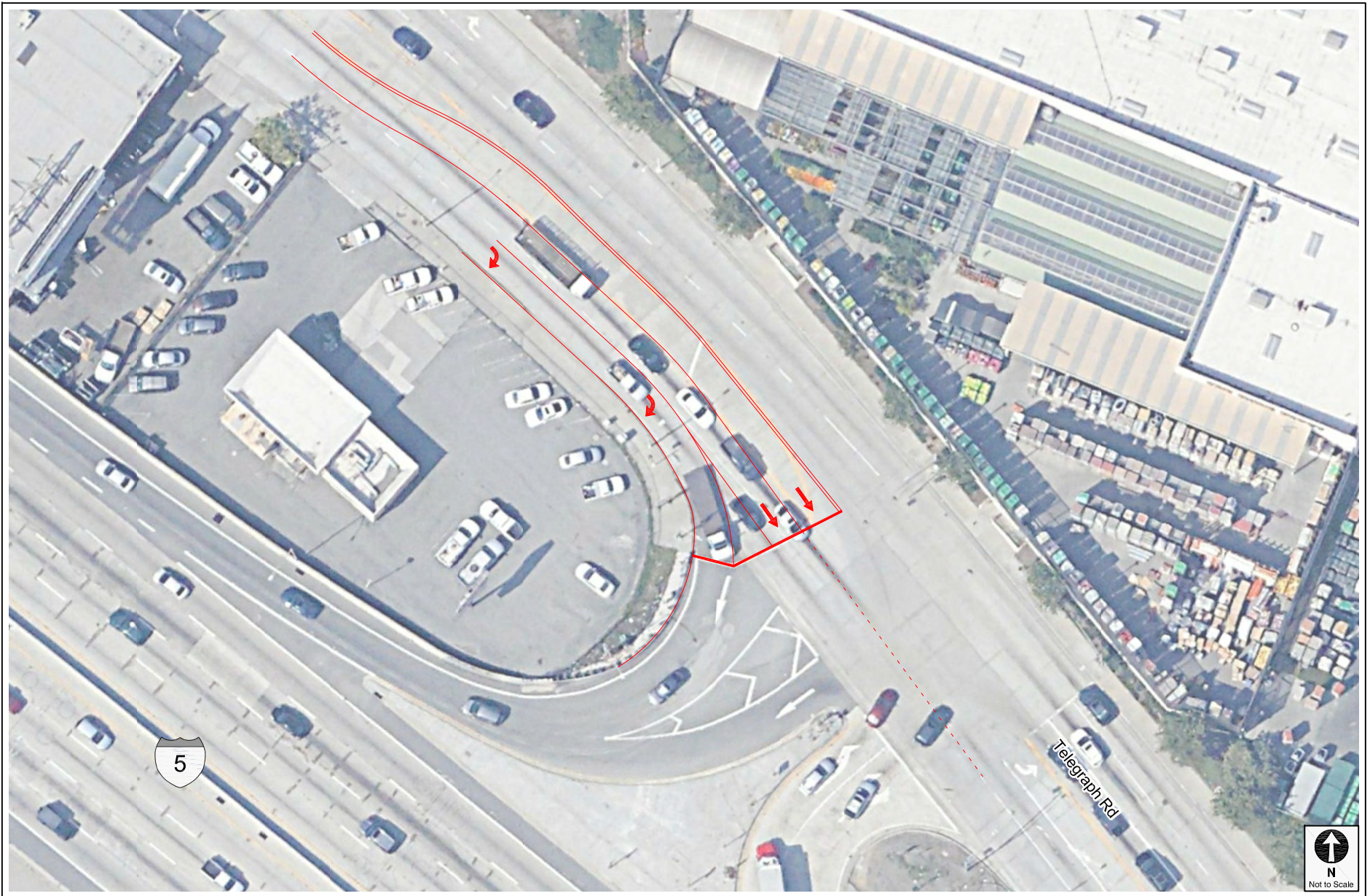
Table 11 summarizes the results of the Existing with Project with Mitigation Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, all study intersections would operate at less than significant Project traffic impact levels.

### **Future with Project with Mitigation Conditions (Year 2023)**

Table 12 summarizes the results of the Future with Project with Mitigation Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown, all study intersections would operate at less than significant Project traffic impact levels.

The capacity calculations shown in Tables 11 and 12 assume that the physical and operational improvements described above are fully implemented. To the extent that Caltrans or one of the adjacent cities that share operational jurisdiction at an improvement location rejects the proposed improvement and a substitute mitigation is not found, a significant impact would remain.





INTERSECTION 4: TELEGRAPH ROAD & I-5 NB RAMPS  
PROPOSED MITIGATION

FIGURE  
12A

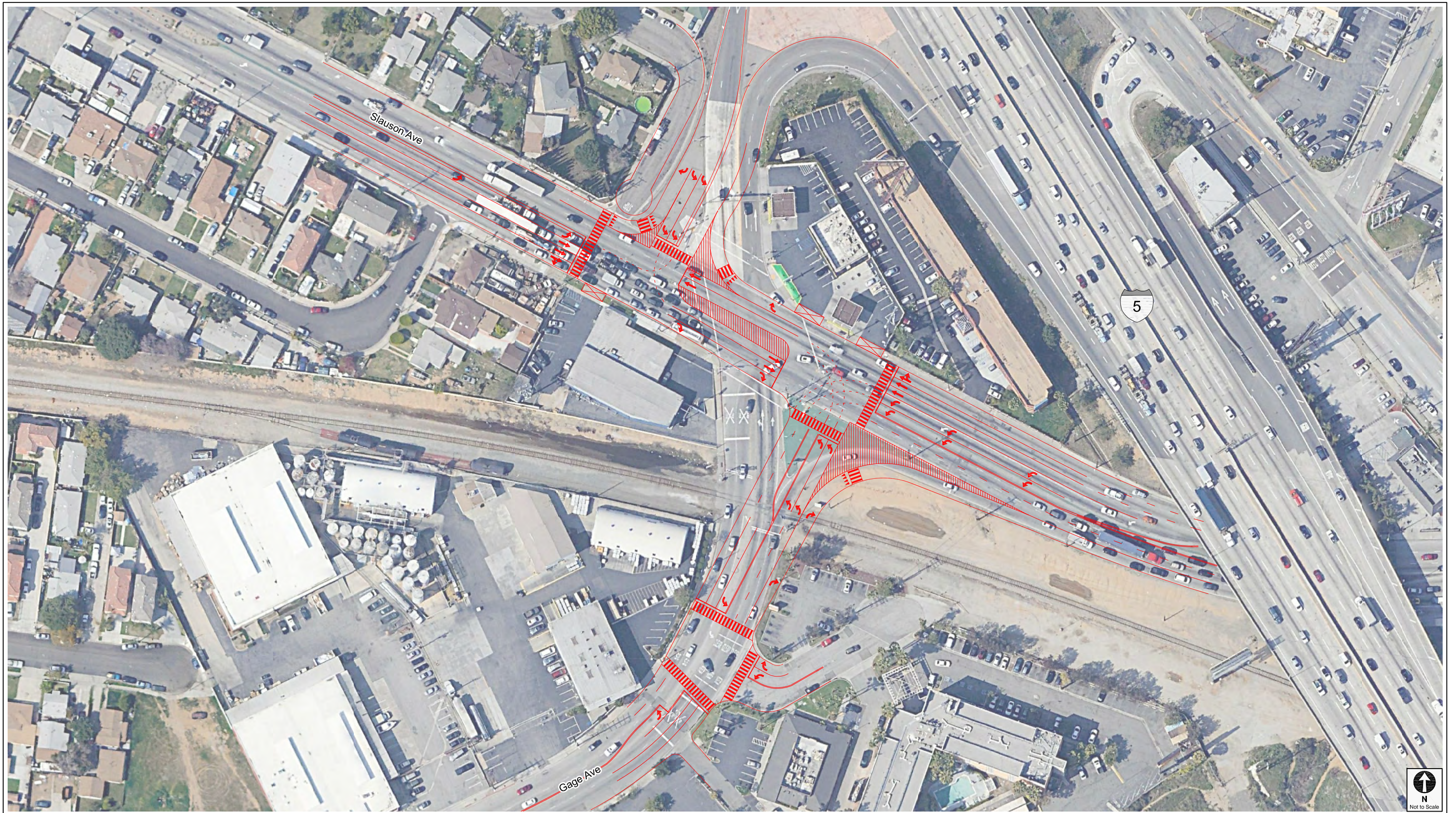




INTERSECTION 11: GARFIELD AVENUE & SLAUSON AVENUE  
PROPOSED MITIGATION

FIGURE  
12B

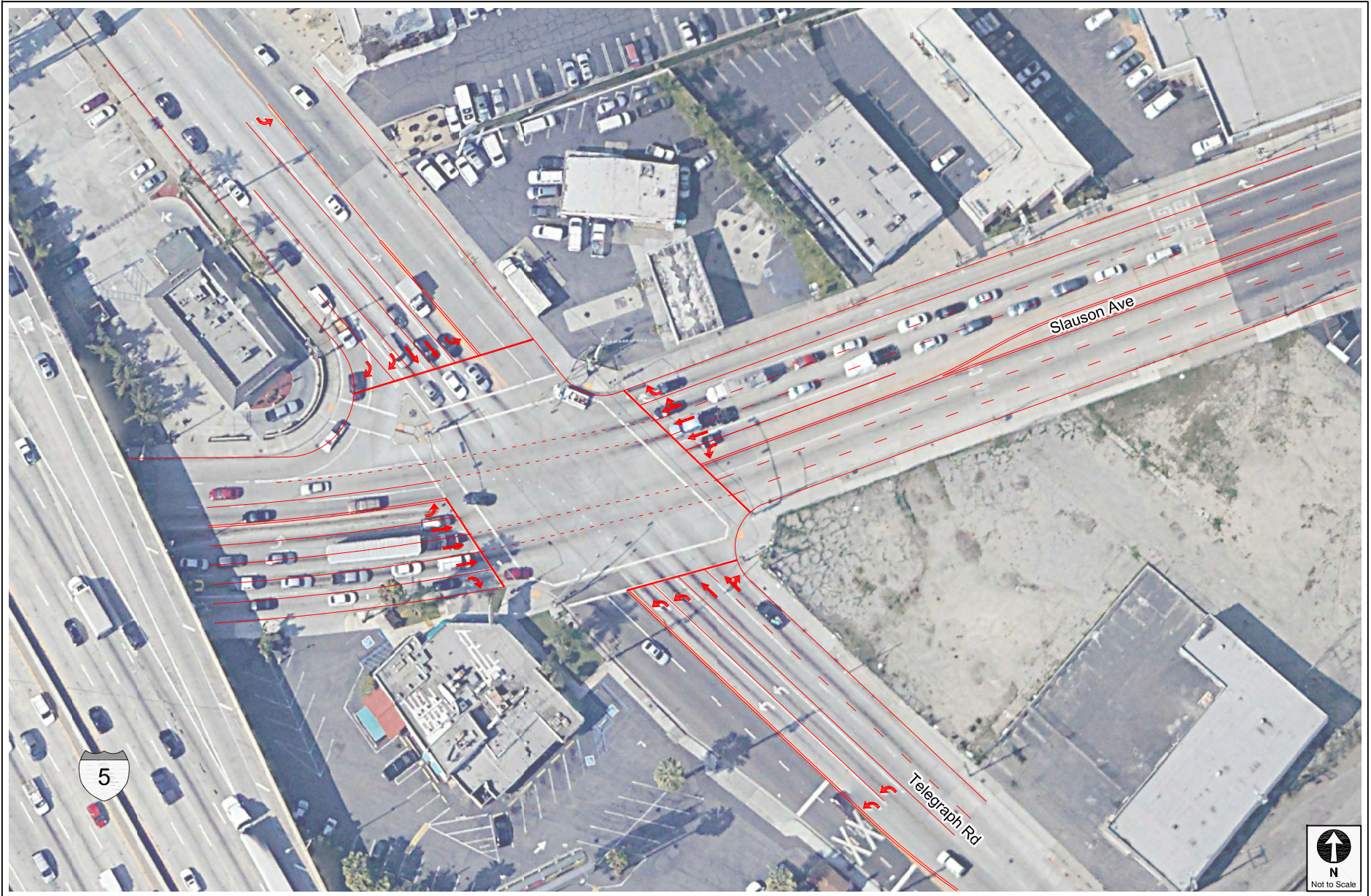




INTERSECTION 13: GAGE AVENUE & SLAUSON AVENUE  
PROPOSED MITIGATION

FIGURE  
12C





INTERSECTION 14: TELEGRAPH ROAD & SLAUSON AVENUE  
PROPOSED MITIGATION

FIGURE  
12D

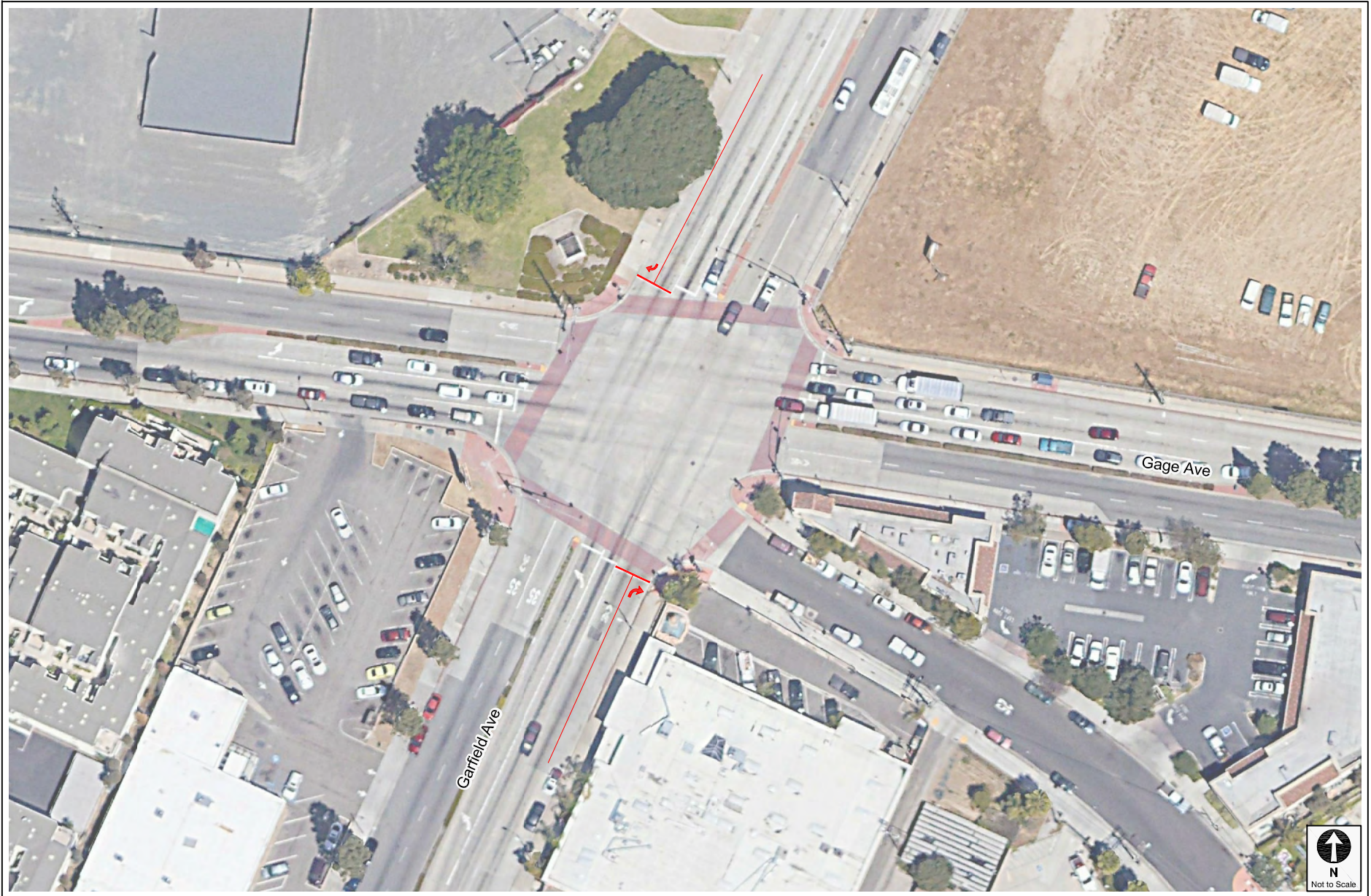




INTERSECTION 17: GARFIELD AVENUE & GAGE AVENUE  
PROPOSED MITIGATION

FIGURE  
12E

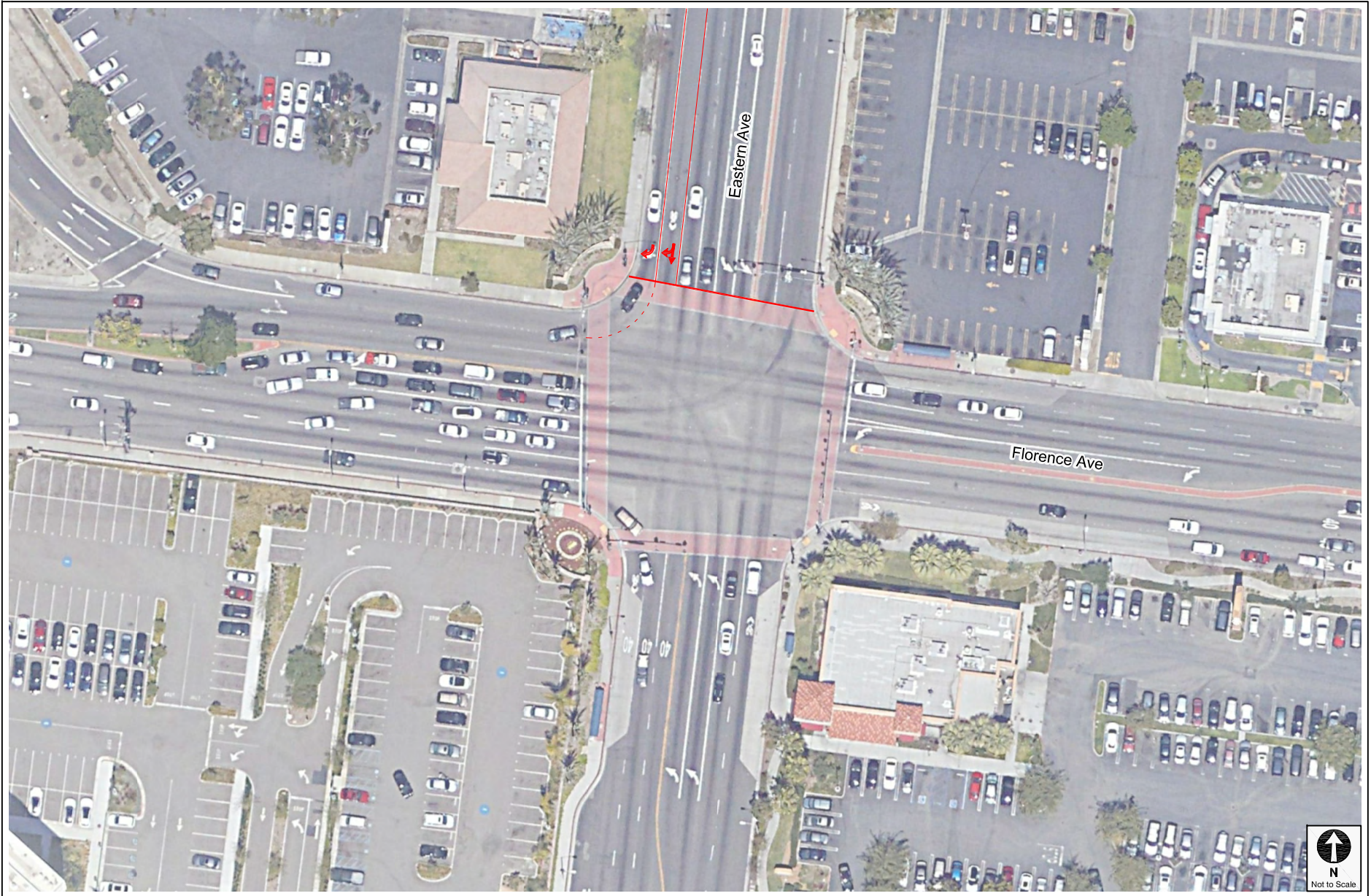




INTERSECTION 18: GARFIELD AVENUE & GAGE AVENUE  
PROPOSED MITIGATION

FIGURE  
12F

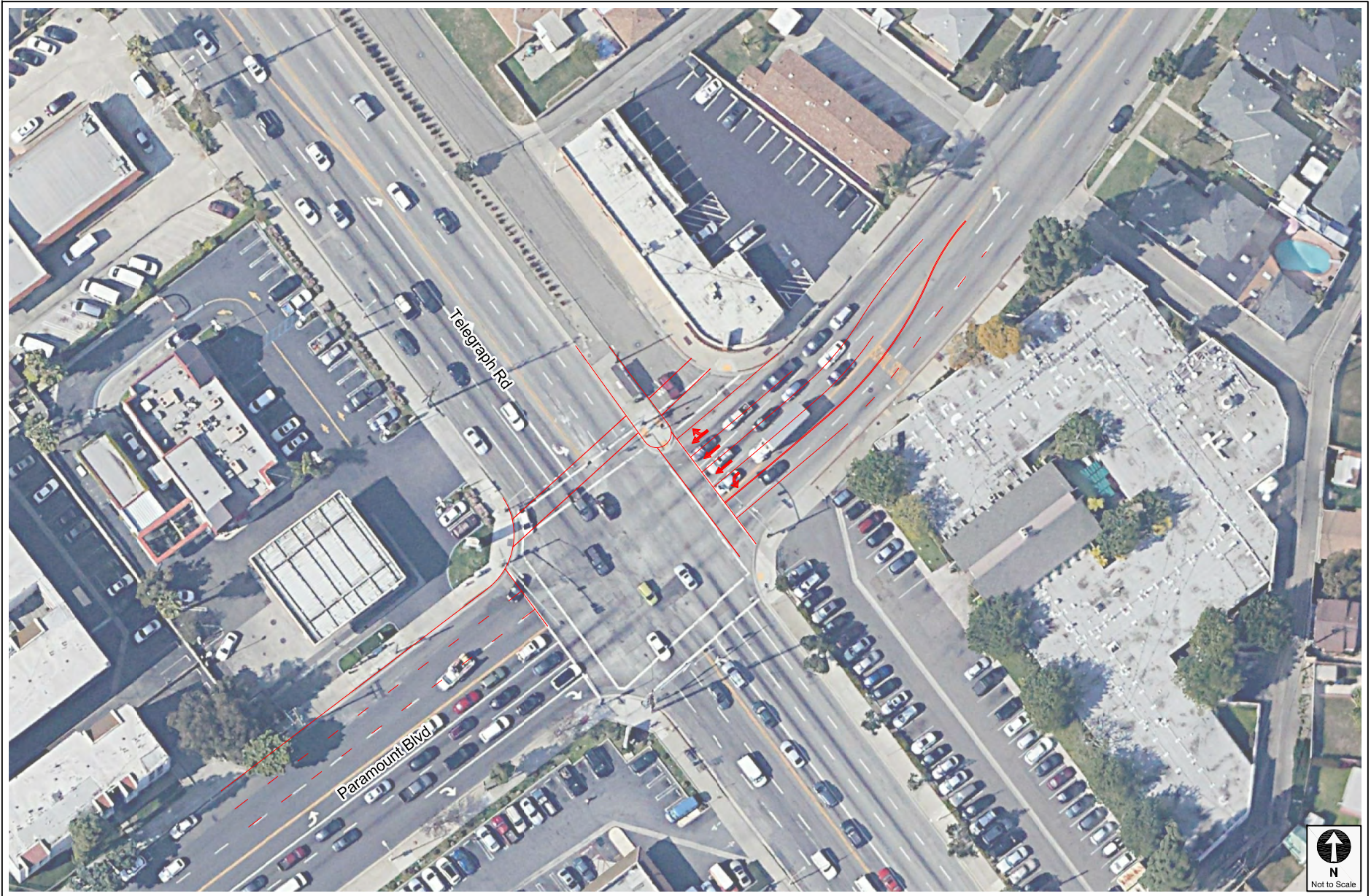




INTERSECTION 22: EASTERN AVENUE & FLORENCE AVENUE  
PROPOSED MITIGATION

FIGURE  
12G





INTERSECTION 26: PARAMOUNT BOULEVARD & TELEGRAPH ROAD  
PROPOSED MITIGATION

FIGURE  
12H

**TABLE 11  
EXISTING WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2019)  
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

No.	Intersection	Peak Hour	Existing Conditions		Existing with Project Conditions				Existing with Project with Mitigation Conditions			
			V/C or Delay	LOS	V/C or Delay	LOS	Δ V/C	Impact	V/C or Delay	LOS	Δ V/C	Impact
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.860	D	0.862	D	0.002	NO	0.862	D	0.002	NO
		P.M.	0.928	E	0.934	E	0.006	NO	0.934	E	0.006	NO
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.848	D	0.852	D	0.004	NO	0.852	D	0.004	NO
		P.M.	0.880	D	0.887	D	0.007	NO	0.887	D	0.007	NO
3.	Garfield Avenue & Telegraph Road	A.M.	0.717	C	0.726	C	0.009	NO	0.726	C	0.009	NO
		P.M.	0.755	C	0.763	C	0.008	NO	0.763	C	0.008	NO
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.771	C	0.808	D	0.037	YES	0.744	C	-0.027	NO
		P.M.	0.875	D	0.907	E	0.032	YES	0.837	D	-0.038	NO
5.	Telegraph Road & Greenwood Avenue	A.M.	0.710	C	0.732	C	0.022	NO	0.732	C	0.022	NO
		P.M.	0.716	C	0.726	C	0.010	NO	0.726	C	0.010	NO
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	6.7	A	7.6	A	0.9	NO	10.4	B	3.8	NO
		P.M.	62.9	E	69.5	E	6.6	YES	10.8	B	-52.1	NO
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.756	C	0.766	C	0.010	NO	0.766	C	0.010	NO
		P.M.	0.735	C	0.739	C	0.004	NO	0.739	C	0.004	NO
8.	Garfield Avenue & Bandini Boulevard	A.M.	0.975	E	0.983	E	0.008	NO	0.983	E	0.008	NO
		P.M.	0.825	D	0.838	D	0.013	NO	0.838	D	0.013	NO
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	20.8	C	21.1	C	0.3	NO	21.1	C	0.3	NO
		P.M.	82.2	F	83.0	F	0.8	NO	83.0	F	0.8	NO
10.	Eastern Avenue & Slauson Avenue	A.M.	0.756	C	0.770	C	0.014	NO	0.770	C	0.014	NO
		P.M.	0.827	D	0.838	D	0.011	NO	0.838	D	0.011	NO
11.	Garfield Avenue & Slauson Avenue	A.M.	0.860	D	0.867	D	0.007	NO	0.866	D	0.006	NO
		P.M.	0.861	D	0.874	D	0.013	NO	0.821	D	-0.040	NO
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.613	B	0.635	B	0.022	NO	0.635	B	0.022	NO
		P.M.	0.709	C	0.742	C	0.033	NO	0.742	C	0.033	NO
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.719	C	0.784	C	0.065	YES	See Intersections 13a & 13b			
		P.M.	0.910	E	1.062	F	0.152	YES				
13a.	I-5 SB Ramps & Slauson Avenue							0.746	C	0.027	NO	
								0.615	B	-0.295	NO	
13b.	Gage Avenue & Slauson Avenue							0.648	B	-0.071	NO	
								0.851	D	-0.059	NO	
14.	Telegraph Road & Slauson Avenue	A.M.	0.807	D	0.857	D	0.050	YES	0.793	C	-0.014	NO
		P.M.	0.871	D	0.901	E	0.030	YES	0.776	C	-0.095	NO
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.802	D	0.810	D	0.008	NO	0.810	D	0.008	NO
		P.M.	0.901	E	0.908	E	0.007	NO	0.908	E	0.007	NO
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.805	D	0.817	D	0.012	NO	0.817	D	0.012	NO
		P.M.	0.904	E	0.908	E	0.004	NO	0.908	E	0.004	NO
17.	Eastern Avenue & Gage Avenue	A.M.	0.805	D	0.821	D	0.016	NO	0.821	D	0.016	NO
		P.M.	0.935	E	0.954	E	0.019	YES	0.868	D	-0.067	NO
18.	Garfield Avenue & Gage Avenue	A.M.	0.849	D	0.874	D	0.025	YES	0.810	D	-0.039	NO
		P.M.	0.886	D	0.922	E	0.036	YES	0.858	D	-0.028	NO
19.	Greenwood Avenue & Gage Avenue	A.M.	0.497	A	0.515	A	0.018	NO	0.515	A	0.018	NO
		P.M.	0.513	A	0.540	A	0.027	NO	0.540	A	0.027	NO
20.	Gage Avenue & Zindell Avenue	A.M.	0.449	A	0.630	B	0.181	NO	0.630	B	0.181	NO
		P.M.	0.419	A	0.591	A	0.172	NO	0.591	A	0.172	NO
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A	4.8	A	4.5	NO	4.8	A	4.5	NO
		P.M.	0.4	A	8.1	A	7.7	NO	8.1	A	7.7	NO
22.	Eastern Avenue & Florence Avenue	A.M.	0.852	D	0.873	D	0.021	YES	0.744	C	-0.108	NO
		P.M.	0.941	E	0.954	E	0.013	YES	0.758	C	-0.183	NO
23.	Garfield Avenue & Florence Avenue	A.M.	0.777	C	0.784	C	0.007	NO	0.784	C	0.007	NO
		P.M.	0.738	C	0.752	C	0.014	NO	0.752	C	0.014	NO
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	4.9	A	4.9	A	0.0	NO	4.9	A	0.0	NO
		P.M.	10.5	B	10.8	B	0.3	NO	10.8	B	0.3	NO
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.612	B	0.615	B	0.003	NO	0.615	B	0.003	NO
		P.M.	0.895	D	0.897	D	0.002	NO	0.897	D	0.002	NO
26.	Telegraph Road & Paramount Boulevard	A.M.	0.800	C	0.815	D	0.015	NO	0.722	C	-0.078	NO
		P.M.	0.951	E	0.973	E	0.022	YES	0.877	D	-0.074	NO
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.884	D	0.888	D	0.004	NO	0.888	D	0.004	NO
		P.M.	1.001	F	1.008	F	0.007	NO	1.008	F	0.007	NO

**Notes:**

[a] Unsignalized Intersection - Uses HCM 6th Edition methodology

[b] Project is proposing to install signal at existing stop controlled intersection. Uses HCM 6th Edition methodology



**TABLE 12  
FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2023)  
INTERSECTION LEVELS OF SERVICE AND SIGNIFICANT IMPACTS**

No.	Intersection	Peak Hour	Future without Project Conditions		Future with Project Conditions				Future with Project with Mitigation Conditions			
			V/C or Delay	LOS	V/C or Delay	LOS	Δ V/C	Impact	V/C or Delay	LOS	Δ V/C	Impact
1.	Paramount Boulevard & Washington Boulevard	A.M.	0.905	E	0.906	E	0.001	NO	0.906	E	0.001	NO
		P.M.	0.976	E	0.982	E	0.006	NO	0.982	E	0.006	NO
2.	Rosemead Boulevard & Washington Boulevard	A.M.	0.892	D	0.896	D	0.004	NO	0.896	D	0.004	NO
		P.M.	0.926	E	0.933	E	0.007	NO	0.933	E	0.007	NO
3.	Garfield Avenue & Telegraph Road	A.M.	0.760	C	0.769	C	0.009	NO	0.769	C	0.009	NO
		P.M.	0.806	D	0.814	D	0.008	NO	0.814	D	0.008	NO
4.	Telegraph Road & I-5 NB Ramps (Garfield Avenue)	A.M.	0.827	D	0.864	D	0.037	YES	0.795	C	-0.032	NO
		P.M.	0.951	E	0.983	E	0.032	YES	0.904	E	-0.047	NO
5.	Telegraph Road & Greenwood Avenue	A.M.	0.758	C	0.780	C	0.022	NO	0.780	C	0.022	NO
		P.M.	0.752	C	0.762	C	0.010	NO	0.762	C	0.010	NO
6 [a].	Telegraph Road & I-5 NB Off Ramp (Slauson Avenue)	A.M.	10.1	B	11.5	B	1.4	NO	11.0	B	0.9	NO
		P.M.	94.5	F	103.9	F	9.4	YES	11.4	B	-83.1	NO
7.	Eastern Avenue & Bandini Boulevard	A.M.	0.799	C	0.808	D	0.009	NO	0.808	D	0.009	NO
		P.M.	0.777	C	0.782	C	0.005	NO	0.782	C	0.005	NO
8.	Garfield Avenue & Bandini Boulevard	A.M.	1.030	F	1.038	F	0.008	NO	1.038	F	0.008	NO
		P.M.	0.867	D	0.880	D	0.013	NO	0.880	D	0.013	NO
9 [a].	I-5 SB Ramps & Bandini Boulevard	A.M.	25.1	C	25.7	C	0.6	NO	25.7	C	0.6	NO
		P.M.	101.0	F	101.7	F	0.7	NO	101.7	F	0.7	NO
10.	Eastern Avenue & Slauson Avenue	A.M.	0.800	C	0.815	D	0.015	NO	0.815	D	0.015	NO
		P.M.	0.871	D	0.882	D	0.011	NO	0.882	D	0.011	NO
11.	Garfield Avenue & Slauson Avenue	A.M.	0.906	E	0.915	E	0.009	NO	0.915	E	0.009	NO
		P.M.	0.912	E	0.925	E	0.013	YES	0.869	D	-0.043	NO
12.	Greenwood Avenue & Slauson Avenue	A.M.	0.649	B	0.671	B	0.022	NO	0.671	B	0.022	NO
		P.M.	0.756	C	0.790	C	0.034	NO	0.790	C	0.034	NO
13.	I-5 SB Ramps / Gage Avenue & Slauson Avenue	A.M.	0.760	C	0.818	D	0.058	YES	See 13a & 13b			
		P.M.	0.958	E	1.109	F	0.151	YES				
13a.	I-5 SB Ramps & Slauson Avenue							0.788	C	0.028	NO	
								0.657	B	-0.301	NO	
13b.	Gage Avenue & Slauson Avenue							0.677	B	-0.083	NO	
								0.891	D	-0.067	NO	
14.	Telegraph Road & Slauson Avenue	A.M.	0.866	D	0.911	E	0.045	YES	0.845	D	-0.021	NO
		P.M.	0.926	E	0.957	E	0.031	YES	0.824	D	-0.102	NO
15.	Paramount Boulevard & Slauson Avenue	A.M.	0.845	D	0.853	D	0.008	NO	0.853	D	0.008	NO
		P.M.	0.951	E	0.958	E	0.007	NO	0.958	E	0.007	NO
16.	Rosemead Boulevard & Slauson Avenue	A.M.	0.849	D	0.860	D	0.011	NO	0.860	D	0.011	NO
		P.M.	0.954	E	0.958	E	0.004	NO	0.958	E	0.004	NO
17.	Eastern Avenue & Gage Avenue	A.M.	0.848	D	0.865	D	0.017	NO	0.865	D	0.017	NO
		P.M.	0.984	E	1.003	F	0.019	YES	0.912	E	-0.072	NO
18.	Garfield Avenue & Gage Avenue	A.M.	0.896	D	0.921	E	0.025	YES	0.854	D	-0.042	NO
		P.M.	0.936	E	0.973	E	0.037	YES	0.905	E	-0.031	NO
19.	Greenwood Avenue & Gage Avenue	A.M.	0.522	A	0.540	A	0.018	NO	0.540	A	0.018	NO
		P.M.	0.541	A	0.568	A	0.027	NO	0.568	A	0.027	NO
20.	Gage Avenue & Zindell Avenue	A.M.	0.471	A	0.653	B	0.182	NO	0.653	B	0.182	NO
		P.M.	0.440	A	0.612	B	0.172	NO	0.612	B	0.172	NO
21 [b].	Gage Avenue & Project Driveway	A.M.	0.3	A	4.8	A	4.5	NO	4.8	A	4.5	NO
		P.M.	0.4	A	8.1	A	7.7	NO	8.1	A	7.7	NO
22.	Eastern Avenue & Florence Avenue	A.M.	0.895	D	0.916	E	0.021	YES	0.781	C	-0.114	NO
		P.M.	0.990	E	1.003	F	0.013	YES	0.797	C	-0.193	NO
23.	Garfield Avenue & Florence Avenue	A.M.	0.816	D	0.823	D	0.007	NO	0.823	D	0.007	NO
		P.M.	0.774	C	0.788	C	0.014	NO	0.788	C	0.014	NO
24 [a].	I-5 SB Ramps & Paramount Boulevard	A.M.	7.9	A	8.0	A	0.1	NO	8.0	A	0.1	NO
		P.M.	17.5	B	17.9	B	0.5	NO	17.9	B	0.5	NO
25.	I-5 NB Ramps & Paramount Boulevard	A.M.	0.645	B	0.647	B	0.002	NO	0.647	B	0.002	NO
		P.M.	0.946	E	0.948	E	0.002	NO	0.948	E	0.002	NO
26.	Telegraph Road & Paramount Boulevard	A.M.	0.849	D	0.864	D	0.015	NO	0.766	C	-0.083	NO
		P.M.	1.013	F	1.035	F	0.022	YES	0.927	E	-0.086	NO
27.	Telegraph Road & Rosemead Boulevard	A.M.	0.932	E	0.936	E	0.004	NO	0.936	E	0.004	NO
		P.M.	1.055	F	1.062	F	0.007	NO	1.062	F	0.007	NO

**Notes:**

[a] Unsignalized Intersection - Uses HCM 6th Edition methodology

[b] Project is proposing to install signal at existing stop controlled intersection. Uses HCM 6th Edition methodology

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## **Chapter 9**

### **Caltrans Analysis**

This chapter presents an analysis of Caltrans facilities, including freeway mainline segments, intersections, off-ramp queuing and on-ramp capacity to provide further information to the decision makers. The analysis follows the guidelines found in *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002) (Caltrans TIS Guide).

Existing Year 2019 traffic volumes from Chapter 2 were used where applicable, and additional Existing Conditions data was collected from Caltrans. For consistency with Caltrans long-range planning, each Caltrans facility was analyzed for Year 2040 conditions in addition to existing Year 2019 conditions. The existing traffic volumes were increased by both ambient growth (assumed to be 1.46% per year for 21 total years based on CMP projections) and related project traffic, in the same manner as future traffic volumes were developed for Year 2023 in Chapter 3.

#### **ANALYZED FACILITIES**

As shown in Table 13, the analyses conducted on Caltrans facilities included freeway mainline segments, ramp intersections, off-ramp queuing and on-ramp capacity.

Four freeway mainline segments on I-5 were analyzed using HCM methodology to determine density, speed, and LOS. In the absence of specific Caltrans criteria for analyzing impacts to freeway mainline segments, the segments were also analyzed for the Project's effect on operating conditions, which were classified based on the measured flow past a point on a "screenline" compared to the estimated capacity of that section of the freeway. Capacity was calculated by multiplying the lane capacity by the number of lanes in each segment. In accordance with the Caltrans TIS Guide, the lane capacity was assumed to be 2,000 vphpl. No additional capacity was assumed for auxiliary lanes linking on-ramps and off-ramps. The LOS definitions for freeway mainline segments are presented in Table 14.

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Three intersections located at the I-5 ramps were analyzed using HCM methodology to identify average vehicle delay and LOS.

Three freeway off-ramps were analyzed for ramp queue lengths using Vistro software to estimate queues. The ramp volumes at two freeway on-ramps were analyzed.

Appendix F contains the LOS worksheets for each type of Caltrans analysis.

## **IMPACT THRESHOLDS**

The Caltrans TIS Guide states that Caltrans' target LOS is "at the transition between LOS C and LOS D," which is generally interpreted to mean in the lower half of the range of LOS D (where the LOS is determined based on the freeway mainline density or the intersection delay). When that threshold has already been exceeded, the existing condition (or projected future condition) should be maintained with the addition of Project traffic.

However, Caltrans does not identify specific incremental criteria by which to measure the significance of impacts to freeway mainline segments or intersections and, therefore, it is not possible to identify whether a specific facility would be significantly impacted under Caltrans criteria.

## **FREEWAY MAINLINE SEGMENTS**

Four freeway mainline segments on I-5 were analyzed using the HCM methodology. A free-flow speed of 55 mph was assumed in the HCM analysis in accordance with Caltrans guidance. Existing weekday freeway volumes were collected from Caltrans' Performance Measurement System for the average weekday traffic volume in April 2019. Freeway mainline segment traffic volumes, with and without Project traffic, are shown in Table 15.



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### **Year 2019 Conditions**

Table 16 summarizes the results of the HCM analysis for Existing and Existing with Project Conditions. As shown in Table 16, all four freeway mainline segments operate at LOS E in at least one direction during one of the analyzed peak hours under Existing Conditions, with or without Project additions.

### **Year 2023 Conditions**

Table 17 summarizes the results of the HCM analysis for Existing and Existing with Project Conditions. As shown in Table 17, all four freeway mainline segments operate at LOS E in at least one direction during one of the analyzed peak hours under Existing Conditions, with or without Project additions.

### **Year 2040 Conditions**

Table 18 summarizes the results of the HCM analysis for Future without Project and Future with Project Conditions. As shown in Table 18, all four freeway mainline segments are anticipated to operate at LOS D, E or F during at least one of the analyzed peak hours under Future Conditions, with or without the Project. However, the Project does not add enough traffic to any segment to result in a decrease in speed. The Project's contribution to future growth, discussed later in this chapter, indicates that the Project is responsible for less than 2% of the future freeway traffic growth. Projected mainline growth percentages are shown in Table 19.

## **INTERSECTIONS**

The three unsignalized and three signalized freeway ramp intersections under Caltrans jurisdiction were further analyzed using the HCM methodology according to the Caltrans TIS Guidelines. Table 20 summarizes the LOS definitions for the intersections. It is important to note that Caltrans has not published a specific threshold that defines a significant impact for signalized or unsignalized intersections.

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### **Year 2019 Conditions**

Table 21 summarizes the results of the HCM analysis for Existing and Existing with Project Conditions. As shown, three of the six intersections are currently operating at LOS D or better during the analyzed peak hours. The other three intersections are currently operating at LOS E or F in at least one of the peak hours analyzed under Existing Conditions and/or Existing with Project Conditions. As described in Chapter 5, two of the three intersections – Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue) and I-5 Southbound Ramps/Gage Avenue & Slauson Avenue – were identified as significantly impacted by Project traffic based on City thresholds and mitigation was offered. As mentioned above, Caltrans has not published a specific threshold that defines a significant impact for signalized or unsignalized intersections.

### **Year 2023 Conditions**

Table 22 summarizes the results of the HCM analysis for Future without Project 2023 and Future with Project 2023 Conditions. As shown, two of the six intersections are anticipated to operate at LOS D or better during the analyzed peak hours. The other five intersections are currently operating at LOS E or F in at least one of the peak hours analyzed under Future without Project 2023 Conditions and/or Future with Project 2023 Conditions. As described in Chapter 6, three of the four intersections – Telegraph Road & I-5 Northbound Ramps (Garfield Avenue), Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue), and I-5 Southbound Ramps/Gage Avenue & Slauson Avenue – were identified as significantly impacted by Project traffic based on City thresholds and mitigation was offered. As mentioned above, Caltrans has not published a specific threshold that defines a significant impact for signalized or unsignalized intersections.

### **Year 2040 Conditions**

Table 23 summarizes the results of the HCM analysis for Future without Project 2040 and Future with Project 2040 Conditions. As shown, one of the six intersections are anticipated to operate at LOS D or better during the analyzed peak hours. The other four intersections are currently operating at LOS E or F in at least one of the peak hours analyzed under Future without Project 2040 Conditions and/or Future with Project 2040 Conditions. As described in Chapter 6, three of

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the five intersections – Telegraph Road & I-5 Northbound Ramps (Garfield Avenue), Telegraph Road & I-5 Northbound Off-Ramp (Slauson Avenue), and I-5 Southbound Ramps/Gage Avenue & Slauson Avenue – were identified as significantly impacted by Project traffic based on City thresholds and mitigation was offered. As mentioned above, Caltrans has not published a specific threshold that defines a significant impact for signalized or unsignalized intersections.

## **OFF-RAMP QUEUES**

Six off-ramps from I-5 were analyzed to determine whether the lengths of the ramps are sufficient to accommodate vehicle queues. The queue lengths were estimated using Vistro, which reports the 95<sup>th</sup> percentile queue length, in feet, for each approach lane on the off-ramp.

Caltrans' primary concern is that queued vehicles do not extend past the end of an off-ramp onto the mainline. To this end, the queuing analysis looked at two separate components of ramp capacity: the length of each approach lane to the intersection at the end of the off-ramp and the total length of the ramp, behind any approach lane delineation lines, to the gore point where the ramp diverges from the freeway mainline. The queue may exceed the striped length of a given approach lane as long as there is sufficient additional queuing capacity on the ramp, so that any queue will not spill over onto the mainline.

### **Year 2019 Conditions**

Table 24 summarizes the results of the queuing analysis for Existing and Existing with Project Conditions. As shown, the queue lengths at all six off-ramps would not exceed the capacity of the approach lanes or the ramps, with or without Project traffic.

### **Year 2023 Conditions**

Table 25 summarizes the results of the queuing analysis for Future without Project 2023 and Future with Project 2023 Conditions. As shown, the queue lengths at all six off-ramps would not exceed the capacity of the approach lanes or the ramps, with or without Project traffic.

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### **Year 2040 Conditions**

Table 26 summarizes the results of the queuing analysis for Future without Project 2040 and Future with Project 2040 Conditions. As shown, the queue lengths at four of the six off-ramps would not exceed the capacity of the approach lanes or the ramps, with or without Project traffic. The other two off-ramps – Telegraph Road & I-5 Northbound Ramps (Garfield Avenue) and I-5 Northbound Off-Ramp & Paramount Boulevard – would exceed the storage capacity during at least one of the peak hours analyzed. For both ramps, the queue is exceeded under both with Project and without Project Conditions. The Project traffic would not extend the queue at either of the ramps beyond the length of one vehicle. Therefore, the increase in Project traffic is not responsible for the queue extending beyond capacity nor does the Project traffic represent a substantial increase in the projected queues.

### **ON-RAMP CAPACITY**

Five on-ramps to I-5 were analyzed to determine the existing or projected volumes as compared to the Caltrans TIS Guide ramp capacity of 900 vphpl.

### **Year 2019 Conditions**

Table 27 summarizes the results of the on-ramp analysis for Existing and Existing with Project Conditions. As shown, the Project would not substantially increase the on-ramp volumes at any analyzed on-ramps during any analyzed peak hours.

### **Year 2023 Conditions**

Table 28 summarizes the results of the on-ramp analysis for Future without Project 2023 Conditions and Future with Project 2023 Conditions. As shown, the Project would not substantially increase the on-ramp volumes at any analyzed on-ramps during any analyzed peak hours.

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## **Year 2040 Conditions**

Table 29 summarizes the results of the on-ramp analysis for Future without Project 2040 and Future with Project 2040 Conditions. As shown in Table 24, the Project would not substantially increase the on-ramp volumes at any analyzed on-ramps during any analyzed peak hours. However, with the addition of 59 Project trips, the on-ramp capacity would be exceeded at Telegraph Road & I-5 Northbound Ramps (Garfield Avenue) in the morning peak hour.

## **LONG RANGE CUMULATIVE ANALYSIS**

Caltrans requires that the level of new Project traffic be compared to the traffic growth likely to occur along the freeway segments serving the Project.

Table 19 shows the Year 2019 and Year 2040 volumes on the freeway segments serving the Project site. The Project would add traffic to the freeways, representing approximately 1.86% of the traffic growth levels between Year 2019 and Year 2040.

**TABLE 13  
ANALYZED CALTRANS FACILITIES**

ID	Location
<b><i>Freeway Mainline Segments</i></b>	
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue
FS-2.	I-5 between Paramount Avenue & Slauson Avenue
FS-3.	I-5 between Slauson Avenue & Garfield Avenue
FS-4.	I-5 between Garfield Avenue & Eastern Avenue
<b><i>Study Intersections</i></b>	
S-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)
S-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Avenue (Intersection #6)
S-3.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)
S-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)
S-5.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)
S-6.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)
<b><i>Off-Ramp Queues</i></b>	
Q-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)
Q-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Avenue (Intersection #6)
Q-3.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)
Q-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)
Q-5.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)
Q-6.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)
<b><i>On-Ramp Capacity</i></b>	
O-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)
O-2.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)
O-3.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)
O-4.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)
O-5.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)

**TABLE 14  
FREEWAY SEGMENT LEVEL OF SERVICE**

Level of Service	Description	Density [a]
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	$\leq 11$
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	$> 11$ and $\leq 18$
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	$> 18$ and $\leq 26$
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	$> 26$ and $\leq 35$
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	$> 35$ and $\leq 45$
F	Represents a breakdown in flow and oversaturated conditions.	$> 45$

**Notes**

Source: *Highway Capacity Manual 6th Edition* (Transportation Research Board, 2016) and Caltrans.

[a] Density is defined in vehicles per mile per lane and describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream (*Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016).

**TABLE 15  
FREEWAY MAINLINE SEGMENT TRAFFIC VOLUMES**

ID	Freeway Mainline Segment	Peak Hour	Direction	Vehicles per Hour (VPH)					
				Existing Conditions [a]	Existing with Project Conditions	Future without Project Conditions (Year 2023)	Future with Project Conditions (Year 2023)	Future without Project Conditions (Year 2040)	Future with Project Conditions (Year 2040)
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue	AM Peak Hour	NB	6,097	6,121	6,417	6,441	8,019	8,043
			SB	7,257	7,298	7,596	7,637	9,503	9,544
		PM Peak Hour	NB	5,762	5,809	6,064	6,111	7,579	7,626
			SB	6,820	6,856	7,199	7,235	8,991	9,027
FS-2.	I-5 between Paramount Avenue & Slauson Avenue	AM Peak Hour	NB	6,471	6,487	6,807	6,823	8,508	8,524
			SB	5,594	5,635	5,860	5,901	7,330	7,371
		PM Peak Hour	NB	5,601	5,632	5,896	5,927	7,368	7,399
			SB	5,039	5,075	5,340	5,376	6,664	6,700
FS-3.	I-5 between Slauson Avenue & Garfield Avenue	AM Peak Hour	NB	6,484	6,486	6,821	6,823	8,525	8,527
			SB	6,045	6,067	6,327	6,349	7,915	7,937
		PM Peak Hour	NB	5,605	5,609	5,900	5,904	7,373	7,377
			SB	5,239	5,282	5,546	5,589	6,923	6,966
FS-4.	I-5 between Garfield Avenue & Eastern Avenue	AM Peak Hour	NB	6,861	6,923	7,208	7,270	9,011	9,073
			SB	6,330	6,362	6,636	6,668	8,300	8,332
		PM Peak Hour	NB	6,127	6,174	6,454	6,501	8,065	8,112
			SB	4,044	4,107	4,304	4,367	5,367	5,430

Notes

AM & PM - Weekday peak hours

[a] Existing conditions based on average weekday traffic in April 2019 from Caltrans' *Performance Measurement System* database.



**TABLE 16  
EXISTING CONDITIONS (YEAR 2019)  
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

ID	Freeway Segment	Peak Hour	Direction	Existing Conditions			Existing with Project Conditions		
				Speed [a][b]	Density [b][c]	LOS	Speed [a][b]	Density [b][c]	LOS
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue	AM	NB	49	34	D	49	34	D
			SB	49	40	E	49	40	E
		PM	NB	49	32	D	49	32	D
			SB	49	38	E	49	38	E
FS-2.	I-5 between Paramount Avenue & Slauson Avenue	AM	NB	49	36	E	49	36	E
			SB	49	31	D	49	31	D
		PM	NB	49	31	D	49	31	D
			SB	49	28	D	49	28	D
FS-3.	I-5 between Slauson Avenue & Garfield Avenue	AM	NB	49	36	E	49	36	E
			SB	49	33	D	49	34	D
		PM	NB	49	31	D	49	31	D
			SB	49	29	D	49	29	D
FS-4.	I-5 between Garfield Avenue & Eastern Avenue	AM	NB	49	38	E	49	38	E
			SB	49	35	D	49	35	E
		PM	NB	49	34	D	49	34	D
			SB	49	22	C	49	23	C

**Notes**

AM & PM - Weekday peak hours

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

[c] Measured in vehicles per mile per lane (v/m/l) for freeways with a free-flow speed of 55 mph.

**TABLE 17  
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

ID	Freeway Segment	Peak Hour	Direction	Future without Project Conditions			Future with Project Conditions		
				Speed [a][b]	Density [b][c]	LOS	Speed [a][b]	Density [b][c]	LOS
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue	AM	NB	49	35	E	49	36	E
			SB	49	42	E	49	42	E
		PM	NB	49	33	D	49	34	D
			SB	49	40	E	49	40	E
FS-2.	I-5 between Paramount Avenue & Slauson Avenue	AM	NB	49	38	E	49	38	E
			SB	49	32	D	49	33	D
		PM	NB	49	33	D	49	33	D
			SB	49	30	D	49	30	D
FS-3.	I-5 between Slauson Avenue & Garfield Avenue	AM	NB	49	38	E	49	38	E
			SB	49	35	D	49	35	D
		PM	NB	49	33	D	49	33	D
			SB	49	31	D	49	31	D
FS-4.	I-5 between Garfield Avenue & Eastern Avenue	AM	NB	49	40	E	49	40	E
			SB	49	37	E	49	37	E
		PM	NB	49	36	E	49	36	E
			SB	49	24	C	49	24	C

**Notes**

AM & PM - Weekday peak hours

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

[c] Measured in vehicles per mile per lane (v/m/l) for freeways with a free-flow speed of 55 mph.

**TABLE 18  
FUTURE WITH PROJECT CONDITIONS (YEAR 2040)  
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

ID	Freeway Segment	Peak Hour	Direction	Future without Project Conditions			Future with Project Conditions		
				Speed [a][b]	Density [b][c]	LOS	Speed [a][b]	Density [b][c]	LOS
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue	AM	NB	49	45	E	49	45	E
			SB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
		PM	NB	49	42	E	49	42	E
			SB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
FS-2.	I-5 between Paramount Avenue & Slauson Avenue	AM	NB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
			SB	49	40	E	49	41	E
		PM	NB	49	41	E	49	41	E
			SB	49	37	E	49	37	E
FS-3.	I-5 between Slauson Avenue & Garfield Avenue	AM	NB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
			SB	49	44	E	49	44	E
		PM	NB	49	41	E	49	41	E
			SB	49	38	E	49	38	E
FS-4.	I-5 between Garfield Avenue & Eastern Avenue	AM	NB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
			SB	n/a	OVERFLOW	F	n/a	OVERFLOW	F
		PM	NB	49	45	E	n/a	OVERFLOW	F
			SB	49	30	D	49	30	D

**Notes**

AM & PM - Weekday peak hours

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

[c] Measured in vehicles per mile per lane (v/m/l) for freeways with a free-flow speed of 55 mph.

**TABLE 19  
PROPORTION OF PROJECTED FUTURE TRAFFIC  
FUTURE CONDITIONS (YEAR 2040) - PROJECT FULL BUILDOUT CONDITIONS**

ID	Freeway Mainline Segment	Peak Hour	Direction	Vehicles per Hour (VPH)					Project Portion of Growth
				Existing Conditions [a]	Related Projects	Ambient Growth	Project Only	Total Growth	
FS-1.	I-5 between Rosemead Boulevard & Paramount Avenue	AM Peak Hour	NB	6,097	53	1,869	24	1,946	1.23%
			SB	7,257	21	2,225	41	2,287	1.79%
		PM Peak Hour	NB	5,762	50	1,767	47	1,864	2.52%
			SB	6,820	80	2,091	36	2,207	1.63%
FS-2.	I-5 between Paramount Avenue & Slauson Avenue	AM Peak Hour	NB	6,471	53	1,984	16	2,053	0.78%
			SB	5,594	21	1,715	41	1,777	2.31%
		PM Peak Hour	NB	5,601	50	1,717	31	1,798	1.72%
			SB	5,039	80	1,545	36	1,661	2.17%
FS-3.	I-5 between Slauson Avenue & Garfield Avenue	AM Peak Hour	NB	6,484	53	1,988	2	2,043	0.10%
			SB	6,045	17	1,853	22	1,892	1.16%
		PM Peak Hour	NB	5,605	50	1,718	4	1,772	0.23%
			SB	5,239	78	1,606	43	1,727	2.49%
FS-4.	I-5 between Garfield Avenue & Eastern Avenue	AM Peak Hour	NB	6,861	46	2,104	62	2,212	2.80%
			SB	6,330	29	1,941	32	2,002	1.60%
		PM Peak Hour	NB	6,127	59	1,879	47	1,985	2.37%
			SB	4,044	83	1,240	63	1,386	4.55%
<b>Average Proportion of Project-Related Traffic to Mainline Segments</b>									<b>1.86%</b>

Notes

AM & PM - Weekday peak hours

[a] Existing conditions based on average weekday traffic in April 2019 from Caltrans' *Performance Measurement System* database.

**TABLE 20  
LEVEL OF SERVICE DEFINITIONS FOR CALTRANS INTERSECTIONS**

Level of Service	Description	Delay [a]	
		Signalized Intersections	Unsignalized Intersections
A	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.	≤ 10	0.0 - 10.0
B	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20	10.1 - 15.0
C	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.	> 20 and ≤ 35	15.1 - 25.0
D	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.	> 35 and ≤ 55	25.1 - 35.0
E	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.	> 55 and ≤ 80	35.1 - 50.0
F	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.	> 80	> 50.0

Notes

Source: *Highway Capacity Manual 6th Edition* (Transportation Research Board, 2016).

[a] Measured in seconds.

**TABLE 21  
EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Existing		Existing with Project	
			Delay	LOS	Delay	LOS
S-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	AM	28.1	C	29.7	C
		PM	39.6	D	43.3	D
S-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	AM	6.7	A	7.6	A
		PM	62.9	E	69.5	E
S-3.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	AM	20.8	C	21.1	C
		PM	82.2	F	83.0	F
S-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	AM	38.7	D	46.7	D
		PM	93.8	F	149.5	F
S-5.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	AM	4.9	A	4.9	A
		PM	10.5	B	10.8	B
S-6.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	AM	16.2	B	16.3	B
		PM	23.7	C	24.1	C

Notes

- AM & PM - Weekday peak hours
- Delay is measured in seconds per vehicle
- LOS = Level of service
- Results per Vistro (HCM 6th Edition methodology).

**TABLE 22  
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project		Future with Project	
			Delay	LOS	Delay	LOS
S-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	AM	31.4	C	34.0	C
		PM	51.2	D	56.6	E
S-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	AM	10.1	B	11.5	B
		PM	94.5	F	103.9	F
S-3.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	AM	25.1	C	25.7	C
		PM	101.0	F	101.7	F
S-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	AM	41.8	D	51.3	D
		PM	111.3	F	168.3	F
S-5.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	AM	7.9	A	8.0	A
		PM	17.5	B	17.9	B
S-6.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	AM	17.2	B	17.3	B
		PM	27.2	C	27.6	C

Notes

- AM & PM - Weekday peak hours
- Delay is measured in seconds per vehicle
- LOS = Level of service
- Results per Vistro (HCM 6th Edition methodology).

**TABLE 23  
FUTURE WITH PROJECT CONDITIONS (YEAR 2040)  
CALTRANS INTERSECTION PEAK HOUR LEVELS OF SERVICE**

No.	Intersection	Peak Hour	Future without Project		Future with Project	
			Delay	LOS	Delay	LOS
S-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	AM	51.9	D	58.8	E
		PM	106.3	F	115.2	F
S-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	AM	36.1	D	39.4	D
		PM	295.9	F	323.8	F
S-3.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	AM	60.7	E	62.3	E
		PM	186.5	F	187.1	F
S-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	AM	69.2	E	86.4	F
		PM	194.3	F	254.4	F
S-5.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	AM	42.5	D	42.5	D
		PM	30.2	C	30.3	C
S-6.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	AM	24.0	C	24.1	C
		PM	68.1	E	69.1	E

Notes

- AM & PM - Weekday peak hours
- Delay is measured in seconds per vehicle
- LOS = Level of service
- Results per Vistro (HCM 6th Edition methodology).



**TABLE 24  
EXISTING CONDITIONS (YEAR 2019)  
FREEWAY OFF-RAMP QUEUE EVALUATION**

ID	Freeway Off-ramp	Ramp and Lane Description	Vehicle Storage Capacity [a]	Existing Conditions				Existing with Project Conditions			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Vehicle Queue Length [b]	Exceeds Capacity?	Vehicle Queue Length [b]	Exceeds Capacity?	Vehicle Queue Length [b]	Exceeds Capacity?	Vehicle Queue Length [b]	Exceeds Capacity?
Q-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	I-5 Northbound Off Ramp									
		Left	247	247	NO	247	NO	247	NO	247	NO
		Shared Left/Right	247	247	NO	247	NO	247	NO	247	NO
		Ramp	345	61	NO	102	NO	62	NO	102	NO
Q-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	I-5 Northbound Off Ramp									
		Left	327	141	NO	327	NO	154	NO	327	NO
		Right	311	42	NO	101	NO	47	NO	134	NO
		Ramp	493	0	NO	92	NO	0	NO	106	NO
Q-3.	Bandini Boulevard & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #9)	I-5 Southbound Off Ramp									
		Left	169	13	NO	5	NO	14	NO	6	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	437	0	NO	0	NO	0	NO	0	NO
Q-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	I-5 Southbound Off Ramp									
		Left	167	167	NO	40	NO	167	NO	44	NO
		Shared Left/Through	167	167	NO	40	NO	167	NO	44	NO
		Shared Right/Through	167	50	NO	7	NO	73	NO	40	NO
		Ramp	592	10	NO	0	NO	10	NO	0	NO
Q-5.	I-5 Southbound Off Ramp & Paramount Boulevard (Intersection #24)	I-5 Southbound Off Ramp									
		Left	50	50	NO	50	NO	50	NO	50	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	845	11	NO	3	NO	12	NO	3	NO
Q-6.	I-5 Northbound Off Ramp & Paramount Boulevard (Intersection #25)	I-5 Northbound Off Ramp									
		Left	100	19	NO	100	NO	19	NO	100	NO
		Right	100	9	NO	100	NO	15	NO	100	NO
		Ramp	730	0	NO	358	NO	0	NO	375	NO

**Notes**

AM & PM - Weekday peak hours

[a] Storage length capacity is the distance from the freeway mainline gore point to the terminus of the off-ramp, expressed in feet.

[b] 95th Percentile queue results per Vistro (Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016).

**TABLE 25  
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
FREEWAY OFF-RAMP QUEUE EVALUATION**

ID	Freeway Off-ramp	Ramp and Lane Description	Vehicle Storage Capacity [a]	Future without Project Conditions				Future with Project Conditions			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?
Q-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	I-5 Northbound Off Ramp									
		Left	247	247	NO	247	NO	247	NO	247	NO
		Shared Left/Right	247	247	NO	247	NO	247	NO	247	NO
		Ramp	345	117	NO	263	NO	117	NO	262	NO
Q-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	I-5 Northbound Off Ramp									
		Left	327	186	NO	327	NO	200	NO	327	NO
		Right	311	49	NO	137	NO	55	NO	183	NO
		Ramp	493	0	NO	157	NO	0	NO	167	NO
Q-3.	Bandini Boulevard & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #9)	I-5 Southbound Off Ramp									
		Left	169	16	NO	5	NO	17	NO	8	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	437	0	NO	0	NO	0	NO	0	NO
Q-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	I-5 Southbound Off Ramp									
		Left	167	167	NO	42	NO	167	NO	50	NO
		Shared Left/Through	167	167	NO	42	NO	167	NO	50	NO
		Shared Right/Through	167	56	NO	20	NO	79	NO	46	NO
		Ramp	592	18	NO	0	NO	18	NO	0	NO
Q-5.	I-5 Southbound Off Ramp & Paramount Boulevard (Intersection #24)	I-5 Southbound Off Ramp									
		Left	50	50	NO	50	NO	50	NO	50	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	845	21	NO	5	NO	21	NO	5	NO
Q-6.	I-5 Northbound Off Ramp & Paramount Boulevard (Intersection #25)	I-5 Northbound Off Ramp									
		Left	100	20	NO	100	NO	20	NO	100	NO
		Right	100	10	NO	100	NO	15	NO	100	NO
		Ramp	730	0	NO	413	NO	0	NO	428	NO

**Notes**

AM & PM - Weekday peak hours

[a] Storage length capacity is the distance from the freeway mainline gore point to the terminus of the off-ramp, expressed in feet.

[b] 95th Percentile queue results per Vistro (Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016).

**TABLE 26  
FUTURE WITH PROJECT CONDITIONS (YEAR 2040)  
FREEWAY OFF-RAMP QUEUE EVALUATION**

ID	Freeway Off-ramp	Ramp and Lane Description	Vehicle Storage Capacity [a]	Future without Project Conditions				Future with Project Conditions			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?	Vehicle Queue Length	Exceeds Capacity?
Q-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	I-5 Northbound Off Ramp									
		Left	247	247	NO	247	NO	247	NO	247	NO
		Shared Left/Right	247	247	NO	247	NO	247	NO	247	NO
		Ramp	345	410	YES	728	YES	410	YES	728	YES
Q-2.	Telegraph Road & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #6)	I-5 Northbound Off Ramp									
		Left	327	327	NO	327	NO	327	NO	327	NO
		Right	311	90	NO	311	NO	101	NO	311	NO
		Ramp	493	28	NO	383	NO	39	NO	469	NO
Q-3.	Bandini Boulevard & I-5 Northbound Off Ramp n/o Slauson Ave (Intersection #9)	I-5 Southbound Off Ramp									
		Left	169	21	NO	7	NO	23	NO	8	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	437	0	NO	0	NO	0	NO	0	NO
Q-4.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	I-5 Southbound Off Ramp									
		Left	167	167	NO	52	NO	167	NO	58	NO
		Shared Left/Through	167	167	NO	52	NO	167	NO	58	NO
		Shared Right/Through	167	70	NO	23	NO	94	NO	54	NO
		Ramp	592	72	NO	0	NO	72	NO	0	NO
Q-5.	I-5 Southbound Off Ramp & Paramount Boulevard (Intersection #24)	I-5 Southbound Off Ramp									
		Left	50	50	NO	50	NO	50	NO	50	NO
		Right	Free	Free	NO	Free	NO	Free	NO	Free	NO
		Ramp	845	44	NO	17	NO	44	NO	17	NO
Q-6.	I-5 Northbound Off Ramp & Paramount Boulevard (Intersection #25)	I-5 Northbound Off Ramp									
		Left	100	25	NO	100	NO	25	NO	100	NO
		Right	100	13	NO	100	NO	18	NO	100	NO
		Ramp	730	0	NO	748	YES	0	NO	765	YES

**Notes**

AM & PM - Weekday peak hours

[a] Storage length capacity is the distance from the freeway mainline gore point to the terminus of the off-ramp, expressed in feet.

[b] 95th Percentile queue results per Vistro (Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016).

**TABLE 27  
EXISTING WITH PROJECT CONDITIONS (YEAR 2019)  
FREEWAY ON-RAMP CAPACITY EVALUATION**

ID	Freeway On-ramp	Number of Lanes	Peak Hour	Existing Conditions		Existing with Project Conditions	
				Vehicles per Hour	Exceeds Capacity?	Vehicles per Hour	Exceeds Capacity?
O-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	1	AM	669	NO	728	NO
			PM	598	NO	642	NO
O-2.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	2	AM	528	NO	528	NO
			PM	830	NO	830	NO
O-3.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	2	AM	698	NO	739	NO
			PM	931	NO	967	NO
O-4.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	2	AM	475	NO	475	NO
			PM	584	NO	584	NO
O-5.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	2	AM	1,374	NO	1,376	NO
			PM	578	NO	582	NO

Notes:

AM & PM - Weekday peak hours

On-ramp capacity is 900 vehicles per hour per lane. This capacity does not include the effects of the ramp meter rate.

**TABLE 28  
FUTURE WITH PROJECT CONDITIONS (YEAR 2023)  
FREEWAY ON-RAMP CAPACITY EVALUATION**

ID	Freeway On-ramp	Number of Lanes	Peak Hour	Future without Project Conditions		Future with Project Conditions	
				Vehicles per Hour	Exceeds Capacity?	Vehicles per Hour	Exceeds Capacity?
O-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	1	AM	723	NO	782	NO
			PM	658	NO	702	NO
O-2.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	2	AM	559	NO	559	NO
			PM	878	NO	878	NO
O-3.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	2	AM	746	NO	787	NO
			PM	989	NO	1,025	NO
O-4.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	2	AM	503	NO	503	NO
			PM	618	NO	618	NO
O-5.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	2	AM	1,454	NO	1,456	NO
			PM	612	NO	616	NO

Notes:

AM & PM - Weekday peak hours

On-ramp capacity is 900 vehicles per hour per lane. This capacity does not include the effects of the ramp meter rate.

**TABLE 29  
FUTURE WITH PROJECT CONDITIONS (YEAR 2040)  
FREEWAY ON-RAMP CAPACITY EVALUATION**

ID	Freeway On-ramp	Number of Lanes	Peak Hour	Future without Project Conditions		Future with Project Conditions	
				Vehicles per Hour	Exceeds Capacity?	Vehicles per Hour	Exceeds Capacity?
O-1.	Telegraph Road & I-5 Northbound Ramps s/o Garfield Avenue (Intersection #4)	1	AM	889	NO	948	<b>YES</b>
			PM	806	NO	850	NO
O-2.	Bandini Boulevard & I-5 Southbound Ramps s/o Garfield Avenue (Intersection #9)	2	AM	690	NO	690	NO
			PM	1,084	NO	1,084	NO
O-3.	I-5 Southbound Ramps/Gage Avenue & Slauson Avenue (Intersection #13)	2	AM	919	NO	960	NO
			PM	1,220	NO	1,256	NO
O-4.	I-5 Southbound Ramps & Paramount Boulevard (Intersection #24)	2	AM	621	NO	621	NO
			PM	763	NO	763	NO
O-5.	I-5 Northbound Ramps & Paramount Boulevard (Intersection #25)	2	AM	1,795	NO	1,797	NO
			PM	755	NO	759	NO

Notes:

AM & PM - Weekday peak hours

On-ramp capacity is 900 vehicles per hour per lane. This capacity does not include the effects of the ramp meter rate.

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## **Chapter 10**

### **Summary and Conclusions**

This report documents the assumptions, methodologies, and findings of a study conducted to evaluate the potential transportation impacts of the Project. The following summarizes the findings of the study:

- The Project consists of a new mixed-use development with 850 multi-family units, 25,000 sf of grocery store, 28,000 sf of general retail, a 20,000 sf bowling alley, a 2,200-seat movie theater, a 4.75 acre public park with an athletic field, a 15,000 sf health club, a 70,050 sf community center, a 5,000 sf, a 6,000 sf pharmacy, and 16,000 sf of restaurants in multiple buildings at 7316 Gage Avenue on the southeast corner of Gage Avenue & Slauson Avenue. The Project is anticipated to be completed by Year 2023.
- The Project will provide two full-access driveways from Gage Avenue – one at Project Driveway and one at Zindell Avenue.
- The Project is expected to generate a net increase of 10,902 weekday daily trips, including an increase of 510 weekday morning peak hour trips (207 inbound trips and 303 outbound trips) and an increase of 695 weekday afternoon peak hour trips (390 inbound trips and 305 outbound trips).
- Under Existing Conditions (Year 2019), 16 out of the 27 study intersections operate at LOS D or better during the analyzed peak hours.
- Under Future without Project Conditions (Year 2023), 10 of the 27 study intersections operate at LOS D or better during the analyzed peak hours.
- Under Existing with Project Conditions (Year 2019), using the City criteria for determining the significance of a traffic impact, the Project would have significant impacts at eight of the 27 analyzed study intersections during at least one of the analyzed peak hours.
- Under Future with Project Conditions (Year 2023), using the City criteria for determining the significance of a traffic impact, the Project would have a significant impact at nine of the 27 analyzed study intersections during at least one of the analyzed peak hours.
- Although the City does not currently have guidelines regarding VMT analysis, it is anticipated that the mixed-use elements of the Project and its orientation towards localized trips would not cause a significant vehicle miles traveled per capita impact when compared to the regional average.

- 
- The Project has no significant impacts on the mainline or freeway ramps. The Project traffic represents approximately 1.5% of the total growth expected along I-5.
  - The proposed mitigation program identified physical and/or operational improvements at the nine locations where the addition of the Project resulted in a significant impact. The mitigation program includes lane restriping/reconfiguration and traffic signal modifications that would reduce the Project's significant impacts below the level of significance. Therefore, no further mitigations are required. A number of the mitigations require approval or cooperation from Caltrans and/or other civic jurisdictions.



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## **References**

*2010 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, 2010.

*California Manual on Uniform Traffic Control Devices*, Caltrans, 2012.

*Guide for the Preparation of Traffic Impact Studies*, California Department of Transportation, December 2002.

*Guidelines for Implementation of the California Environmental Quality Act, Chapter 3, Title 14, California Code of Regulations*, California Natural Resources Agency, amended July 27, 2007.

*Highway Capacity Manual, 6<sup>th</sup> Edition*, Transportation Research Board, 2016.

*National Cooperative Highway Research Program (NCHRP) 8-51 Internal Trip Capture Estimation Tool*, Transportation Research Board and National Research Council, 2011.

*(not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* San Diego Association of Governments, April 2002.

*State of California Senate Bill No. 743*, Steinberg, 2013.

*Transportation Impact Study Guidelines*, Los Angeles Department of Transportation, December 2016.

*Trip Generation, 9<sup>th</sup> Edition*, Institute of Transportation Engineers, 2012.

*Trip Generation, 10<sup>th</sup> Edition*, Institute of Transportation Engineers, 2017.

***Appendix A***

***Intersection Lane Configurations***

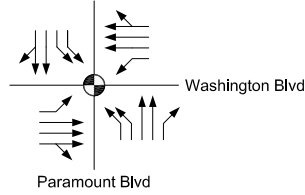
**LEGEND**

- Traffic Signal
- Stop Sign

**EXISTING CONDITIONS  
(YEAR 2019)**

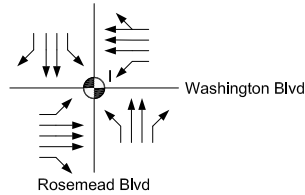
**FUTURE WITH PROJECT  
WITH MITIGATION CONDITIONS  
(YEAR 2023)**

1. Paramount Boulevard & Washington Boulevard



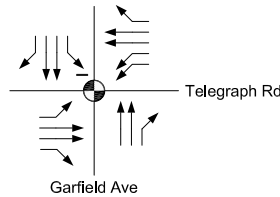
Same as Existing Conditions

2. Rosemead Boulevard & Washington Boulevard



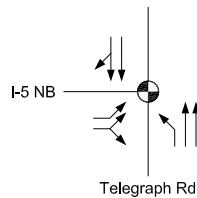
Same as Existing Conditions

3. Garfield Avenue & Telegraph Road



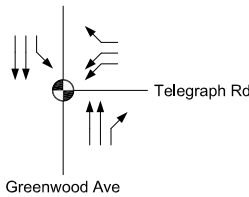
Same as Existing Conditions

4. Telegraph Road & I-5 NB Ramps



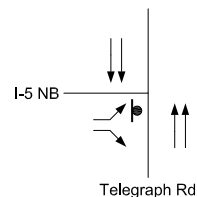
Same as Existing Conditions

5. Greenwood Avenue & Telegraph Road



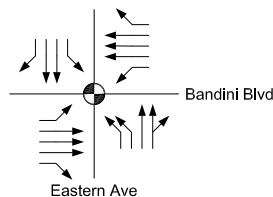
Same as Existing Conditions

6. Telegraph Road & I-5 NB Off-Ramp



Same as Existing Conditions

7. Eastern Avenue & Bandini Boulevard



Same as Existing Conditions

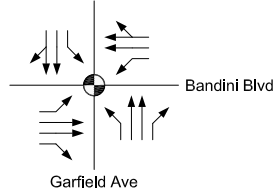
**LEGEND**

- Traffic Signal
- Stop Sign

**EXISTING CONDITIONS  
(YEAR 2019)**

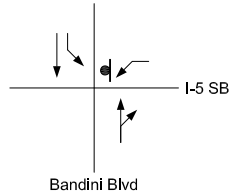
**FUTURE WITH PROJECT  
WITH MITIGATION CONDITIONS  
(YEAR 2023)**

8. Garfield Avenue & Bandini Boulevard



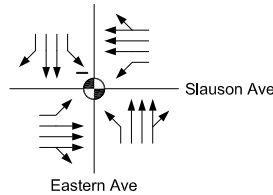
Same as Existing Conditions

9. Bandini Boulevard & I-5 SB Ramps



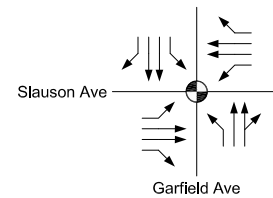
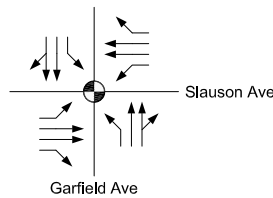
Same as Existing Conditions

10. Eastern Avenue & Slauson Avenue



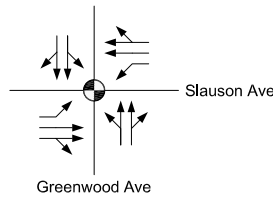
Same as Existing Conditions

11. Garfield Avenue & Slauson Avenue



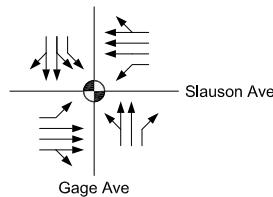
Same as Existing Conditions

12. Greenwood Avenue & Slauson Avenue

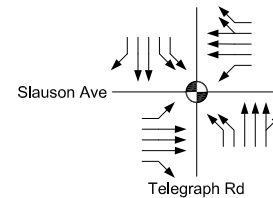
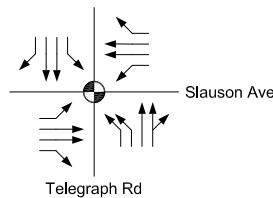


Same as Existing Conditions

13. I-5 SB Ramps / Gage Avenue & Slauson Avenue



14. Telegraph Road & Slauson Avenue



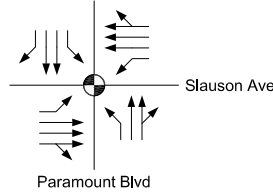
**LEGEND**

- Traffic Signal
- Stop Sign

**EXISTING CONDITIONS  
(YEAR 2019)**

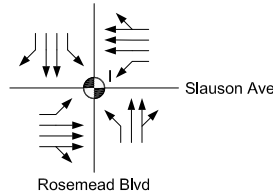
**FUTURE WITH PROJECT  
WITH MITIGATION CONDITIONS  
(YEAR 2023)**

15. Paramount Boulevard & Slauson Avenue



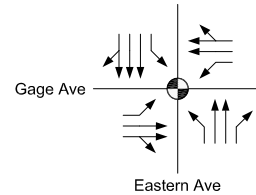
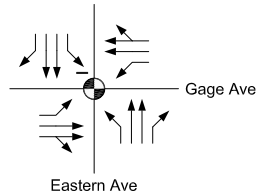
Same as Existing Conditions

16. Rosemead Boulevard & Slauson Avenue

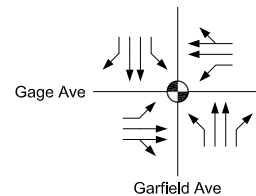
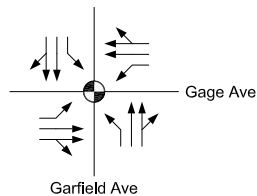


Same as Existing Conditions

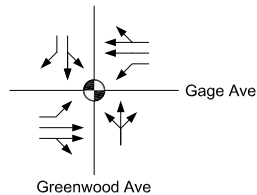
17. Eastern Avenue & Gage Avenue



18. Garfield Avenue & Gage Avenue

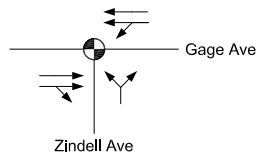


19. Greenwood Avenue & Gage Avenue



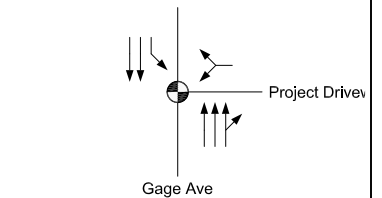
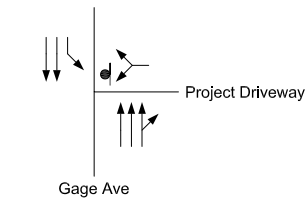
Same as Existing Conditions

20. Zindell Avenue & Gage Avenue



Same as Existing Conditions

21. Gage Avenue & Project Driveway



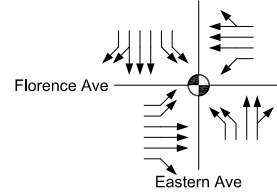
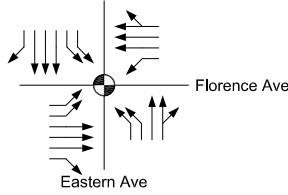
**LEGEND**

- Traffic Signal
- Stop Sign

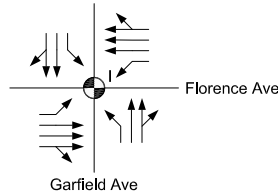
**EXISTING CONDITIONS  
(YEAR 2019)**

**FUTURE WITH PROJECT  
WITH MITIGATION CONDITIONS  
(YEAR 2023)**

22. Eastern Avenue & Florence Avenue

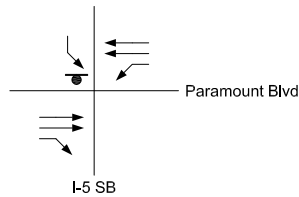


23. Garfield Avenue & Florence Avenue



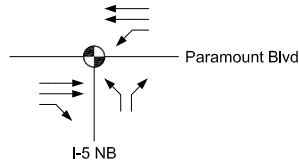
Same as Existing Conditions

24. I-5 SB Ramps & Paramount Boulevard



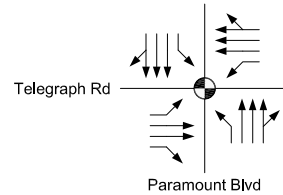
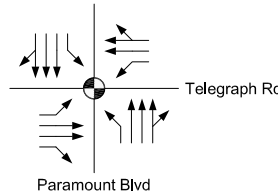
Same as Existing Conditions

25. I-5 NB Ramps & Paramount Boulevard

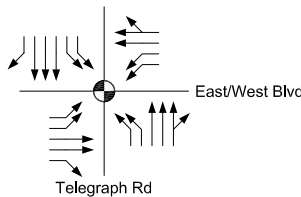


Same as Existing Conditions

26. Paramount Boulevard & Telegraph Road



27. Telegraph Road & Rosemead Boulevard / Lakewood Boulevard



Same as Existing Conditions

***Appendix B***

***Intersection Turning Movement Counts***

## Turning Movement Count Report AM

Location ID: 1  
 North/South: Paramount Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	79	135	17	7	388	35	14	94	77	41	139	25	1051
7:15	40	143	17	7	351	22	19	109	98	66	191	21	1084
7:30	60	172	36	11	411	26	25	125	118	32	189	23	1228
7:45	53	185	24	15	285	30	34	148	102	61	182	28	1147
8:00	56	142	28	15	304	45	22	140	94	57	191	29	1123
8:15	59	163	25	18	308	28	22	99	74	47	140	16	999
8:30	40	143	23	15	305	30	17	107	79	52	148	34	993
8:45	26	104	22	9	295	35	22	114	84	45	136	34	926

Total Volume:	413	1187	192	97	2647	251	175	936	726	401	1316	210	8551
Approach %	23%	66%	11%	3%	88%	8%	10%	51%	40%	21%	68%	11%	

Peak Hr Begin:	7:15												
PHV	209	642	105	48	1351	123	100	522	412	216	753	101	4582
PHF	0.892			0.849			0.910			0.962			0.933



## Turning Movement Count Report PM

Location ID: 1  
 North/South: Paramount Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	26	196	30	19	160	37	34	190	86	72	301	28	1179
16:15	30	204	30	25	187	28	36	174	78	63	343	29	1227
16:30	30	169	38	26	146	27	45	196	77	69	329	33	1185
16:45	20	201	33	16	187	33	28	191	90	64	317	56	1236
17:00	15	212	25	20	177	43	40	237	105	73	312	34	1293
17:15	21	183	30	25	206	53	33	214	87	63	322	43	1280
17:30	23	182	31	27	193	48	43	210	85	62	335	47	1286
17:45	25	181	18	23	202	48	33	206	76	67	317	45	1241

Total Volume:	190	1528	235	181	1458	317	292	1618	684	533	2576	315	9927
Approach %	10%	78%	12%	9%	75%	16%	11%	62%	26%	16%	75%	9%	

Peak Hr Begin:	17:00												
PHV	84	758	104	95	778	192	149	867	353	265	1286	169	5100
PHF	0.938			0.938			0.896			0.968			0.986

## Pedestrian/Bicycle Count Report

Location ID: 1  
 North/South: Paramount Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	4	0	4	0	3	0
7:15	4	0	4	0	7	0	5	0
7:30	5	0	0	0	2	0	2	0
7:45	5	0	1	0	0	1	2	0
8:00	3	0	1	0	9	0	2	0
8:15	1	0	2	0	0	0	0	0
8:30	2	0	1	0	0	1	5	0
8:45	2	0	2	0	0	0	3	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	15	0	0	0	5	0
16:15	4	0	6	0	2	1	2	0
16:30	6	0	6	1	2	1	3	0
16:45	1	0	6	0	2	1	4	0
17:00	1	0	6	0	3	1	2	0
17:15	4	0	4	0	2	0	5	0
17:30	3	0	3	0	2	0	1	1
17:45	2	0	3	0	2	0	3	0

## Turning Movement Count Report AM

Location ID: 2  
 North/South: Rosemead Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	23	197	33	19	391	47	35	117	42	22	149	15	1090
7:15	26	191	44	22	352	64	51	149	38	35	176	15	1163
7:30	40	212	63	36	326	51	96	182	54	34	194	16	1304
7:45	30	255	43	33	273	66	57	221	53	37	156	28	1252
8:00	29	217	63	30	340	54	36	174	52	47	139	15	1196
8:15	45	169	48	27	335	54	27	171	47	22	135	33	1113
8:30	41	156	51	37	286	38	25	169	36	24	148	25	1036
8:45	40	174	46	35	264	45	26	182	25	21	109	23	990

Total Volume:	274	1571	391	239	2567	419	353	1365	347	242	1206	170	9144
Approach %	12%	70%	17%	7%	80%	13%	17%	66%	17%	15%	75%	11%	

Peak Hr Begin:	7:15												
PHV	125	875	213	121	1291	235	240	726	197	153	665	74	4915
PHF	0.925			0.940			0.876			0.914			0.942

## Turning Movement Count Report PM

Location ID: 2  
 North/South: Rosemead Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	40	226	53	32	160	43	74	169	45	43	292	56	1233
16:15	30	189	43	33	195	58	48	164	33	38	297	69	1197
16:30	29	207	58	47	161	44	64	186	50	39	328	61	1274
16:45	39	234	56	48	226	57	53	180	33	48	284	63	1321
17:00	37	209	61	36	199	55	74	184	56	47	318	58	1334
17:15	39	217	47	57	237	37	66	209	51	46	299	56	1361
17:30	45	213	61	41	188	55	86	179	44	50	316	50	1328
17:45	41	213	55	46	196	51	66	190	42	33	299	54	1286

Total Volume:	300	1708	434	340	1562	400	531	1461	354	344	2433	467	10334
Approach %	12%	70%	18%	15%	68%	17%	23%	62%	15%	11%	75%	14%	

Peak Hr Begin:	16:45												
PHV	160	873	225	182	850	204	279	752	184	191	1217	227	5344
PHF	0.956			0.934			0.932			0.966			0.982

## Pedestrian/Bicycle Count Report

Location ID: 2  
 North/South: Rosemead Blvd  
 East/West: Washington Blvd

Date: 09/25/19  
 City: Pico Rivera, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	3	0	1	1	0	1	3	1
7:15	9	0	4	0	3	1	2	0
7:30	14	0	5	1	4	0	5	0
7:45	4	0	0	0	0	0	3	0
8:00	7	0	3	1	1	1	1	1
8:15	3	0	4	1	0	2	4	2
8:30	5	0	6	0	4	1	2	0
8:45	2	0	4	0	2	0	5	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	3	2	1	0	3	0
16:15	6	0	1	2	7	3	4	0
16:30	5	0	7	0	6	2	6	1
16:45	12	0	2	1	5	2	5	2
17:00	7	0	0	1	0	0	4	4
17:15	6	0	2	0	4	1	7	3
17:30	10	1	3	0	4	0	2	3
17:45	4	1	2	1	4	3	4	2

## Turning Movement Count Report AM

Location ID: 3  
 North/South: Garfield Ave  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	14	284	13	47	192	189	104	203	3	16	22	7	1094
7:15	19	294	13	49	184	146	92	178	3	22	53	10	1063
7:30	16	277	19	51	184	142	98	232	1	36	52	5	1113
7:45	19	275	27	63	176	181	109	258	1	23	56	6	1194
8:00	33	275	21	63	180	141	116	249	2	23	45	2	1150
8:15	29	203	23	58	138	143	103	221	5	25	38	9	995
8:30	19	196	16	52	156	121	97	259	4	27	40	4	991
8:45	18	156	25	55	155	119	82	232	6	25	34	6	913

Total Volume:	167	1960	157	438	1365	1182	801	1832	25	197	340	49	8513
Approach %	7%	86%	7%	15%	46%	40%	30%	69%	1%	34%	58%	8%	

Peak Hr Begin:	7:15												
PHV	87	1121	80	226	724	610	415	917	7	104	206	23	4520
PHF	0.979			0.929			0.910			0.895			0.946

## Turning Movement Count Report PM

Location ID: 3  
 North/South: Garfield Ave  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	18	199	24	93	71	64	89	148	4	73	181	2	966
16:15	14	224	21	87	71	103	98	177	1	46	173	3	1018
16:30	16	185	20	88	77	71	72	190	1	77	191	4	992
16:45	9	209	27	96	116	86	99	213	2	58	150	5	1070
17:00	16	236	23	98	123	60	105	225	2	91	208	6	1193
17:15	8	206	31	71	70	93	103	190	2	81	183	2	1040
17:30	9	178	28	88	104	57	85	164	3	89	179	0	984
17:45	11	154	35	106	83	71	84	158	1	51	166	5	925

Total Volume:	101	1591	209	727	715	605	735	1465	16	566	1431	27	8188
Approach %	5%	84%	11%	36%	35%	30%	33%	66%	1%	28%	71%	1%	

Peak Hr Begin:	16:30												
PHV	49	836	101	353	386	310	379	818	7	307	732	17	4295
PHF	0.896			0.880			0.907			0.866			0.900

## Pedestrian/Bicycle Count Report

Location ID: 3  
 North/South: Garfield Ave  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	2	0	0	0	3	0
7:15	0	1	4	0	3	0	2	1
7:30	1	1	4	1	3	1	2	0
7:45	0	0	1	0	0	0	0	0
8:00	0	0	2	0	0	0	0	0
8:15	2	0	0	2	0	0	4	0
8:30	1	0	1	0	0	0	0	0
8:45	1	0	5	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	3	0	2	0	2	0
16:15	1	0	2	0	0	0	3	0
16:30	0	1	3	2	0	0	0	0
16:45	1	0	1	0	0	0	0	0
17:00	0	0	0	0	0	0	1	1
17:15	0	0	0	0	0	0	0	0
17:30	0	1	1	0	0	0	0	2
17:45	0	0	2	0	0	0	0	0



## Turning Movement Count Report AM

Location ID: 4  
 North/South: Telegraph Road  
 East/West: I-5 NB Ramps

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	43	83	0	0	0	0	0	263	119	1	0	132	641
7:15	56	90	0	0	0	0	0	262	122	2	0	109	641
7:30	48	128	0	0	0	0	0	220	119	2	0	159	676
7:45	48	142	0	0	0	0	0	257	114	1	0	121	683
8:00	34	126	0	0	0	0	0	199	111	4	0	99	573
8:15	47	111	0	0	0	0	0	194	88	2	0	147	589
8:30	40	87	0	0	0	0	0	204	97	7	0	145	580
8:45	28	88	0	0	0	0	0	151	74	3	0	117	461

Total Volume:	344	855	0	0	0	0	0	1750	844	22	0	1029	4844
Approach %	29%	71%	0%	0%	0%	0%	0%	67%	33%	2%	0%	98%	

Peak Hr Begin:	7:00												
PHV	195	443	0	0	0	0	0	1002	474	6	0	521	2641
PHF	0.839			0.000			0.961			0.818			0.967

## Turning Movement Count Report PM

Location ID: 4  
 North/South: Telegraph Road  
 East/West: I-5 NB Ramps

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	57	239	0	0	0	0	0	117	80	11	0	110	614
16:15	49	247	0	0	0	0	0	110	95	13	0	114	628
16:30	61	242	0	0	0	0	0	131	91	9	0	115	649
16:45	41	235	0	0	0	0	0	114	86	21	0	108	605
17:00	67	232	0	0	0	0	0	127	108	12	0	120	666
17:15	54	242	0	0	0	0	0	125	74	8	0	111	614
17:30	52	229	0	0	0	0	0	131	72	11	0	130	625
17:45	43	237	0	0	0	0	0	108	59	8	0	114	569

Total Volume:	424	1903	0	0	0	0	0	963	665	93	0	922	4970
Approach %	18%	82%	0%	0%	0%	0%	0%	59%	41%	9%	0%	91%	

Peak Hr Begin:	16:15												
PHV	218	956	0	0	0	0	0	482	380	55	0	457	2548
PHF	0.969			0.000			0.917			0.970			0.956

## Pedestrian/Bicycle Count Report

Location ID: 4  
 North/South: Telegraph Road  
 East/West: I-5 NB Ramps

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 5  
 North/South: Telegraph Road  
 East/West: Greenwood Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	29	27	80	0	101	49	311	0	0	0	0	597
7:15	0	57	25	86	0	112	81	317	0	0	0	0	678
7:30	0	78	25	80	0	117	85	304	0	0	0	0	689
7:45	0	107	47	69	0	125	92	281	0	0	0	0	721
8:00	0	70	35	65	0	104	67	251	0	0	0	0	592
8:15	0	69	15	53	0	89	84	241	0	0	0	0	551
8:30	0	65	35	44	0	93	100	265	0	0	0	0	602
8:45	0	46	34	42	0	76	71	201	0	0	0	0	470

Total Volume:	0	521	243	519	0	817	629	2171	0	0	0	0	4900
Approach %	0%	68%	32%	39%	0%	61%	22%	78%	0%	0%	0%	0%	

Peak Hr Begin:	7:00												
PHV	0	271	124	315	0	455	307	1213	0	0	0	0	2685
PHF	0.641			0.972			0.955			0.000			0.931

## Turning Movement Count Report PM

Location ID: 5  
 North/South: Telegraph Road  
 East/West: Greenwood Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	207	48	67	0	148	101	114	0	0	0	0	685
16:15	0	209	43	82	0	185	87	104	0	0	0	0	710
16:30	0	203	50	82	0	214	85	118	0	0	0	0	752
16:45	0	217	57	66	0	163	88	113	0	0	0	0	704
17:00	0	190	64	65	0	187	108	144	0	0	0	0	758
17:15	0	222	32	74	0	186	109	119	0	0	0	0	742
17:30	0	214	45	67	0	211	99	112	0	0	0	0	748
17:45	0	201	51	80	0	202	79	89	0	0	0	0	702

Total Volume:	0	1663	390	583	0	1496	756	913	0	0	0	0	5801
Approach %	0%	81%	19%	28%	0%	72%	45%	55%	0%	0%	0%	0%	

Peak Hr Begin:	16:30												
PHV	0	832	203	287	0	750	390	494	0	0	0	0	2956
PHF	0.944			0.876			0.877			0.000			0.975

## Pedestrian/Bicycle Count Report

Location ID: 5  
 North/South: Telegraph Road  
 East/West: Greenwood Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	4	0	0	0	0	0
7:15	7	2	9	1	0	0	0	0
7:30	5	0	0	0	0	0	0	0
7:45	2	1	0	0	0	1	0	0
8:00	1	0	1	0	0	0	0	0
8:15	1	0	0	0	0	0	0	0
8:30	0	1	0	0	0	0	0	0
8:45	3	0	4	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	2	0	0	0	0	0
16:15	1	1	0	0	0	0	0	0
16:30	2	0	0	1	0	0	0	0
16:45	1	0	2	1	0	0	0	0
17:00	1	1	1	0	0	0	0	0
17:15	2	0	2	0	0	0	0	0
17:30	3	2	1	1	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 6  
 North/South: Telegraph Road  
 East/West: I-5 NB Off-Ramp

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	146	0	1	0	1	0	332	0	49	0	18	547
7:15	0	173	0	0	0	0	0	394	0	59	1	32	659
7:30	0	193	0	1	0	1	0	365	0	66	0	33	659
7:45	0	227	3	0	0	1	3	331	0	57	0	26	648
8:00	0	176	0	0	0	1	2	228	0	56	0	22	485
8:15	0	146	0	4	0	0	0	338	0	69	0	22	579
8:30	0	161	0	1	0	1	1	294	0	66	0	56	580
8:45	0	133	0	1	0	0	1	226	0	66	0	32	459

Total Volume:	0	1355	3	8	0	5	7	2508	0	488	1	241	4616
Approach %	0%	100%	0%	62%	0%	38%	0%	100%	0%	67%	0%	33%	

Peak Hr Begin:	7:00												
PHV	0	739	3	2	0	3	3	1422	0	231	1	109	2513
PHF	0.807			0.625			0.904			0.861			0.953



## Turning Movement Count Report PM

Location ID: 6  
 North/South: Telegraph Road  
 East/West: I-5 NB Off-Ramp

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	373	0	0	0	1	0	181	0	58	2	43	658
16:15	0	391	1	3	0	0	1	142	0	53	0	29	620
16:30	0	395	1	1	0	1	0	157	0	56	2	40	653
16:45	0	412	0	1	0	0	0	183	0	48	1	34	679
17:00	0	364	0	3	0	1	0	180	0	49	0	42	639
17:15	0	389	0	2	0	1	0	176	0	55	2	43	668
17:30	0	432	1	3	0	0	0	158	0	55	0	43	692
17:45	0	393	1	0	0	0	0	123	0	37	0	34	588

Total Volume:	0	3149	4	13	0	4	1	1300	0	411	7	308	5197
Approach %	0%	100%	0%	76%	0%	24%	0%	100%	0%	57%	1%	42%	

Peak Hr Begin:	16:45												
PHV	0	1597	1	9	0	2	0	697	0	207	3	162	2678
PHF	0.923			0.688			0.952			0.930			0.967

## Pedestrian/Bicycle Count Report

Location ID: 6  
 North/South: Telegraph Road  
 East/West: I-5 NB Off-Ramp

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	3	0	0	0	0	0
7:15	0	0	0	1	0	0	0	1
7:30	0	0	1	1	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	1	1	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	1	0	0	0	0	0
8:45	0	0	3	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	2	0	0	0	0
17:00	0	0	2	0	0	0	0	0
17:15	0	0	2	1	0	0	0	0
17:30	0	0	1	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 7  
 North/South: Eastern Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	19	141	17	20	167	15	12	151	105	37	57	15	756
7:15	43	152	9	36	233	11	16	141	121	51	68	21	902
7:30	30	186	15	51	262	15	12	180	136	63	76	13	1039
7:45	41	218	20	37	230	18	14	216	121	66	71	14	1066
8:00	39	247	22	37	215	21	19	212	116	54	53	21	1056
8:15	42	161	27	35	245	15	16	155	125	49	57	12	939
8:30	37	204	12	27	211	17	15	228	133	41	58	8	991
8:45	36	164	14	25	180	18	10	209	115	47	62	19	899

Total Volume:	287	1473	136	268	1743	130	114	1492	972	408	502	123	7648
Approach %	15%	78%	7%	13%	81%	6%	4%	58%	38%	39%	49%	12%	

Peak Hr Begin:	7:30												
PHV	152	812	84	160	952	69	61	763	498	232	257	60	4100
PHF	0.851			0.900			0.942			0.903			0.962

## Turning Movement Count Report PM

Location ID: 7  
 North/South: Eastern Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	24	224	45	21	72	9	20	153	54	80	238	31	971
16:15	32	235	42	26	69	25	16	142	85	69	237	28	1006
16:30	32	198	38	28	76	35	21	185	64	64	245	26	1012
16:45	21	253	37	27	69	19	24	220	71	62	166	12	981
17:00	45	208	45	29	73	18	29	180	74	47	222	26	996
17:15	42	266	47	27	74	30	49	197	52	52	197	17	1050
17:30	39	238	50	19	58	26	15	183	74	57	204	34	997
17:45	27	226	54	23	73	13	7	151	63	57	245	26	965

Total Volume:	262	1848	358	200	564	175	181	1411	537	488	1754	200	7978
Approach %	11%	75%	15%	21%	60%	19%	9%	66%	25%	20%	72%	8%	

Peak Hr Begin:	16:30												
PHV	140	925	167	111	292	102	123	782	261	225	830	81	4039
PHF	0.868			0.908			0.925			0.848			0.962

## Pedestrian/Bicycle Count Report

Location ID: 7  
 North/South: Eastern Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	1	0	1	0	0	0	1
7:15	0	0	3	0	1	0	0	0
7:30	0	0	0	1	0	0	0	0
7:45	1	0	1	0	0	0	1	0
8:00	1	0	1	1	0	0	3	1
8:15	3	1	5	0	0	0	1	0
8:30	2	0	1	0	0	0	1	0
8:45	1	1	0	1	0	0	1	1

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	1	0
16:15	2	0	0	1	0	0	2	0
16:30	1	1	0	1	0	0	0	0
16:45	0	1	4	1	0	0	0	0
17:00	0	0	3	2	0	0	1	0
17:15	0	1	0	1	0	0	1	0
17:30	0	0	1	1	0	0	1	0
17:45	0	0	2	1	0	0	0	0

## Turning Movement Count Report AM

Location ID: 8  
 North/South: Garfield Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	202	209	63	82	29	19	15	204	34	11	49	19	936
7:15	178	218	70	64	65	30	24	214	44	11	51	29	998
7:30	195	194	65	72	65	30	22	213	29	10	50	31	976
7:45	211	217	57	102	76	37	20	254	28	14	44	39	1099
8:00	169	195	68	83	68	37	19	236	37	8	41	35	996
8:15	181	161	57	76	47	41	17	254	30	14	33	35	946
8:30	142	152	66	89	45	28	20	236	23	3	42	25	871
8:45	145	110	39	91	54	47	10	226	29	9	55	35	850

Total Volume:	1423	1456	485	659	449	269	147	1837	254	80	365	248	7672
Approach %	42%	43%	14%	48%	33%	20%	7%	82%	11%	12%	53%	36%	

Peak Hr Begin:	7:15												
PHV	753	824	260	321	274	134	85	917	138	43	186	134	4069
PHF	0.947			0.848			0.944			0.936			0.926

## Turning Movement Count Report PM

Location ID: 8  
 North/South: Garfield Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	59	247	60	44	15	17	31	166	17	32	192	57	937
16:15	62	228	62	36	8	15	23	180	6	25	213	59	917
16:30	60	263	55	51	11	12	32	198	9	25	180	46	942
16:45	62	242	44	23	9	16	28	196	13	20	186	67	906
17:00	69	311	58	42	7	8	33	248	4	18	155	52	1005
17:15	64	250	50	34	15	5	36	177	5	29	185	49	899
17:30	59	228	48	46	10	5	35	179	7	24	176	49	866
17:45	44	178	46	22	10	6	34	169	11	29	207	45	801

Total Volume:	479	1947	423	298	85	84	252	1513	72	202	1494	424	7273
Approach %	17%	68%	15%	64%	18%	18%	14%	82%	4%	10%	70%	20%	

Peak Hr Begin:	16:15												
PHV	253	1044	219	152	35	51	116	822	32	88	734	224	3770
PHF	0.865			0.804			0.851			0.880			0.938



## Pedestrian/Bicycle Count Report

Location ID: 8  
 North/South: Garfield Ave  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	1	0	1	0	0	2	0
7:15	1	0	3	0	0	0	3	0
7:30	0	0	2	2	0	0	0	0
7:45	0	1	1	0	1	0	1	0
8:00	0	0	1	0	0	0	0	1
8:15	0	0	0	0	0	0	2	0
8:30	0	0	0	0	0	0	2	0
8:45	0	0	3	1	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	1	0	1	1
16:15	0	0	2	0	1	0	2	1
16:30	2	0	3	0	2	0	3	3
16:45	0	0	0	0	0	0	0	0
17:00	0	0	2	1	0	0	1	3
17:15	0	0	2	0	2	0	0	0
17:30	0	0	0	0	0	0	1	2
17:45	0	0	0	1	0	0	1	0

## Turning Movement Count Report AM

Location ID: 9  
 North/South: I-5 SB Ramps  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	86	0	17	0	60	0	0	0	0	0	14	122	299
7:15	83	0	22	0	81	0	0	0	0	0	16	165	367
7:30	93	0	22	0	96	0	0	0	0	0	18	118	347
7:45	121	0	32	0	95	0	0	0	0	0	15	126	389
8:00	83	0	26	0	100	0	0	0	0	0	17	119	345
8:15	104	0	35	0	60	0	0	0	0	0	9	106	314
8:30	105	0	15	0	70	0	0	0	0	0	16	118	324
8:45	117	0	17	0	61	0	0	0	0	0	15	114	324

Total Volume:	792	0	186	0	623	0	0	0	0	0	120	988	2709
Approach %	81%	0%	19%	0%	100%	0%	0%	0%	0%	0%	11%	89%	

Peak Hr Begin:	7:15												
PHV	380	0	102	0	372	0	0	0	0	0	66	528	1448
PHF	0.788			0.930			0.000			0.820			0.931

## Turning Movement Count Report PM

Location ID: 9  
 North/South: I-5 SB Ramps  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	13	0	10	0	35	0	0	0	0	0	82	226	366
16:15	21	0	17	0	46	0	0	0	0	0	71	218	373
16:30	17	0	4	1	39	0	0	0	0	0	85	204	350
16:45	11	0	14	2	42	0	0	0	0	0	71	179	319
17:00	12	0	11	1	43	0	0	0	0	0	73	201	341
17:15	11	0	7	1	42	0	0	0	0	0	90	164	315
17:30	9	0	11	0	46	0	0	0	0	0	80	197	343
17:45	11	0	7	2	27	0	0	0	0	0	61	221	329

Total Volume:	105	0	81	7	320	0	0	0	0	0	613	1610	2736
Approach %	56%	0%	44%	2%	98%	0%	0%	0%	0%	0%	28%	72%	

Peak Hr Begin:	16:00												
PHV	62	0	45	3	162	0	0	0	0	0	309	827	1408
PHF	0.704			0.897			0.000			0.922			0.944

## Pedestrian/Bicycle Count Report

Location ID: 9  
 North/South: I-5 SB Ramps  
 East/West: Bandini Blvd

Date: 09/25/19  
 City: Downey, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 10  
 North/South: Eastern Ave  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	34	76	10	18	207	14	22	245	45	32	165	48	916
7:15	22	104	12	25	257	14	17	278	60	27	206	58	1080
7:30	33	131	16	26	242	10	14	262	47	32	237	79	1129
7:45	26	136	27	51	223	11	11	264	47	40	201	52	1089
8:00	19	121	12	54	185	23	17	244	26	33	202	52	988
8:15	29	118	23	36	155	17	23	211	26	34	168	44	884
8:30	31	93	9	34	189	32	9	234	32	24	149	58	894
8:45	30	100	18	38	195	24	19	239	41	35	165	48	952

Total Volume:	224	879	127	282	1653	145	132	1977	324	257	1493	439	7932
Approach %	18%	71%	10%	14%	79%	7%	5%	81%	13%	12%	68%	20%	

Peak Hr Begin:	7:15												
PHV	100	492	67	156	907	58	59	1048	180	132	846	241	4286
PHF	0.872			0.947			0.906			0.876			0.949

## Turning Movement Count Report PM

Location ID: 10  
 North/South: Eastern Ave  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	40	241	25	26	183	26	12	106	33	66	210	39	1007
16:15	62	234	25	21	197	30	19	120	47	48	231	16	1050
16:30	41	219	18	31	207	36	23	113	34	63	225	40	1050
16:45	56	222	14	23	181	28	16	112	56	51	200	35	994
17:00	41	229	24	27	241	48	19	131	38	47	236	41	1122
17:15	69	232	22	12	198	23	20	103	45	53	200	38	1015
17:30	59	215	24	9	210	41	16	100	47	75	251	41	1088
17:45	56	222	24	14	146	18	15	99	44	54	228	27	947

Total Volume:	424	1814	176	163	1563	250	140	884	344	457	1781	277	8273
Approach %	18%	75%	7%	8%	79%	13%	10%	65%	25%	18%	71%	11%	

Peak Hr Begin:	16:45												
PHV	225	898	84	71	830	140	71	446	186	226	887	155	4219
PHF	0.934			0.824			0.935			0.864			0.940

## Pedestrian/Bicycle Count Report

Location ID: 10  
 North/South: Eastern Ave  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	4	0	1	0	2	1	13	2
7:15	1	0	3	1	2	0	4	0
7:30	6	1	4	1	3	0	14	1
7:45	6	1	2	1	2	0	12	1
8:00	8	0	3	0	0	0	10	1
8:15	3	1	4	1	4	0	3	1
8:30	2	0	1	0	5	0	7	0
8:45	5	1	1	1	1	0	5	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	6	2	1	1	2	0	5	0
16:15	4	0	3	1	3	0	7	2
16:30	11	0	7	4	3	0	10	1
16:45	5	0	1	1	4	0	6	1
17:00	13	1	4	3	5	0	8	2
17:15	5	1	1	0	2	0	6	0
17:30	3	0	1	2	1	0	1	0
17:45	4	0	4	0	3	0	3	0



## Turning Movement Count Report AM

Location ID: 11  
 North/South: Garfield Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	48	135	15	16	236	37	21	196	38	14	112	46	914
7:15	52	144	16	24	215	35	24	216	43	21	152	36	978
7:30	46	167	21	29	231	31	17	236	50	18	143	47	1036
7:45	56	155	29	17	238	26	28	207	32	22	130	44	984
8:00	58	114	34	26	192	23	33	186	34	17	146	39	902
8:15	50	113	27	27	195	34	22	187	27	14	99	43	838
8:30	47	111	30	16	198	16	9	162	17	12	104	33	755
8:45	47	102	22	25	144	28	24	201	23	9	88	35	748

Total Volume:	404	1041	194	180	1649	230	178	1591	264	127	974	323	7155
Approach %	25%	64%	12%	9%	80%	11%	9%	78%	13%	9%	68%	23%	

Peak Hr Begin:	7:00												
PHV	202	601	81	86	920	129	90	855	163	75	537	173	3912
PHF	0.921			0.975			0.914			0.939			0.944

## Turning Movement Count Report PM

Location ID: 11  
 North/South: Garfield Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	47	227	22	24	150	32	28	136	15	42	240	36	999
16:15	40	214	22	27	132	31	20	117	19	39	233	53	947
16:30	44	225	16	30	126	28	13	141	18	51	250	49	991
16:45	37	253	19	26	123	22	24	102	18	43	224	47	938
17:00	35	185	12	56	139	29	6	160	10	42	259	54	987
17:15	34	209	25	25	140	31	13	108	12	53	216	55	921
17:30	45	220	15	30	135	25	12	131	15	39	210	54	931
17:45	38	221	25	18	105	23	12	120	15	30	212	55	874

Total Volume:	320	1754	156	236	1050	221	128	1015	122	339	1844	403	7588
Approach %	14%	79%	7%	16%	70%	15%	10%	80%	10%	13%	71%	16%	

Peak Hr Begin:	16:00												
PHV	168	919	79	107	531	113	85	496	70	175	947	185	3875
PHF	0.943			0.911			0.909			0.934			0.970

## Pedestrian/Bicycle Count Report

Location ID: 11  
 North/South: Garfield Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	2	1	2	1	0	0
7:15	1	1	6	0	1	0	0	0
7:30	3	0	2	2	0	0	0	0
7:45	3	0	7	1	0	0	0	0
8:00	2	0	1	0	1	0	0	0
8:15	1	0	1	0	1	0	0	0
8:30	0	0	1	1	1	1	0	0
8:45	1	0	2	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	1	1	0	0	1	2
16:15	0	0	0	0	1	0	1	0
16:30	4	0	3	1	0	0	1	1
16:45	7	1	6	0	1	0	3	1
17:00	1	0	4	0	0	0	1	2
17:15	1	0	2	0	0	0	2	0
17:30	1	0	1	0	0	0	1	0
17:45	3	0	2	0	0	0	1	1

## Turning Movement Count Report AM

Location ID: 12  
 North/South: Greenwood Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	6	10	8	25	269	13	7	39	14	6	121	4	522
7:15	15	14	14	29	276	13	14	50	8	13	159	3	608
7:30	15	17	11	30	287	9	11	43	12	4	163	3	605
7:45	14	16	9	37	252	7	7	43	16	9	128	5	543
8:00	22	14	13	28	288	11	10	16	21	8	155	6	592
8:15	25	10	13	31	291	20	11	17	17	6	132	5	578
8:30	28	14	16	34	228	27	6	20	6	4	125	5	513
8:45	10	18	8	22	175	23	4	22	7	7	108	4	408

Total Volume:	135	113	92	236	2066	123	70	250	101	57	1091	35	4369
Approach %	40%	33%	27%	10%	85%	5%	17%	59%	24%	5%	92%	3%	

Peak Hr Begin:	7:15												
PHV	66	61	47	124	1103	40	42	152	57	34	605	17	2348
PHF	0.888			0.969			0.872			0.937			0.965

## Turning Movement Count Report PM

Location ID: 12  
 North/South: Greenwood Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	4	28	53	15	137	16	10	20	6	8	276	3	576
16:15	2	40	55	8	147	11	8	18	6	9	290	3	597
16:30	3	48	45	13	118	27	7	26	6	16	288	6	603
16:45	4	34	56	14	127	9	4	14	6	15	272	3	558
17:00	6	48	67	12	131	8	14	14	3	17	288	5	613
17:15	6	31	63	11	107	12	5	23	8	14	269	3	552
17:30	7	34	62	10	156	11	6	17	6	15	277	3	604
17:45	6	30	54	9	150	15	6	17	5	13	313	4	622

Total Volume:	38	293	455	92	1073	109	60	149	46	107	2273	30	4725
Approach %	5%	37%	58%	7%	84%	9%	24%	58%	18%	4%	94%	1%	

Peak Hr Begin:	17:00												
PHV	25	143	246	42	544	46	31	71	22	59	1147	15	2391
PHF	0.855			0.893			0.861			0.925			0.961

## Pedestrian/Bicycle Count Report

Location ID: 12  
 North/South: Greenwood Avenue  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	3	0	2	0	0	0	3	0
7:15	1	1	0	0	0	0	1	1
7:30	0	1	1	0	0	0	1	0
7:45	0	0	2	0	1	0	0	0
8:00	1	0	1	0	1	0	1	0
8:15	0	1	1	1	0	0	0	0
8:30	0	0	0	0	1	1	3	0
8:45	1	1	2	0	2	0	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	1	1	0	0	0	2	0
16:15	1	0	4	0	4	0	0	0
16:30	1	0	1	0	1	0	0	0
16:45	1	0	2	1	3	0	1	0
17:00	0	0	2	1	1	0	1	0
17:15	0	1	1	0	0	0	1	0
17:30	1	1	0	0	1	0	1	0
17:45	1	0	0	0	0	0	1	0

## Turning Movement Count Report AM

Location ID: 13  
 North/South: I-5 SB ramps  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	8	5	70	73	298	136	157	63	2	1	87	47	947
7:15	7	12	74	63	306	116	168	84	0	2	125	42	999
7:30	4	4	81	53	325	110	189	68	4	1	137	55	1031
7:45	5	7	90	54	297	113	196	50	1	5	124	46	988
8:00	9	13	79	41	301	109	159	55	0	2	117	42	927
8:15	14	8	59	76	338	111	154	44	0	2	108	56	970
8:30	7	13	69	38	279	69	153	58	3	4	99	34	826
8:45	22	16	40	40	210	82	125	37	3	2	87	30	694

Total Volume:	76	78	562	438	2354	846	1301	459	13	19	884	352	7382
Approach %	11%	11%	78%	12%	65%	23%	73%	26%	1%	2%	70%	28%	

Peak Hr Begin:	7:00												
PHV	24	28	315	243	1226	475	710	265	7	9	473	190	3965
PHF	0.900			0.959			0.941			0.870			0.961

## Turning Movement Count Report PM

Location ID: 13  
 North/South: I-5 SB ramps  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	1	5	27	80	165	174	159	47	1	3	262	100	1024
16:15	0	5	34	78	163	183	143	58	4	0	209	96	973
16:30	1	3	21	78	156	210	187	48	0	2	226	59	991
16:45	0	1	24	93	151	200	185	37	5	2	238	93	1029
17:00	0	3	18	88	142	187	169	52	3	2	266	102	1032
17:15	2	1	23	61	125	165	192	62	0	2	250	110	993
17:30	1	0	20	84	172	240	162	49	4	0	254	100	1086
17:45	0	0	13	76	189	178	140	44	1	4	256	104	1005

Total Volume:	5	18	180	638	1263	1537	1337	397	18	15	1961	764	8133
Approach %	2%	9%	89%	19%	37%	45%	76%	23%	1%	1%	72%	28%	

Peak Hr Begin:	16:45												
PHV	3	5	85	326	590	792	708	200	12	6	1008	405	4140
PHF	0.894			0.861			0.906			0.959			0.953



## Pedestrian/Bicycle Count Report

Location ID: 13  
 North/South: I-5 SB ramps  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	2	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	2	0	0	0	1	0	1	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	1	0	0	0
8:30	0	0	0	0	0	0	1	0
8:45	1	1	0	0	0	1	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	4	0	0	0	1	1	1	0
16:15	0	0	0	0	0	1	0	0
16:30	0	1	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	0
17:00	1	0	0	0	0	0	0	0
17:15	2	0	0	0	1	0	0	0
17:30	1	0	0	0	0	2	0	1
17:45	5	0	0	0	0	0	1	0

## Turning Movement Count Report AM

Location ID: 14  
 North/South: Telegraph Road  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	131	47	11	120	249	2	6	191	117	72	203	44	1193
7:15	128	68	14	130	213	3	2	235	162	118	250	38	1361
7:30	124	100	19	152	228	1	3	177	128	130	237	50	1349
7:45	123	117	25	126	220	4	7	195	136	113	204	45	1315
8:00	119	85	26	128	213	3	1	137	103	95	217	47	1174
8:15	100	66	19	119	201	2	6	208	116	75	191	32	1135
8:30	115	82	15	100	181	6	3	172	104	75	196	47	1096
8:45	123	44	13	85	154	1	9	126	79	61	191	35	921

Total Volume:	963	609	142	960	1659	22	37	1441	945	739	1689	338	9544
Approach %	56%	36%	8%	36%	63%	1%	2%	59%	39%	27%	61%	12%	

Peak Hr Begin:	7:00												
PHV	506	332	69	528	910	10	18	798	543	433	894	177	5218
PHF	0.856			0.950			0.852			0.902			0.958

## Turning Movement Count Report PM

Location ID: 14  
 North/South: Telegraph Road  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	181	226	43	59	177	8	5	89	78	116	252	31	1265
16:15	184	245	40	50	181	7	5	66	57	144	279	25	1283
16:30	195	215	41	58	204	9	3	69	85	109	269	29	1286
16:45	169	220	36	60	182	5	3	98	82	137	285	20	1297
17:00	196	224	42	58	186	7	12	92	82	118	270	25	1312
17:15	163	222	45	48	216	17	4	83	76	138	287	25	1324
17:30	231	238	37	47	162	8	6	82	57	141	314	20	1343
17:45	187	230	38	39	174	11	6	58	54	139	284	23	1243

Total Volume:	1506	1820	322	419	1482	72	44	637	571	1042	2240	198	10353
Approach %	41%	50%	9%	21%	75%	4%	4%	51%	46%	30%	64%	6%	

Peak Hr Begin:	16:45												
PHV	759	904	160	213	746	37	25	355	297	534	1156	90	5276
PHF	0.901			0.886			0.910			0.937			0.982

## Pedestrian/Bicycle Count Report

Location ID: 14  
 North/South: Telegraph Road  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	3	0	5	0	0	0
7:15	2	4	5	1	2	0	4	2
7:30	1	0	2	1	0	0	0	0
7:45	3	0	3	0	5	0	0	0
8:00	0	2	3	0	4	0	1	2
8:15	0	0	0	0	0	0	1	0
8:30	2	1	2	0	0	0	2	0
8:45	2	0	2	0	4	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	6	1	0	0	1	0	3	2
16:15	2	1	4	0	1	0	0	2
16:30	4	0	1	0	3	0	2	0
16:45	2	0	2	2	2	0	1	0
17:00	6	1	2	0	5	0	7	0
17:15	6	1	5	0	8	0	2	1
17:30	3	1	5	0	4	0	0	2
17:45	1	0	1	0	3	0	1	1

## Turning Movement Count Report AM

Location ID: 15  
 North/South: Paramount Blvd  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	65	161	11	21	309	43	27	123	3	6	120	44	933
7:15	65	152	15	19	317	42	29	156	8	6	156	41	1006
7:30	54	168	21	20	304	52	44	139	10	4	190	68	1074
7:45	56	177	21	30	298	45	44	171	18	5	163	48	1076
8:00	57	126	19	33	327	35	29	128	9	3	160	53	979
8:15	56	141	15	24	262	39	31	91	6	5	149	48	867
8:30	51	118	13	27	226	22	33	110	5	2	155	36	798
8:45	45	120	16	20	195	40	36	89	7	5	138	46	757

Total Volume:	449	1163	131	194	2238	318	273	1007	66	36	1231	384	7490
Approach %	26%	67%	8%	7%	81%	12%	20%	75%	5%	2%	75%	23%	

Peak Hr Begin:	7:15												
PHV	232	623	76	102	1246	174	146	594	45	18	669	210	4135
PHF	0.916			0.963			0.842			0.856			0.961

## Turning Movement Count Report PM

Location ID: 15  
 North/South: Paramount Blvd  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	70	240	24	18	148	49	46	176	15	21	230	58	1095
16:15	63	245	14	29	151	52	53	178	9	26	267	55	1142
16:30	75	258	32	34	132	48	58	193	5	26	249	62	1172
16:45	54	230	25	24	154	53	49	224	6	23	296	63	1201
17:00	64	278	26	27	175	46	45	197	3	19	301	52	1233
17:15	53	243	38	17	129	58	46	202	11	28	291	56	1172
17:30	62	266	27	21	146	44	56	214	4	35	299	54	1228
17:45	63	236	29	17	120	49	53	218	3	41	274	62	1165

Total Volume:	504	1996	215	187	1155	399	406	1602	56	219	2207	462	9408
Approach %	19%	74%	8%	11%	66%	23%	20%	78%	3%	8%	76%	16%	

Peak Hr Begin:	16:45												
PHV	233	1017	116	89	604	201	196	837	24	105	1187	225	4834
PHF	0.928			0.901			0.947			0.977			0.980

## Pedestrian/Bicycle Count Report

Location ID: 15  
 North/South: Paramount Blvd  
 East/West: Slauson Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	1	0	3	0
7:15	0	0	0	0	4	0	2	0
7:30	1	0	0	0	0	0	2	0
7:45	1	0	1	0	5	0	2	1
8:00	2	0	0	0	1	0	1	0
8:15	0	0	0	0	0	0	5	0
8:30	0	0	1	0	1	0	1	0
8:45	0	0	0	0	0	1	1	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	5	0	4	0
16:15	0	0	0	0	1	0	2	0
16:30	0	0	4	0	2	0	2	2
16:45	0	0	0	0	2	1	2	0
17:00	0	0	0	0	0	0	5	2
17:15	0	0	0	0	3	0	2	0
17:30	0	0	0	0	3	0	2	0
17:45	0	0	0	0	2	1	5	1

## Turning Movement Count Report AM

Location ID: 16  
 North/South: Rosemead Blvd  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	15	202	17	15	346	61	15	132	8	10	188	28	1037
7:15	21	180	6	29	353	70	29	158	16	23	169	33	1087
7:30	29	172	14	34	328	54	22	222	11	30	253	40	1209
7:45	28	188	20	38	314	62	24	187	23	43	193	31	1151
8:00	24	223	21	30	330	49	22	165	33	17	199	30	1143
8:15	29	217	17	30	349	43	30	179	12	19	154	28	1107
8:30	15	166	27	23	271	46	24	156	15	13	157	22	935
8:45	19	153	21	15	268	48	21	201	17	12	160	25	960

Total Volume:	180	1501	143	214	2559	433	187	1400	135	167	1473	237	8629
Approach %	10%	82%	8%	7%	80%	14%	11%	81%	8%	9%	78%	13%	

Peak Hr Begin:	7:30												
PHV	110	800	72	132	1321	208	98	753	79	109	799	129	4610
PHF	0.916			0.984			0.912			0.803			0.953



## Turning Movement Count Report PM

Location ID: 16  
 North/South: Rosemead Blvd  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Pico Rivera, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	24	256	26	30	209	48	34	179	16	29	292	57	1200
16:15	34	209	25	30	207	65	33	187	12	16	300	48	1166
16:30	32	212	26	28	195	61	33	206	18	34	293	45	1183
16:45	33	224	26	31	246	59	24	192	15	44	314	54	1262
17:00	35	235	17	21	218	60	34	203	15	41	275	55	1209
17:15	29	226	26	28	207	49	16	232	14	26	343	43	1239
17:30	32	237	52	38	188	54	19	216	15	35	294	55	1235
17:45	34	239	31	43	189	55	25	191	15	47	326	58	1253

Total Volume:	253	1838	229	249	1659	451	218	1606	120	272	2437	415	9747
Approach %	11%	79%	10%	11%	70%	19%	11%	83%	6%	9%	78%	13%	

Peak Hr Begin:	16:45												
PHV	129	922	121	118	859	222	93	843	59	146	1226	207	4945
PHF	0.913			0.892			0.949			0.958			0.980

## Pedestrian/Bicycle Count Report

Location ID: 16  
 North/South: Rosemead Blvd  
 East/West: Slauson Ave

Date: 09/25/19  
 City: Pico Rivera, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	2	0	2	1	2	0
7:15	5	2	0	0	0	0	0	1
7:30	1	1	0	1	3	1	3	0
7:45	2	1	1	0	3	0	2	0
8:00	0	0	1	0	0	0	2	0
8:15	0	0	0	0	2	0	1	0
8:30	0	0	0	0	0	0	1	2
8:45	0	0	2	2	1	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	2	0	1	3	0	0
16:15	5	1	2	1	2	1	0	0
16:30	3	1	3	1	1	1	1	0
16:45	2	1	0	0	1	0	1	0
17:00	0	0	5	1	1	0	0	1
17:15	2	0	3	0	2	2	1	0
17:30	1	0	1	1	2	0	2	0
17:45	1	0	1	0	0	0	1	0

## Turning Movement Count Report AM

Location ID: 17  
 North/South: Eastern Ave  
 East/West: Gage Ave

Date: 09/25/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	28	75	5	31	185	38	12	228	26	21	123	47	819
7:15	23	81	15	54	180	25	17	250	45	29	172	41	932
7:30	26	102	23	48	138	44	30	275	36	27	170	44	963
7:45	36	116	24	39	199	33	25	184	51	24	191	38	960
8:00	38	99	20	22	164	33	24	192	38	23	150	32	835
8:15	35	90	16	37	210	14	29	144	51	30	162	26	844
8:30	32	80	13	28	134	27	16	155	29	33	120	37	704
8:45	26	67	13	28	174	23	9	209	49	25	131	27	781

Total Volume:	244	710	129	287	1384	237	162	1637	325	212	1219	292	6838
Approach %	23%	66%	12%	15%	73%	12%	8%	77%	15%	12%	71%	17%	

Peak Hr Begin:	7:15												
PHV	123	398	82	163	681	135	96	901	170	103	683	155	3690
PHF	0.857			0.903			0.856			0.930			0.958

## Turning Movement Count Report PM

Location ID: 17  
 North/South: Eastern Ave  
 East/West: Gage Ave

Date: 09/25/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	22	239	22	10	183	35	31	108	56	23	171	19	919
16:15	24	217	17	9	177	35	20	103	59	34	208	30	933
16:30	25	273	20	15	162	33	14	102	56	27	180	17	924
16:45	18	237	18	13	196	44	27	92	48	32	211	30	966
17:00	19	277	23	11	174	46	18	98	54	31	159	28	938
17:15	28	234	20	15	178	42	21	76	54	27	201	20	916
17:30	20	260	16	13	180	28	22	95	54	22	151	16	877
17:45	16	192	14	11	173	35	31	69	52	28	202	24	847

Total Volume:	172	1929	150	97	1423	298	184	743	433	224	1483	184	7320
Approach %	8%	86%	7%	5%	78%	16%	14%	55%	32%	12%	78%	10%	

Peak Hr Begin:	16:15												
PHV	86	1004	78	48	709	158	79	395	217	124	758	105	3761
PHF	0.915			0.904			0.949			0.904			0.973

## Pedestrian/Bicycle Count Report

Location ID: 17  
 North/South: Eastern Ave  
 East/West: Gage Ave

Date: 09/25/19  
 City: Bell Gardens, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	3	2	3	1	2	0	2	0
7:15	7	0	5	0	1	0	7	0
7:30	5	3	4	0	3	1	6	1
7:45	6	2	5	0	5	0	3	0
8:00	0	2	5	2	1	1	2	1
8:15	6	2	3	0	2	0	0	0
8:30	2	0	1	0	5	0	3	0
8:45	4	0	5	1	3	0	3	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	2	3	3	1	3	1	1	0
16:15	5	2	4	0	5	0	6	0
16:30	5	1	2	1	6	0	5	1
16:45	4	2	6	0	4	2	5	2
17:00	3	1	2	0	2	0	3	0
17:15	1	2	7	1	11	1	10	0
17:30	1	2	1	0	1	0	3	2
17:45	6	0	3	0	2	1	9	4

## Turning Movement Count Report AM

Location ID: 18  
 North/South: Garfield Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Los Angeles, CA

	Southbound (Garfield)				Westbound (Gage)				Northbound (Garfield)				Eastbound (Gage)				Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Movements:	R	T	L - FB Blvd	L	R	T	L	L - FB Blvd	R - FB Blvd	R	T	L	R	T - FB Blvd	T	L	
7:00	25	94	6	3	55	124	15	0	1	34	243	16	14	12	151	29	822
7:15	33	79	8	14	78	156	27	0	1	37	215	15	15	9	160	31	878
7:30	27	117	14	10	64	157	32	0	4	54	244	18	26	35	146	33	981
7:45	32	99	12	8	56	184	35	1	2	42	209	17	39	40	154	28	958
8:00	28	97	12	15	42	114	31	1	6	39	213	17	29	36	140	37	857
8:15	21	60	12	4	58	82	16	0	1	40	171	13	24	35	134	19	690
8:30	23	96	7	11	31	94	18	0	4	49	176	16	18	27	95	19	684
8:45	20	60	9	12	35	98	24	0	3	35	157	15	23	18	121	27	657
<b>Total Volume:</b>	209	702	80	77	419	1009	198	2	22	330	1628	127	188	212	1101	223	6527
<b>Approach %</b>	20%	66%	7%	7%	26%	62%	12%	0%	1%	16%	77%	6%	11%	12%	64%	13%	
<b>Peak Hr Begin:</b>	7:15																
PHV	120	392	46	47	240	611	125	2	13	172	881	67	109	120	600	129	3674
PHF	0.900				0.886				0.885				0.918				0.936

## Turning Movement Count Report AM

Location ID: 18  
 North/South: Garfield Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Los Angeles, CA

	Southbound (Garfield)				Westbound (Gage)				Northbound (Garfield)				Eastbound (Gage)				Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Movements:	R	T	L - FB Blvd	L	R	T	L	L - FB Blvd	R - FB Blvd	R	T	L	R	T - FB Blvd	T	L	
16:00	44	207	15	23	27	160	34	1	5	57	94	32	20	38	140	22	919
16:15	47	210	26	25	14	184	34	1	6	44	79	24	34	29	144	19	920
16:30	51	199	23	24	29	155	38	0	6	64	110	39	22	26	151	23	960
16:45	62	206	30	36	33	152	31	0	11	46	96	35	15	35	155	8	951
17:00	53	237	27	32	23	179	33	0	2	56	97	31	19	38	155	20	1002
17:15	35	228	36	28	16	195	35	0	4	64	85	32	19	41	163	7	988
17:30	56	257	27	25	25	147	41	0	7	67	89	21	17	34	136	19	968
17:45	51	217	28	37	22	149	35	0	3	50	71	27	22	39	153	15	919

Total Volume:	399	1761	212	230	189	1321	281	2	44	448	721	241	168	280	1197	133	7627
Approach %	15%	68%	8%	9%	11%	74%	16%	0%	3%	31%	50%	17%	9%	16%	67%	7%	

Peak Hr Begin:	16:45																
PHV	206	928	120	121	97	673	140	0	24	233	367	119	70	148	609	54	3909
PHF	0.985				0.968				0.988				0.949				0.975

## Turning Movement Count Report AM

Location ID: 18  
 North/South: Garfield Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Los Angeles, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	11	0	6	0	0	0	1	0
7:15	21	0	2	0	0	1	0	0
7:30	6	0	11	1	3	0	2	0
7:45	12	0	7	2	0	0	0	0
8:00	4	0	8	0	0	0	0	0
8:15	1	0	2	0	0	0	0	1
8:30	3	0	4	0	0	2	0	0
8:45	3	0	2	0	0	1	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	1	1	0	2	3	1	0
16:15	4	0	2	1	4	1	4	1
16:30	6	0	6	0	2	2	1	1
16:45	3	0	4	1	2	0	0	0
17:00	0	0	1	1	4	1	0	1
17:15	2	1	1	1	1	1	2	0
17:30	1	0	3	0	1	2	0	0
17:45	1	0	2	0	4	0	1	1



## Turning Movement Count Report AM

Location ID: 19  
 North/South: Greenwood Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	20	0	3	7	141	3	8	6	7	3	220	26	444
7:15	26	1	11	12	133	4	9	7	8	1	255	27	494
7:30	30	2	9	7	115	1	13	7	12	1	203	28	428
7:45	26	2	7	6	115	4	6	5	8	8	245	39	471
8:00	23	3	5	10	109	0	3	2	5	1	195	22	378
8:15	24	3	4	7	102	0	6	2	4	6	212	22	392
8:30	31	1	3	6	93	3	4	3	6	4	182	15	351
8:45	24	1	7	5	76	1	5	2	3	1	136	11	272

Total Volume:	204	13	49	60	884	16	54	34	53	25	1648	190	3230
Approach %	77%	5%	18%	6%	92%	2%	38%	24%	38%	1%	88%	10%	

Peak Hr Begin:	7:00												
PHV	102	5	30	32	504	12	36	25	35	13	923	120	1837
PHF	0.835			0.907			0.750			0.904			0.930

## Turning Movement Count Report PM

Location ID: 19  
 North/South: Greenwood Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	33	2	14	7	159	2	3	3	1	3	203	19	449
16:15	34	5	21	10	183	6	1	3	1	3	210	19	496
16:30	53	4	17	8	191	1	2	4	1	5	210	20	516
16:45	32	4	18	12	185	3	0	2	1	2	210	25	494
17:00	37	4	17	8	183	6	1	1	3	7	228	21	516
17:15	20	2	23	12	182	2	5	2	9	6	208	31	502
17:30	27	0	23	5	210	2	1	1	2	4	195	10	480
17:45	38	4	24	6	147	4	2	2	3	10	160	14	414

Total Volume:	274	25	157	68	1440	26	15	18	21	40	1624	159	3867
Approach %	60%	5%	34%	4%	94%	2%	28%	33%	39%	2%	89%	9%	

Peak Hr Begin:	16:30												
PHV	142	14	75	40	741	12	8	9	14	20	856	97	2028
PHF	0.780			0.991			0.484			0.950			0.983

## Pedestrian/Bicycle Count Report

Location ID: 19  
 North/South: Greenwood Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	10	0	3	0	0	0	0	0
7:15	2	0	0	0	0	0	1	0
7:30	0	1	1	0	0	0	4	0
7:45	1	0	1	0	0	0	0	0
8:00	0	0	2	0	0	0	1	0
8:15	0	0	1	0	0	0	0	0
8:30	0	1	1	0	0	0	0	0
8:45	3	1	0	0	0	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	3	0	0	0	0	0
16:15	3	2	3	1	1	0	6	0
16:30	3	0	2	0	0	0	1	0
16:45	0	0	2	2	1	0	0	0
17:00	4	3	4	0	0	0	3	0
17:15	1	0	1	0	0	0	0	0
17:30	6	1	2	0	0	0	1	0
17:45	1	0	2	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 20  
 North/South: Zindell Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	152	1	2	0	10	0	226	0	391
7:15	0	0	0	0	130	1	5	0	10	2	249	0	397
7:30	0	0	0	0	96	2	3	0	4	1	255	0	361
7:45	0	0	0	0	124	2	3	0	5	3	248	0	385
8:00	0	0	0	0	121	4	5	0	2	2	212	0	346
8:15	0	0	0	0	125	2	1	0	5	1	188	0	322
8:30	0	0	0	0	65	2	3	0	4	6	207	0	287
8:45	0	0	0	0	91	4	4	0	1	5	168	0	273

Total Volume:	0	0	0	0	904	18	26	0	41	20	1753	0	2762
Approach %	0%	0%	0%	0%	98%	2%	39%	0%	61%	1%	99%	0%	

Peak Hr Begin:	7:00												
PHV	0	0	0	0	502	6	13	0	29	6	978	0	1534
PHF	0.000			0.830			0.700			0.961			0.966

## Turning Movement Count Report PM

Location ID: 20  
 North/South: Zindell Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	163	2	7	0	3	4	200	0	379
16:15	0	0	0	0	215	3	3	0	6	4	196	0	427
16:30	0	0	0	0	182	3	4	0	3	3	244	0	439
16:45	0	0	0	0	201	7	1	0	8	3	214	0	434
17:00	0	0	0	0	196	2	2	0	6	5	216	0	427
17:15	0	0	0	0	178	3	1	0	6	6	226	0	420
17:30	0	0	0	0	213	1	4	0	5	4	220	0	447
17:45	0	0	0	0	182	10	0	0	5	8	181	0	386

Total Volume:	0	0	0	0	1530	31	22	0	42	37	1697	0	3359
Approach %	0%	0%	0%	0%	98%	2%	34%	0%	66%	2%	98%	0%	

Peak Hr Begin:	16:45												
PHV	0	0	0	0	788	13	8	0	25	18	876	0	1728
PHF	0.000			0.936			0.917			0.963			0.966

## Pedestrian/Bicycle Count Report

Location ID: 20  
 North/South: Zindell Avenue  
 East/West: Gage Avenue

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	7	0	2	0
7:15	0	0	0	0	2	0	0	0
7:30	0	0	0	0	2	0	0	0
7:45	0	0	0	0	3	0	0	0
8:00	0	0	0	0	2	1	1	0
8:15	0	0	0	0	1	0	1	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	1	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	1	0	0
16:15	0	0	0	0	1	0	0	0
16:30	0	0	0	0	1	0	3	0
16:45	0	0	0	0	1	1	0	0
17:00	0	0	0	0	3	0	0	0
17:15	0	0	0	0	2	0	1	0
17:30	0	0	0	0	3	2	2	0
17:45	0	0	0	0	0	0	1	0

## Turning Movement Count Report AM

Location ID: 21  
 North/South: Gage Avenue  
 East/West: Gage Ct

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	138	5	3	0	2	0	221	0	0	0	0	369
7:15	0	127	1	2	0	0	0	263	0	0	0	0	393
7:30	0	108	3	4	0	0	0	250	0	0	0	0	365
7:45	0	123	2	2	0	1	2	247	0	0	0	0	377
8:00	0	118	4	2	0	1	0	215	0	0	0	0	340
8:15	0	123	2	6	0	0	0	203	0	0	0	0	334
8:30	0	75	6	3	0	2	2	201	0	0	0	0	289
8:45	0	96	7	2	0	1	1	155	0	0	0	0	262

Total Volume:	0	908	30	24	0	7	5	1755	0	0	0	0	2729
Approach %	0%	97%	3%	77%	0%	23%	0%	100%	0%	0%	0%	0%	

Peak Hr Begin:	7:00												
PHV	0	496	11	11	0	3	2	981	0	0	0	0	1504
PHF	0.886			0.700			0.934			0.000			0.957

## Turning Movement Count Report PM

Location ID: 21  
 North/South: Gage Avenue  
 East/West: Gage Ct

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	212	7	2	0	1	3	211	0	0	0	0	436
16:15	0	168	6	2	0	0	3	197	0	0	0	0	376
16:30	0	183	8	3	0	2	2	241	0	0	0	0	439
16:45	0	210	5	6	0	1	0	213	0	0	0	0	435
17:00	0	189	3	4	0	1	3	233	0	0	0	0	433
17:15	0	205	9	4	0	0	1	240	0	0	0	0	459
17:30	0	222	7	5	0	1	1	213	0	0	0	0	449
17:45	0	159	6	0	0	0	3	182	0	0	0	0	350

Total Volume:	0	1548	51	26	0	6	16	1730	0	0	0	0	3377
Approach %	0%	97%	3%	81%	0%	19%	1%	99%	0%	0%	0%	0%	

Peak Hr Begin:	16:45												
PHV	0	826	24	19	0	3	5	899	0	0	0	0	1776
PHF	0.928			0.786			0.938			0.000			0.967



## Pedestrian/Bicycle Count Report

Location ID: 21  
 North/South: Gage Avenue  
 East/West: Gage Ct

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	1	0	0	0	0	0
7:15	0	0	2	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	1	0	0	0	0	0
8:00	0	0	1	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	1	1	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	1	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	2	0	0	0	0	0
17:30	0	0	1	2	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 22  
 North/South: Eastern Ave  
 East/West: Florence Ave

Date: 09/17/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	155	94	15	7	285	9	9	166	86	34	143	63	1066
7:15	130	91	21	6	263	8	12	172	104	47	159	56	1069
7:30	129	121	13	12	232	9	10	231	99	63	161	66	1146
7:45	101	106	32	25	307	12	11	203	85	98	190	85	1255
8:00	139	111	22	14	250	11	14	198	82	53	186	65	1145
8:15	92	71	26	20	328	10	12	150	95	50	154	81	1089
8:30	105	86	22	10	236	11	13	160	130	61	112	65	1011
8:45	94	69	19	17	296	9	9	132	109	60	111	79	1004

Total Volume:	945	749	170	111	2197	79	90	1412	790	466	1216	560	8785
Approach %	51%	40%	9%	5%	92%	3%	4%	62%	34%	21%	54%	25%	

Peak Hr Begin:	7:30												
PHV	461	409	93	71	1117	42	47	782	361	264	691	297	4635
PHF	0.885			0.859			0.875			0.839			0.923

## Turning Movement Count Report PM

Location ID: 22  
 North/South: Eastern Ave  
 East/West: Florence Ave

Date: 09/17/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	138	162	47	21	197	16	22	112	83	88	255	75	1216
16:15	158	167	42	22	209	14	12	103	69	92	258	63	1209
16:30	171	173	88	20	243	18	17	102	69	92	221	64	1278
16:45	159	186	44	20	240	11	11	134	67	120	252	70	1314
17:00	157	163	41	28	245	14	16	104	82	110	297	69	1326
17:15	156	169	43	32	238	22	14	102	68	147	249	57	1297
17:30	158	184	32	25	225	15	16	123	70	115	259	65	1287
17:45	122	172	32	21	207	18	10	103	65	117	280	49	1196

Total Volume:	1219	1376	369	189	1804	128	118	883	573	881	2071	512	10123
Approach %	41%	46%	12%	9%	85%	6%	7%	56%	36%	25%	60%	15%	

Peak Hr Begin:	16:45												
PHV	630	702	160	105	948	62	57	463	287	492	1057	261	5224
PHF	0.959			0.955			0.952			0.951			0.985

## Pedestrian/Bicycle Count Report

Location ID: 22  
 North/South: Eastern Ave  
 East/West: Florence Ave

Date: 09/17/19  
 City: Bell Gardens, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	2	0	9	1	8	0	2	2
7:15	1	0	11	1	2	0	2	0
7:30	1	0	9	0	2	0	2	0
7:45	3	0	6	1	8	0	3	0
8:00	1	3	6	2	0	0	4	0
8:15	2	0	8	1	8	0	4	0
8:30	3	0	15	0	5	0	3	1
8:45	5	1	8	0	5	0	3	1

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	12	0	18	0	17	0	4	1
16:15	2	0	10	3	6	1	1	1
16:30	9	4	8	1	10	0	3	3
16:45	4	1	8	0	6	0	4	1
17:00	6	2	23	1	9	0	9	0
17:15	3	1	17	0	2	0	18	0
17:30	1	0	13	0	11	0	2	1
17:45	4	0	20	1	12	0	4	2

## Turning Movement Count Report AM

Location ID: 23  
 North/South: Garfield Ave  
 East/West: Florence Ave

Date: 09/25/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	10	125	18	10	125	18	9	186	12	7	146	1	667
7:15	7	113	28	7	113	28	7	215	20	6	179	10	733
7:30	13	149	23	13	149	23	12	234	16	38	179	13	862
7:45	5	150	49	5	150	49	16	261	21	57	172	18	953
8:00	7	119	35	7	119	35	14	221	15	64	223	31	890
8:15	9	73	34	9	73	34	19	194	18	18	168	18	667
8:30	6	89	23	6	89	23	12	210	11	14	150	12	645
8:45	5	85	33	5	85	33	11	152	13	9	120	11	562

Total Volume:	62	903	243	62	903	243	100	1673	126	213	1337	114	5979
Approach %	5%	75%	20%	5%	75%	20%	5%	88%	7%	13%	80%	7%	

Peak Hr Begin:	7:15												
PHV	32	531	135	32	531	135	49	931	72	165	753	72	3438
PHF	0.855			0.855			0.883			0.778			0.902

## Turning Movement Count Report PM

Location ID: 23  
 North/South: Garfield Ave  
 East/West: Florence Ave

Date: 09/25/19  
 City: Bell Gardens, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	9	145	39	9	145	39	13	122	20	13	229	17	800
16:15	12	189	52	12	189	52	7	137	17	23	215	10	915
16:30	10	190	44	10	190	44	11	129	16	17	226	12	899
16:45	8	182	48	8	182	48	8	136	17	14	240	15	906
17:00	7	164	51	7	164	51	10	103	17	26	267	9	876
17:15	11	175	60	11	175	60	10	109	10	12	207	18	858
17:30	5	155	44	5	155	44	12	130	19	29	273	14	885
17:45	9	156	57	9	156	57	14	126	26	29	232	6	877

Total Volume:	71	1356	395	71	1356	395	85	992	142	163	1889	101	7016
Approach %	4%	74%	22%	4%	74%	22%	7%	81%	12%	8%	88%	5%	

Peak Hr Begin:	16:15												
PHV	37	725	195	37	725	195	36	505	67	80	948	46	3596
PHF	0.946			0.946			0.944			0.889			0.983

## Pedestrian/Bicycle Count Report

Location ID: 23  
 North/South: Garfield Ave  
 East/West: Florence Ave

Date: 09/25/19  
 City: Bell Gardens, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	6	0	60	0	0	1	5	0
7:15	6	2	10	2	0	0	10	0
7:30	6	0	6	0	1	1	13	0
7:45	7	1	7	1	14	1	10	0
8:00	3	0	3	0	12	6	5	0
8:15	5	0	5	0	6	0	12	0
8:30	4	0	4	0	4	0	3	0
8:45	3	0	3	0	3	0	7	1

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	5	0	5	0	1	1	12	0
16:15	5	1	5	1	2	1	1	2
16:30	6	2	6	2	1	3	1	1
16:45	6	3	6	3	2	4	6	1
17:00	8	0	8	2	4	0	6	0
17:15	5	1	5	1	5	3	3	1
17:30	3	1	3	1	1	0	10	3
17:45	1	0	1	0	7	0	3	0

## Turning Movement Count Report AM

Location ID: 24  
 North/South: Paramount Blvd  
 East/West: I-5 SB Ramps

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	335	38	0	0	0	95	373	0	40	0	7	888
7:15	0	372	28	0	0	0	97	443	0	51	0	2	993
7:30	0	346	32	0	0	0	116	463	0	46	0	2	1005
7:45	0	295	32	0	0	0	75	503	0	64	0	2	971
8:00	0	262	30	0	0	0	65	510	0	62	0	7	936
8:15	0	269	24	0	0	0	53	484	0	70	0	2	902
8:30	0	279	25	0	0	0	71	460	0	57	0	6	898
8:45	0	273	26	0	0	0	61	508	0	73	0	3	944

Total Volume:	0	2431	235	0	0	0	633	3744	0	463	0	31	7537
Approach %	0%	91%	9%	0%	0%	0%	14%	86%	0%	94%	0%	6%	

Peak Hr Begin:	7:15												
PHV	0	1275	122	0	0	0	353	1919	0	223	0	13	3905
PHF	0.873			0.000			0.981			0.855			0.971



## Turning Movement Count Report PM

Location ID: 24  
 North/South: Paramount Blvd  
 East/West: I-5 SB Ramps

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	380	69	0	0	0	70	385	0	56	0	3	963
16:15	0	411	65	0	0	0	68	347	0	59	0	2	952
16:30	0	427	61	0	0	0	52	363	0	43	0	4	950
16:45	0	440	55	0	0	0	62	342	0	57	0	0	956
17:00	0	443	64	0	0	0	85	341	0	59	0	2	994
17:15	0	445	63	0	0	0	66	378	0	39	0	2	993
17:30	0	511	68	0	0	0	89	356	0	69	0	1	1094
17:45	0	435	70	0	0	0	79	355	0	65	0	3	1007

Total Volume:	0	3492	515	0	0	0	571	2867	0	447	0	17	7909
Approach %	0%	87%	13%	0%	0%	0%	17%	83%	0%	96%	0%	4%	

Peak Hr Begin:	17:00												
PHV	0	1834	265	0	0	0	319	1430	0	232	0	8	4088
PHF	0.906			0.000			0.983			0.857			0.934

## Pedestrian/Bicycle Count Report

Location ID: 24  
 North/South: Paramount Blvd  
 East/West: I-5 SB Ramps

Date: 09/25/19  
 City: Downey, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 25a  
 North/South: Paramount Blvd  
 East/West: I-5 NB Ramps

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	349	89	3	0	4	32	170	0	0	0	0	647
7:15	0	407	80	4	0	7	41	241	0	0	0	0	780
7:30	0	357	72	8	0	4	19	270	0	0	0	0	730
7:45	0	329	56	4	0	6	4	287	0	0	0	0	686
8:00	0	273	48	2	0	10	10	255	0	0	0	0	598
8:15	0	289	54	9	0	12	17	214	0	0	0	0	595
8:30	0	297	47	14	0	9	10	221	0	0	0	0	598
8:45	0	279	32	9	0	20	1	252	0	0	0	0	593

Total Volume:	0	2580	478	53	0	72	134	1910	0	0	0	0	5227
Approach %	0%	84%	16%	42%	0%	58%	7%	93%	0%	0%	0%	0%	

Peak Hr Begin:	7:00												
PHV	0	1442	297	19	0	21	96	968	0	0	0	0	2843
PHF	0.893			0.833			0.914			0.000			0.911

## Turning Movement Count Report PM

Location ID: 25a  
 North/South: Paramount Blvd  
 East/West: I-5 NB Ramps

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	382	17	65	0	87	1	285	0	0	0	0	837
16:15	0	376	13	48	0	93	0	294	0	0	0	0	824
16:30	0	374	15	47	0	83	0	287	0	0	0	0	806
16:45	0	398	20	46	0	95	0	272	0	0	0	0	831
17:00	0	414	17	54	0	95	0	271	0	0	0	0	851
17:15	0	406	24	59	0	109	0	334	0	0	0	0	932
17:30	0	452	14	73	0	102	0	311	0	0	0	0	952
17:45	0	449	9	53	0	88	0	323	0	0	0	0	922

Total Volume:	0	3251	129	445	0	752	1	2377	0	0	0	0	6955
Approach %	0%	96%	4%	37%	0%	63%	0%	100%	0%	0%	0%	0%	

Peak Hr Begin:	17:00												
PHV	0	1721	64	239	0	394	0	1239	0	0	0	0	3657
PHF	0.958			0.904			0.927			0.000			0.960

## Pedestrian/Bicycle Count Report

Location ID: 25a  
 North/South: Paramount Blvd  
 East/West: I-5 NB Ramps

Date: 09/25/19  
 City: Downey, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	1	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0

## Turning Movement Count Report AM

Location ID: 25b  
 North/South: Paramount Blvd  
 East/West: I-5 NB On Ramp

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	0	0	0	0	0	0	171	0	0	0	0	0	171
7:15	0	0	0	0	0	0	155	0	0	0	0	0	155
7:30	0	0	0	0	0	0	204	0	0	0	0	0	204
7:45	0	0	0	0	0	0	224	0	0	0	0	0	224
8:00	0	0	0	0	0	0	240	0	0	0	0	0	240
8:15	0	0	0	0	0	0	241	0	0	0	0	0	241
8:30	0	0	0	0	0	0	240	0	0	0	0	0	240
8:45	0	0	0	0	0	0	260	0	0	0	0	0	260

Total Volume:	0	0	0	0	0	0	1735	0	0	0	0	0	1735
Approach %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	

Peak Hr Begin:	8:00												
PHV	0	0	0	0	0	0	981	0	0	0	0	0	981
PHF	0.000			0.000			0.943			0.000			0.943

## Turning Movement Count Report PM

Location ID: 25b  
 North/South: Paramount Blvd  
 East/West: I-5 NB On Ramp

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	0	0	0	0	0	0	101	0	0	0	0	0	101
16:15	0	0	0	0	0	0	65	0	0	0	0	0	65
16:30	0	0	0	0	0	0	84	0	0	0	0	0	84
16:45	0	0	0	0	0	0	65	0	0	0	0	0	65
17:00	0	0	0	0	0	0	68	0	0	0	0	0	68
17:15	0	0	0	0	0	0	55	0	0	0	0	0	55
17:30	0	0	0	0	0	0	43	0	0	0	0	0	43
17:45	0	0	0	0	0	0	33	0	0	0	0	0	33

Total Volume:	0	0	0	0	0	0	514	0	0	0	0	0	514
Approach %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	

Peak Hr Begin:	16:00												
PHV	0	0	0	0	0	0	315	0	0	0	0	0	315
PHF	0.000			0.000			0.780			0.000			0.780

## Pedestrian/Bicycle Count Report

Location ID: 25b  
 North/South: Paramount Blvd  
 East/West: I-5 NB On Ramp

Date: 09/25/19  
 City: Downey, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0



## Turning Movement Count Report AM

Location ID: 26  
 North/South: Telegraph Road  
 East/West: Paramount Blvd

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	25	103	8	9	192	17	18	274	81	21	116	28	892
7:15	39	117	8	18	199	28	19	298	76	27	168	46	1043
7:30	42	155	23	13	203	31	34	306	80	28	125	29	1069
7:45	37	151	13	21	211	25	38	251	78	37	140	33	1035
8:00	45	132	12	24	204	24	25	259	53	17	98	22	915
8:15	34	125	10	23	193	19	23	223	55	27	101	40	873
8:30	45	134	8	12	179	12	20	250	36	35	102	44	877
8:45	28	122	5	23	156	14	23	173	53	51	107	50	805

Total Volume:	295	1039	87	143	1537	170	200	2034	512	243	957	292	7509
Approach %	21%	73%	6%	8%	83%	9%	7%	74%	19%	16%	64%	20%	

Peak Hr Begin:	7:15												
PHV	163	555	56	76	817	108	116	1114	287	109	531	130	4062
PHF	0.880			0.974			0.903			0.799			0.950

## Turning Movement Count Report PM

Location ID: 26  
 North/South: Telegraph Road  
 East/West: Paramount Blvd

Date: 04/24/19  
 City: Commerce, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	73	274	15	11	261	23	15	89	52	47	198	17	1075
16:15	58	230	13	6	242	23	14	113	55	56	221	42	1073
16:30	59	203	16	4	270	37	19	109	40	55	225	36	1073
16:45	51	247	12	8	276	36	15	115	42	50	230	44	1126
17:00	62	252	27	10	274	37	20	110	52	63	212	27	1146
17:15	69	260	17	7	273	42	19	148	50	51	222	45	1203
17:30	62	257	32	13	295	29	11	86	51	65	248	35	1184
17:45	51	203	16	6	263	27	21	90	51	58	238	31	1055

Total Volume:	485	1926	148	65	2154	254	134	860	393	445	1794	277	8935
Approach %	19%	75%	6%	3%	87%	10%	10%	62%	28%	18%	71%	11%	

Peak Hr Begin:	16:45												
PHV	244	1016	88	38	1118	144	65	459	195	229	912	151	4659
PHF	0.960			0.964			0.828			0.928			0.968

## Pedestrian/Bicycle Count Report

Location ID: 26  
 North/South: Telegraph Road  
 East/West: Paramount Blvd

Date: 04/24/19  
 City: Commerce, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	3	0	2	1	10	0
7:15	2	0	2	3	1	0	4	1
7:30	1	1	2	0	1	0	5	0
7:45	2	0	1	0	3	0	4	0
8:00	2	0	0	0	0	0	2	0
8:15	6	0	4	0	3	0	5	0
8:30	1	0	1	0	0	0	1	1
8:45	2	0	0	0	2	0	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	1	0	2	2	2	0	3	2
16:15	6	1	2	0	1	0	5	1
16:30	2	0	1	0	0	0	3	1
16:45	5	0	3	0	2	0	4	0
17:00	4	0	1	0	1	0	3	0
17:15	2	0	3	0	5	0	5	1
17:30	2	1	1	1	1	0	7	0
17:45	4	1	1	2	4	0	5	0

## Turning Movement Count Report AM

Location ID: 27  
 North/South: Rosemead Blvd / Lakewood Blvd  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	3	202	12	8	286	158	72	135	73	59	106	19	1133
7:15	7	188	6	13	296	174	90	152	97	70	103	14	1210
7:30	6	203	13	15	331	136	131	203	110	68	211	12	1439
7:45	4	171	15	13	339	153	130	181	86	59	198	23	1372
8:00	9	166	17	16	290	145	108	178	125	54	162	18	1288
8:15	5	173	20	17	294	158	105	151	108	22	172	50	1275
8:30	7	188	14	21	317	137	86	161	86	38	89	19	1163
8:45	8	175	16	22	225	132	103	214	92	35	102	13	1137

Total Volume:	49	1466	113	125	2378	1193	825	1375	777	405	1143	168	10017
Approach %	3%	90%	7%	3%	64%	32%	28%	46%	26%	24%	67%	10%	

Peak Hr Begin:	7:30												
PHV	24	713	65	61	1254	592	474	713	429	203	743	103	5374
PHF	0.903			0.944			0.910			0.901			0.934

## Turning Movement Count Report PM

Location ID: 27  
 North/South: Rosemead Blvd / Lakewood Blvd  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Downey, CA

	Southbound			Westbound			Northbound			Eastbound			Totals:
	1	2	3	4	5	6	7	8	9	10	11	12	
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
16:00	6	236	24	20	119	108	125	213	41	74	208	17	1191
16:15	12	251	32	17	113	85	123	216	36	78	173	23	1159
16:30	7	236	24	11	135	103	140	229	33	64	258	16	1256
16:45	4	204	28	25	127	101	146	205	33	68	248	13	1202
17:00	8	247	33	17	133	122	148	225	37	78	174	35	1257
17:15	11	203	29	19	143	110	129	267	37	92	187	24	1251
17:30	9	201	19	18	161	105	176	207	68	94	258	12	1328
17:45	8	244	18	19	126	101	144	226	71	99	199	25	1280

Total Volume:	65	1822	207	146	1057	835	1131	1788	356	647	1705	165	9924
Approach %	3%	87%	10%	7%	52%	41%	35%	55%	11%	26%	68%	7%	

Peak Hr Begin:	17:00												
PHV	36	895	99	73	563	438	597	925	213	363	818	96	5116
PHF	0.894			0.945			0.962			0.877			0.963

## Pedestrian/Bicycle Count Report

Location ID: 27  
 North/South: Rosemead Blvd / Lakewood Blvd  
 East/West: Telegraph Rd

Date: 09/25/19  
 City: Downey, CA

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
7:00	1	0	10	1	2	0	8	1
7:15	5	0	4	0	5	0	4	0
7:30	5	0	7	1	8	3	1	0
7:45	3	1	3	0	2	0	2	2
8:00	2	1	2	0	2	1	2	0
8:15	1	0	2	3	5	1	1	0
8:30	3	0	5	0	3	2	1	1
8:45	0	0	3	0	3	1	2	0

Leg:	North		East		South		West	
Class:	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle	Peds	Bicycle
16:00	2	1	1	0	0	1	4	0
16:15	2	2	0	0	2	0	7	1
16:30	1	1	4	2	7	1	8	1
16:45	5	0	4	1	1	0	4	1
17:00	3	1	8	1	9	0	5	0
17:15	3	2	4	0	5	0	11	3
17:30	6	1	9	1	5	1	7	1
17:45	8	0	6	0	7	1	4	1

***Appendix C***

***Intersection Level of Service Worksheets***

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	412	522	100	105	642	209	101	753	216	123	1351	48
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	412	522	100	105	642	209	101	753	216	123	1351	48
Peak Hour 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
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]	103	131	25	26	161	52	25	188	54	31	338	12
Total Analysis Volume [veh/h]	412	522	100	105	642	209	101	753	216	123	1351	48
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.16	0.06	0.03	0.27	0.27	0.06	0.20	0.20	0.08	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.860											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	197	726	240	213	875	125	74	665	153	235	1291	121
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	726	240	213	875	125	74	665	153	235	1291	121
Peak Hour 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
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]	49	182	60	53	219	31	19	166	38	59	323	30
Total Analysis Volume [veh/h]	197	726	240	213	875	125	74	665	153	235	1291	121
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.23	0.15	0.13	0.27	0.08	0.05	0.14	0.10	0.15	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.848											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	917	415	80	1121	87	23	206	104	610	724	226
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	917	415	80	1121	87	23	206	104	610	724	226
Peak Hour 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
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	229	104	20	280	22	6	52	26	153	181	57
Total Analysis Volume [veh/h]	0	917	415	80	1121	87	23	206	104	610	724	226
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.29	0.26	0.05	0.35	0.05	0.01	0.06	0.07	0.19	0.23	0.14
Intersection LOS	C											
Intersection V/C	0.717											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵↵↵		↵↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	474	1002	443	195	521	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	474	1002	443	195	521	6
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]	119	251	111	49	130	2
Total Analysis Volume [veh/h]	474	1002	443	195	521	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.30	0.31	0.20	0.20	0.16	0.16
Intersection LOS	C					
Intersection V/C	0.771					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1213	307	124	271	455	315
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1213	307	124	271	455	315
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]	303	77	31	68	114	79
Total Analysis Volume [veh/h]	1213	307	124	271	455	315
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.38	0.19	0.08	0.08	0.14	0.00
Intersection LOS	C					
Intersection V/C	0.710					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	122.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1422	739	0	109	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1422	739	0	109	231
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	356	185	0	27	58
Total Analysis Volume [veh/h]	0	1422	739	0	109	231
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	0.01	0.01	0.00	0.90	0.37
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	122.74	14.04
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	5.65	1.69
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	141.19	42.24
d_A, Approach Delay [s/veh]	0.00		0.00		48.89	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.65					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.756

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	498	763	61	84	812	152	60	257	232	69	952	160
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	498	763	61	84	812	152	60	257	232	69	952	160
Peak Hour 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
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]	125	191	15	21	203	38	15	64	58	17	238	40
Total Analysis Volume [veh/h]	498	763	61	84	812	152	60	257	232	69	952	160
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.26	0.26	0.05	0.25	0.10	0.04	0.05	0.15	0.04	0.20	0.10
Intersection LOS	C											
Intersection V/C	0.756											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	134	274	321	134	186	43	138	917	85	260	824	753
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	134	274	321	134	186	43	138	917	85	260	824	753
Peak Hour 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
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]	34	69	80	34	47	11	35	229	21	65	206	188
Total Analysis Volume [veh/h]	134	274	321	134	186	43	138	917	85	260	824	753
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.09	0.20	0.08	0.07	0.07	0.09	0.29	0.05	0.16	0.49	0.49
Intersection LOS	E											
Intersection V/C	0.975											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	372	0	528	66	102	380
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	372	0	528	66	102	380
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]	93	0	132	17	26	95
Total Analysis Volume [veh/h]	372	0	528	66	102	380
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	714	637	700	700
Degree of Utilization, x	0.52	0.83	0.09	0.15





**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.05	8.82	0.31	0.51
95th-Percentile Queue Length [ft]	76.22	220.45	7.78	12.71
Approach Delay [s/veh]	13.40	27.38		9.02
Approach LOS	B	D		A
Intersection Delay [s/veh]	20.76			
Intersection LOS	C			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.756

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	180	1048	59	67	492	100	241	846	132	58	907	156
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	1048	59	67	492	100	241	846	132	58	907	156
Peak Hour 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
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]	45	262	15	17	123	25	60	212	33	15	227	39
Total Analysis Volume [veh/h]	180	1048	59	67	492	100	241	846	132	58	907	156
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.23	0.23	0.04	0.15	0.06	0.15	0.20	0.20	0.04	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.756											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	163	855	90	81	601	202	173	537	75	129	920	86
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	163	855	90	81	601	202	173	537	75	129	920	86
Peak Hour 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
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]	41	214	23	20	150	51	43	134	19	32	230	22
Total Analysis Volume [veh/h]	163	855	90	81	601	202	173	537	75	129	920	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.30	0.30	0.05	0.25	0.25	0.11	0.17	0.05	0.08	0.29	0.05
Intersection LOS	D											
Intersection V/C	0.860											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.613

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	57	152	42	47	61	66	17	605	34	40	1103	124
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	57	152	42	47	61	66	17	605	34	40	1103	124
Peak Hour 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
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]	14	38	11	12	15	17	4	151	9	10	276	31
Total Analysis Volume [veh/h]	57	152	42	47	61	66	17	605	34	40	1103	124
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.03	0.05	0.05	0.01	0.20	0.20	0.03	0.38	0.38
Intersection LOS	B											
Intersection V/C	0.613											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.719

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	7	265	710	315	28	24	190	473	9	475	1226	243
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	7	265	710	315	28	24	190	473	9	475	1226	243
Peak Hour 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
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]	2	66	178	79	7	6	48	118	2	119	307	61
Total Analysis Volume [veh/h]	7	265	710	315	28	24	190	473	9	475	1226	243
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.10	0.03	0.03	0.12	0.10	0.10	0.30	0.31	0.31
Intersection LOS	C											
Intersection V/C	0.719											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	543	798	18	69	332	506	177	894	433	10	910	528
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	543	798	18	69	332	506	177	894	433	10	910	528
Peak Hour 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
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]	136	200	5	17	83	127	44	224	108	3	228	132
Total Analysis Volume [veh/h]	543	798	18	69	332	506	177	894	433	10	910	528
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.26	0.26	0.04	0.10	0.00	0.11	0.28	0.10	0.01	0.28	0.29
Intersection LOS	D											
Intersection V/C	0.807											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.802

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	45	594	146	76	623	232	210	669	18	174	1246	102
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	45	594	146	76	623	232	210	669	18	174	1246	102
Peak Hour 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
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	149	37	19	156	58	53	167	5	44	312	26
Total Analysis Volume [veh/h]	45	594	146	76	623	232	210	669	18	174	1246	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.23	0.23	0.05	0.19	0.15	0.13	0.14	0.14	0.11	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.802											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.805

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	79	753	98	72	800	110	129	799	109	208	1321	132
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	79	753	98	72	800	110	129	799	109	208	1321	132
Peak Hour 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
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]	20	188	25	18	200	28	32	200	27	52	330	33
Total Analysis Volume [veh/h]	79	753	98	72	800	110	129	799	109	208	1321	132
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.27	0.27	0.05	0.25	0.07	0.08	0.19	0.19	0.13	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.805											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.805

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	170	901	96	82	398	123	155	683	103	135	681	163
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	170	901	96	82	398	123	155	683	103	135	681	163
Peak Hour 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
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]	43	225	24	21	100	31	39	171	26	34	170	41
Total Analysis Volume [veh/h]	170	901	96	82	398	123	155	683	103	135	681	163
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.28	0.06	0.05	0.12	0.08	0.10	0.25	0.25	0.08	0.26	0.26
Intersection LOS	D											
Intersection V/C	0.805											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	881	185	93	392	120	129	720	109	127	611	240
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	881	185	93	392	120	129	720	109	127	611	240
Peak Hour 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
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]	17	220	46	23	98	30	32	180	27	32	153	60
Total Analysis Volume [veh/h]	67	881	185	93	392	120	129	720	109	127	611	240
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.33	0.33	0.06	0.16	0.16	0.08	0.26	0.26	0.08	0.27	0.27
Intersection LOS	D											
Intersection V/C	0.849											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	25	36	30	5	102	120	923	13	12	504	32
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	35	25	36	30	5	102	120	923	13	12	504	32
Peak Hour 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
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	6	9	8	1	26	30	231	3	3	126	8
Total Analysis Volume [veh/h]	35	25	36	30	5	102	120	923	13	12	504	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.06	0.08	0.29	0.29	0.01	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.497											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	29	13	978	6	6	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	29	13	978	6	6	502
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]	7	3	245	2	2	126
Total Analysis Volume [veh/h]	29	13	978	6	6	502
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.31	0.31	0.00	0.16
Intersection LOS	A					
Intersection V/C	0.449					

**Intersection Level Of Service Report  
Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	III		II		T	
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	981	2	11	496	3	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	981	2	11	496	3	11
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]	245	1	3	124	1	3
Total Analysis Volume [veh/h]	981	2	11	496	3	11
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
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	0.01	0.00	0.03	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	14.28	0.00	20.46	13.41
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.12	0.00	2.89	2.89
d_A, Approach Delay [s/veh]	0.00		0.31		14.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	361	782	47	93	409	461	297	691	264	42	1117	71
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	361	782	47	93	409	461	297	691	264	42	1117	71
Peak Hour 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
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]	90	196	12	23	102	115	74	173	66	11	279	18
Total Analysis Volume [veh/h]	361	782	47	93	409	461	297	691	264	42	1117	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.26	0.26	0.03	0.09	0.29	0.09	0.14	0.17	0.03	0.25	0.25
Intersection LOS	D											
Intersection V/C	0.852											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	72	931	49	135	531	32	72	753	165	135	531	32
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	72	931	49	135	531	32	72	753	165	135	531	32
Peak Hour 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
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]	18	233	12	34	133	8	18	188	41	34	133	8
Total Analysis Volume [veh/h]	72	931	49	135	531	32	72	753	165	135	531	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.31	0.31	0.08	0.18	0.18	0.05	0.19	0.19	0.08	0.12	0.12
Intersection LOS	C											
Intersection V/C	0.777											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,015.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.434

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	13	0	0	0	1919	0	122	1275	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	13	0	0	0	1919	0	122	1275	0
Peak Hour 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
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	3	0	0	0	480	0	31	319	0
Total Analysis Volume [veh/h]	0	0	0	13	0	0	0	1919	0	122	1275	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.43	0.00	0.00	0.00	0.02	0.00	0.40	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1015.06	0.00	0.00	0.00	0.00	0.00	24.52	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.86	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	61.68	0.00	0.00	0.00	0.00	0.00	46.39	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1015.06			0.00			2.14		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	4.86											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	21	19	968	96	297	1442
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	21	19	968	96	297	1442
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]	5	5	242	24	74	361
Total Analysis Volume [veh/h]	21	19	968	96	297	1442
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.30	0.06	0.19	0.45
Intersection LOS	B					
Intersection V/C	0.612					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	1114	116	56	555	163	130	531	109	108	817	76
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	1114	116	56	555	163	130	531	109	108	817	76
Peak Hour 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
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]	72	279	29	14	139	41	33	133	27	27	204	19
Total Analysis Volume [veh/h]	287	1114	116	56	555	163	130	531	109	108	817	76
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.26	0.04	0.15	0.15	0.08	0.17	0.07	0.07	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.800											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.884

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	103	743	203	592	1254	61	65	713	24	429	713	474
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	103	743	203	592	1254	61	65	713	24	429	713	474
Peak Hour 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
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	186	51	148	314	15	16	178	6	107	178	119
Total Analysis Volume [veh/h]	103	743	203	592	1254	61	65	713	24	429	713	474
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.20	0.20	0.19	0.26	0.02	0.02	0.22	0.00	0.13	0.37	0.37
Intersection LOS	D											
Intersection V/C	0.884											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	353	867	149	104	758	84	169	1286	265	192	778	95
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	353	867	149	104	758	84	169	1286	265	192	778	95
Peak Hour 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
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]	88	217	37	26	190	21	42	322	66	48	195	24
Total Analysis Volume [veh/h]	353	867	149	104	758	84	169	1286	265	192	778	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.27	0.09	0.03	0.26	0.26	0.11	0.32	0.32	0.12	0.18	0.18
Intersection LOS	E											
Intersection V/C	0.928											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	184	752	279	225	873	160	227	1217	191	204	850	182
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	184	752	279	225	873	160	227	1217	191	204	850	182
Peak Hour 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
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]	46	188	70	56	218	40	57	304	48	51	213	46
Total Analysis Volume [veh/h]	184	752	279	225	873	160	227	1217	191	204	850	182
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.24	0.17	0.14	0.27	0.10	0.14	0.25	0.12	0.13	0.22	0.22
Intersection LOS	D											
Intersection V/C	0.880											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	818	379	101	836	49	17	732	307	310	386	353
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	818	379	101	836	49	17	732	307	310	386	353
Peak Hour 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
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	205	95	25	209	12	4	183	77	78	97	88
Total Analysis Volume [veh/h]	0	818	379	101	836	49	17	732	307	310	386	353
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.26	0.24	0.06	0.26	0.03	0.01	0.23	0.19	0.10	0.12	0.22
Intersection LOS	C											
Intersection V/C	0.755											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.875

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵ ↑ ↑		↑ ↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	380	482	956	218	457	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	380	482	956	218	457	55
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]	95	121	239	55	114	14
Total Analysis Volume [veh/h]	380	482	956	218	457	55
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.24	0.15	0.37	0.37	0.14	0.16
Intersection LOS	D					
Intersection V/C	0.875					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	494	390	203	832	750	287
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	494	390	203	832	750	287
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]	124	98	51	208	188	72
Total Analysis Volume [veh/h]	494	390	203	832	750	287
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.15	0.24	0.13	0.26	0.23	0.00
Intersection LOS	C					
Intersection V/C	0.716					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	991.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.855

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	697	1597	0	162	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	697	1597	0	162	207
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	174	399	0	41	52
Total Analysis Volume [veh/h]	0	697	1597	0	162	207
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	0.01	0.02	0.00	2.86	0.63
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	991.62	32.87
Movement LOS		A	A		F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	16.78	4.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	419.46	100.84
d_A, Approach Delay [s/veh]	0.00		0.00		453.78	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	62.88					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	261	782	123	167	925	140	81	830	225	102	292	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	261	782	123	167	925	140	81	830	225	102	292	111
Peak Hour 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
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]	65	196	31	42	231	35	20	208	56	26	73	28
Total Analysis Volume [veh/h]	261	782	123	167	925	140	81	830	225	102	292	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.28	0.28	0.10	0.29	0.09	0.05	0.17	0.14	0.06	0.06	0.07
Intersection LOS	C											
Intersection V/C	0.735											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	51	35	152	224	734	88	32	822	116	219	1044	253
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	51	35	152	224	734	88	32	822	116	219	1044	253
Peak Hour 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
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]	13	9	38	56	184	22	8	206	29	55	261	63
Total Analysis Volume [veh/h]	51	35	152	224	734	88	32	822	116	219	1044	253
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.01	0.10	0.14	0.26	0.26	0.02	0.26	0.07	0.14	0.41	0.41
Intersection LOS	D											
Intersection V/C	0.825											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	82.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.212

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	162	3	827	309	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	162	3	827	309	45	62
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]	41	1	207	77	11	16
Total Analysis Volume [veh/h]	162	3	827	309	45	62
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	731	827	754	787
Degree of Utilization, x	0.23	1.21	0.41	0.06

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.86	28.85	2.01	0.18
95th-Percentile Queue Length [ft]	21.61	721.21	50.28	4.54
Approach Delay [s/veh]	9.36	95.78		7.85
Approach LOS	A	F		A
Intersection Delay [s/veh]	82.25			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.827

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	186	446	71	84	898	225	155	887	226	140	830	71
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	186	446	71	84	898	225	155	887	226	140	830	71
Peak Hour 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
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]	47	112	18	21	225	56	39	222	57	35	208	18
Total Analysis Volume [veh/h]	186	446	71	84	898	225	155	887	226	140	830	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.05	0.28	0.14	0.10	0.23	0.23	0.09	0.19	0.19
Intersection LOS	D											
Intersection V/C	0.827											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	70	496	85	79	919	168	185	947	175	113	531	107
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	70	496	85	79	919	168	185	947	175	113	531	107
Peak Hour 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
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]	18	124	21	20	230	42	46	237	44	28	133	27
Total Analysis Volume [veh/h]	70	496	85	79	919	168	185	947	175	113	531	107
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.05	0.34	0.34	0.12	0.30	0.11	0.07	0.17	0.07
Intersection LOS	D											
Intersection V/C	0.861											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	71	31	246	143	25	15	1147	59	46	544	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	22	71	31	246	143	25	15	1147	59	46	544	42
Peak Hour 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
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	18	8	62	36	6	4	287	15	12	136	11
Total Analysis Volume [veh/h]	22	71	31	246	143	25	15	1147	59	46	544	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.15	0.11	0.11	0.01	0.38	0.38	0.03	0.18	0.18
Intersection LOS	C											
Intersection V/C	0.709											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.910

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	12	200	708	85	5	3	405	1008	6	792	590	326
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	12	200	708	85	5	3	405	1008	6	792	590	326
Peak Hour 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
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	50	177	21	1	1	101	252	2	198	148	82
Total Analysis Volume [veh/h]	12	200	708	85	5	3	405	1008	6	792	590	326
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.07	0.00	0.03	0.01	0.01	0.25	0.21	0.21	0.50	0.19	0.19
Intersection LOS	E											
Intersection V/C	0.910											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	297	355	25	160	904	759	90	1156	534	37	746	213
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	297	355	25	160	904	759	90	1156	534	37	746	213
Peak Hour 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
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]	74	89	6	40	226	190	23	289	134	9	187	53
Total Analysis Volume [veh/h]	297	355	25	160	904	759	90	1156	534	37	746	213
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.12	0.12	0.10	0.28	0.00	0.06	0.36	0.24	0.02	0.23	0.03
Intersection LOS	D											
Intersection V/C	0.871											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.901

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	24	837	196	116	1017	233	225	1187	105	201	604	89
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	24	837	196	116	1017	233	225	1187	105	201	604	89
Peak Hour 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
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	209	49	29	254	58	56	297	26	50	151	22
Total Analysis Volume [veh/h]	24	837	196	116	1017	233	225	1187	105	201	604	89
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.32	0.32	0.07	0.32	0.15	0.14	0.27	0.27	0.13	0.14	0.14
Intersection LOS	E											
Intersection V/C	0.901											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	843	93	121	922	129	207	1226	146	222	859	118
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	59	843	93	121	922	129	207	1226	146	222	859	118
Peak Hour 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
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	211	23	30	231	32	52	307	37	56	215	30
Total Analysis Volume [veh/h]	59	843	93	121	922	129	207	1226	146	222	859	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.29	0.29	0.08	0.29	0.08	0.13	0.29	0.29	0.14	0.20	0.20
Intersection LOS	E											
Intersection V/C	0.904											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.935

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	217	395	79	78	1004	86	105	758	124	158	709	48
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	217	395	79	78	1004	86	105	758	124	158	709	48
Peak Hour 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
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]	54	99	20	20	251	22	26	190	31	40	177	12
Total Analysis Volume [veh/h]	217	395	79	78	1004	86	105	758	124	158	709	48
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.12	0.05	0.05	0.31	0.05	0.07	0.28	0.28	0.10	0.24	0.24
Intersection LOS	E											
Intersection V/C	0.935											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.886

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	119	367	257	241	928	206	54	757	70	140	673	97
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	119	367	257	241	928	206	54	757	70	140	673	97
Peak Hour 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
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]	30	92	64	60	232	52	14	189	18	35	168	24
Total Analysis Volume [veh/h]	119	367	257	241	928	206	54	757	70	140	673	97
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.20	0.20	0.15	0.35	0.35	0.03	0.26	0.26	0.09	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.886											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	14	9	8	75	14	142	97	856	20	12	741	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	14	9	8	75	14	142	97	856	20	12	741	40
Peak Hour 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
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	2	2	19	4	36	24	214	5	3	185	10
Total Analysis Volume [veh/h]	14	9	8	75	14	142	97	856	20	12	741	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.27	0.27	0.01	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.513											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.419

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	25	8	876	18	13	788
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	25	8	876	18	13	788
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]	6	2	219	5	3	197
Total Analysis Volume [veh/h]	25	8	876	18	13	788
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.02	0.28	0.28	0.01	0.25
Intersection LOS	A					
Intersection V/C	0.419					

**Intersection Level Of Service Report  
Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	III		II		T	
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	899	5	24	826	3	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	899	5	24	826	3	19
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]	225	1	6	207	1	5
Total Analysis Volume [veh/h]	899	5	24	826	3	19
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
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	0.01	0.00	0.06	0.01	0.01	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	13.75	0.00	22.53	13.10
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.17	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.36	0.00	4.29	4.29
d_A, Approach Delay [s/veh]	0.00		0.39		14.38	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.941

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	463	57	160	702	630	261	1057	492	62	948	105
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	463	57	160	702	630	261	1057	492	62	948	105
Peak Hour 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
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]	72	116	14	40	176	158	65	264	123	16	237	26
Total Analysis Volume [veh/h]	287	463	57	160	702	630	261	1057	492	62	948	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.16	0.16	0.05	0.15	0.39	0.08	0.22	0.31	0.04	0.22	0.22
Intersection LOS	E											
Intersection V/C	0.941											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	505	36	195	725	37	46	948	80	195	725	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	505	36	195	725	37	46	948	80	195	725	37
Peak Hour 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
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]	17	126	9	49	181	9	12	237	20	49	181	9
Total Analysis Volume [veh/h]	67	505	36	195	725	37	46	948	80	195	725	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.17	0.17	0.12	0.24	0.24	0.03	0.21	0.21	0.12	0.16	0.16
Intersection LOS	C											
Intersection V/C	0.738											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	3,922.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.592

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1430	0	265	1834	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1430	0	265	1834	0
Peak Hour 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
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	2	0	0	0	358	0	66	459	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1430	0	265	1834	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	3.59	0.00	0.00	0.00	0.01	0.00	0.56	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	3922.95	0.00	0.00	0.00	0.00	0.00	22.01	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	3.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	53.25	0.00	0.00	0.00	0.00	0.00	85.12	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			3922.95			0.00			2.78		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	10.52											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	394	239	1239	0	64	1721
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	394	239	1239	0	64	1721
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]	99	60	310	0	16	430
Total Analysis Volume [veh/h]	394	239	1239	0	64	1721
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.11	0.39	0.00	0.04	0.54
Intersection LOS	D					
Intersection V/C	0.895					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	459	65	88	1016	244	151	912	229	144	1118	38
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	459	65	88	1016	244	151	912	229	144	1118	38
Peak Hour 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
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]	49	115	16	22	254	61	38	228	57	36	280	10
Total Analysis Volume [veh/h]	195	459	65	88	1016	244	151	912	229	144	1118	38
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.06	0.26	0.26	0.09	0.29	0.14	0.09	0.36	0.36
Intersection LOS	E											
Intersection V/C	0.951											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	96	818	363	438	563	73	99	895	36	213	925	597
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	96	818	363	438	563	73	99	895	36	213	925	597
Peak Hour 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
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]	24	205	91	110	141	18	25	224	9	53	231	149
Total Analysis Volume [veh/h]	96	818	363	438	563	73	99	895	36	213	925	597
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.14	0.12	0.01	0.03	0.28	0.00	0.07	0.48	0.48
Intersection LOS	F											
Intersection V/C	1.001											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	412	525	103	105	646	209	101	753	216	127	1351	48
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	412	525	103	105	646	209	101	753	216	127	1351	48
Peak Hour 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
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]	103	131	26	26	162	52	25	188	54	32	338	12
Total Analysis Volume [veh/h]	412	525	103	105	646	209	101	753	216	127	1351	48
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.16	0.06	0.03	0.27	0.27	0.06	0.20	0.20	0.08	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.862											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	197	741	240	213	885	125	74	668	153	235	1295	121
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	741	240	213	885	125	74	668	153	235	1295	121
Peak Hour 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
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]	49	185	60	53	221	31	19	167	38	59	324	30
Total Analysis Volume [veh/h]	197	741	240	213	885	125	74	668	153	235	1295	121
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.23	0.15	0.13	0.28	0.08	0.05	0.14	0.10	0.15	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.852											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	932	415	80	1131	87	23	211	114	610	731	226
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	932	415	80	1131	87	23	211	114	610	731	226
Peak Hour 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
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	233	104	20	283	22	6	53	29	153	183	57
Total Analysis Volume [veh/h]	0	932	415	80	1131	87	23	211	114	610	731	226
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.29	0.26	0.05	0.35	0.05	0.01	0.07	0.07	0.19	0.23	0.14
Intersection LOS	C											
Intersection V/C	0.726											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	523	1017	453	205	521	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	523	1017	453	205	521	6
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]	131	254	113	51	130	2
Total Analysis Volume [veh/h]	523	1017	453	205	521	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.33	0.32	0.21	0.21	0.16	0.16
Intersection LOS	D					
Intersection V/C	0.808					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1277	312	124	281	462	315
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1277	312	124	281	462	315
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]	319	78	31	70	116	79
Total Analysis Volume [veh/h]	1277	312	124	281	462	315
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.40	0.20	0.08	0.09	0.14	0.00
Intersection LOS	C					
Intersection V/C	0.732					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	148.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1491	756	0	109	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1491	756	0	109	245
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	373	189	0	27	61
Total Analysis Volume [veh/h]	0	1491	756	0	109	245
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	0.01	0.01	0.00	0.97	0.40
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	148.24	14.56
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	6.18	1.89
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	154.42	47.14
d_A, Approach Delay [s/veh]	0.00		0.00		55.72	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	7.58					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	522	766	61	84	816	152	60	264	243	69	957	160
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	522	766	61	84	816	152	60	264	243	69	957	160
Peak Hour 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
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]	131	192	15	21	204	38	15	66	61	17	239	40
Total Analysis Volume [veh/h]	522	766	61	84	816	152	60	264	243	69	957	160
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.26	0.26	0.05	0.26	0.10	0.04	0.06	0.15	0.04	0.20	0.10
Intersection LOS	C											
Intersection V/C	0.766											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	138	279	331	134	193	43	138	922	85	260	831	753
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	138	279	331	134	193	43	138	922	85	260	831	753
Peak Hour 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
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]	35	70	83	34	48	11	35	231	21	65	208	188
Total Analysis Volume [veh/h]	138	279	331	134	193	43	138	922	85	260	831	753
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.09	0.21	0.08	0.07	0.07	0.09	0.29	0.05	0.16	0.50	0.50
Intersection LOS	E											
Intersection V/C	0.983											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	387	0	528	73	109	384
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	387	0	528	73	109	384
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]	97	0	132	18	27	96
Total Analysis Volume [veh/h]	387	0	528	73	109	384
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	709	633	694	694
Degree of Utilization, x	0.55	0.83	0.11	0.16

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.33	8.99	0.35	0.56
95th-Percentile Queue Length [ft]	83.24	224.65	8.78	13.88
Approach Delay [s/veh]	14.01	27.89		9.15
Approach LOS	B	D		A
Intersection Delay [s/veh]	21.13			
Intersection LOS	C			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	180	1069	59	75	500	100	241	860	132	58	925	162
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	1069	59	75	500	100	241	860	132	58	925	162
Peak Hour 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
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]	45	267	15	19	125	25	60	215	33	15	231	41
Total Analysis Volume [veh/h]	180	1069	59	75	500	100	241	860	132	58	925	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.24	0.24	0.05	0.16	0.06	0.15	0.21	0.21	0.04	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.770											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.867

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	163	855	90	91	601	202	173	559	75	129	944	91
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	163	855	90	91	601	202	173	559	75	129	944	91
Peak Hour 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
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]	41	214	23	23	150	51	43	140	19	32	236	23
Total Analysis Volume [veh/h]	163	855	90	91	601	202	173	559	75	129	944	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.30	0.30	0.06	0.25	0.25	0.11	0.17	0.05	0.08	0.30	0.06
Intersection LOS	D											
Intersection V/C	0.867											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	57	152	42	60	61	66	17	638	34	40	1132	139
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	57	152	42	60	61	66	17	638	34	40	1132	139
Peak Hour 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
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]	14	38	11	15	15	17	4	160	9	10	283	35
Total Analysis Volume [veh/h]	57	152	42	60	61	66	17	638	34	40	1132	139
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.04	0.06	0.06	0.01	0.21	0.21	0.03	0.40	0.40
Intersection LOS	B											
Intersection V/C	0.635											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	51	306	847	315	50	24	190	473	55	564	1226	243
Peak Hour 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
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]	13	77	212	79	13	6	48	118	14	141	307	61
Total Analysis Volume [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.11	0.00	0.10	0.05	0.05	0.12	0.11	0.11	0.35	0.31	0.31
Intersection LOS	C											
Intersection V/C	0.784											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.857

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	570	798	18	69	332	537	246	932	462	10	941	528
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	570	798	18	69	332	537	246	932	462	10	941	528
Peak Hour 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
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]	143	200	5	17	83	134	62	233	116	3	235	132
Total Analysis Volume [veh/h]	570	798	18	69	332	537	246	932	462	10	941	528
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.26	0.04	0.10	0.00	0.15	0.29	0.11	0.01	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.857											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	45	594	146	76	623	240	216	701	18	174	1269	102
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	45	594	146	76	623	240	216	701	18	174	1269	102
Peak Hour 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
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	149	37	19	156	60	54	175	5	44	317	26
Total Analysis Volume [veh/h]	45	594	146	76	623	240	216	701	18	174	1269	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.23	0.23	0.05	0.19	0.15	0.14	0.15	0.15	0.11	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.810											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	82	753	98	72	800	120	144	814	111	208	1331	132
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	82	753	98	72	800	120	144	814	111	208	1331	132
Peak Hour 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
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]	21	188	25	18	200	30	36	204	28	52	333	33
Total Analysis Volume [veh/h]	82	753	98	72	800	120	144	814	111	208	1331	132
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.27	0.27	0.05	0.25	0.08	0.09	0.19	0.19	0.13	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.817											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	170	901	110	90	398	123	155	693	103	161	696	184
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	170	901	110	90	398	123	155	693	103	161	696	184
Peak Hour 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
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]	43	225	28	23	100	31	39	173	26	40	174	46
Total Analysis Volume [veh/h]	170	901	110	90	398	123	155	693	103	161	696	184
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.28	0.07	0.06	0.12	0.08	0.10	0.25	0.25	0.10	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.821											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	881	203	93	392	120	129	752	109	148	673	240
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	881	203	93	392	120	129	752	109	148	673	240
Peak Hour 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
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]	17	220	51	23	98	30	32	188	27	37	168	60
Total Analysis Volume [veh/h]	67	881	203	93	392	120	129	752	109	148	673	240
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.34	0.34	0.06	0.16	0.16	0.08	0.27	0.27	0.09	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.874											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	25	36	30	5	102	120	982	13	12	592	32
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	35	25	36	30	5	102	120	982	13	12	592	32
Peak Hour 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
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	6	9	8	1	26	30	246	3	3	148	8
Total Analysis Volume [veh/h]	35	25	36	30	5	102	120	982	13	12	592	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.06	0.08	0.31	0.31	0.01	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.515											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	91	159	1015	29	59	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	91	159	1015	29	59	528
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]	23	40	254	7	15	132
Total Analysis Volume [veh/h]	91	159	1015	29	59	528
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.16	0.33	0.33	0.04	0.18
Intersection LOS	B					
Intersection V/C	0.630					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1127	30	115	549	23	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1127	30	115	549	23	86
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]	282	8	29	137	6	22
Total Analysis Volume [veh/h]	1127	30	115	549	23	86
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	65	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	74	74	8
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.08
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.24	0.15	0.07
s, saturation flow rate [veh/h]	3560	1845	486	3560	1626
c, Capacity [veh/h]	2944	1525	444	2944	137
d1, Uniform Delay [s]	1.72	1.71	3.68	1.60	40.41
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.40	1.41	0.14	9.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.26	0.25	0.26	0.19	0.80
d, Delay for Lane Group [s/veh]	1.94	2.11	5.09	1.74	50.36
Lane Group LOS	A	A	A	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	0.87	0.68	0.52	2.72
50th-Percentile Queue Length [ft/ln]	19.94	21.78	17.00	13.12	67.89
95th-Percentile Queue Length [veh/ln]	1.44	1.57	1.22	0.94	4.89
95th-Percentile Queue Length [ft/ln]	35.90	39.21	30.61	23.61	122.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	1.99	2.11	5.09	1.74	50.36	50.36
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	1.99		2.32		50.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.84					
Intersection LOS	A					
Intersection V/C	0.342					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.639	2.759	2.004
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1356	1356	467
d_b, Bicycle Delay [s]	4.67	4.67	26.45
I_b,int, Bicycle LOS Score for Intersection	2.196	2.107	1.739
Bicycle LOS	B	B	A

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.873

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	361	782	47	93	409	487	311	691	264	42	1117	71
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	361	782	47	93	409	487	311	691	264	42	1117	71
Peak Hour 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
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]	90	196	12	23	102	122	78	173	66	11	279	18
Total Analysis Volume [veh/h]	361	782	47	93	409	487	311	691	264	42	1117	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.26	0.26	0.03	0.09	0.30	0.10	0.14	0.17	0.03	0.25	0.25
Intersection LOS	D											
Intersection V/C	0.873											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	72	941	49	141	546	32	72	753	165	135	531	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	72	941	49	141	546	32	72	753	165	135	531	40
Peak Hour 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
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]	18	235	12	35	137	8	18	188	41	34	133	10
Total Analysis Volume [veh/h]	72	941	49	141	546	32	72	753	165	135	531	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.31	0.31	0.09	0.18	0.18	0.05	0.19	0.19	0.08	0.12	0.12
Intersection LOS	C											
Intersection V/C	0.784											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,029.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.450

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	13	0	0	0	1923	0	122	1278	0
Peak Hour 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
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	3	0	0	0	481	0	31	320	0
Total Analysis Volume [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.45	0.00	0.00	0.00	0.02	0.00	0.40	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1029.66	0.00	0.00	0.00	0.00	0.00	24.63	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.87	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	61.86	0.00	0.00	0.00	0.00	0.00	46.63	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1029.66			0.00			2.15		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	4.91											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	21	29	972	96	299	1445
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	21	29	972	96	299	1445
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]	5	7	243	24	75	361
Total Analysis Volume [veh/h]	21	29	972	96	299	1445
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**





V/C, Movement V/C Ratio	0.01	0.00	0.30	0.06	0.19	0.45
Intersection LOS	B					
Intersection V/C	0.615					



**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	1127	116	56	580	168	144	531	109	108	817	76
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	1127	116	56	580	168	144	531	109	108	817	76
Peak Hour 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
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]	72	282	29	14	145	42	36	133	27	27	204	19
Total Analysis Volume [veh/h]	287	1127	116	56	580	168	144	531	109	108	817	76
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.26	0.04	0.16	0.16	0.09	0.17	0.07	0.07	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.815											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	103	752	203	592	1268	71	69	716	24	429	715	474
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	103	752	203	592	1268	71	69	716	24	429	715	474
Peak Hour 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
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	188	51	148	317	18	17	179	6	107	179	119
Total Analysis Volume [veh/h]	103	752	203	592	1268	71	69	716	24	429	715	474
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.20	0.20	0.19	0.26	0.02	0.02	0.22	0.00	0.13	0.37	0.37
Intersection LOS	D											
Intersection V/C	0.888											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.934

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	353	873	155	104	765	84	169	1286	265	199	778	95
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	353	873	155	104	765	84	169	1286	265	199	778	95
Peak Hour 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
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]	88	218	39	26	191	21	42	322	66	50	195	24
Total Analysis Volume [veh/h]	353	873	155	104	765	84	169	1286	265	199	778	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.27	0.10	0.03	0.27	0.27	0.11	0.32	0.32	0.12	0.18	0.18
Intersection LOS	E											
Intersection V/C	0.934											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.887

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	184	767	279	225	893	160	227	1223	191	204	857	182
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	184	767	279	225	893	160	227	1223	191	204	857	182
Peak Hour 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
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]	46	192	70	56	223	40	57	306	48	51	214	46
Total Analysis Volume [veh/h]	184	767	279	225	893	160	227	1223	191	204	857	182
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.24	0.17	0.14	0.28	0.10	0.14	0.25	0.12	0.13	0.22	0.22
Intersection LOS	D											
Intersection V/C	0.887											



**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	833	379	101	856	49	17	742	313	310	398	353
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	833	379	101	856	49	17	742	313	310	398	353
Peak Hour 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
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	208	95	25	214	12	4	186	78	78	100	88
Total Analysis Volume [veh/h]	0	833	379	101	856	49	17	742	313	310	398	353
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.26	0.24	0.06	0.27	0.03	0.01	0.23	0.20	0.10	0.12	0.22
Intersection LOS	C											
Intersection V/C	0.763											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	418	497	976	224	457	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	418	497	976	224	457	55
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]	105	124	244	56	114	14
Total Analysis Volume [veh/h]	418	497	976	224	457	55
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.16	0.38	0.38	0.14	0.16
Intersection LOS	E					
Intersection V/C	0.907					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	547	400	203	852	762	287
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	547	400	203	852	762	287
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]	137	100	51	213	191	72
Total Analysis Volume [veh/h]	547	400	203	852	762	287
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.25	0.13	0.27	0.24	0.00
Intersection LOS	C					
Intersection V/C	0.726					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,134.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.148

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	760	1628	0	162	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	760	1628	0	162	234
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	190	407	0	41	59
Total Analysis Volume [veh/h]	0	760	1628	0	162	234
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	0.01	0.02	0.00	3.15	0.73
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1134.83	41.24
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	17.32	5.39
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	433.08	134.83
d_A, Approach Delay [s/veh]	0.00		0.00		488.62	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	69.50					
Intersection LOS	F					



**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	278	788	123	167	932	140	81	842	248	102	302	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	278	788	123	167	932	140	81	842	248	102	302	111
Peak Hour 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
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]	70	197	31	42	233	35	20	211	62	26	76	28
Total Analysis Volume [veh/h]	278	788	123	167	932	140	81	842	248	102	302	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.28	0.28	0.10	0.29	0.09	0.05	0.18	0.16	0.06	0.06	0.07
Intersection LOS	C											
Intersection V/C	0.739											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	45	158	224	746	88	32	832	116	219	1056	253
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	59	45	158	224	746	88	32	832	116	219	1056	253
Peak Hour 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
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	11	40	56	187	22	8	208	29	55	264	63
Total Analysis Volume [veh/h]	59	45	158	224	746	88	32	832	116	219	1056	253
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.01	0.10	0.14	0.26	0.26	0.02	0.26	0.07	0.14	0.41	0.41
Intersection LOS	D											
Intersection V/C	0.838											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	83.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.223

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	177	3	827	321	57	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	177	3	827	321	57	72
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]	44	1	207	80	14	18
Total Analysis Volume [veh/h]	177	3	827	321	57	72
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	726	827	747	780
Degree of Utilization, x	0.25	1.22	0.43	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.98	29.40	2.17	0.24
95th-Percentile Queue Length [ft]	24.41	735.09	54.36	5.90
Approach Delay [s/veh]	9.60	98.23		7.98
Approach LOS	A	F		A
Intersection Delay [s/veh]	83.00			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	186	457	71	98	914	225	155	913	226	140	851	83
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	186	457	71	98	914	225	155	913	226	140	851	83
Peak Hour 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
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]	47	114	18	25	229	56	39	228	57	35	213	21
Total Analysis Volume [veh/h]	186	457	71	98	914	225	155	913	226	140	851	83
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.06	0.29	0.14	0.10	0.24	0.24	0.09	0.19	0.19
Intersection LOS	D											
Intersection V/C	0.838											



**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	70	496	85	99	919	168	185	987	175	113	564	117
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	70	496	85	99	919	168	185	987	175	113	564	117
Peak Hour 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
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]	18	124	21	25	230	42	46	247	44	28	141	29
Total Analysis Volume [veh/h]	70	496	85	99	919	168	185	987	175	113	564	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.06	0.34	0.34	0.12	0.31	0.11	0.07	0.18	0.07
Intersection LOS	D											
Intersection V/C	0.874											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	22	71	31	269	143	25	15	1207	59	46	586	57
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	22	71	31	269	143	25	15	1207	59	46	586	57
Peak Hour 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
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	18	8	67	36	6	4	302	15	12	147	14
Total Analysis Volume [veh/h]	22	71	31	269	143	25	15	1207	59	46	586	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.17	0.11	0.11	0.01	0.40	0.40	0.03	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.742											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	69	236	845	85	48	3	405	1008	89	960	590	326
Peak Hour 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
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]	17	59	211	21	12	1	101	252	22	240	148	82
Total Analysis Volume [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.10	0.00	0.03	0.03	0.03	0.25	0.23	0.23	0.60	0.19	0.19
Intersection LOS	F											
Intersection V/C	1.062											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.901

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	349	355	25	160	904	818	153	1202	563	37	804	213
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	349	355	25	160	904	818	153	1202	563	37	804	213
Peak Hour 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
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]	87	89	6	40	226	205	38	301	141	9	201	53
Total Analysis Volume [veh/h]	349	355	25	160	904	818	153	1202	563	37	804	213
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.12	0.12	0.10	0.28	0.00	0.10	0.38	0.24	0.02	0.25	0.03
Intersection LOS	E											
Intersection V/C	0.901											



**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.908

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	24	837	196	116	1017	247	237	1221	105	201	648	89
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	24	837	196	116	1017	247	237	1221	105	201	648	89
Peak Hour 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
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	209	49	29	254	62	59	305	26	50	162	22
Total Analysis Volume [veh/h]	24	837	196	116	1017	247	237	1221	105	201	648	89
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.32	0.32	0.07	0.32	0.15	0.15	0.28	0.28	0.13	0.15	0.15
Intersection LOS	E											
Intersection V/C	0.908											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.908

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	64	843	93	121	922	149	222	1241	150	222	879	118
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	64	843	93	121	922	149	222	1241	150	222	879	118
Peak Hour 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
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]	16	211	23	30	231	37	56	310	38	56	220	30
Total Analysis Volume [veh/h]	64	843	93	121	922	149	222	1241	150	222	879	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.29	0.29	0.08	0.29	0.09	0.14	0.29	0.29	0.14	0.21	0.21
Intersection LOS	E											
Intersection V/C	0.908											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.954

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	217	395	106	94	1004	86	105	778	124	179	724	59
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	217	395	106	94	1004	86	105	778	124	179	724	59
Peak Hour 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
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]	54	99	27	24	251	22	26	195	31	45	181	15
Total Analysis Volume [veh/h]	217	395	106	94	1004	86	105	778	124	179	724	59
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.12	0.07	0.06	0.31	0.05	0.07	0.28	0.28	0.11	0.24	0.24
Intersection LOS	E											
Intersection V/C	0.954											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.922

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	119	367	290	241	928	206	54	820	70	167	720	97
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	119	367	290	241	928	206	54	820	70	167	720	97
Peak Hour 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
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]	30	92	73	60	232	52	14	205	18	42	180	24
Total Analysis Volume [veh/h]	119	367	290	241	928	206	54	820	70	167	720	97
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.21	0.21	0.15	0.35	0.35	0.03	0.28	0.28	0.10	0.26	0.26
Intersection LOS	E											
Intersection V/C	0.922											



**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	14	9	8	75	14	142	97	963	20	12	827	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	14	9	8	75	14	142	97	963	20	12	827	40
Peak Hour 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
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	2	2	19	4	36	24	241	5	3	207	10
Total Analysis Volume [veh/h]	14	9	8	75	14	142	97	963	20	12	827	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.31	0.31	0.01	0.27	0.27
Intersection LOS	A											
Intersection V/C	0.540											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name						
Base Volume Input [veh/h]	59	86	936	65	123	840
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	59	86	936	65	123	840
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]	15	22	234	16	31	210
Total Analysis Volume [veh/h]	59	86	936	65	123	840
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.09	0.31	0.31	0.08	0.30
Intersection LOS	A					
Intersection V/C	0.591					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	977	54	208	936	43	171
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	977	54	208	936	43	171
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]	244	14	52	234	11	43
Total Analysis Volume [veh/h]	977	54	208	936	43	171
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	60	0	0	60	30	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	68	68	68	68	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.15
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.38	0.26	0.13
s, saturation flow rate [veh/h]	3560	1820	547	3560	1625
c, Capacity [veh/h]	2695	1377	446	2695	250
d1, Uniform Delay [s]	3.29	3.27	7.96	3.60	37.02
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.43	3.48	0.35	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.26	0.25	0.47	0.35	0.86
d, Delay for Lane Group [s/veh]	3.52	3.71	11.44	3.95	45.19
Lane Group LOS	A	A	B	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.44	1.52	2.24	2.16	5.06
50th-Percentile Queue Length [ft/ln]	36.08	37.92	56.03	53.92	126.59
95th-Percentile Queue Length [veh/ln]	2.60	2.73	4.03	3.88	8.75
95th-Percentile Queue Length [ft/ln]	64.94	68.25	100.86	97.06	218.85



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.57	3.71	11.44	3.95	45.19	45.19
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	3.58		5.32		45.19	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.14					
Intersection LOS	A					
Intersection V/C	0.576					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.693	2.827	2.244
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1244	1244	578
d_b, Bicycle Delay [s]	6.42	6.42	22.76
I_b,int, Bicycle LOS Score for Intersection	2.127	2.503	1.913
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.954

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	463	57	160	702	651	288	1057	492	62	948	105
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	463	57	160	702	651	288	1057	492	62	948	105
Peak Hour 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
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]	72	116	14	40	176	163	72	264	123	16	237	26
Total Analysis Volume [veh/h]	287	463	57	160	702	651	288	1057	492	62	948	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.16	0.16	0.05	0.15	0.41	0.09	0.22	0.31	0.04	0.22	0.22
Intersection LOS	E											
Intersection V/C	0.954											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	525	36	207	740	37	46	948	80	195	725	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	525	36	207	740	37	46	948	80	195	725	51
Peak Hour 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
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]	17	131	9	52	185	9	12	237	20	49	181	13
Total Analysis Volume [veh/h]	67	525	36	207	740	37	46	948	80	195	725	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.13	0.24	0.24	0.03	0.21	0.21	0.12	0.16	0.16
Intersection LOS	C											
Intersection V/C	0.752											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	4,032.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.685

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1437	0	265	1840	0
Peak Hour 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
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	2	0	0	0	359	0	66	460	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.01	0.00	0.57	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	4032.34	0.00	0.00	0.00	0.00	0.00	22.24	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	3.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	53.36	0.00	0.00	0.00	0.00	0.00	86.08	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			4032.34			0.00			2.80		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	10.75											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.897

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	394	259	1246	0	68	1727
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	394	259	1246	0	68	1727
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]	99	65	312	0	17	432
Total Analysis Volume [veh/h]	394	259	1246	0	68	1727
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.12	0.39	0.00	0.04	0.54
Intersection LOS	D					
Intersection V/C	0.897					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.973

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	484	65	88	1035	254	177	912	229	144	1118	38
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	484	65	88	1035	254	177	912	229	144	1118	38
Peak Hour 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
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]	49	121	16	22	259	64	44	228	57	36	280	10
Total Analysis Volume [veh/h]	195	484	65	88	1035	254	177	912	229	144	1118	38
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.06	0.27	0.27	0.11	0.29	0.14	0.09	0.36	0.36
Intersection LOS	E											
Intersection V/C	0.973											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	96	835	363	438	576	79	107	900	36	213	929	597
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	96	835	363	438	576	79	107	900	36	213	929	597
Peak Hour 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
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]	24	209	91	110	144	20	27	225	9	53	232	149
Total Analysis Volume [veh/h]	96	835	363	438	576	79	107	900	36	213	929	597
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.14	0.12	0.02	0.03	0.28	0.00	0.07	0.48	0.48
Intersection LOS	F											
Intersection V/C	1.008											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	436	552	106	111	679	221	107	799	229	130	1433	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	436	552	106	111	679	221	107	799	229	130	1433	51
Peak Hour 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
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]	109	138	27	28	170	55	27	200	57	33	358	13
Total Analysis Volume [veh/h]	436	552	106	111	679	221	107	799	229	130	1433	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.17	0.07	0.03	0.28	0.28	0.07	0.21	0.21	0.08	0.31	0.31
Intersection LOS	E											
Intersection V/C	0.905											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.892

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	209	768	254	225	926	132	78	706	162	249	1369	128
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	209	768	254	225	926	132	78	706	162	249	1369	128
Peak Hour 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
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]	52	192	64	56	232	33	20	177	41	62	342	32
Total Analysis Volume [veh/h]	209	768	254	225	926	132	78	706	162	249	1369	128
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.24	0.16	0.14	0.29	0.08	0.05	0.15	0.10	0.16	0.31	0.31
Intersection LOS	D											
Intersection V/C	0.892											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	1014	439	85	1196	92	24	218	117	646	766	239
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	1014	439	85	1196	92	24	218	117	646	766	239
Peak Hour 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
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	254	110	21	299	23	6	55	29	162	192	60
Total Analysis Volume [veh/h]	0	1014	439	85	1196	92	24	218	117	646	766	239
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.32	0.27	0.05	0.37	0.06	0.02	0.07	0.07	0.20	0.24	0.15
Intersection LOS	C											
Intersection V/C	0.760											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.827

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵ ↑ ↑		↑ ↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	510	1093	479	213	574	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	510	1093	479	213	574	6
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]	128	273	120	53	144	2
Total Analysis Volume [veh/h]	510	1093	479	213	574	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.32	0.34	0.22	0.22	0.18	0.18
Intersection LOS	D					
Intersection V/C	0.827					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.758

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1325	325	131	297	482	333
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1325	325	131	297	482	333
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]	331	81	33	74	121	83
Total Analysis Volume [veh/h]	1325	325	131	297	482	333
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.41	0.20	0.08	0.09	0.15	0.00
Intersection LOS	C					
Intersection V/C	0.758					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	205.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.126

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1546	792	0	115	244
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1546	792	0	115	244
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	387	198	0	29	61
Total Analysis Volume [veh/h]	0	1546	792	0	115	244
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	0.02	0.01	0.00	1.13	0.40
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	205.29	14.96
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	7.42	1.95
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	185.53	48.81
d_A, Approach Delay [s/veh]	0.00		0.00		75.93	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	10.11					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.799

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	527	822	65	89	873	161	64	272	246	73	1008	169
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	527	822	65	89	873	161	64	272	246	73	1008	169
Peak Hour 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
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]	132	206	16	22	218	40	16	68	62	18	252	42
Total Analysis Volume [veh/h]	527	822	65	89	873	161	64	272	246	73	1008	169
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.28	0.28	0.06	0.27	0.10	0.04	0.06	0.15	0.05	0.21	0.11
Intersection LOS	C											
Intersection V/C	0.799											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.030

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	142	290	347	142	197	46	146	971	90	287	872	797
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	142	290	347	142	197	46	146	971	90	287	872	797
Peak Hour 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
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	73	87	36	49	12	37	243	23	72	218	199
Total Analysis Volume [veh/h]	142	290	347	142	197	46	146	971	90	287	872	797
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.09	0.22	0.09	0.08	0.08	0.09	0.30	0.06	0.18	0.52	0.52
Intersection LOS	F											
Intersection V/C	1.030											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	25.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	401	0	559	82	120	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	401	0	559	82	120	397
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]	100	0	140	21	30	99
Total Analysis Volume [veh/h]	401	0	559	82	120	397
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	698	626	686	687
Degree of Utilization, x	0.58	0.89	0.12	0.17





**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.69	10.89	0.41	0.63
95th-Percentile Queue Length [ft]	92.36	272.33	10.13	15.75
Approach Delay [s/veh]	14.92	34.41		9.35
Approach LOS	B	D		A
Intersection Delay [s/veh]	25.10			
Intersection LOS	D			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.800

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	191	1115	62	75	527	110	259	895	140	61	960	169
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	191	1115	62	75	527	110	259	895	140	61	960	169
Peak Hour 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
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]	48	279	16	19	132	28	65	224	35	15	240	42
Total Analysis Volume [veh/h]	191	1115	62	75	527	110	259	895	140	61	960	169
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.25	0.05	0.16	0.07	0.16	0.22	0.22	0.04	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.800											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	173	917	95	86	640	214	183	572	79	137	978	91
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	173	917	95	86	640	214	183	572	79	137	978	91
Peak Hour 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
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]	43	229	24	22	160	54	46	143	20	34	245	23
Total Analysis Volume [veh/h]	173	917	95	86	640	214	183	572	79	137	978	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.32	0.32	0.05	0.27	0.27	0.11	0.18	0.05	0.09	0.31	0.06
Intersection LOS	E											
Intersection V/C	0.906											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	60	161	44	59	65	70	18	640	36	42	1167	135
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	60	161	44	59	65	70	18	640	36	42	1167	135
Peak Hour 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
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	40	11	15	16	18	5	160	9	11	292	34
Total Analysis Volume [veh/h]	60	161	44	59	65	70	18	640	36	42	1167	135
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.04	0.06	0.06	0.01	0.21	0.21	0.03	0.41	0.41
Intersection LOS	B											
Intersection V/C	0.649											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	7	280	759	333	33	25	208	503	10	503	1302	257
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	7	280	759	333	33	25	208	503	10	503	1302	257
Peak Hour 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
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]	2	70	190	83	8	6	52	126	3	126	326	64
Total Analysis Volume [veh/h]	7	280	759	333	33	25	208	503	10	503	1302	257
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.10	0.04	0.04	0.13	0.11	0.11	0.31	0.32	0.32
Intersection LOS	C											
Intersection V/C	0.760											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	577	866	19	76	357	536	195	947	459	11	965	570
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	577	866	19	76	357	536	195	947	459	11	965	570
Peak Hour 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
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]	144	217	5	19	89	134	49	237	115	3	241	143
Total Analysis Volume [veh/h]	577	866	19	76	357	536	195	947	459	11	965	570
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.28	0.28	0.05	0.11	0.00	0.12	0.30	0.11	0.01	0.30	0.31
Intersection LOS	D											
Intersection V/C	0.866											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	48	629	155	80	659	246	222	712	19	184	1331	108
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	48	629	155	80	659	246	222	712	19	184	1331	108
Peak Hour 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
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]	12	157	39	20	165	62	56	178	5	46	333	27
Total Analysis Volume [veh/h]	48	629	155	80	659	246	222	712	19	184	1331	108
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.05	0.21	0.15	0.14	0.15	0.15	0.12	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.845											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	84	797	104	76	847	116	137	850	115	220	1410	140
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	84	797	104	76	847	116	137	850	115	220	1410	140
Peak Hour 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
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]	21	199	26	19	212	29	34	213	29	55	353	35
Total Analysis Volume [veh/h]	84	797	104	76	847	116	137	850	115	220	1410	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.28	0.28	0.05	0.26	0.07	0.09	0.20	0.20	0.14	0.32	0.32
Intersection LOS	D											
Intersection V/C	0.849											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	180	957	102	87	423	133	167	723	109	143	721	173
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	957	102	87	423	133	167	723	109	143	721	173
Peak Hour 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
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]	45	239	26	22	106	33	42	181	27	36	180	43
Total Analysis Volume [veh/h]	180	957	102	87	423	133	167	723	109	143	721	173
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.30	0.06	0.05	0.13	0.08	0.10	0.26	0.26	0.09	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.848											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	944	196	98	419	127	137	762	115	134	647	254
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	944	196	98	419	127	137	762	115	134	647	254
Peak Hour 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
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]	18	236	49	25	105	32	34	191	29	34	162	64
Total Analysis Volume [veh/h]	71	944	196	98	419	127	137	762	115	134	647	254
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.36	0.36	0.06	0.17	0.17	0.09	0.27	0.27	0.08	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.896											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	37	26	38	32	5	108	127	985	14	13	536	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	37	26	38	32	5	108	127	985	14	13	536	34
Peak Hour 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
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	7	10	8	1	27	32	246	4	3	134	9
Total Analysis Volume [veh/h]	37	26	38	32	5	108	127	985	14	13	536	34
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.07	0.08	0.31	0.31	0.01	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.522											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↕↔		↔↕	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name						
Base Volume Input [veh/h]	31	14	1043	6	6	534
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	31	14	1043	6	6	534
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]	8	4	261	2	2	134
Total Analysis Volume [veh/h]	31	14	1043	6	6	534
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.33	0.33	0.00	0.17
Intersection LOS	A					
Intersection V/C	0.471					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	22.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	III		II		T	
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1046	2	12	528	3	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1046	2	12	528	3	12
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]	262	1	3	132	1	3
Total Analysis Volume [veh/h]	1046	2	12	528	3	12
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
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	0.01	0.00	0.03	0.01	0.01	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	15.03	0.00	22.11	13.89
Movement LOS	A	A	C	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.50	0.00	3.28	3.28
d_A, Approach Delay [s/veh]	0.00		0.33		15.53	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	382	831	50	98	435	488	314	731	279	44	1182	75
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	382	831	50	98	435	488	314	731	279	44	1182	75
Peak Hour 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
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]	96	208	13	25	109	122	79	183	70	11	296	19
Total Analysis Volume [veh/h]	382	831	50	98	435	488	314	731	279	44	1182	75
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.28	0.28	0.03	0.09	0.31	0.10	0.15	0.17	0.03	0.26	0.26
Intersection LOS	D											
Intersection V/C	0.895											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	76	985	52	143	562	34	76	797	175	143	562	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	76	985	52	143	562	34	76	797	175	143	562	34
Peak Hour 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
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]	19	246	13	36	141	9	19	199	44	36	141	9
Total Analysis Volume [veh/h]	76	985	52	143	562	34	76	797	175	143	562	34
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.32	0.32	0.09	0.19	0.19	0.05	0.20	0.20	0.09	0.12	0.12
Intersection LOS	D											
Intersection V/C	0.816											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,733.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.310

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	14	0	0	0	2042	0	129	1352	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	14	0	0	0	2042	0	129	1352	0
Peak Hour 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
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	4	0	0	0	511	0	32	338	0
Total Analysis Volume [veh/h]	0	0	0	14	0	0	0	2042	0	129	1352	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	2.31	0.00	0.00	0.00	0.02	0.00	0.47	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1733.00	0.00	0.00	0.00	0.00	0.00	29.56	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.84	0.00	0.00	0.00	0.00	0.00	2.38	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	71.02	0.00	0.00	0.00	0.00	0.00	59.55	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1733.00			0.00			2.57		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	7.94											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	22	20	1036	102	314	1529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	22	20	1036	102	314	1529
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]	6	5	259	26	79	382
Total Analysis Volume [veh/h]	22	20	1036	102	314	1529
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.32	0.06	0.20	0.48
Intersection LOS	B					
Intersection V/C	0.645					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	1191	123	59	591	176	149	562	115	114	865	80
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	1191	123	59	591	176	149	562	115	114	865	80
Peak Hour 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
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]	76	298	31	15	148	44	37	141	29	29	216	20
Total Analysis Volume [veh/h]	304	1191	123	59	591	176	149	562	115	114	865	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.27	0.27	0.04	0.16	0.16	0.09	0.18	0.07	0.07	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.849											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	109	798	215	627	1331	65	69	755	25	454	755	502
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	109	798	215	627	1331	65	69	755	25	454	755	502
Peak Hour 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
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	200	54	157	333	16	17	189	6	114	189	126
Total Analysis Volume [veh/h]	109	798	215	627	1331	65	69	755	25	454	755	502
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.21	0.21	0.20	0.28	0.02	0.02	0.24	0.00	0.14	0.39	0.39
Intersection LOS	E											
Intersection V/C	0.932											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.976

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	374	918	158	110	802	89	179	1364	280	203	826	101
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	374	918	158	110	802	89	179	1364	280	203	826	101
Peak Hour 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
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]	94	230	40	28	201	22	45	341	70	51	207	25
Total Analysis Volume [veh/h]	374	918	158	110	802	89	179	1364	280	203	826	101
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.29	0.10	0.03	0.28	0.28	0.11	0.34	0.34	0.13	0.19	0.19
Intersection LOS	E											
Intersection V/C	0.976											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	796	295	238	924	169	240	1291	202	216	903	193
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	796	295	238	924	169	240	1291	202	216	903	193
Peak Hour 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
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]	49	199	74	60	231	42	60	323	51	54	226	48
Total Analysis Volume [veh/h]	195	796	295	238	924	169	240	1291	202	216	903	193
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.18	0.15	0.29	0.11	0.15	0.27	0.13	0.14	0.23	0.23
Intersection LOS	E											
Intersection V/C	0.926											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	907	401	107	934	52	18	775	340	328	409	374
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	907	401	107	934	52	18	775	340	328	409	374
Peak Hour 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
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	227	100	27	234	13	5	194	85	82	102	94
Total Analysis Volume [veh/h]	0	907	401	107	934	52	18	775	340	328	409	374
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.28	0.25	0.07	0.29	0.03	0.01	0.24	0.21	0.10	0.13	0.23
Intersection LOS	D											
Intersection V/C	0.806											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵↵↵		↵↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	412	541	1061	246	499	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	412	541	1061	246	499	58
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]	103	135	265	62	125	15
Total Analysis Volume [veh/h]	412	541	1061	246	499	58
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.17	0.41	0.41	0.16	0.17
Intersection LOS	E					
Intersection V/C	0.951					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	564	413	215	930	794	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	564	413	215	930	794	304
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]	141	103	54	233	199	76
Total Analysis Volume [veh/h]	564	413	215	930	794	304
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.13	0.29	0.25	0.00
Intersection LOS	C					
Intersection V/C	0.752					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,549.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.012

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	779	1739	0	171	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	779	1739	0	171	219
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	195	435	0	43	55
Total Analysis Volume [veh/h]	0	779	1739	0	171	219
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	0.01	0.02	0.00	4.01	0.74
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1549.46	45.49
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	19.36	5.48
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	484.00	137.08
d_A, Approach Delay [s/veh]	0.00		0.00		704.92	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	94.54					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	276	846	130	177	996	148	86	878	238	108	309	117
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	276	846	130	177	996	148	86	878	238	108	309	117
Peak Hour 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
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]	69	212	33	44	249	37	22	220	60	27	77	29
Total Analysis Volume [veh/h]	276	846	130	177	996	148	86	878	238	108	309	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.31	0.31	0.11	0.31	0.09	0.05	0.18	0.15	0.07	0.06	0.07
Intersection LOS	C											
Intersection V/C	0.777											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.867

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	54	37	176	237	777	93	34	870	123	237	1105	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	37	176	237	777	93	34	870	123	237	1105	268
Peak Hour 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
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]	14	9	44	59	194	23	9	218	31	59	276	67
Total Analysis Volume [veh/h]	54	37	176	237	777	93	34	870	123	237	1105	268
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.01	0.11	0.15	0.27	0.27	0.02	0.27	0.08	0.15	0.43	0.43
Intersection LOS	D											
Intersection V/C	0.867											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	101.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.293

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	186	3	875	332	53	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	186	3	875	332	53	65
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]	47	1	219	83	13	16
Total Analysis Volume [veh/h]	186	3	875	332	53	65
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	727	875	747	776
Degree of Utilization, x	0.26	1.29	0.44	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.04	34.35	2.30	0.22
95th-Percentile Queue Length [ft]	25.96	858.84	57.45	5.49
Approach Delay [s/veh]	9.69	119.34		7.98
Approach LOS	A	F		A
Intersection Delay [s/veh]	100.96			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	197	479	75	94	957	243	169	939	239	148	878	80
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	479	75	94	957	243	169	939	239	148	878	80
Peak Hour 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
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]	49	120	19	24	239	61	42	235	60	37	220	20
Total Analysis Volume [veh/h]	197	479	75	94	957	243	169	939	239	148	878	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.12	0.12	0.06	0.30	0.15	0.11	0.25	0.25	0.09	0.20	0.20
Intersection LOS	D											
Intersection V/C	0.871											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	74	536	90	84	991	178	196	1007	185	120	567	113
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	74	536	90	84	991	178	196	1007	185	120	567	113
Peak Hour 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
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]	19	134	23	21	248	45	49	252	46	30	142	28
Total Analysis Volume [veh/h]	74	536	90	84	991	178	196	1007	185	120	567	113
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.20	0.20	0.05	0.37	0.37	0.12	0.31	0.12	0.08	0.18	0.07
Intersection LOS	E											
Intersection V/C	0.912											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.756

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	23	75	33	280	151	26	16	1214	62	49	576	46
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	23	75	33	280	151	26	16	1214	62	49	576	46
Peak Hour 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
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	19	8	70	38	7	4	304	16	12	144	12
Total Analysis Volume [veh/h]	23	75	33	280	151	26	16	1214	62	49	576	46
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.18	0.11	0.11	0.01	0.40	0.40	0.03	0.19	0.19
Intersection LOS	C											
Intersection V/C	0.756											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	13	212	759	90	19	3	444	1071	6	838	626	345
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	13	212	759	90	19	3	444	1071	6	838	626	345
Peak Hour 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
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	53	190	23	5	1	111	268	2	210	157	86
Total Analysis Volume [veh/h]	13	212	759	90	19	3	444	1071	6	838	626	345
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.07	0.00	0.03	0.01	0.01	0.28	0.22	0.22	0.52	0.20	0.20
Intersection LOS	E											
Intersection V/C	0.958											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	315	396	26	185	989	803	105	1226	567	39	791	235
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	315	396	26	185	989	803	105	1226	567	39	791	235
Peak Hour 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
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]	79	99	7	46	247	201	26	307	142	10	198	59
Total Analysis Volume [veh/h]	315	396	26	185	989	803	105	1226	567	39	791	235
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.13	0.13	0.12	0.31	0.00	0.07	0.38	0.26	0.02	0.25	0.03
Intersection LOS	E											
Intersection V/C	0.926											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.951

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	25	886	207	123	1076	247	238	1274	111	213	650	94
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	25	886	207	123	1076	247	238	1274	111	213	650	94
Peak Hour 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
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	222	52	31	269	62	60	319	28	53	163	24
Total Analysis Volume [veh/h]	25	886	207	123	1076	247	238	1274	111	213	650	94
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.34	0.34	0.08	0.34	0.15	0.15	0.29	0.29	0.13	0.16	0.16
Intersection LOS	E											
Intersection V/C	0.951											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.954

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	62	892	98	128	976	137	219	1316	155	235	920	125
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	62	892	98	128	976	137	219	1316	155	235	920	125
Peak Hour 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
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]	16	223	25	32	244	34	55	329	39	59	230	31
Total Analysis Volume [veh/h]	62	892	98	128	976	137	219	1316	155	235	920	125
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.31	0.31	0.08	0.31	0.09	0.14	0.31	0.31	0.15	0.22	0.22
Intersection LOS	E											
Intersection V/C	0.954											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	230	421	84	83	1066	95	115	802	131	167	750	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	230	421	84	83	1066	95	115	802	131	167	750	51
Peak Hour 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
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	105	21	21	267	24	29	201	33	42	188	13
Total Analysis Volume [veh/h]	230	421	84	83	1066	95	115	802	131	167	750	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.13	0.05	0.05	0.33	0.06	0.07	0.29	0.29	0.10	0.25	0.25
Intersection LOS	E											
Intersection V/C	0.984											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	126	399	272	255	1000	218	57	801	74	148	712	103
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	126	399	272	255	1000	218	57	801	74	148	712	103
Peak Hour 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
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	100	68	64	250	55	14	200	19	37	178	26
Total Analysis Volume [veh/h]	126	399	272	255	1000	218	57	801	74	148	712	103
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.21	0.21	0.16	0.38	0.38	0.04	0.27	0.27	0.09	0.25	0.25
Intersection LOS	E											
Intersection V/C	0.936											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+r			rll			rll		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	10	8	79	15	150	103	916	21	13	798	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	15	10	8	79	15	150	103	916	21	13	798	42
Peak Hour 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
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	3	2	20	4	38	26	229	5	3	200	11
Total Analysis Volume [veh/h]	15	10	8	79	15	150	103	916	21	13	798	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.29	0.29	0.01	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.541											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.440

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	8	937	19	14	848
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	26	8	937	19	14	848
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]	7	2	234	5	4	212
Total Analysis Volume [veh/h]	26	8	937	19	14	848
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.02	0.30	0.30	0.01	0.27
Intersection LOS	A					
Intersection V/C	0.440					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Two-way stop	Delay (sec / veh):	24.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	III		II		T	
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	962	5	25	888	3	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	962	5	25	888	3	20
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]	241	1	6	222	1	5
Total Analysis Volume [veh/h]	962	5	25	888	3	20
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
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	0.01	0.00	0.06	0.01	0.02	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	14.45	0.00	24.66	13.55
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.90	0.00	4.77	4.77
d_A, Approach Delay [s/veh]	0.00		0.40		15.00	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.990

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	493	60	169	746	667	276	1119	521	66	1003	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	493	60	169	746	667	276	1119	521	66	1003	111
Peak Hour 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
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]	76	123	15	42	187	167	69	280	130	17	251	28
Total Analysis Volume [veh/h]	304	493	60	169	746	667	276	1119	521	66	1003	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.17	0.17	0.05	0.16	0.42	0.09	0.23	0.33	0.04	0.23	0.23
Intersection LOS	E											
Intersection V/C	0.990											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	534	38	206	767	39	49	1003	85	206	767	39
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	534	38	206	767	39	49	1003	85	206	767	39
Peak Hour 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
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]	18	134	10	52	192	10	12	251	21	52	192	10
Total Analysis Volume [veh/h]	71	534	38	206	767	39	49	1003	85	206	767	39
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.13	0.25	0.25	0.03	0.23	0.23	0.13	0.17	0.17
Intersection LOS	C											
Intersection V/C	0.774											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	7,287.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.453

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1524	0	280	1957	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1524	0	280	1957	0
Peak Hour 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
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	2	0	0	0	381	0	70	489	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1524	0	280	1957	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.02	0.00	0.65	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7287.78	0.00	0.00	0.00	0.00	0.00	27.23	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	4.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	55.13	0.00	0.00	0.00	0.00	0.00	111.07	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7287.78			0.00			3.41		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	17.49											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.946

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	417	253	1321	0	68	1838
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	417	253	1321	0	68	1838
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]	104	63	330	0	17	460
Total Analysis Volume [veh/h]	417	253	1321	0	68	1838
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.12	0.41	0.00	0.04	0.57
Intersection LOS	E					
Intersection V/C	0.946					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.013

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	206	497	69	93	1093	274	170	965	242	152	1183	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	206	497	69	93	1093	274	170	965	242	152	1183	40
Peak Hour 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
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]	52	124	17	23	273	69	43	241	61	38	296	10
Total Analysis Volume [veh/h]	206	497	69	93	1093	274	170	965	242	152	1183	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.12	0.12	0.06	0.28	0.28	0.11	0.30	0.15	0.10	0.38	0.38
Intersection LOS	F											
Intersection V/C	1.013											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.055

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	102	877	384	464	614	77	105	947	38	225	979	632
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	102	877	384	464	614	77	105	947	38	225	979	632
Peak Hour 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
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	219	96	116	154	19	26	237	10	56	245	158
Total Analysis Volume [veh/h]	102	877	384	464	614	77	105	947	38	225	979	632
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.26	0.26	0.15	0.13	0.02	0.03	0.30	0.00	0.07	0.50	0.50
Intersection LOS	F											
Intersection V/C	1.055											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	436	555	109	111	683	221	107	799	229	134	1433	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	436	555	109	111	683	221	107	799	229	134	1433	51
Peak Hour 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
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]	109	139	27	28	171	55	27	200	57	34	358	13
Total Analysis Volume [veh/h]	436	555	109	111	683	221	107	799	229	134	1433	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.17	0.07	0.03	0.28	0.28	0.07	0.21	0.21	0.08	0.31	0.31
Intersection LOS	E											
Intersection V/C	0.906											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	209	783	254	225	936	132	78	709	162	249	1373	128
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	209	783	254	225	936	132	78	709	162	249	1373	128
Peak Hour 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
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]	52	196	64	56	234	33	20	177	41	62	343	32
Total Analysis Volume [veh/h]	209	783	254	225	936	132	78	709	162	249	1373	128
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.24	0.16	0.14	0.29	0.08	0.05	0.15	0.10	0.16	0.31	0.31
Intersection LOS	D											
Intersection V/C	0.896											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	1029	439	85	1206	92	24	223	127	646	773	239
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	1029	439	85	1206	92	24	223	127	646	773	239
Peak Hour 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
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	257	110	21	302	23	6	56	32	162	193	60
Total Analysis Volume [veh/h]	0	1029	439	85	1206	92	24	223	127	646	773	239
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.32	0.27	0.05	0.38	0.06	0.02	0.07	0.08	0.20	0.24	0.15
Intersection LOS	C											
Intersection V/C	0.769											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵ ↑ ↑		↑ ↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	559	1108	489	223	574	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	559	1108	489	223	574	6
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]	140	277	122	56	144	2
Total Analysis Volume [veh/h]	559	1108	489	223	574	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.35	0.35	0.22	0.22	0.18	0.18
Intersection LOS	D					
Intersection V/C	0.864					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1389	330	131	307	489	333
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1389	330	131	307	489	333
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]	347	83	33	77	122	83
Total Analysis Volume [veh/h]	1389	330	131	307	489	333
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.43	0.21	0.08	0.10	0.15	0.00
Intersection LOS	C					
Intersection V/C	0.780					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	245.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.219

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1615	809	0	115	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1615	809	0	115	258
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	404	202	0	29	65
Total Analysis Volume [veh/h]	0	1615	809	0	115	258
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	0.02	0.01	0.00	1.22	0.43
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	245.14	15.58
Movement LOS		A	A		F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	7.98	2.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	199.55	54.49
d_A, Approach Delay [s/veh]	0.00		0.00		86.36	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.52					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	551	825	65	89	877	161	64	279	257	73	1013	169
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	551	825	65	89	877	161	64	279	257	73	1013	169
Peak Hour 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
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]	138	206	16	22	219	40	16	70	64	18	253	42
Total Analysis Volume [veh/h]	551	825	65	89	877	161	64	279	257	73	1013	169
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.28	0.28	0.06	0.27	0.10	0.04	0.06	0.16	0.05	0.21	0.11
Intersection LOS	D											
Intersection V/C	0.808											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	146	295	357	142	204	46	146	976	90	287	879	797
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	146	295	357	142	204	46	146	976	90	287	879	797
Peak Hour 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
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	74	89	36	51	12	37	244	23	72	220	199
Total Analysis Volume [veh/h]	146	295	357	142	204	46	146	976	90	287	879	797
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.09	0.22	0.09	0.08	0.08	0.09	0.31	0.06	0.18	0.52	0.52
Intersection LOS	F											
Intersection V/C	1.038											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	416	0	559	89	127	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	416	0	559	89	127	401
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]	104	0	140	22	32	100
Total Analysis Volume [veh/h]	416	0	559	89	127	401
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	693	621	680	681
Degree of Utilization, x	0.60	0.90	0.13	0.19

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	4.04	11.11	0.45	0.68
95th-Percentile Queue Length [ft]	101.01	277.81	11.22	17.05
Approach Delay [s/veh]	15.70	35.23		9.50
Approach LOS	C	E		A
Intersection Delay [s/veh]	25.67			
Intersection LOS	D			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	191	1136	62	83	535	110	259	909	140	61	978	175
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	191	1136	62	83	535	110	259	909	140	61	978	175
Peak Hour 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
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]	48	284	16	21	134	28	65	227	35	15	245	44
Total Analysis Volume [veh/h]	191	1136	62	83	535	110	259	909	140	61	978	175
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.25	0.05	0.17	0.07	0.16	0.22	0.22	0.04	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.815											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.915

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	173	917	95	96	640	214	183	594	79	137	1002	96
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	173	917	95	96	640	214	183	594	79	137	1002	96
Peak Hour 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
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]	43	229	24	24	160	54	46	149	20	34	251	24
Total Analysis Volume [veh/h]	173	917	95	96	640	214	183	594	79	137	1002	96
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.32	0.32	0.06	0.27	0.27	0.11	0.19	0.05	0.09	0.31	0.06
Intersection LOS	E											
Intersection V/C	0.915											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	60	161	44	72	65	70	18	673	36	42	1196	150
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	60	161	44	72	65	70	18	673	36	42	1196	150
Peak Hour 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
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	40	11	18	16	18	5	168	9	11	299	38
Total Analysis Volume [veh/h]	60	161	44	72	65	70	18	673	36	42	1196	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.05	0.06	0.06	0.01	0.22	0.22	0.03	0.42	0.42
Intersection LOS	B											
Intersection V/C	0.671											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	51	321	896	333	55	25	208	503	56	592	1302	257
Peak Hour 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
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]	13	80	224	83	14	6	52	126	14	148	326	64
Total Analysis Volume [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.12	0.00	0.10	0.05	0.05	0.13	0.12	0.12	0.37	0.32	0.32
Intersection LOS	D											
Intersection V/C	0.818											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.911

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	604	866	19	76	357	567	264	985	488	11	996	570
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	604	866	19	76	357	567	264	985	488	11	996	570
Peak Hour 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
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]	151	217	5	19	89	142	66	246	122	3	249	143
Total Analysis Volume [veh/h]	604	866	19	76	357	567	264	985	488	11	996	570
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.28	0.28	0.05	0.11	0.00	0.17	0.31	0.12	0.01	0.31	0.31
Intersection LOS	E											
Intersection V/C	0.911											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	48	629	155	80	659	254	228	744	19	184	1354	108
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	48	629	155	80	659	254	228	744	19	184	1354	108
Peak Hour 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
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]	12	157	39	20	165	64	57	186	5	46	339	27
Total Analysis Volume [veh/h]	48	629	155	80	659	254	228	744	19	184	1354	108
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.05	0.21	0.16	0.14	0.16	0.16	0.12	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.853											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	87	797	104	76	847	126	152	865	117	220	1420	140
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	87	797	104	76	847	126	152	865	117	220	1420	140
Peak Hour 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
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]	22	199	26	19	212	32	38	216	29	55	355	35
Total Analysis Volume [veh/h]	87	797	104	76	847	126	152	865	117	220	1420	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.28	0.28	0.05	0.26	0.08	0.10	0.20	0.20	0.14	0.33	0.33
Intersection LOS	D											
Intersection V/C	0.860											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	180	957	116	95	423	133	167	733	109	169	736	194
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	957	116	95	423	133	167	733	109	169	736	194
Peak Hour 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
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]	45	239	29	24	106	33	42	183	27	42	184	49
Total Analysis Volume [veh/h]	180	957	116	95	423	133	167	733	109	169	736	194
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.30	0.07	0.06	0.13	0.08	0.10	0.26	0.26	0.11	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.865											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.921

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	944	214	98	419	127	137	794	115	155	709	254
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	944	214	98	419	127	137	794	115	155	709	254
Peak Hour 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
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]	18	236	54	25	105	32	34	199	29	39	177	64
Total Analysis Volume [veh/h]	71	944	214	98	419	127	137	794	115	155	709	254
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.36	0.36	0.06	0.17	0.17	0.09	0.28	0.28	0.10	0.30	0.30
Intersection LOS	E											
Intersection V/C	0.921											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	37	26	38	32	5	108	127	1044	14	13	624	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	37	26	38	32	5	108	127	1044	14	13	624	34
Peak Hour 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
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	7	10	8	1	27	32	261	4	3	156	9
Total Analysis Volume [veh/h]	37	26	38	32	5	108	127	1044	14	13	624	34
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.07	0.08	0.33	0.33	0.01	0.21	0.21
Intersection LOS	A											
Intersection V/C	0.540											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	93	160	1080	29	59	560
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	93	160	1080	29	59	560
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]	23	40	270	7	15	140
Total Analysis Volume [veh/h]	93	160	1080	29	59	560
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.16	0.35	0.35	0.04	0.19
Intersection LOS	B					
Intersection V/C	0.653					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1192	30	116	581	23	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1192	30	116	581	23	87
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]	298	8	29	145	6	22
Total Analysis Volume [veh/h]	1192	30	116	581	23	87
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	65	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	74	74	8
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.08
(v / s)_i Volume / Saturation Flow Rate	0.23	0.22	0.25	0.16	0.07
s, saturation flow rate [veh/h]	3560	1846	456	3560	1626
c, Capacity [veh/h]	2941	1525	420	2941	138
d1, Uniform Delay [s]	1.76	1.75	3.91	1.63	40.37
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.43	1.62	0.15	9.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.28	0.27	0.28	0.20	0.80
d, Delay for Lane Group [s/veh]	2.00	2.18	5.53	1.78	50.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	0.94	0.73	0.57	2.74
50th-Percentile Queue Length [ft/ln]	21.65	23.61	18.24	14.20	68.45
95th-Percentile Queue Length [veh/ln]	1.56	1.70	1.31	1.02	4.93
95th-Percentile Queue Length [ft/ln]	38.97	42.49	32.83	25.55	123.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.05	2.18	5.53	1.78	50.27	50.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	2.06		2.40		50.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.79					
Intersection LOS	A					
Intersection V/C	0.362					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.657	2.775	2.006
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1356	1356	467
d_b, Bicycle Delay [s]	4.67	4.67	26.45
I_b,int, Bicycle LOS Score for Intersection	2.232	2.135	1.741
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.916

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	382	831	50	98	435	514	328	731	279	44	1182	75
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	382	831	50	98	435	514	328	731	279	44	1182	75
Peak Hour 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
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]	96	208	13	25	109	129	82	183	70	11	296	19
Total Analysis Volume [veh/h]	382	831	50	98	435	514	328	731	279	44	1182	75
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.28	0.28	0.03	0.09	0.32	0.10	0.15	0.17	0.03	0.26	0.26
Intersection LOS	E											
Intersection V/C	0.916											



**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.823

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	76	995	52	149	577	34	76	797	175	143	562	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	76	995	52	149	577	34	76	797	175	143	562	42
Peak Hour 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
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]	19	249	13	37	144	9	19	199	44	36	141	11
Total Analysis Volume [veh/h]	76	995	52	149	577	34	76	797	175	143	562	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.33	0.33	0.09	0.19	0.19	0.05	0.20	0.20	0.09	0.13	0.13
Intersection LOS	D											
Intersection V/C	0.823											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,758.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.338

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	14	0	0	0	2046	0	129	1355	0
Peak Hour 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
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	4	0	0	0	512	0	32	339	0
Total Analysis Volume [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.02	0.00	0.48	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1758.06	0.00	0.00	0.00	0.00	0.00	29.72	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.85	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	71.16	0.00	0.00	0.00	0.00	0.00	59.88	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1758.06			0.00			2.58		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	22	30	1040	102	316	1532
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	22	30	1040	102	316	1532
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]	6	8	260	26	79	383
Total Analysis Volume [veh/h]	22	30	1040	102	316	1532
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.33	0.06	0.20	0.48
Intersection LOS	B					
Intersection V/C	0.647					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.864

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	1204	123	59	616	181	163	562	115	114	865	80
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	1204	123	59	616	181	163	562	115	114	865	80
Peak Hour 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
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]	76	301	31	15	154	45	41	141	29	29	216	20
Total Analysis Volume [veh/h]	304	1204	123	59	616	181	163	562	115	114	865	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.28	0.28	0.04	0.17	0.17	0.10	0.18	0.07	0.07	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.864											



**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	109	807	215	627	1345	75	73	758	25	454	757	502
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	109	807	215	627	1345	75	73	758	25	454	757	502
Peak Hour 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
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	202	54	157	336	19	18	190	6	114	189	126
Total Analysis Volume [veh/h]	109	807	215	627	1345	75	73	758	25	454	757	502
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.21	0.21	0.20	0.28	0.02	0.02	0.24	0.00	0.14	0.39	0.39
Intersection LOS	E											
Intersection V/C	0.936											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.982

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	374	924	164	110	809	89	179	1364	280	210	826	101
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	374	924	164	110	809	89	179	1364	280	210	826	101
Peak Hour 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
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]	94	231	41	28	202	22	45	341	70	53	207	25
Total Analysis Volume [veh/h]	374	924	164	110	809	89	179	1364	280	210	826	101
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.29	0.10	0.03	0.28	0.28	0.11	0.34	0.34	0.13	0.19	0.19
Intersection LOS	E											
Intersection V/C	0.982											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.933

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	811	295	238	944	169	240	1297	202	216	910	193
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	811	295	238	944	169	240	1297	202	216	910	193
Peak Hour 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
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]	49	203	74	60	236	42	60	324	51	54	228	48
Total Analysis Volume [veh/h]	195	811	295	238	944	169	240	1297	202	216	910	193
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.18	0.15	0.30	0.11	0.15	0.27	0.13	0.14	0.23	0.23
Intersection LOS	E											
Intersection V/C	0.933											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	922	401	107	954	52	18	785	346	328	421	374
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	922	401	107	954	52	18	785	346	328	421	374
Peak Hour 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
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	231	100	27	239	13	5	196	87	82	105	94
Total Analysis Volume [veh/h]	0	922	401	107	954	52	18	785	346	328	421	374
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.29	0.25	0.07	0.30	0.03	0.01	0.25	0.22	0.10	0.13	0.23
Intersection LOS	D											
Intersection V/C	0.814											



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵ ↑ ↑		↑ ↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	450	556	1081	252	499	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	450	556	1081	252	499	58
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]	113	139	270	63	125	15
Total Analysis Volume [veh/h]	450	556	1081	252	499	58
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.28	0.17	0.42	0.42	0.16	0.17
Intersection LOS	E					
Intersection V/C	0.983					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	617	423	215	950	806	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	617	423	215	950	806	304
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]	154	106	54	238	202	76
Total Analysis Volume [veh/h]	617	423	215	950	806	304
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.26	0.13	0.30	0.25	0.00
Intersection LOS	C					
Intersection V/C	0.762					

**Intersection Level Of Service Report  
Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,752.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.426

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	842	1770	0	171	246
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	842	1770	0	171	246
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	211	443	0	43	62
Total Analysis Volume [veh/h]	0	842	1770	0	171	246
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	0.01	0.02	0.00	4.43	0.85
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1752.28	61.35
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	19.79	7.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	494.67	183.25
d_A, Approach Delay [s/veh]	0.00		0.00		754.75	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	103.91					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.782

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	293	852	130	177	1003	148	86	890	261	108	319	117
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	293	852	130	177	1003	148	86	890	261	108	319	117
Peak Hour 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
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]	73	213	33	44	251	37	22	223	65	27	80	29
Total Analysis Volume [veh/h]	293	852	130	177	1003	148	86	890	261	108	319	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.31	0.31	0.11	0.31	0.09	0.05	0.19	0.16	0.07	0.07	0.07
Intersection LOS	C											
Intersection V/C	0.782											



**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	62	47	182	237	789	93	34	880	123	237	1117	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	62	47	182	237	789	93	34	880	123	237	1117	268
Peak Hour 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
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]	16	12	46	59	197	23	9	220	31	59	279	67
Total Analysis Volume [veh/h]	62	47	182	237	789	93	34	880	123	237	1117	268
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.01	0.11	0.15	0.28	0.28	0.02	0.28	0.08	0.15	0.43	0.43
Intersection LOS	D											
Intersection V/C	0.880											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	101.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.305

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	201	3	875	344	65	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	201	3	875	344	65	75
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]	50	1	219	86	16	19
Total Analysis Volume [veh/h]	201	3	875	344	65	75
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	721	875	740	768
Degree of Utilization, x	0.28	1.31	0.47	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.16	34.96	2.48	0.28
95th-Percentile Queue Length [ft]	29.07	873.96	62.11	6.91
Approach Delay [s/veh]	9.95	122.05		8.12
Approach LOS	A	F		A
Intersection Delay [s/veh]	101.71			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	197	490	75	108	973	243	169	965	239	148	899	92
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	490	75	108	973	243	169	965	239	148	899	92
Peak Hour 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
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]	49	123	19	27	243	61	42	241	60	37	225	23
Total Analysis Volume [veh/h]	197	490	75	108	973	243	169	965	239	148	899	92
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.12	0.12	0.07	0.30	0.15	0.11	0.25	0.25	0.09	0.21	0.21
Intersection LOS	D											
Intersection V/C	0.882											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	74	536	90	104	991	178	196	1047	185	120	600	123
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	74	536	90	104	991	178	196	1047	185	120	600	123
Peak Hour 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
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]	19	134	23	26	248	45	49	262	46	30	150	31
Total Analysis Volume [veh/h]	74	536	90	104	991	178	196	1047	185	120	600	123
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.20	0.20	0.07	0.37	0.37	0.12	0.33	0.12	0.08	0.19	0.08
Intersection LOS	E											
Intersection V/C	0.925											



**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	23	75	33	303	151	26	16	1274	62	49	618	61
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	23	75	33	303	151	26	16	1274	62	49	618	61
Peak Hour 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
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	19	8	76	38	7	4	319	16	12	155	15
Total Analysis Volume [veh/h]	23	75	33	303	151	26	16	1274	62	49	618	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.19	0.11	0.11	0.01	0.42	0.42	0.03	0.21	0.21
Intersection LOS	C											
Intersection V/C	0.790											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.109

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	70	248	896	90	62	3	444	1071	89	1006	626	345
Peak Hour 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
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]	18	62	224	23	16	1	111	268	22	252	157	86
Total Analysis Volume [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.10	0.00	0.03	0.03	0.03	0.28	0.24	0.24	0.63	0.20	0.20
Intersection LOS	F											
Intersection V/C	1.109											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	367	396	26	185	989	862	168	1272	596	39	849	235
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	367	396	26	185	989	862	168	1272	596	39	849	235
Peak Hour 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
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]	92	99	7	46	247	216	42	318	149	10	212	59
Total Analysis Volume [veh/h]	367	396	26	185	989	862	168	1272	596	39	849	235
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Unsigna	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap
Signal Group	5	2	0	1	6	0	3	8	5	7	4	1
Auxiliary Signal Groups									5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.12	0.31	0.00	0.11	0.40	0.26	0.02	0.27	0.03
Intersection LOS	E											
Intersection V/C	0.957											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	25	886	207	123	1076	261	250	1308	111	213	694	94
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	25	886	207	123	1076	261	250	1308	111	213	694	94
Peak Hour 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
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	222	52	31	269	65	63	327	28	53	174	24
Total Analysis Volume [veh/h]	25	886	207	123	1076	261	250	1308	111	213	694	94
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.34	0.34	0.08	0.34	0.16	0.16	0.30	0.30	0.13	0.16	0.16
Intersection LOS	E											
Intersection V/C	0.958											



**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	892	98	128	976	157	234	1331	159	235	940	125
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	892	98	128	976	157	234	1331	159	235	940	125
Peak Hour 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
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]	17	223	25	32	244	39	59	333	40	59	235	31
Total Analysis Volume [veh/h]	67	892	98	128	976	157	234	1331	159	235	940	125
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.31	0.31	0.08	0.31	0.10	0.15	0.31	0.31	0.15	0.22	0.22
Intersection LOS	E											
Intersection V/C	0.958											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	230	421	111	99	1066	95	115	822	131	188	765	62
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	230	421	111	99	1066	95	115	822	131	188	765	62
Peak Hour 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
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	105	28	25	267	24	29	206	33	47	191	16
Total Analysis Volume [veh/h]	230	421	111	99	1066	95	115	822	131	188	765	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.13	0.07	0.06	0.33	0.06	0.07	0.30	0.30	0.12	0.26	0.26
Intersection LOS	F											
Intersection V/C	1.003											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.973

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	126	399	305	255	1000	218	57	864	74	175	759	103
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	126	399	305	255	1000	218	57	864	74	175	759	103
Peak Hour 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
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	100	76	64	250	55	14	216	19	44	190	26
Total Analysis Volume [veh/h]	126	399	305	255	1000	218	57	864	74	175	759	103
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.22	0.22	0.16	0.38	0.38	0.04	0.29	0.29	0.11	0.27	0.27
Intersection LOS	E											
Intersection V/C	0.973											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	15	10	8	79	15	150	103	1023	21	13	884	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	15	10	8	79	15	150	103	1023	21	13	884	42
Peak Hour 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
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	3	2	20	4	38	26	256	5	3	221	11
Total Analysis Volume [veh/h]	15	10	8	79	15	150	103	1023	21	13	884	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.33	0.33	0.01	0.29	0.29
Intersection LOS	A											
Intersection V/C	0.568											



**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	60	86	997	66	124	900
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	60	86	997	66	124	900
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]	15	22	249	17	31	225
Total Analysis Volume [veh/h]	60	86	997	66	124	900
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.09	0.33	0.33	0.08	0.32
Intersection LOS	B					
Intersection V/C	0.612					

**Intersection Level Of Service Report  
Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1040	54	209	998	43	172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1040	54	209	998	43	172
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]	260	14	52	250	11	43
Total Analysis Volume [veh/h]	1040	54	209	998	43	172
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	60	0	0	60	30	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	68	68	68	68	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.15
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.41	0.28	0.13
s, saturation flow rate [veh/h]	3560	1822	515	3560	1624
c, Capacity [veh/h]	2693	1378	422	2693	251
d1, Uniform Delay [s]	3.35	3.33	8.57	3.71	36.99
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.47	4.11	0.39	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.27	0.26	0.50	0.37	0.86
d, Delay for Lane Group [s/veh]	3.60	3.80	12.68	4.10	45.16
Lane Group LOS	A	A	B	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.56	1.64	2.42	2.37	5.09
50th-Percentile Queue Length [ft/ln]	39.05	41.01	60.62	59.21	127.16
95th-Percentile Queue Length [veh/ln]	2.81	2.95	4.36	4.26	8.78
95th-Percentile Queue Length [ft/ln]	70.29	73.81	109.12	106.58	219.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.66	3.80	12.68	4.10	45.16	45.16
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	3.67		5.59		45.16	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.13					
Intersection LOS	A					
Intersection V/C	0.605					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.718	2.847	2.247
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1244	1244	578
d_b, Bicycle Delay [s]	6.42	6.42	22.76
I_b,int, Bicycle LOS Score for Intersection	2.161	2.555	1.914
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	493	60	169	746	688	303	1119	521	66	1003	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	493	60	169	746	688	303	1119	521	66	1003	111
Peak Hour 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
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]	76	123	15	42	187	172	76	280	130	17	251	28
Total Analysis Volume [veh/h]	304	493	60	169	746	688	303	1119	521	66	1003	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.17	0.17	0.05	0.16	0.43	0.09	0.23	0.33	0.04	0.23	0.23
Intersection LOS	F											
Intersection V/C	1.003											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	554	38	218	782	39	49	1003	85	206	767	53
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	554	38	218	782	39	49	1003	85	206	767	53
Peak Hour 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
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]	18	139	10	55	196	10	12	251	21	52	192	13
Total Analysis Volume [veh/h]	71	554	38	218	782	39	49	1003	85	206	767	53
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.19	0.19	0.14	0.26	0.26	0.03	0.23	0.23	0.13	0.17	0.17
Intersection LOS	C											
Intersection V/C	0.788											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	7,515.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.646

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1531	0	280	1963	0
Peak Hour 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
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	2	0	0	0	383	0	70	491	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	6.65	0.00	0.00	0.00	0.02	0.00	0.65	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7515.16	0.00	0.00	0.00	0.00	0.00	27.58	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	55.20	0.00	0.00	0.00	0.00	0.00	112.42	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7515.16			0.00			3.44		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	17.94											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	417	273	1328	0	72	1844
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	417	273	1328	0	72	1844
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]	104	68	332	0	18	461
Total Analysis Volume [veh/h]	417	273	1328	0	72	1844
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.13	0.42	0.00	0.05	0.58
Intersection LOS	E					
Intersection V/C	0.948					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.035

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	206	522	69	93	1112	284	196	965	242	152	1183	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	206	522	69	93	1112	284	196	965	242	152	1183	40
Peak Hour 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
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]	52	131	17	23	278	71	49	241	61	38	296	10
Total Analysis Volume [veh/h]	206	522	69	93	1112	284	196	965	242	152	1183	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.12	0.12	0.06	0.29	0.29	0.12	0.30	0.15	0.10	0.38	0.38
Intersection LOS	F											
Intersection V/C	1.035											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	102	894	384	464	627	83	113	952	38	225	983	632
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	102	894	384	464	627	83	113	952	38	225	983	632
Peak Hour 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
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	224	96	116	157	21	28	238	10	56	246	158
Total Analysis Volume [veh/h]	102	894	384	464	627	83	113	952	38	225	983	632
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.27	0.27	0.15	0.13	0.02	0.04	0.30	0.00	0.07	0.50	0.50
Intersection LOS	F											
Intersection V/C	1.062											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	412	525	103	105	646	209	101	753	216	127	1351	48
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	412	525	103	105	646	209	101	753	216	127	1351	48
Peak Hour 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
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]	103	131	26	26	162	52	25	188	54	32	338	12
Total Analysis Volume [veh/h]	412	525	103	105	646	209	101	753	216	127	1351	48
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.16	0.06	0.03	0.27	0.27	0.06	0.20	0.20	0.08	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.862											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	197	741	240	213	885	125	74	668	153	235	1295	121
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	741	240	213	885	125	74	668	153	235	1295	121
Peak Hour 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
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]	49	185	60	53	221	31	19	167	38	59	324	30
Total Analysis Volume [veh/h]	197	741	240	213	885	125	74	668	153	235	1295	121
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.23	0.15	0.13	0.28	0.08	0.05	0.14	0.10	0.15	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.852											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	932	415	80	1131	87	23	211	114	610	731	226
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	932	415	80	1131	87	23	211	114	610	731	226
Peak Hour 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
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	233	104	20	283	22	6	53	29	153	183	57
Total Analysis Volume [veh/h]	0	932	415	80	1131	87	23	211	114	610	731	226
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.29	0.26	0.05	0.35	0.05	0.01	0.07	0.07	0.19	0.23	0.14
Intersection LOS	C											
Intersection V/C	0.726											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	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	1	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	523	1017	453	205	521	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	523	1017	453	205	521	6
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]	131	254	113	51	130	2
Total Analysis Volume [veh/h]	523	1017	453	205	521	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.33	0.32	0.14	0.13	0.16	0.16
Intersection LOS	C					
Intersection V/C	0.744					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1277	312	124	281	462	315
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1277	312	124	281	462	315
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]	319	78	31	70	116	79
Total Analysis Volume [veh/h]	1277	312	124	281	462	315
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.40	0.20	0.08	0.09	0.14	0.00
Intersection LOS	C					
Intersection V/C	0.732					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	0	1491	756	0	109	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1491	756	0	109	245
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	373	189	0	27	61
Total Analysis Volume [veh/h]	0	1491	756	0	109	245
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	0	5	5	0	5	0
Maximum Green [s]	0	30	30	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0
Split [s]	0	52	52	0	38	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	6	0	10	0
Delayed Vehicle Green [s]	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No	
Maximum Recall		No	No		No	
Pedestrian Recall		No	No		No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	16	16
g / C, Green / Cycle	0.73	0.73	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.42	0.21	0.06	0.15
s, saturation flow rate [veh/h]	3560	3560	1781	1589
c, Capacity [veh/h]	2602	2602	321	287
d1, Uniform Delay [s]	5.61	4.14	32.15	35.68
k, delay calibration	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.92	0.28	0.62	7.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.57	0.29	0.34	0.86
d, Delay for Lane Group [s/veh]	6.53	4.42	32.77	42.89
Lane Group LOS	A	A	C	D
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.27	1.95	2.10	5.67
50th-Percentile Queue Length [ft/ln]	131.72	48.72	52.42	141.66
95th-Percentile Queue Length [veh/ln]	9.03	3.51	3.77	9.57
95th-Percentile Queue Length [ft/ln]	225.83	87.69	94.36	239.26

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	6.53	4.42	0.00	32.77	42.89
Movement LOS		A	A		C	D
d_A, Approach Delay [s/veh]	6.53		4.42		39.77	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.44					
Intersection LOS	B					
Intersection V/C	0.645					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.889
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1067	756
d_b, Bicycle Delay [s]	9.80	9.80	17.42
I_b,int, Bicycle LOS Score for Intersection	2.790	2.183	1.560
Bicycle LOS	C	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	522	766	61	84	816	152	60	264	243	69	957	160
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	522	766	61	84	816	152	60	264	243	69	957	160
Peak Hour 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
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]	131	192	15	21	204	38	15	66	61	17	239	40
Total Analysis Volume [veh/h]	522	766	61	84	816	152	60	264	243	69	957	160
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.26	0.26	0.05	0.26	0.10	0.04	0.06	0.15	0.04	0.20	0.10
Intersection LOS	C											
Intersection V/C	0.766											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.983

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	138	279	331	134	193	43	138	922	85	260	831	753
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	138	279	331	134	193	43	138	922	85	260	831	753
Peak Hour 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
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]	35	70	83	34	48	11	35	231	21	65	208	188
Total Analysis Volume [veh/h]	138	279	331	134	193	43	138	922	85	260	831	753
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.09	0.21	0.08	0.07	0.07	0.09	0.29	0.05	0.16	0.50	0.50
Intersection LOS	E											
Intersection V/C	0.983											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	387	0	528	73	109	384
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	387	0	528	73	109	384
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]	97	0	132	18	27	96
Total Analysis Volume [veh/h]	387	0	528	73	109	384
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	709	633	694	694
Degree of Utilization, x	0.55	0.83	0.11	0.16

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.33	8.99	0.35	0.56
95th-Percentile Queue Length [ft]	83.24	224.65	8.78	13.88
Approach Delay [s/veh]	14.01	27.89		9.15
Approach LOS	B	D		A
Intersection Delay [s/veh]	21.13			
Intersection LOS	C			



**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	180	1069	59	75	500	100	241	860	132	58	925	162
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	1069	59	75	500	100	241	860	132	58	925	162
Peak Hour 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
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]	45	267	15	19	125	25	60	215	33	15	231	41
Total Analysis Volume [veh/h]	180	1069	59	75	500	100	241	860	132	58	925	162
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.24	0.24	0.05	0.16	0.06	0.15	0.21	0.21	0.04	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.770											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	163	855	90	91	601	202	173	559	75	129	944	91
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	163	855	90	91	601	202	173	559	75	129	944	91
Peak Hour 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
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]	41	214	23	23	150	51	43	140	19	32	236	23
Total Analysis Volume [veh/h]	163	855	90	91	601	202	173	559	75	129	944	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.30	0.30	0.06	0.19	0.13	0.11	0.17	0.05	0.08	0.30	0.06
Intersection LOS	D											
Intersection V/C	0.866											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	57	152	42	60	61	66	17	638	34	40	1132	139
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	57	152	42	60	61	66	17	638	34	40	1132	139
Peak Hour 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
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]	14	38	11	15	15	17	4	160	9	10	283	35
Total Analysis Volume [veh/h]	57	152	42	60	61	66	17	638	34	40	1132	139
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.04	0.06	0.06	0.01	0.21	0.21	0.03	0.40	0.40
Intersection LOS	B											
Intersection V/C	0.635											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	51	306	847	315	50	24	190	473	55	564	1226	243
Peak Hour 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
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]	13	77	212	79	13	6	48	118	14	141	307	61
Total Analysis Volume [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.11	0.00	0.10	0.05	0.05	0.12	0.11	0.11	0.35	0.31	0.31
Intersection LOS	C											
Intersection V/C	0.784											



**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	570	798	18	69	332	537	246	932	462	10	941	528
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	570	798	18	69	332	537	246	932	462	10	941	528
Peak Hour 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
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]	143	200	5	17	83	134	62	233	116	3	235	132
Total Analysis Volume [veh/h]	570	798	18	69	332	537	246	932	462	10	941	528
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	5	7	4	1
Auxiliary Signal Groups						3,6			5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.26	0.04	0.10	0.01	0.15	0.19	0.11	0.01	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.793											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	45	594	146	76	623	240	216	701	18	174	1269	102
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	45	594	146	76	623	240	216	701	18	174	1269	102
Peak Hour 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
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	149	37	19	156	60	54	175	5	44	317	26
Total Analysis Volume [veh/h]	45	594	146	76	623	240	216	701	18	174	1269	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.23	0.23	0.05	0.19	0.15	0.14	0.15	0.15	0.11	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.810											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	82	753	98	72	800	120	144	814	111	208	1331	132
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	82	753	98	72	800	120	144	814	111	208	1331	132
Peak Hour 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
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]	21	188	25	18	200	30	36	204	28	52	333	33
Total Analysis Volume [veh/h]	82	753	98	72	800	120	144	814	111	208	1331	132
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.27	0.27	0.05	0.25	0.08	0.09	0.19	0.19	0.13	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.817											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	170	901	110	90	398	123	155	693	103	161	696	184
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	170	901	110	90	398	123	155	693	103	161	696	184
Peak Hour 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
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]	43	225	28	23	100	31	39	173	26	40	174	46
Total Analysis Volume [veh/h]	170	901	110	90	398	123	155	693	103	161	696	184
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.28	0.07	0.06	0.11	0.11	0.10	0.25	0.25	0.10	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.821											



**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.810

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	881	203	93	392	120	129	752	109	148	673	240
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	881	203	93	392	120	129	752	109	148	673	240
Peak Hour 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
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]	17	220	51	23	98	30	32	188	27	37	168	60
Total Analysis Volume [veh/h]	67	881	203	93	392	120	129	752	109	148	673	240
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.28	0.13	0.06	0.12	0.08	0.08	0.27	0.27	0.09	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.810											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	25	36	30	5	102	120	982	13	12	592	32
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	35	25	36	30	5	102	120	982	13	12	592	32
Peak Hour 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
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	6	9	8	1	26	30	246	3	3	148	8
Total Analysis Volume [veh/h]	35	25	36	30	5	102	120	982	13	12	592	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.06	0.08	0.31	0.31	0.01	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.515											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	91	159	1015	29	59	528
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	91	159	1015	29	59	528
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]	23	40	254	7	15	132
Total Analysis Volume [veh/h]	91	159	1015	29	59	528
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.16	0.33	0.33	0.04	0.18
Intersection LOS	B					
Intersection V/C	0.630					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1127	30	115	549	23	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1127	30	115	549	23	86
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]	282	8	29	137	6	22
Total Analysis Volume [veh/h]	1127	30	115	549	23	86
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	65	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	74	74	8
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.08
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.24	0.15	0.07
s, saturation flow rate [veh/h]	3560	1845	486	3560	1626
c, Capacity [veh/h]	2944	1525	444	2944	137
d1, Uniform Delay [s]	1.72	1.71	3.68	1.60	40.41
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.40	1.41	0.14	9.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.26	0.25	0.26	0.19	0.80
d, Delay for Lane Group [s/veh]	1.94	2.11	5.09	1.74	50.36
Lane Group LOS	A	A	A	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.80	0.87	0.68	0.52	2.72
50th-Percentile Queue Length [ft/ln]	19.94	21.78	17.00	13.12	67.89
95th-Percentile Queue Length [veh/ln]	1.44	1.57	1.22	0.94	4.89
95th-Percentile Queue Length [ft/ln]	35.90	39.21	30.61	23.61	122.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	1.99	2.11	5.09	1.74	50.36	50.36
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	1.99		2.32		50.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.84					
Intersection LOS	A					
Intersection V/C	0.342					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.639	2.759	2.004
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1356	1356	467
d_b, Bicycle Delay [s]	4.67	4.67	26.45
I_b,int, Bicycle LOS Score for Intersection	2.196	2.107	1.739
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	361	782	47	93	409	487	311	691	264	42	1117	71
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	361	782	47	93	409	487	311	691	264	42	1117	71
Peak Hour 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
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]	90	196	12	23	102	122	78	173	66	11	279	18
Total Analysis Volume [veh/h]	361	782	47	93	409	487	311	691	264	42	1117	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.26	0.26	0.03	0.14	0.14	0.10	0.14	0.17	0.03	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.744											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	72	941	49	141	546	32	72	753	165	135	531	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	72	941	49	141	546	32	72	753	165	135	531	40
Peak Hour 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
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]	18	235	12	35	137	8	18	188	41	34	133	10
Total Analysis Volume [veh/h]	72	941	49	141	546	32	72	753	165	135	531	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.31	0.31	0.09	0.18	0.18	0.05	0.19	0.19	0.08	0.12	0.12
Intersection LOS	C											
Intersection V/C	0.784											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,029.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.450

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	13	0	0	0	1923	0	122	1278	0
Peak Hour 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
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	3	0	0	0	481	0	31	320	0
Total Analysis Volume [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.45	0.00	0.00	0.00	0.02	0.00	0.40	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1029.66	0.00	0.00	0.00	0.00	0.00	24.63	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.87	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	61.86	0.00	0.00	0.00	0.00	0.00	46.63	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1029.66			0.00			2.15		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	4.91											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	21	29	972	96	299	1445
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	21	29	972	96	299	1445
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]	5	7	243	24	75	361
Total Analysis Volume [veh/h]	21	29	972	96	299	1445
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.30	0.06	0.19	0.45
Intersection LOS	B					
Intersection V/C	0.615					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	1127	116	56	580	168	144	531	109	108	817	76
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	1127	116	56	580	168	144	531	109	108	817	76
Peak Hour 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
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]	72	282	29	14	145	42	36	133	27	27	204	19
Total Analysis Volume [veh/h]	287	1127	116	56	580	168	144	531	109	108	817	76
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.26	0.26	0.04	0.16	0.16	0.09	0.17	0.07	0.07	0.19	0.19
Intersection LOS	C											
Intersection V/C	0.722											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	103	752	203	592	1268	71	69	716	24	429	715	474
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	103	752	203	592	1268	71	69	716	24	429	715	474
Peak Hour 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
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	188	51	148	317	18	17	179	6	107	179	119
Total Analysis Volume [veh/h]	103	752	203	592	1268	71	69	716	24	429	715	474
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.20	0.20	0.19	0.26	0.02	0.02	0.22	0.00	0.13	0.37	0.37
Intersection LOS	D											
Intersection V/C	0.888											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.934

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	353	873	155	104	765	84	169	1286	265	199	778	95
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	353	873	155	104	765	84	169	1286	265	199	778	95
Peak Hour 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
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]	88	218	39	26	191	21	42	322	66	50	195	24
Total Analysis Volume [veh/h]	353	873	155	104	765	84	169	1286	265	199	778	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.27	0.10	0.03	0.27	0.27	0.11	0.32	0.32	0.12	0.18	0.18
Intersection LOS	E											
Intersection V/C	0.934											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.887

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	184	767	279	225	893	160	227	1223	191	204	857	182
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	184	767	279	225	893	160	227	1223	191	204	857	182
Peak Hour 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
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]	46	192	70	56	223	40	57	306	48	51	214	46
Total Analysis Volume [veh/h]	184	767	279	225	893	160	227	1223	191	204	857	182
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.24	0.17	0.14	0.28	0.10	0.14	0.25	0.12	0.13	0.22	0.22
Intersection LOS	D											
Intersection V/C	0.887											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	833	379	101	856	49	17	742	313	310	398	353
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	833	379	101	856	49	17	742	313	310	398	353
Peak Hour 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
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	208	95	25	214	12	4	186	78	78	100	88
Total Analysis Volume [veh/h]	0	833	379	101	856	49	17	742	313	310	398	353
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.26	0.24	0.06	0.27	0.03	0.01	0.23	0.20	0.10	0.12	0.22
Intersection LOS	C											
Intersection V/C	0.763											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.837

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	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	1	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	418	497	976	224	457	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	418	497	976	224	457	55
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]	105	124	244	56	114	14
Total Analysis Volume [veh/h]	418	497	976	224	457	55
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.16	0.31	0.14	0.14	0.16
Intersection LOS	D					
Intersection V/C	0.837					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	547	400	203	852	762	287
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	547	400	203	852	762	287
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]	137	100	51	213	191	72
Total Analysis Volume [veh/h]	547	400	203	852	762	287
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.25	0.13	0.27	0.24	0.00
Intersection LOS	C					
Intersection V/C	0.726					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	0	760	1628	0	162	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	760	1628	0	162	234
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	190	407	0	41	59
Total Analysis Volume [veh/h]	0	760	1628	0	162	234
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	0	5	5	0	5	0
Maximum Green [s]	0	30	30	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0
Split [s]	0	59	59	0	31	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	6	0	10	0
Delayed Vehicle Green [s]	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No	
Maximum Recall		No	No		No	
Pedestrian Recall		No	No		No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	16	16
g / C, Green / Cycle	0.74	0.74	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.21	0.46	0.09	0.15
s, saturation flow rate [veh/h]	3560	3560	1781	1589
c, Capacity [veh/h]	2625	2625	309	276
d1, Uniform Delay [s]	3.94	5.71	33.75	35.97
k, delay calibration	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	1.11	1.38	7.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.29	0.62	0.52	0.85
d, Delay for Lane Group [s/veh]	4.22	6.82	35.12	43.11
Lane Group LOS	A	A	D	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.88	5.92	3.28	5.42
50th-Percentile Queue Length [ft/ln]	46.97	148.03	82.05	135.45
95th-Percentile Queue Length [veh/ln]	3.38	9.91	5.91	9.24
95th-Percentile Queue Length [ft/ln]	84.54	247.80	147.68	230.88

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	4.22	6.82	0.00	35.12	43.11
Movement LOS		A	A		D	D
d_A, Approach Delay [s/veh]	4.22		6.82		39.84	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.81					
Intersection LOS	B					
Intersection V/C	0.680					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.909
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1222	1222	600
d_b, Bicycle Delay [s]	6.81	6.81	22.05
I_b,int, Bicycle LOS Score for Intersection	2.187	2.903	1.560
Bicycle LOS	B	C	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	278	788	123	167	932	140	81	842	248	102	302	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	278	788	123	167	932	140	81	842	248	102	302	111
Peak Hour 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
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]	70	197	31	42	233	35	20	211	62	26	76	28
Total Analysis Volume [veh/h]	278	788	123	167	932	140	81	842	248	102	302	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.28	0.28	0.10	0.29	0.09	0.05	0.18	0.16	0.06	0.06	0.07
Intersection LOS	C											
Intersection V/C	0.739											



**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	45	158	224	746	88	32	832	116	219	1056	253
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	59	45	158	224	746	88	32	832	116	219	1056	253
Peak Hour 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
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	11	40	56	187	22	8	208	29	55	264	63
Total Analysis Volume [veh/h]	59	45	158	224	746	88	32	832	116	219	1056	253
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.01	0.10	0.14	0.26	0.26	0.02	0.26	0.07	0.14	0.41	0.41
Intersection LOS	D											
Intersection V/C	0.838											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	83.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.223

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	177	3	827	321	57	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	177	3	827	321	57	72
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]	44	1	207	80	14	18
Total Analysis Volume [veh/h]	177	3	827	321	57	72
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	726	827	747	780
Degree of Utilization, x	0.25	1.22	0.43	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.98	29.40	2.17	0.24
95th-Percentile Queue Length [ft]	24.41	735.09	54.36	5.90
Approach Delay [s/veh]	9.60	98.23		7.98
Approach LOS	A	F		A
Intersection Delay [s/veh]	83.00			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.838

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	186	457	71	98	914	225	155	913	226	140	851	83
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	186	457	71	98	914	225	155	913	226	140	851	83
Peak Hour 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
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]	47	114	18	25	229	56	39	228	57	35	213	21
Total Analysis Volume [veh/h]	186	457	71	98	914	225	155	913	226	140	851	83
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.06	0.29	0.14	0.10	0.24	0.24	0.09	0.19	0.19
Intersection LOS	D											
Intersection V/C	0.838											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	70	496	85	99	919	168	185	987	175	113	564	117
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	70	496	85	99	919	168	185	987	175	113	564	117
Peak Hour 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
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]	18	124	21	25	230	42	46	247	44	28	141	29
Total Analysis Volume [veh/h]	70	496	85	99	919	168	185	987	175	113	564	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.06	0.29	0.11	0.12	0.31	0.11	0.07	0.18	0.07
Intersection LOS	D											
Intersection V/C	0.821											



**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	71	31	269	143	25	15	1207	59	46	586	57
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	22	71	31	269	143	25	15	1207	59	46	586	57
Peak Hour 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
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	18	8	67	36	6	4	302	15	12	147	14
Total Analysis Volume [veh/h]	22	71	31	269	143	25	15	1207	59	46	586	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.17	0.11	0.11	0.01	0.40	0.40	0.03	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.742											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	69	236	845	85	48	3	405	1008	89	960	590	326
Peak Hour 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
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]	17	59	211	21	12	1	101	252	22	240	148	82
Total Analysis Volume [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.10	0.00	0.03	0.03	0.03	0.25	0.23	0.23	0.60	0.19	0.19
Intersection LOS	F											
Intersection V/C	1.062											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	349	355	25	160	904	818	153	1202	563	37	804	213
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	349	355	25	160	904	818	153	1202	563	37	804	213
Peak Hour 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
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]	87	89	6	40	226	205	38	301	141	9	201	53
Total Analysis Volume [veh/h]	349	355	25	160	904	818	153	1202	563	37	804	213
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	1
Auxiliary Signal Groups						3,6			5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.08	0.08	0.10	0.28	0.16	0.10	0.25	0.24	0.02	0.17	0.13
Intersection LOS	C											
Intersection V/C	0.776											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.908

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	24	837	196	116	1017	247	237	1221	105	201	648	89
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	24	837	196	116	1017	247	237	1221	105	201	648	89
Peak Hour 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
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	209	49	29	254	62	59	305	26	50	162	22
Total Analysis Volume [veh/h]	24	837	196	116	1017	247	237	1221	105	201	648	89
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.32	0.32	0.07	0.32	0.15	0.15	0.28	0.28	0.13	0.15	0.15
Intersection LOS	E											
Intersection V/C	0.908											



**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.908

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	64	843	93	121	922	149	222	1241	150	222	879	118
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	64	843	93	121	922	149	222	1241	150	222	879	118
Peak Hour 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
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]	16	211	23	30	231	37	56	310	38	56	220	30
Total Analysis Volume [veh/h]	64	843	93	121	922	149	222	1241	150	222	879	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.29	0.29	0.08	0.29	0.09	0.14	0.29	0.29	0.14	0.21	0.21
Intersection LOS	E											
Intersection V/C	0.908											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	217	395	106	94	1004	86	105	778	124	179	724	59
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	217	395	106	94	1004	86	105	778	124	179	724	59
Peak Hour 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
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]	54	99	27	24	251	22	26	195	31	45	181	15
Total Analysis Volume [veh/h]	217	395	106	94	1004	86	105	778	124	179	724	59
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.12	0.07	0.06	0.23	0.23	0.07	0.28	0.28	0.11	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.868											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.858

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	119	367	290	241	928	206	54	820	70	167	720	97
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	119	367	290	241	928	206	54	820	70	167	720	97
Peak Hour 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
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]	30	92	73	60	232	52	14	205	18	42	180	24
Total Analysis Volume [veh/h]	119	367	290	241	928	206	54	820	70	167	720	97
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.11	0.18	0.15	0.29	0.13	0.03	0.28	0.28	0.10	0.26	0.26
Intersection LOS	D											
Intersection V/C	0.858											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	14	9	8	75	14	142	97	963	20	12	827	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	14	9	8	75	14	142	97	963	20	12	827	40
Peak Hour 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
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	2	2	19	4	36	24	241	5	3	207	10
Total Analysis Volume [veh/h]	14	9	8	75	14	142	97	963	20	12	827	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.31	0.31	0.01	0.27	0.27
Intersection LOS	A											
Intersection V/C	0.540											



**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.591

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↕↔		↔↕	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name						
Base Volume Input [veh/h]	59	86	936	65	123	840
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	59	86	936	65	123	840
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]	15	22	234	16	31	210
Total Analysis Volume [veh/h]	59	86	936	65	123	840
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.09	0.31	0.31	0.08	0.30
Intersection LOS	A					
Intersection V/C	0.591					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	977	54	208	936	43	171
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	977	54	208	936	43	171
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]	244	14	52	234	11	43
Total Analysis Volume [veh/h]	977	54	208	936	43	171
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	60	0	0	60	30	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	68	68	68	68	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.15
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.38	0.26	0.13
s, saturation flow rate [veh/h]	3560	1820	547	3560	1625
c, Capacity [veh/h]	2695	1377	446	2695	250
d1, Uniform Delay [s]	3.29	3.27	7.96	3.60	37.02
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.43	3.48	0.35	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.26	0.25	0.47	0.35	0.86
d, Delay for Lane Group [s/veh]	3.52	3.71	11.44	3.95	45.19
Lane Group LOS	A	A	B	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.44	1.52	2.24	2.16	5.06
50th-Percentile Queue Length [ft/ln]	36.08	37.92	56.03	53.92	126.59
95th-Percentile Queue Length [veh/ln]	2.60	2.73	4.03	3.88	8.75
95th-Percentile Queue Length [ft/ln]	64.94	68.25	100.86	97.06	218.85

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.57	3.71	11.44	3.95	45.19	45.19
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	3.58		5.32		45.19	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.14					
Intersection LOS	A					
Intersection V/C	0.576					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.693	2.827	2.244
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1244	1244	578
d_b, Bicycle Delay [s]	6.42	6.42	22.76
I_b,int, Bicycle LOS Score for Intersection	2.127	2.503	1.913
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.758

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	287	463	57	160	702	651	288	1057	492	62	948	105
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	287	463	57	160	702	651	288	1057	492	62	948	105
Peak Hour 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
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]	72	116	14	40	176	163	72	264	123	16	237	26
Total Analysis Volume [veh/h]	287	463	57	160	702	651	288	1057	492	62	948	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.16	0.16	0.05	0.21	0.21	0.09	0.22	0.31	0.04	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.758											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	525	36	207	740	37	46	948	80	195	725	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	525	36	207	740	37	46	948	80	195	725	51
Peak Hour 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
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]	17	131	9	52	185	9	12	237	20	49	181	13
Total Analysis Volume [veh/h]	67	525	36	207	740	37	46	948	80	195	725	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.13	0.24	0.24	0.03	0.21	0.21	0.12	0.16	0.16
Intersection LOS	C											
Intersection V/C	0.752											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	4,032.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.685

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1437	0	265	1840	0
Peak Hour 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
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	2	0	0	0	359	0	66	460	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.01	0.00	0.57	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	4032.34	0.00	0.00	0.00	0.00	0.00	22.24	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	3.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	53.36	0.00	0.00	0.00	0.00	0.00	86.08	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			4032.34			0.00			2.80		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	10.75											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.897

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	394	259	1246	0	68	1727
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	394	259	1246	0	68	1727
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]	99	65	312	0	17	432
Total Analysis Volume [veh/h]	394	259	1246	0	68	1727
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.12	0.39	0.00	0.04	0.54
Intersection LOS	D					
Intersection V/C	0.897					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.877

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	484	65	88	1035	254	177	912	229	144	1118	38
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	484	65	88	1035	254	177	912	229	144	1118	38
Peak Hour 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
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]	49	121	16	22	259	64	44	228	57	36	280	10
Total Analysis Volume [veh/h]	195	484	65	88	1035	254	177	912	229	144	1118	38
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.11	0.11	0.06	0.27	0.27	0.11	0.29	0.14	0.09	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.877											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.008

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	96	835	363	438	576	79	107	900	36	213	929	597
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	96	835	363	438	576	79	107	900	36	213	929	597
Peak Hour 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
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]	24	209	91	110	144	20	27	225	9	53	232	149
Total Analysis Volume [veh/h]	96	835	363	438	576	79	107	900	36	213	929	597
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.14	0.12	0.02	0.03	0.28	0.00	0.07	0.48	0.48
Intersection LOS	F											
Intersection V/C	1.008											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	436	555	109	111	683	221	107	799	229	134	1433	51
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	436	555	109	111	683	221	107	799	229	134	1433	51
Peak Hour 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
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]	109	139	27	28	171	55	27	200	57	34	358	13
Total Analysis Volume [veh/h]	436	555	109	111	683	221	107	799	229	134	1433	51
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.17	0.07	0.03	0.28	0.28	0.07	0.21	0.21	0.08	0.31	0.31
Intersection LOS	E											
Intersection V/C	0.906											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	209	783	254	225	936	132	78	709	162	249	1373	128
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	209	783	254	225	936	132	78	709	162	249	1373	128
Peak Hour 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
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]	52	196	64	56	234	33	20	177	41	62	343	32
Total Analysis Volume [veh/h]	209	783	254	225	936	132	78	709	162	249	1373	128
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.24	0.16	0.14	0.29	0.08	0.05	0.15	0.10	0.16	0.31	0.31
Intersection LOS	D											
Intersection V/C	0.896											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	1029	439	85	1206	92	24	223	127	646	773	239
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	1029	439	85	1206	92	24	223	127	646	773	239
Peak Hour 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
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	257	110	21	302	23	6	56	32	162	193	60
Total Analysis Volume [veh/h]	0	1029	439	85	1206	92	24	223	127	646	773	239
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.32	0.27	0.05	0.38	0.06	0.02	0.07	0.08	0.20	0.24	0.15
Intersection LOS	C											
Intersection V/C	0.769											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.795

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	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	1	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	559	1108	489	223	574	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	559	1108	489	223	574	6
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]	140	277	122	56	144	2
Total Analysis Volume [veh/h]	559	1108	489	223	574	6
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.35	0.35	0.15	0.14	0.18	0.18
Intersection LOS	C					
Intersection V/C	0.795					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1389	330	131	307	489	333
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	1389	330	131	307	489	333
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]	347	83	33	77	122	83
Total Analysis Volume [veh/h]	1389	330	131	307	489	333
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.43	0.21	0.08	0.10	0.15	0.00
Intersection LOS	C					
Intersection V/C	0.780					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.693

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	0	1615	809	0	115	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1615	809	0	115	258
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	404	202	0	29	65
Total Analysis Volume [veh/h]	0	1615	809	0	115	258
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	0	5	5	0	5	0
Maximum Green [s]	0	30	30	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0
Split [s]	0	52	52	0	38	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	6	0	10	0
Delayed Vehicle Green [s]	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No	
Maximum Recall		No	No		No	
Pedestrian Recall		No	No		No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	17	17
g / C, Green / Cycle	0.72	0.72	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.45	0.23	0.06	0.16
s, saturation flow rate [veh/h]	3560	3560	1781	1589
c, Capacity [veh/h]	2572	2572	336	300
d1, Uniform Delay [s]	6.33	4.48	31.62	35.30
k, delay calibration	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.17	0.32	0.60	7.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.63	0.31	0.34	0.86
d, Delay for Lane Group [s/veh]	7.51	4.80	32.22	42.51
Lane Group LOS	A	A	C	D
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.41	2.24	2.19	5.95
50th-Percentile Queue Length [ft/ln]	160.30	55.93	54.80	148.77
95th-Percentile Queue Length [veh/ln]	10.56	4.03	3.95	9.95
95th-Percentile Queue Length [ft/ln]	264.12	100.67	98.65	248.79

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	7.51	4.80	0.00	32.22	42.51
Movement LOS		A	A		C	D
d_A, Approach Delay [s/veh]	7.51		4.80		39.33	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.97					
Intersection LOS	B					
Intersection V/C	0.693					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.898
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	1067	756
d_b, Bicycle Delay [s]	9.80	9.80	17.42
I_b,int, Bicycle LOS Score for Intersection	2.892	2.227	1.560
Bicycle LOS	C	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	551	825	65	89	877	161	64	279	257	73	1013	169
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	551	825	65	89	877	161	64	279	257	73	1013	169
Peak Hour 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
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]	138	206	16	22	219	40	16	70	64	18	253	42
Total Analysis Volume [veh/h]	551	825	65	89	877	161	64	279	257	73	1013	169
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.28	0.28	0.06	0.27	0.10	0.04	0.06	0.16	0.05	0.21	0.11
Intersection LOS	D											
Intersection V/C	0.808											

**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	146	295	357	142	204	46	146	976	90	287	879	797
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	146	295	357	142	204	46	146	976	90	287	879	797
Peak Hour 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
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	74	89	36	51	12	37	244	23	72	220	199
Total Analysis Volume [veh/h]	146	295	357	142	204	46	146	976	90	287	879	797
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.09	0.22	0.09	0.08	0.08	0.09	0.31	0.06	0.18	0.52	0.52
Intersection LOS	F											
Intersection V/C	1.038											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	416	0	559	89	127	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	416	0	559	89	127	401
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]	104	0	140	22	32	100
Total Analysis Volume [veh/h]	416	0	559	89	127	401
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	693	621	680	681
Degree of Utilization, x	0.60	0.90	0.13	0.19

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	4.04	11.11	0.45	0.68
95th-Percentile Queue Length [ft]	101.01	277.81	11.22	17.05
Approach Delay [s/veh]	15.70	35.23		9.50
Approach LOS	C	E		A
Intersection Delay [s/veh]	25.67			
Intersection LOS	D			



**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	191	1136	62	83	535	110	259	909	140	61	978	175
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	191	1136	62	83	535	110	259	909	140	61	978	175
Peak Hour 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
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]	48	284	16	21	134	28	65	227	35	15	245	44
Total Analysis Volume [veh/h]	191	1136	62	83	535	110	259	909	140	61	978	175
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.25	0.05	0.17	0.07	0.16	0.22	0.22	0.04	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.815											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.915

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	173	917	95	96	640	214	183	594	79	137	1002	96
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	173	917	95	96	640	214	183	594	79	137	1002	96
Peak Hour 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
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]	43	229	24	24	160	54	46	149	20	34	251	24
Total Analysis Volume [veh/h]	173	917	95	96	640	214	183	594	79	137	1002	96
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.32	0.32	0.06	0.20	0.13	0.11	0.19	0.05	0.09	0.31	0.06
Intersection LOS	E											
Intersection V/C	0.915											

**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	60	161	44	72	65	70	18	673	36	42	1196	150
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	60	161	44	72	65	70	18	673	36	42	1196	150
Peak Hour 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
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	40	11	18	16	18	5	168	9	11	299	38
Total Analysis Volume [veh/h]	60	161	44	72	65	70	18	673	36	42	1196	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.08	0.08	0.05	0.06	0.06	0.01	0.22	0.22	0.03	0.42	0.42
Intersection LOS	B											
Intersection V/C	0.671											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	51	321	896	333	55	25	208	503	56	592	1302	257
Peak Hour 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
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]	13	80	224	83	14	6	52	126	14	148	326	64
Total Analysis Volume [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.12	0.00	0.10	0.05	0.05	0.13	0.12	0.12	0.37	0.32	0.32
Intersection LOS	D											
Intersection V/C	0.818											



**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	1	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	604	866	19	76	357	567	264	985	488	11	996	570
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	604	866	19	76	357	567	264	985	488	11	996	570
Peak Hour 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
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]	151	217	5	19	89	142	66	246	122	3	249	143
Total Analysis Volume [veh/h]	604	866	19	76	357	567	264	985	488	11	996	570
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	6	3	8	5	7	4	1
Auxiliary Signal Groups						3,6			5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.28	0.28	0.05	0.11	0.01	0.17	0.21	0.12	0.01	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.845											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	48	629	155	80	659	254	228	744	19	184	1354	108
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	48	629	155	80	659	254	228	744	19	184	1354	108
Peak Hour 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
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]	12	157	39	20	165	64	57	186	5	46	339	27
Total Analysis Volume [veh/h]	48	629	155	80	659	254	228	744	19	184	1354	108
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.05	0.21	0.16	0.14	0.16	0.16	0.12	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.853											

**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	87	797	104	76	847	126	152	865	117	220	1420	140
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	87	797	104	76	847	126	152	865	117	220	1420	140
Peak Hour 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
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]	22	199	26	19	212	32	38	216	29	55	355	35
Total Analysis Volume [veh/h]	87	797	104	76	847	126	152	865	117	220	1420	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.28	0.28	0.05	0.26	0.08	0.10	0.20	0.20	0.14	0.33	0.33
Intersection LOS	D											
Intersection V/C	0.860											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	180	957	116	95	423	133	167	733	109	169	736	194
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	180	957	116	95	423	133	167	733	109	169	736	194
Peak Hour 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
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]	45	239	29	24	106	33	42	183	27	42	184	49
Total Analysis Volume [veh/h]	180	957	116	95	423	133	167	733	109	169	736	194
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.30	0.07	0.06	0.12	0.12	0.10	0.26	0.26	0.11	0.29	0.29
Intersection LOS	D											
Intersection V/C	0.865											



**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.854

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	944	214	98	419	127	137	794	115	155	709	254
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	944	214	98	419	127	137	794	115	155	709	254
Peak Hour 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
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]	18	236	54	25	105	32	34	199	29	39	177	64
Total Analysis Volume [veh/h]	71	944	214	98	419	127	137	794	115	155	709	254
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.30	0.13	0.06	0.13	0.08	0.09	0.28	0.28	0.10	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.854											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+r			rll			rll		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	37	26	38	32	5	108	127	1044	14	13	624	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	37	26	38	32	5	108	127	1044	14	13	624	34
Peak Hour 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
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	7	10	8	1	27	32	261	4	3	156	9
Total Analysis Volume [veh/h]	37	26	38	32	5	108	127	1044	14	13	624	34
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.06	0.06	0.02	0.02	0.07	0.08	0.33	0.33	0.01	0.21	0.21
Intersection LOS	A											
Intersection V/C	0.540											

**Intersection Level Of Service Report  
Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	93	160	1080	29	59	560
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	93	160	1080	29	59	560
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]	23	40	270	7	15	140
Total Analysis Volume [veh/h]	93	160	1080	29	59	560
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.16	0.35	0.35	0.04	0.19
Intersection LOS	B					
Intersection V/C	0.653					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1192	30	116	581	23	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1192	30	116	581	23	87
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]	298	8	29	145	6	22
Total Analysis Volume [veh/h]	1192	30	116	581	23	87
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	65	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	74	74	8
g / C, Green / Cycle	0.83	0.83	0.83	0.83	0.08
(v / s)_i Volume / Saturation Flow Rate	0.23	0.22	0.25	0.16	0.07
s, saturation flow rate [veh/h]	3560	1846	456	3560	1626
c, Capacity [veh/h]	2941	1525	420	2941	138
d1, Uniform Delay [s]	1.76	1.75	3.91	1.63	40.37
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.23	0.43	1.62	0.15	9.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.28	0.27	0.28	0.20	0.80
d, Delay for Lane Group [s/veh]	2.00	2.18	5.53	1.78	50.27
Lane Group LOS	A	A	A	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.87	0.94	0.73	0.57	2.74
50th-Percentile Queue Length [ft/ln]	21.65	23.61	18.24	14.20	68.45
95th-Percentile Queue Length [veh/ln]	1.56	1.70	1.31	1.02	4.93
95th-Percentile Queue Length [ft/ln]	38.97	42.49	32.83	25.55	123.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.05	2.18	5.53	1.78	50.27	50.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	2.06		2.40		50.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.79					
Intersection LOS	A					
Intersection V/C	0.362					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.657	2.775	2.006
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1356	1356	467
d_b, Bicycle Delay [s]	4.67	4.67	26.45
I_b,int, Bicycle LOS Score for Intersection	2.232	2.135	1.741
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.781

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	382	831	50	98	435	514	328	731	279	44	1182	75
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	382	831	50	98	435	514	328	731	279	44	1182	75
Peak Hour 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
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]	96	208	13	25	109	129	82	183	70	11	296	19
Total Analysis Volume [veh/h]	382	831	50	98	435	514	328	731	279	44	1182	75
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.28	0.28	0.03	0.15	0.15	0.10	0.15	0.17	0.03	0.26	0.26
Intersection LOS	C											
Intersection V/C	0.781											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.823

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	76	995	52	149	577	34	76	797	175	143	562	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	76	995	52	149	577	34	76	797	175	143	562	42
Peak Hour 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
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]	19	249	13	37	144	9	19	199	44	36	141	11
Total Analysis Volume [veh/h]	76	995	52	149	577	34	76	797	175	143	562	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.33	0.33	0.09	0.19	0.19	0.05	0.20	0.20	0.09	0.13	0.13
Intersection LOS	D											
Intersection V/C	0.823											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,758.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.338

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	14	0	0	0	2046	0	129	1355	0
Peak Hour 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
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	4	0	0	0	512	0	32	339	0
Total Analysis Volume [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.02	0.00	0.48	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1758.06	0.00	0.00	0.00	0.00	0.00	29.72	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.85	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	71.16	0.00	0.00	0.00	0.00	0.00	59.88	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1758.06			0.00			2.58		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.647

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	22	30	1040	102	316	1532
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	22	30	1040	102	316	1532
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]	6	8	260	26	79	383
Total Analysis Volume [veh/h]	22	30	1040	102	316	1532
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.33	0.06	0.20	0.48
Intersection LOS	B					
Intersection V/C	0.647					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	1204	123	59	616	181	163	562	115	114	865	80
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	1204	123	59	616	181	163	562	115	114	865	80
Peak Hour 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
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]	76	301	31	15	154	45	41	141	29	29	216	20
Total Analysis Volume [veh/h]	304	1204	123	59	616	181	163	562	115	114	865	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.28	0.28	0.04	0.17	0.17	0.10	0.18	0.07	0.07	0.20	0.20
Intersection LOS	C											
Intersection V/C	0.766											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.936

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	109	807	215	627	1345	75	73	758	25	454	757	502
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	109	807	215	627	1345	75	73	758	25	454	757	502
Peak Hour 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
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	202	54	157	336	19	18	190	6	114	189	126
Total Analysis Volume [veh/h]	109	807	215	627	1345	75	73	758	25	454	757	502
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.21	0.21	0.20	0.28	0.02	0.02	0.24	0.00	0.14	0.39	0.39
Intersection LOS	E											
Intersection V/C	0.936											

**Intersection Level Of Service Report**

**Intersection 1: Paramount Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.982

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	374	924	164	110	809	89	179	1364	280	210	826	101
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	374	924	164	110	809	89	179	1364	280	210	826	101
Peak Hour 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
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]	94	231	41	28	202	22	45	341	70	53	207	25
Total Analysis Volume [veh/h]	374	924	164	110	809	89	179	1364	280	210	826	101
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.29	0.10	0.03	0.28	0.28	0.11	0.34	0.34	0.13	0.19	0.19
Intersection LOS	E											
Intersection V/C	0.982											

**Intersection Level Of Service Report**

**Intersection 2: Rosemead Boulevard & Washington Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.933

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	195	811	295	238	944	169	240	1297	202	216	910	193
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	195	811	295	238	944	169	240	1297	202	216	910	193
Peak Hour 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
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]	49	203	74	60	236	42	60	324	51	54	228	48
Total Analysis Volume [veh/h]	195	811	295	238	944	169	240	1297	202	216	910	193
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.25	0.18	0.15	0.30	0.11	0.15	0.27	0.13	0.14	0.23	0.23
Intersection LOS	E											
Intersection V/C	0.933											

**Intersection Level Of Service Report**  
**Intersection 3: Garfield Avenue & Telegraph Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	922	401	107	954	52	18	785	346	328	421	374
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	922	401	107	954	52	18	785	346	328	421	374
Peak Hour 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
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	231	100	27	239	13	5	196	87	82	105	94
Total Analysis Volume [veh/h]	0	922	401	107	954	52	18	785	346	328	421	374
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.29	0.25	0.07	0.30	0.03	0.01	0.25	0.22	0.10	0.13	0.23
Intersection LOS	D											
Intersection V/C	0.814											

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	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	1	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	450	556	1081	252	499	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	450	556	1081	252	499	58
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]	113	139	270	63	125	15
Total Analysis Volume [veh/h]	450	556	1081	252	499	58
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.28	0.17	0.34	0.16	0.16	0.17
Intersection LOS	E					
Intersection V/C	0.904					

**Intersection Level Of Service Report**  
**Intersection 5: Telegraph Road & Greenwood Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	617	423	215	950	806	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	617	423	215	950	806	304
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]	154	106	54	238	202	76
Total Analysis Volume [veh/h]	617	423	215	950	806	304
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Unsignalized
Signal Group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.19	0.26	0.13	0.30	0.25	0.00
Intersection LOS	C					
Intersection V/C	0.762					

**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.733

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach	↑↑		↑↑		↶↷	
Lane Configuration	↑↑		↑↑		↶↷	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	0	842	1770	0	171	246
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	842	1770	0	171	246
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	211	443	0	43	62
Total Analysis Volume [veh/h]	0	842	1770	0	171	246
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	2	6	0	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	0	5	5	0	5	0
Maximum Green [s]	0	30	30	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0
Split [s]	0	59	59	0	31	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	6	0	10	0
Delayed Vehicle Green [s]	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	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No	
Maximum Recall		No	No		No	
Pedestrian Recall		No	No		No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	16	16
g / C, Green / Cycle	0.73	0.73	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.24	0.50	0.10	0.15
s, saturation flow rate [veh/h]	3560	3560	1781	1589
c, Capacity [veh/h]	2598	2598	323	288
d1, Uniform Delay [s]	4.29	6.52	33.32	35.63
k, delay calibration	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	1.46	1.35	7.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.32	0.68	0.53	0.85
d, Delay for Lane Group [s/veh]	4.63	7.98	34.67	42.79
Lane Group LOS	A	A	C	D
Critical Lane Group	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.25	7.34	3.44	5.68
50th-Percentile Queue Length [ft/ln]	56.31	183.39	86.08	142.08
95th-Percentile Queue Length [veh/ln]	4.05	11.78	6.20	9.59
95th-Percentile Queue Length [ft/ln]	101.36	294.44	154.94	239.83

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	4.63	7.98	0.00	34.67	42.79
Movement LOS		A	A		C	D
d_A, Approach Delay [s/veh]	4.63		7.98		39.46	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	11.38					
Intersection LOS	B					
Intersection V/C	0.733					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.920
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1222	1222	600
d_b, Bicycle Delay [s]	6.81	6.81	22.05
I_b,int, Bicycle LOS Score for Intersection	2.254	3.020	1.560
Bicycle LOS	B	C	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 7: Eastern Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.782

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	293	852	130	177	1003	148	86	890	261	108	319	117
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	293	852	130	177	1003	148	86	890	261	108	319	117
Peak Hour 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
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]	73	213	33	44	251	37	22	223	65	27	80	29
Total Analysis Volume [veh/h]	293	852	130	177	1003	148	86	890	261	108	319	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.31	0.31	0.11	0.31	0.09	0.05	0.19	0.16	0.07	0.07	0.07
Intersection LOS	C											
Intersection V/C	0.782											



**Intersection Level Of Service Report**  
**Intersection 8: Garfield Avenue & Bandini Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
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	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	62	47	182	237	789	93	34	880	123	237	1117	268
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	62	47	182	237	789	93	34	880	123	237	1117	268
Peak Hour 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
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]	16	12	46	59	197	23	9	220	31	59	279	67
Total Analysis Volume [veh/h]	62	47	182	237	789	93	34	880	123	237	1117	268
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	7	4	0	3	8	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.01	0.11	0.15	0.28	0.28	0.02	0.28	0.08	0.15	0.43	0.43
Intersection LOS	D											
Intersection V/C	0.880											

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	101.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.305

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	201	3	875	344	65	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	201	3	875	344	65	74
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]	50	1	219	86	16	19
Total Analysis Volume [veh/h]	201	3	875	344	65	74
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	721	875	740	768
Degree of Utilization, x	0.28	1.31	0.47	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.16	34.96	2.48	0.28
95th-Percentile Queue Length [ft]	29.07	873.96	62.11	6.91
Approach Delay [s/veh]	9.95	122.05		8.12
Approach LOS	A	F		A
Intersection Delay [s/veh]	101.71			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 10: Eastern Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	197	490	75	108	973	243	169	965	239	148	899	92
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	197	490	75	108	973	243	169	965	239	148	899	92
Peak Hour 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
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]	49	123	19	27	243	61	42	241	60	37	225	23
Total Analysis Volume [veh/h]	197	490	75	108	973	243	169	965	239	148	899	92
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.12	0.12	0.07	0.30	0.15	0.11	0.25	0.25	0.09	0.21	0.21
Intersection LOS	D											
Intersection V/C	0.882											

**Intersection Level Of Service Report**  
**Intersection 11: Garfield Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	74	536	90	104	991	178	196	1047	185	120	600	123
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	74	536	90	104	991	178	196	1047	185	120	600	123
Peak Hour 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
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]	19	134	23	26	248	45	49	262	46	30	150	31
Total Analysis Volume [veh/h]	74	536	90	104	991	178	196	1047	185	120	600	123
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.20	0.20	0.07	0.31	0.11	0.12	0.33	0.12	0.08	0.19	0.08
Intersection LOS	D											
Intersection V/C	0.869											



**Intersection Level Of Service Report**  
**Intersection 12: Greenwood Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	75	33	303	151	26	16	1274	62	49	618	61
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	23	75	33	303	151	26	16	1274	62	49	618	61
Peak Hour 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
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	19	8	76	38	7	4	319	16	12	155	15
Total Analysis Volume [veh/h]	23	75	33	303	151	26	16	1274	62	49	618	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.19	0.11	0.11	0.01	0.42	0.42	0.03	0.21	0.21
Intersection LOS	C											
Intersection V/C	0.790											

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.109

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	70	248	896	90	62	3	444	1071	89	1006	626	345
Peak Hour 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
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]	18	62	224	23	16	1	111	268	22	252	157	86
Total Analysis Volume [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.10	0.00	0.03	0.03	0.03	0.28	0.24	0.24	0.63	0.20	0.20
Intersection LOS	F											
Intersection V/C	1.109											

**Intersection Level Of Service Report**  
**Intersection 14: Telegraph Road & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.824

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TUT			TUT			TUT			TUT		
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	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	367	396	26	185	989	862	168	1272	596	39	849	235
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	367	396	26	185	989	862	168	1272	596	39	849	235
Peak Hour 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
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]	92	99	7	46	247	216	42	318	149	10	212	59
Total Analysis Volume [veh/h]	367	396	26	185	989	862	168	1272	596	39	849	235
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	1
Auxiliary Signal Groups						3,6			5,8			1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.12	0.31	0.16	0.11	0.27	0.26	0.02	0.18	0.15
Intersection LOS	D											
Intersection V/C	0.824											

**Intersection Level Of Service Report**  
**Intersection 15: Paramount Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	25	886	207	123	1076	261	250	1308	111	213	694	94
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	25	886	207	123	1076	261	250	1308	111	213	694	94
Peak Hour 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
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	222	52	31	269	65	63	327	28	53	174	24
Total Analysis Volume [veh/h]	25	886	207	123	1076	261	250	1308	111	213	694	94
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.34	0.34	0.08	0.34	0.16	0.16	0.30	0.30	0.13	0.16	0.16
Intersection LOS	E											
Intersection V/C	0.958											



**Intersection Level Of Service Report**  
**Intersection 16: Rosemead Boulevard & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	67	892	98	128	976	157	234	1331	159	235	940	125
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	67	892	98	128	976	157	234	1331	159	235	940	125
Peak Hour 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
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]	17	223	25	32	244	39	59	333	40	59	235	31
Total Analysis Volume [veh/h]	67	892	98	128	976	157	234	1331	159	235	940	125
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.31	0.31	0.08	0.31	0.10	0.15	0.31	0.31	0.15	0.22	0.22
Intersection LOS	E											
Intersection V/C	0.958											

**Intersection Level Of Service Report**  
**Intersection 17: Eastern Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	230	421	111	99	1066	95	115	822	131	188	765	62
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	230	421	111	99	1066	95	115	822	131	188	765	62
Peak Hour 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
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	105	28	25	267	24	29	206	33	47	191	16
Total Analysis Volume [veh/h]	230	421	111	99	1066	95	115	822	131	188	765	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.13	0.07	0.06	0.24	0.24	0.07	0.30	0.30	0.12	0.26	0.26
Intersection LOS	E											
Intersection V/C	0.912											

**Intersection Level Of Service Report**  
**Intersection 18: Garfield Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	1	0	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	126	399	305	255	1000	218	57	864	74	175	759	103
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	126	399	305	255	1000	218	57	864	74	175	759	103
Peak Hour 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
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	100	76	64	250	55	14	216	19	44	190	26
Total Analysis Volume [veh/h]	126	399	305	255	1000	218	57	864	74	175	759	103
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.12	0.19	0.16	0.31	0.14	0.04	0.29	0.29	0.11	0.27	0.27
Intersection LOS	E											
Intersection V/C	0.905											

**Intersection Level Of Service Report**  
**Intersection 19: Greenwood Avenue & Gage Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	15	10	8	79	15	150	103	1023	21	13	884	42
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	15	10	8	79	15	150	103	1023	21	13	884	42
Peak Hour 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
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	3	2	20	4	38	26	256	5	3	221	11
Total Analysis Volume [veh/h]	15	10	8	79	15	150	103	1023	21	13	884	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.02	0.02	0.05	0.06	0.09	0.06	0.33	0.33	0.01	0.29	0.29
Intersection LOS	A											
Intersection V/C	0.568											



**Intersection Level Of Service Report**  
**Intersection 20: Gage Avenue & Zindell Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	60	86	997	66	124	900
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	60	86	997	66	124	900
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]	15	22	249	17	31	225
Total Analysis Volume [veh/h]	60	86	997	66	124	900
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.09	0.33	0.33	0.08	0.32
Intersection LOS	B					
Intersection V/C	0.612					

**Intersection Level Of Service Report**  
**Intersection 21: Gage Avenue & Project Driveway**

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1040	54	209	998	43	172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1040	54	209	998	43	172
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]	260	14	52	250	11	43
Total Analysis Volume [veh/h]	1040	54	209	998	43	172
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	2	0	0	6	3	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	60	0	0	60	30	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	6	0	0	10	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	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
I, Upstream Filtering Factor	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	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	68	68	68	68	14
g / C, Green / Cycle	0.76	0.76	0.76	0.76	0.15
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.41	0.28	0.13
s, saturation flow rate [veh/h]	3560	1822	515	3560	1624
c, Capacity [veh/h]	2693	1378	422	2693	251
d1, Uniform Delay [s]	3.35	3.33	8.57	3.71	36.99
k, delay calibration	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.47	4.11	0.39	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.27	0.26	0.50	0.37	0.86
d, Delay for Lane Group [s/veh]	3.60	3.80	12.68	4.10	45.16
Lane Group LOS	A	A	B	A	D
Critical Lane Group	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	1.56	1.64	2.42	2.37	5.09
50th-Percentile Queue Length [ft/ln]	39.05	41.01	60.62	59.21	127.16
95th-Percentile Queue Length [veh/ln]	2.81	2.95	4.36	4.26	8.78
95th-Percentile Queue Length [ft/ln]	70.29	73.81	109.12	106.58	219.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.66	3.80	12.68	4.10	45.16	45.16
Movement LOS	A	A	B	A	D	D
d_A, Approach Delay [s/veh]	3.67		5.59		45.16	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.13					
Intersection LOS	A					
Intersection V/C	0.605					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.718	2.847	2.247
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1244	1244	578
d_b, Bicycle Delay [s]	6.42	6.42	22.76
I_b,int, Bicycle LOS Score for Intersection	2.161	2.555	1.914
Bicycle LOS	B	B	A

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 22: Eastern Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T			T			T			T		
Lane Configuration	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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	304	493	60	169	746	688	303	1119	521	66	1003	111
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	304	493	60	169	746	688	303	1119	521	66	1003	111
Peak Hour 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
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]	76	123	15	42	187	172	76	280	130	17	251	28
Total Analysis Volume [veh/h]	304	493	60	169	746	688	303	1119	521	66	1003	111
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.17	0.17	0.05	0.22	0.22	0.09	0.23	0.33	0.04	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.797											

**Intersection Level Of Service Report**  
**Intersection 23: Garfield Avenue & Florence Avenue**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.788

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	71	554	38	218	782	39	49	1003	85	206	767	53
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	71	554	38	218	782	39	49	1003	85	206	767	53
Peak Hour 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
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]	18	139	10	55	196	10	12	251	21	52	192	13
Total Analysis Volume [veh/h]	71	554	38	218	782	39	49	1003	85	206	767	53
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.19	0.19	0.14	0.26	0.26	0.03	0.23	0.23	0.13	0.17	0.17
Intersection LOS	C											
Intersection V/C	0.788											

**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	7,515.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.646

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1531	0	280	1963	0
Peak Hour 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
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	2	0	0	0	383	0	70	491	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	6.65	0.00	0.00	0.00	0.02	0.00	0.65	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7515.16	0.00	0.00	0.00	0.00	0.00	27.58	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	55.20	0.00	0.00	0.00	0.00	0.00	112.42	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7515.16			0.00			3.44		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	17.94											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	⇐⇐		⇐⇐		⇐⇐	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	417	273	1328	0	72	1844
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	417	273	1328	0	72	1844
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]	104	68	332	0	18	461
Total Analysis Volume [veh/h]	417	273	1328	0	72	1844
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.13	0.42	0.00	0.05	0.58
Intersection LOS	E					
Intersection V/C	0.948					

**Intersection Level Of Service Report**  
**Intersection 26: Telegraph Road & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.927

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	206	522	69	93	1112	284	196	965	242	152	1183	40
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	206	522	69	93	1112	284	196	965	242	152	1183	40
Peak Hour 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
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]	52	131	17	23	278	71	49	241	61	38	296	10
Total Analysis Volume [veh/h]	206	522	69	93	1112	284	196	965	242	152	1183	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.12	0.12	0.06	0.29	0.29	0.12	0.30	0.15	0.10	0.25	0.25
Intersection LOS	E											
Intersection V/C	0.927											

**Intersection Level Of Service Report**  
**Intersection 27: Telegraph Road & Rosemead Boulevard**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	TTL			TTL			TTL			TTL		
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	102	894	384	464	627	83	113	952	38	225	983	632
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	102	894	384	464	627	83	113	952	38	225	983	632
Peak Hour 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
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	224	96	116	157	21	28	238	10	56	246	158
Total Analysis Volume [veh/h]	102	894	384	464	627	83	113	952	38	225	983	632
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	90
Lost time [s]	10.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	3	3	8	5	7	4	0
Auxiliary Signal Groups						3,6			5,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.27	0.27	0.15	0.13	0.02	0.04	0.30	0.00	0.07	0.50	0.50
Intersection LOS	F											
Intersection V/C	1.062											

***Appendix D***

***NCHRP Mixed-Use  
Internal Capture Worksheet***

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Modelo Commerce	Organization:	GTC
Project Location:	7316 Gage Avenue	Performed By:	
Scenario Description:		Date:	November 2019
Analysis Year:		Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs <sup>1</sup>	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				139	84	55
Restaurant				159	87	72
Cinema/Entertainment				179	120	59
Residential				306	80	226
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
Total				783	371	412

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant	1.00			1.00		
Cinema/Entertainment	1.00			1.00		
Residential	1.00			1.00		
Hotel						
All Other Land Uses <sup>2</sup>						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		7	0	2	0
Restaurant	0	7		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	17	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	783	371	412
Internal Capture Percentage	10%	10%	9%
External Vehicle-Trips <sup>3</sup>	707	333	374
External Transit-Trips <sup>4</sup>	0	0	0
External Non-Motorized Trips <sup>4</sup>	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	11%	16%
Restaurant	28%	14%
Cinema/Entertainment	0%	0%
Residential	6%	8%
Hotel	N/A	N/A

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

*Estimation Tool Developed by the Texas Transportation Institute*

<b>Project Name:</b>	Modelo Commerce
<b>Analysis Period:</b>	AM Street Peak Hour

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	84	84	1.00	55	55
Restaurant	1.00	87	87	1.00	72	72
Cinema/Entertainment	1.00	120	120	1.00	59	59
Residential	1.00	80	80	1.00	226	226
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	16		7	0	8	0
Restaurant	22	10		0	3	2
Cinema/Entertainment	0	0	0		0	0
Residential	5	2	45	0		0
Hotel	0	0	0	0	0	

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		27	20	0	0	0
Retail	0		44	0	2	0
Restaurant	0	7		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	14	17	0		0
Hotel	0	3	5	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0	0	0	0
Retail	9	75	84	75	0	0
Restaurant	24	63	87	63	0	0
Cinema/Entertainment	0	120	120	120	0	0
Residential	5	75	80	75	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0	0	0	0
Retail	9	46	55	46	0	0
Restaurant	10	62	72	62	0	0
Cinema/Entertainment	0	59	59	59	0	0
Residential	19	207	226	207	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A  
<sup>2</sup>Person-Trips  
<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator  
\*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Modelo Commerce	Organization:	GTC
Project Location:	7316 Gage Avenue	Performed By:	
Scenario Description:		Date:	November 2019
Analysis Year:		Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs <sup>1</sup>	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				389	194	195
Restaurant				156	97	59
Cinema/Entertainment				439	195	244
Residential				374	228	146
Hotel				0		
All Other Land Uses <sup>2</sup>				0		
Total				1358	714	644

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant	1.00			1.00		
Cinema/Entertainment	1.00			1.00		
Residential	1.00			1.00		
Hotel	1.00			1.00		
All Other Land Uses <sup>2</sup>						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		28	8	51	0
Restaurant	0	24		5	11	0
Cinema/Entertainment	0	8	3		9	0
Residential	0	19	14	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,358	714	644
Internal Capture Percentage	27%	25%	28%
External Vehicle-Trips <sup>3</sup>	998	534	464
External Transit-Trips <sup>4</sup>	0	0	0
External Non-Motorized Trips <sup>4</sup>	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	26%	45%
Restaurant	46%	68%
Cinema/Entertainment	7%	8%
Residential	31%	23%
Hotel	N/A	N/A

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

*Estimation Tool Developed by the Texas Transportation Institute*

<b>Project Name:</b>	Modelo Commerce
<b>Analysis Period:</b>	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	194	194	1.00	195	195
Restaurant	1.00	97	97	1.00	59	59
Cinema/Entertainment	1.00	195	195	1.00	244	244
Residential	1.00	228	228	1.00	146	146
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	4		57	8	51	10
Restaurant	2	24		5	11	4
Cinema/Entertainment	5	51	76		20	5
Residential	6	61	31	0		4
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		16	2	2	9	0
Retail	0		28	51	105	0
Restaurant	0	97		62	36	0
Cinema/Entertainment	0	8	3		9	0
Residential	0	19	14	0		0
Hotel	0	4	5	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0	0	0	0
Retail	51	143	194	143	0	0
Restaurant	45	52	97	52	0	0
Cinema/Entertainment	13	182	195	182	0	0
Residential	71	157	228	157	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles <sup>1</sup>	Transit <sup>2</sup>	Non-Motorized <sup>2</sup>
Office	0	0	0	0	0	0
Retail	87	108	195	108	0	0
Restaurant	40	19	59	19	0	0
Cinema/Entertainment	20	224	244	224	0	0
Residential	33	113	146	113	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses <sup>3</sup>	0	0	0	0	0	0

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>2</sup>Person-Trips

<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

\*Indicates computation that has been rounded to the nearest whole number.



***Appendix E***

***Signal Warrant Analysis Worksheet***

EXISTING CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

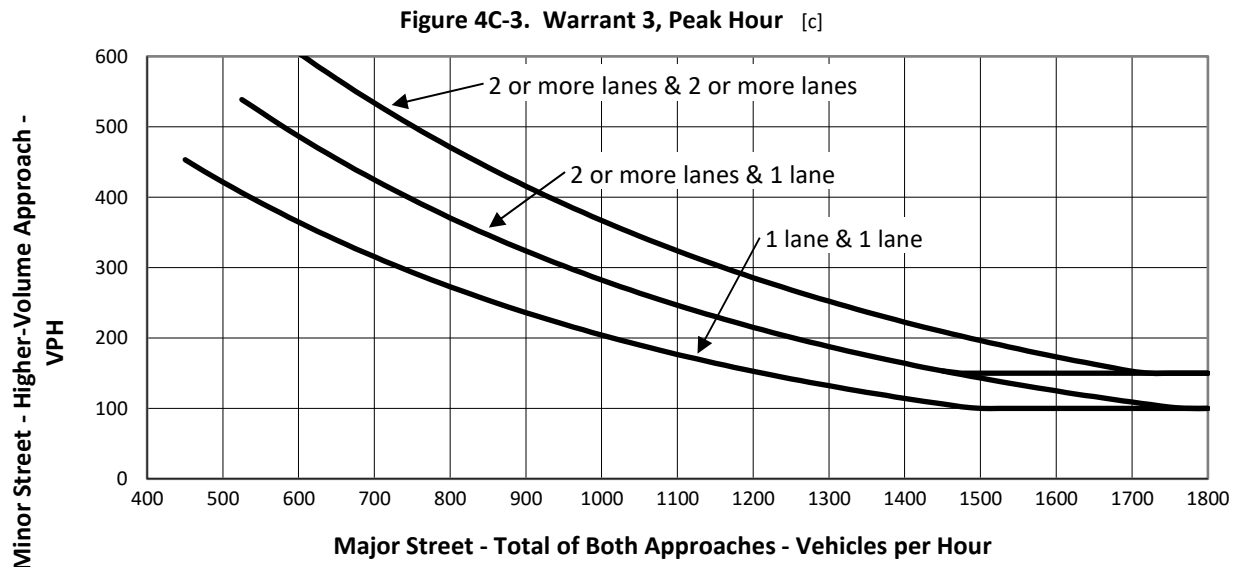
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1): 742
	Major Street (Approach 2): 1,425
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 2	Minor Street (Higher Volume): 341
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	742	Minimum Major Street Volume:	620
Major Street (Approach 2):	1,425	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 2,167		
Major Street Left Turns:	0	Minimum Minor Street Volume:	150
Minor Street (Higher Volume):	341	Satisfied?	YES
<hr/> Total Minor Street Volume:	<hr/> 341	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

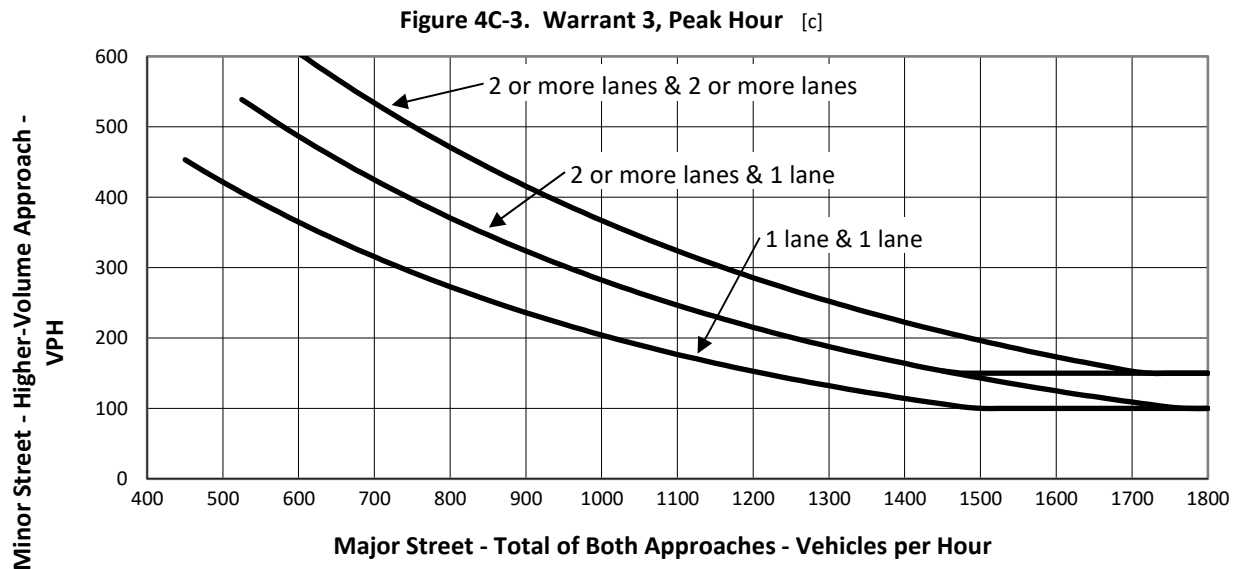
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**9. BANDINI BLVD & I-5 SB RAMPS**

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 594
	Major Street (Approach 2): 372
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 102
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	594	Minimum Major Street Volume:	510
Major Street (Approach 2):	372	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>966</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	296
Minor Street (Higher Volume):	102	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>102</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

## 7316 Gage Avenue

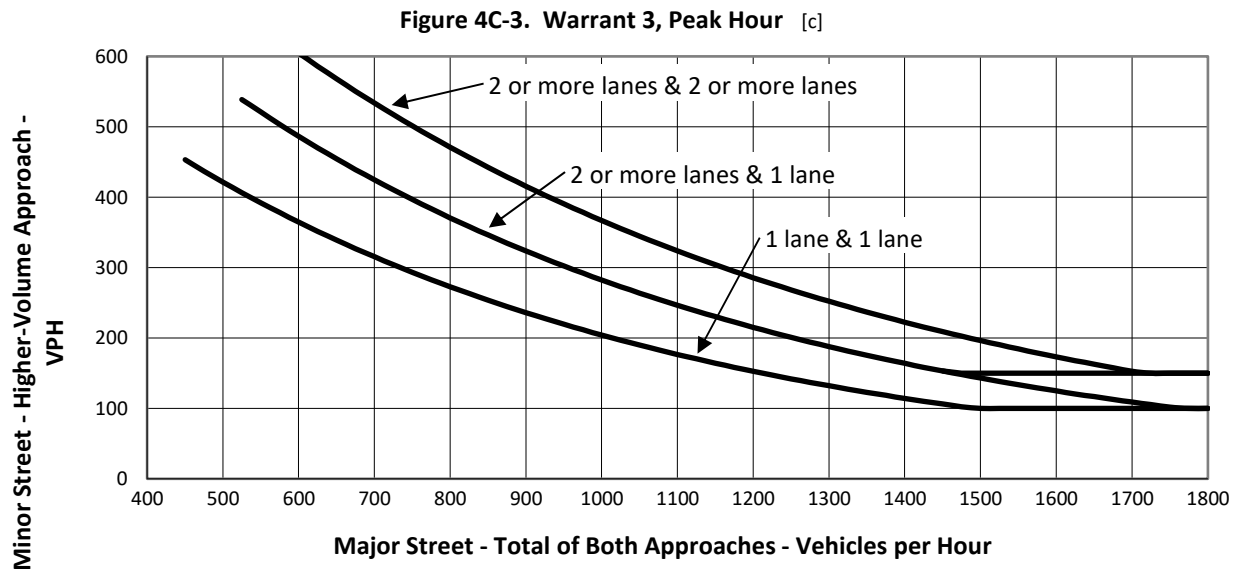
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

### 21. GAGE AVENUE & PROJECT DRIVEWAY

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 507
	Major Street (Approach 2): 983
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 14
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	507	Minimum Major Street Volume:	510
Major Street (Approach 2):	983	Satisfied?	YES
<hr/>			
Total Major Street Volume:	1,490	Minimum Minor Street Volume:	145
Major Street Left Turns:	0	Satisfied?	NO
Minor Street (Higher Volume):	14		
<hr/>			
Total Minor Street Volume:	14	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

**7316 Gage Avenue**

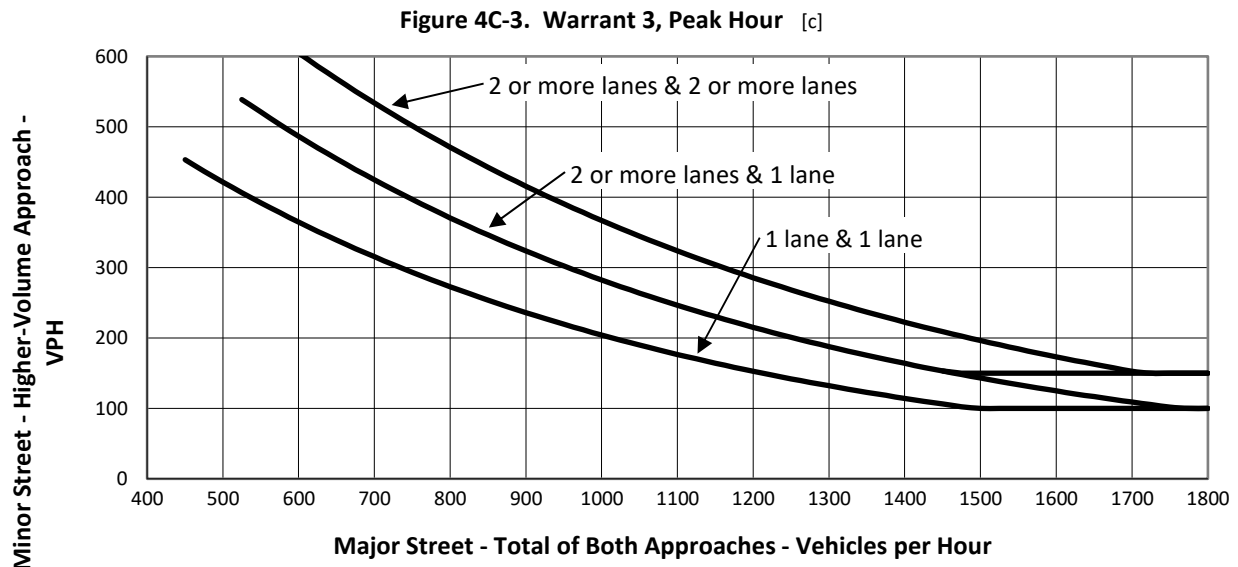
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,397
Major Street Lanes: 2	Major Street (Approach 2): 2,272
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 13
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,397	Minimum Major Street Volume:	510
Major Street (Approach 2):	2,272	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 3,669		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	13	Satisfied?	NO
<hr/> Total Minor Street Volume:	<hr/> 13	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

**7316 Gage Avenue**

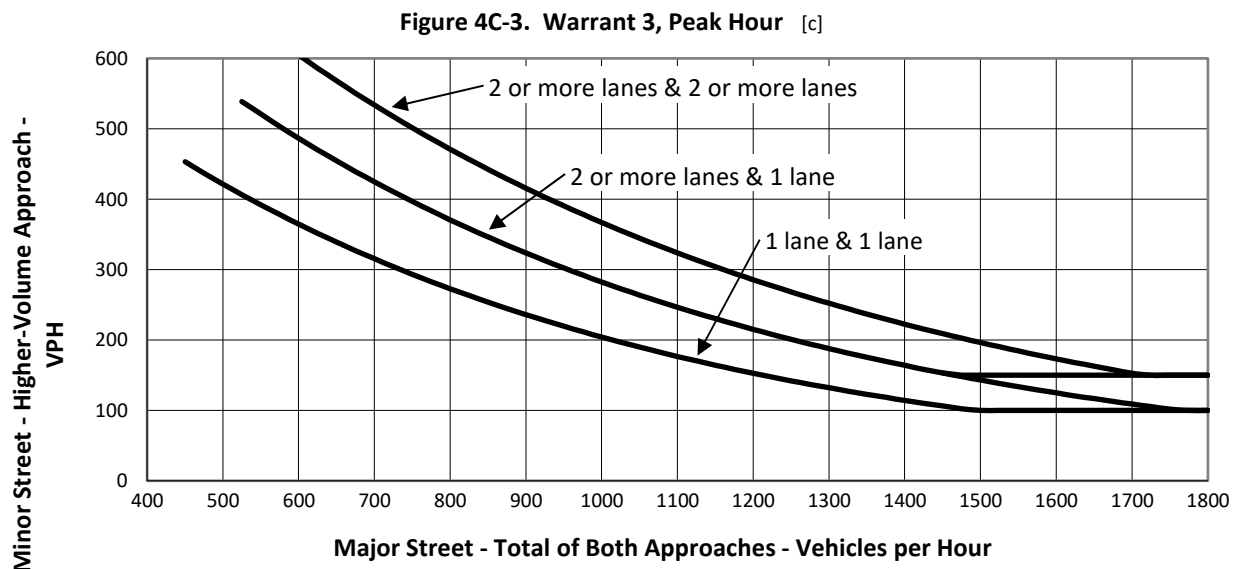
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1): 1,598
	Major Street (Approach 2): 697
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 2	Minor Street (Higher Volume): 372
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,598	Minimum Major Street Volume:	620
Major Street (Approach 2):	697	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 2,295		
Major Street Left Turns:	0	Minimum Minor Street Volume:	150
Minor Street (Higher Volume):	372	Satisfied?	YES
<hr/> Total Minor Street Volume:	<hr/> 372	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

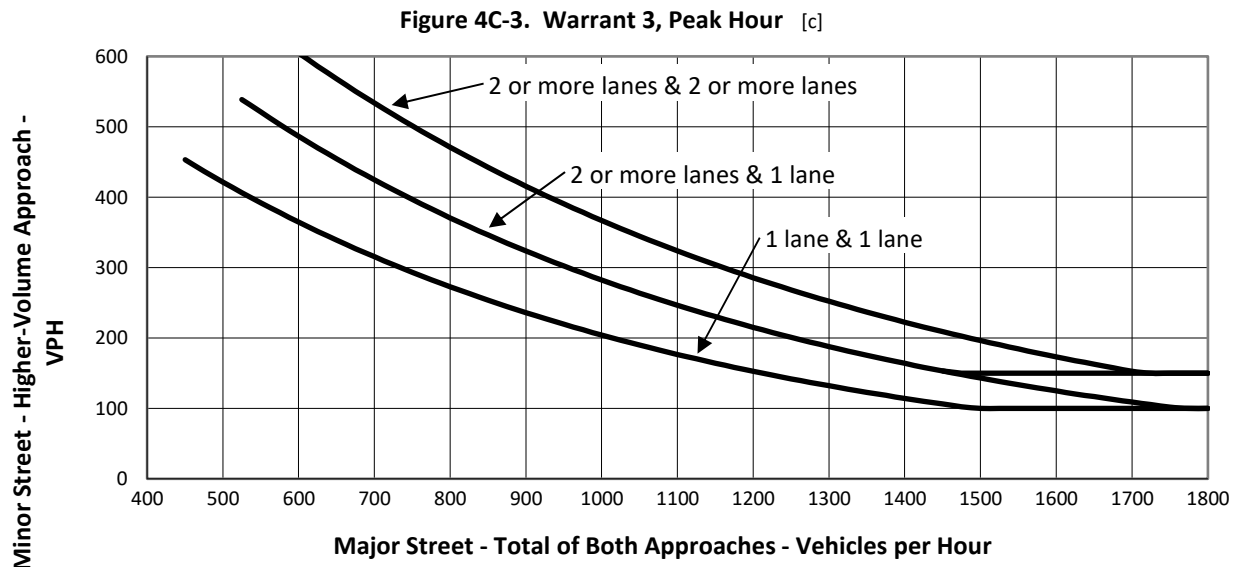
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**9. BANDINI BLVD & I-5 SB RAMPS**

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,136
	Major Street (Approach 2): 165
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 45
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,136	Minimum Major Street Volume:	510
Major Street (Approach 2):	165	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>1,301</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	188
Minor Street (Higher Volume):	45	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>45</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

## 7316 Gage Avenue

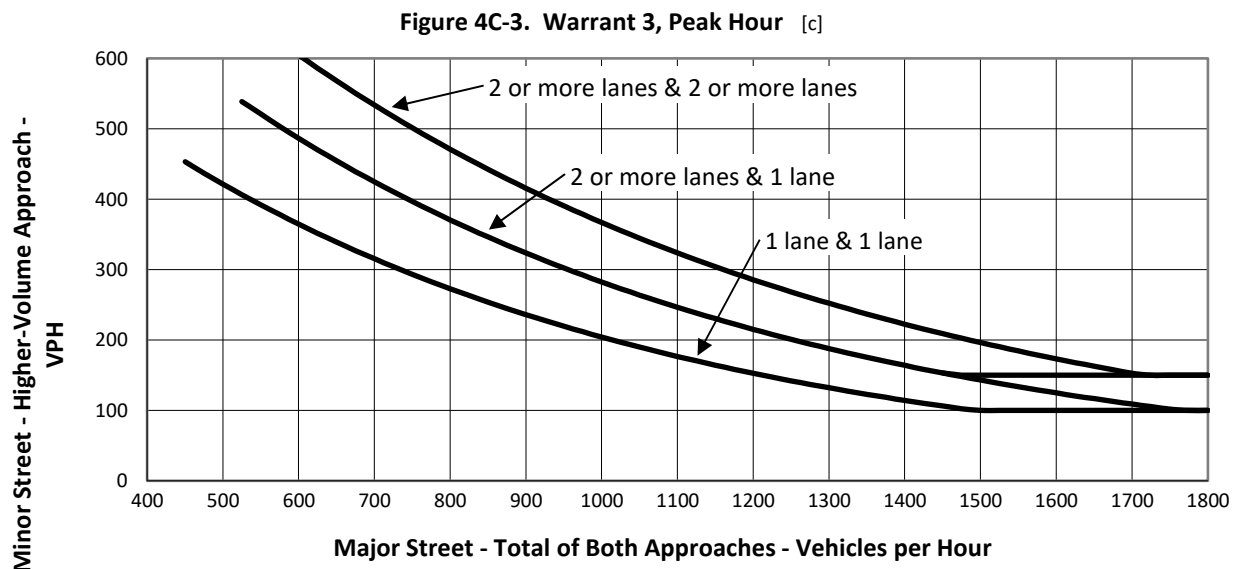
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

### 21. GAGE AVENUE & PROJECT DRIVEWAY

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 850
	Major Street (Approach 2): 904
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 22
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	850	Minimum Major Street Volume:	510
Major Street (Approach 2):	904	Satisfied?	YES
<hr/> Total Major Street Volume:	1,754		
Major Street Left Turns:	0	Minimum Minor Street Volume:	101
Minor Street (Higher Volume):	22	Satisfied?	NO
<hr/> Total Minor Street Volume:	22	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.



EXISTING CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

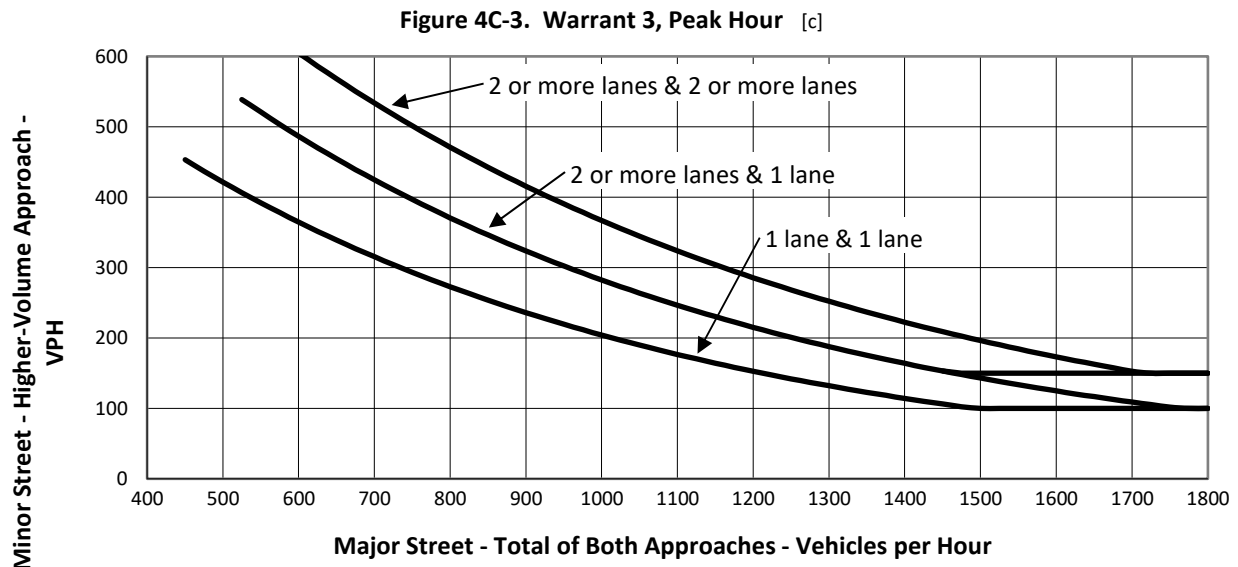
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 2,099
Major Street Lanes: 2	Major Street (Approach 2): 1,749
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 8
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	2,099	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,749	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 3,848		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	8	Satisfied?	NO
<hr/> Total Minor Street Volume:	<hr/> 8	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

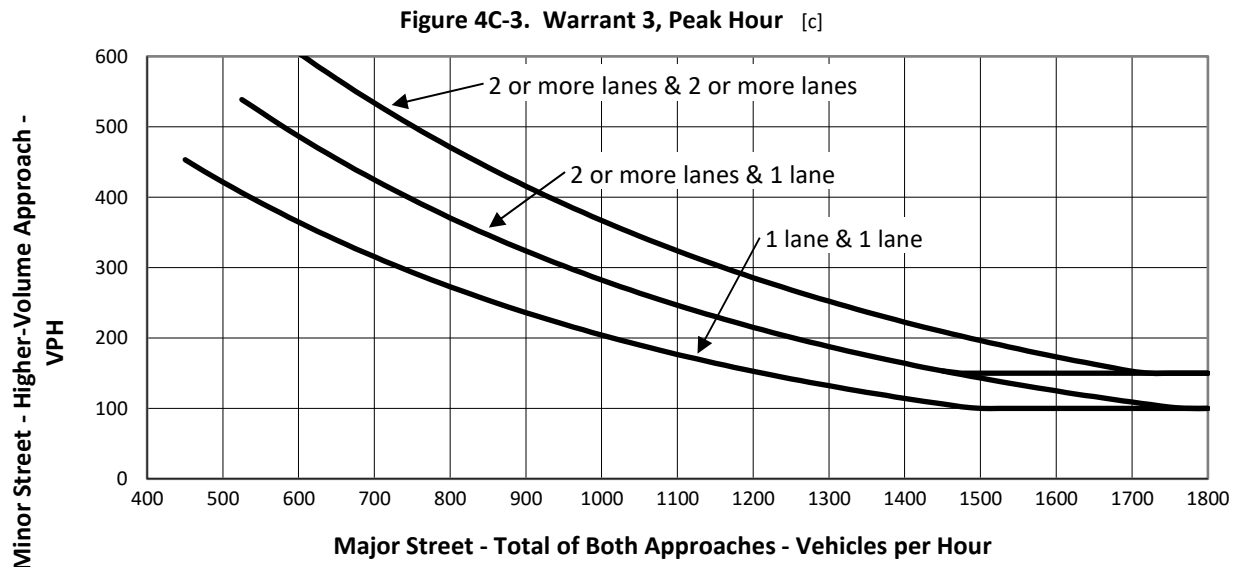
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1): 759
	Major Street (Approach 2): 1,494
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 2	Minor Street (Higher Volume): 355
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	759	Minimum Major Street Volume:	620
Major Street (Approach 2):	1,494	Satisfied?	YES
<hr/> Total Major Street Volume:	2,253		
Major Street Left Turns:	0	Minimum Minor Street Volume:	150
Minor Street (Higher Volume):	355	Satisfied?	YES
<hr/> Total Minor Street Volume:	355	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

### 7316 Gage Avenue

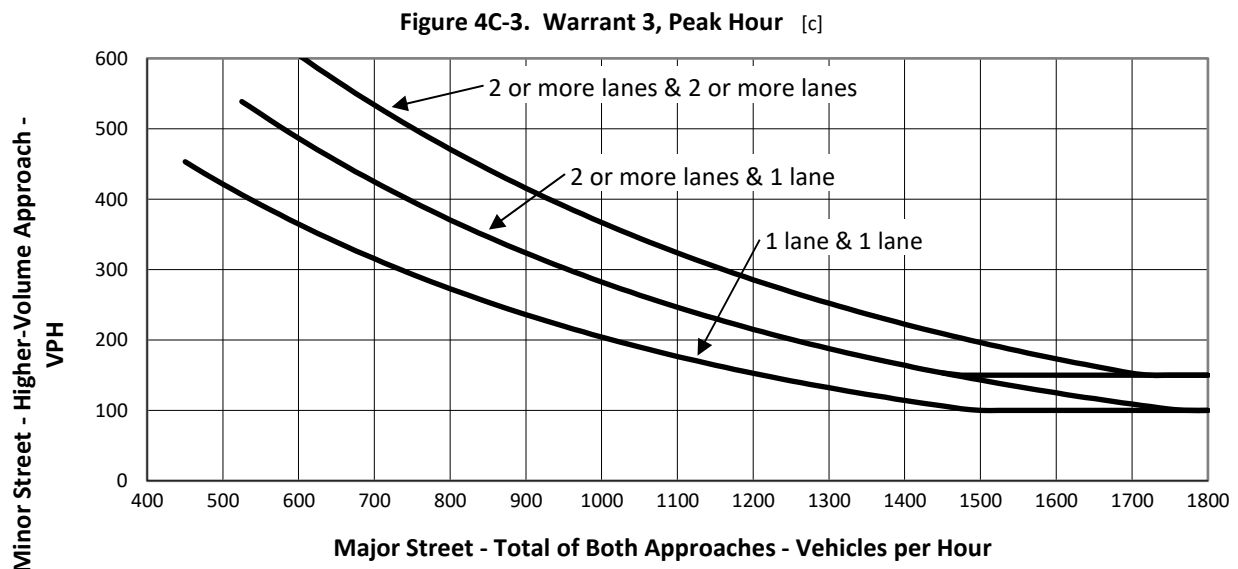
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

#### 9. BANDINI BLVD & I-5 SB RAMPS

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 601
	Major Street (Approach 2): 387
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 109
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	601	Minimum Major Street Volume:	510
Major Street (Approach 2):	387	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>988</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	287
Minor Street (Higher Volume):	109	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>109</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

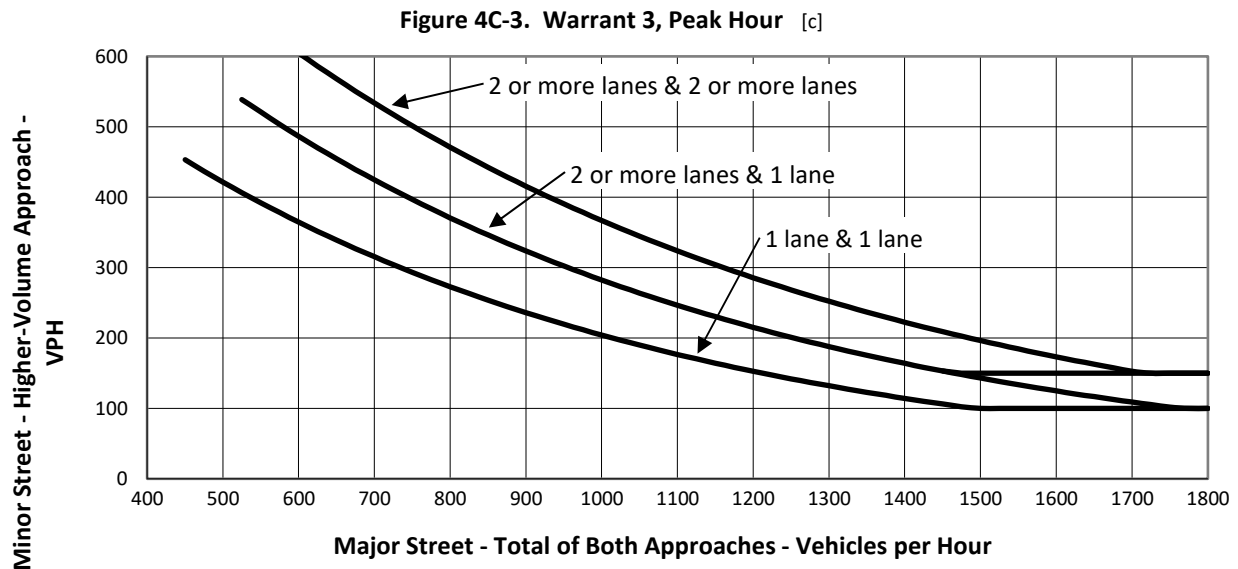
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**21. GAGE AVENUE & PROJECT DRIVEWAY**

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 664
Major Street Lanes: 2	Major Street (Approach 2): 1,157
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 109
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	664	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,157	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 1,821		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	109	Satisfied?	YES
<hr/> Total Minor Street Volume:	<hr/> 109	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - MORNING PEAK HOUR

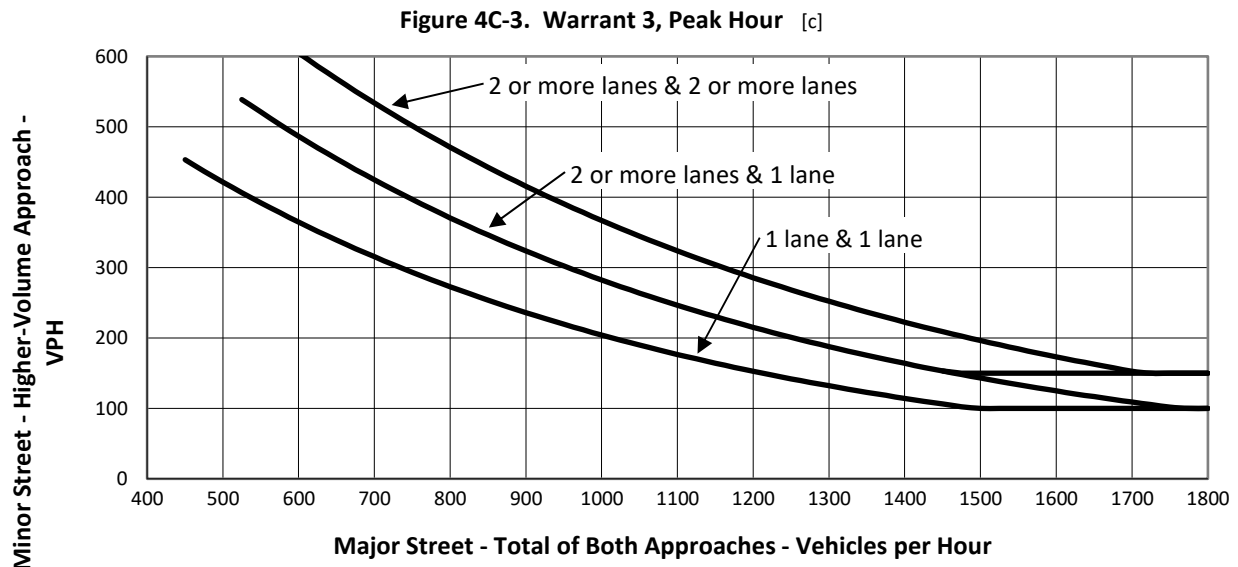
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,400
Major Street Lanes: 2	Major Street (Approach 2): 2,276
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 13
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,400	Minimum Major Street Volume:	510
Major Street (Approach 2):	2,276	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>3,676</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	13	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>13</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

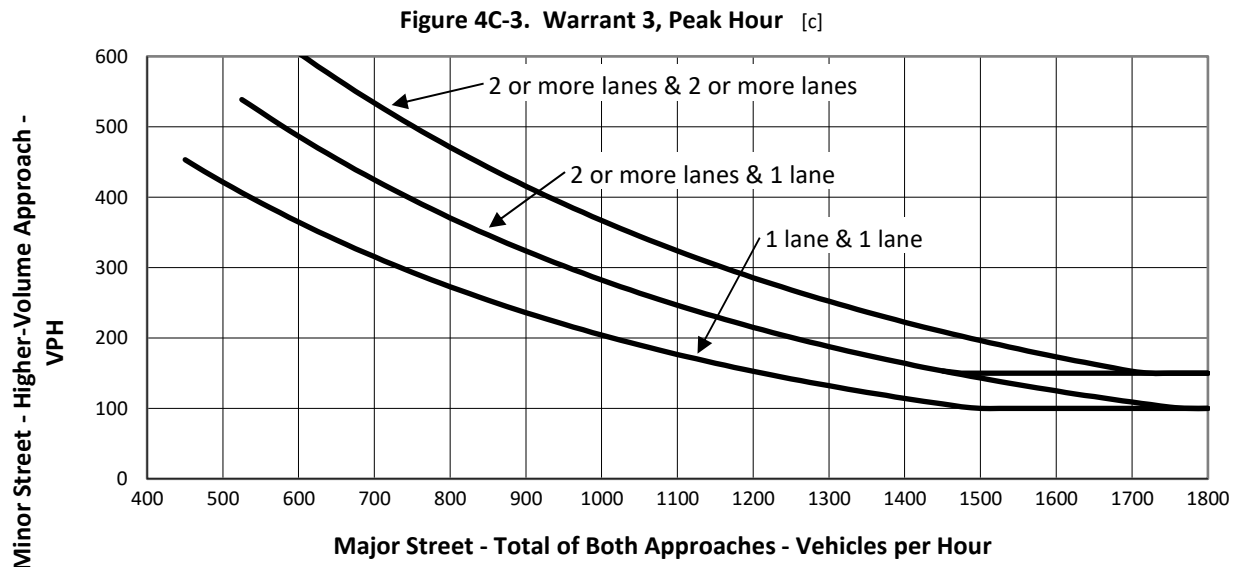
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)	
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1):	1,629
	Major Street (Approach 2):	760
Major Street Lanes: 2	[a] Major Street Left-Turns:	0
Minor Street Lanes: 2	Minor Street (Higher Volume):	399
[b] Urban/Rural: Urban		

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,629	Minimum Major Street Volume:	620
Major Street (Approach 2):	760	Satisfied?	YES
<hr/> Total Major Street Volume:	2,389		
Major Street Left Turns:	0	Minimum Minor Street Volume:	150
Minor Street (Higher Volume):	399	Satisfied?	YES
<hr/> Total Minor Street Volume:	399	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

**7316 Gage Avenue**

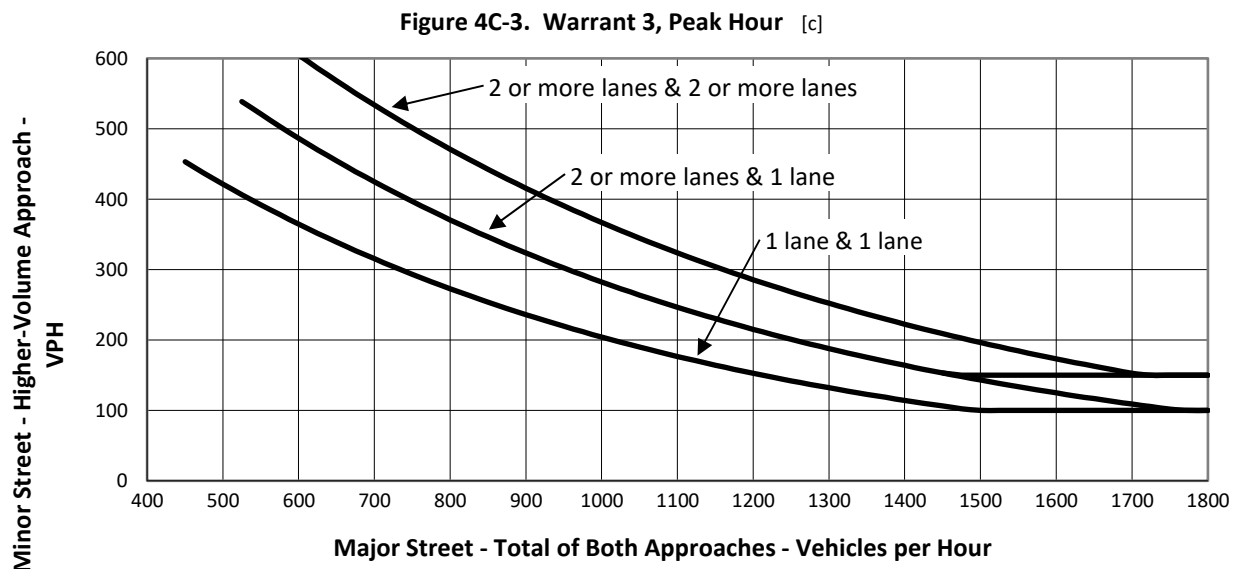
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**9. BANDINI BLVD & I-5 SB RAMPS**

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,148
	Major Street (Approach 2): 180
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 57
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,148	Minimum Major Street Volume:	510
Major Street (Approach 2):	180	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>1,328</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	181
Minor Street (Higher Volume):	57	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>57</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

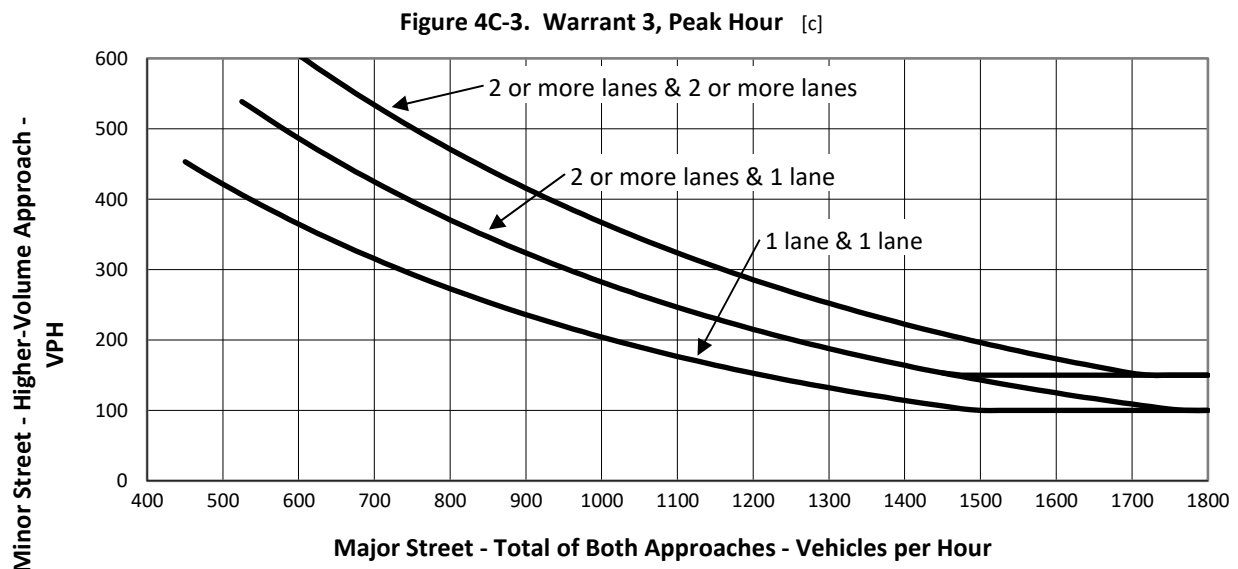
## 7316 Gage Avenue

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

### 21. GAGE AVENUE & PROJECT DRIVEWAY

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 1,144
	Major Street (Approach 2): 1,031
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 214
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,144	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,031	Satisfied?	YES
<hr/> Total Major Street Volume:	2,175		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	214	Satisfied?	YES
<hr/> Total Minor Street Volume:	214	Warrant 3 Satisfied?	YES



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.



EXISTING WITH PROJECT CONDITIONS (YEAR 2019) - AFTERNOON PEAK HOUR

**7316 Gage Avenue**

Traffic Signal Warrant Analysis

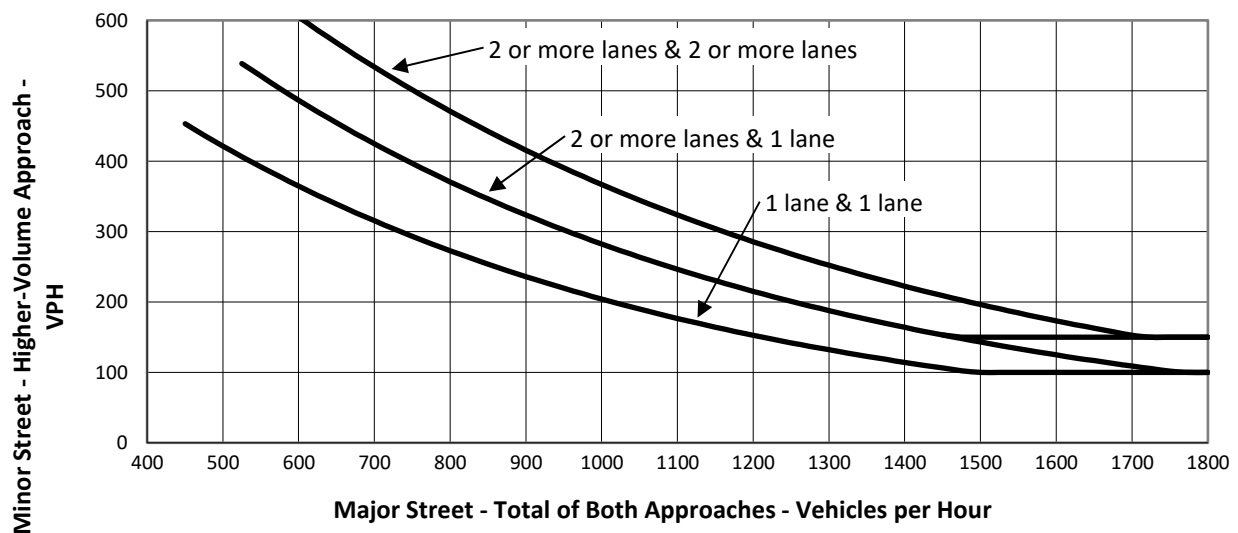
Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 2,105
	Major Street (Approach 2): 1,756
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 8
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	2,105	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,756	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 3,861		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	8	Satisfied?	NO
<hr/> Total Minor Street Volume:	<hr/> 8	Warrant 3 Satisfied?	<b>NO</b>

Figure 4C-3. Warrant 3, Peak Hour [c]



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - MORNING PEAK HOUR**

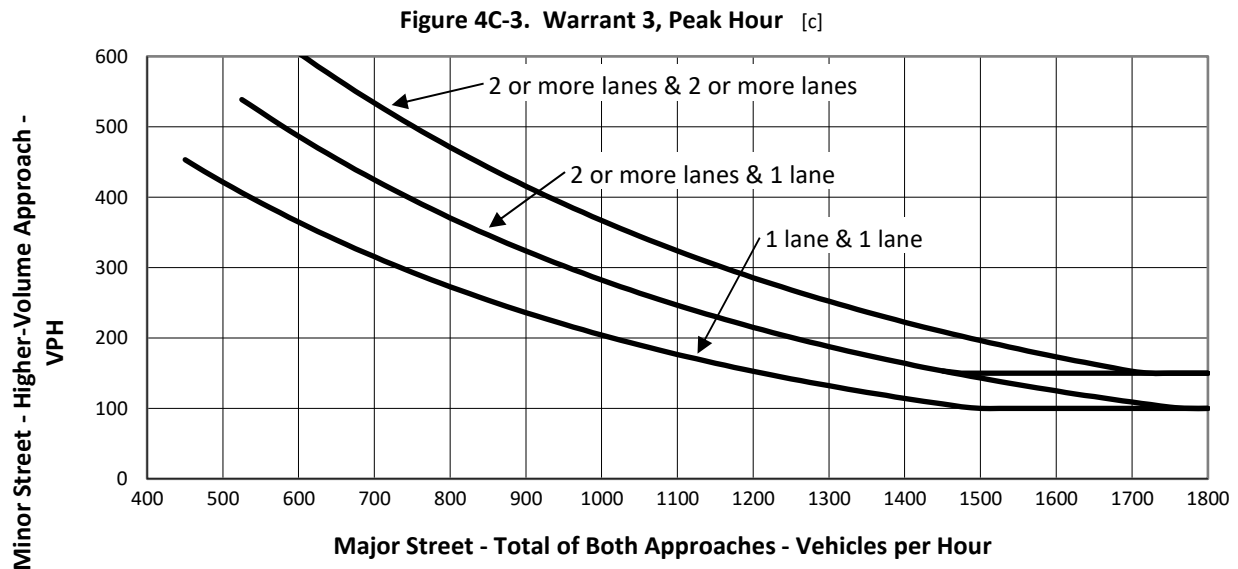
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)		
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1):	795	
	Major Street (Approach 2):	1,549	
Major Street Lanes: 2	[a] Major Street Left-Turns:	0	
Minor Street Lanes: 2	Minor Street (Higher Volume):	360	
	[b] Urban/Rural: Urban		

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	795	Minimum Major Street Volume:	620
Major Street (Approach 2):	1,549	Satisfied?	YES
<hr/> Total Major Street Volume:	2,344		
Major Street Left Turns:	0	Minimum Minor Street Volume:	150
Minor Street (Higher Volume):	360	Satisfied?	YES
<hr/> Total Minor Street Volume:	360	Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - MORNING PEAK HOUR**

**7316 Gage Avenue**

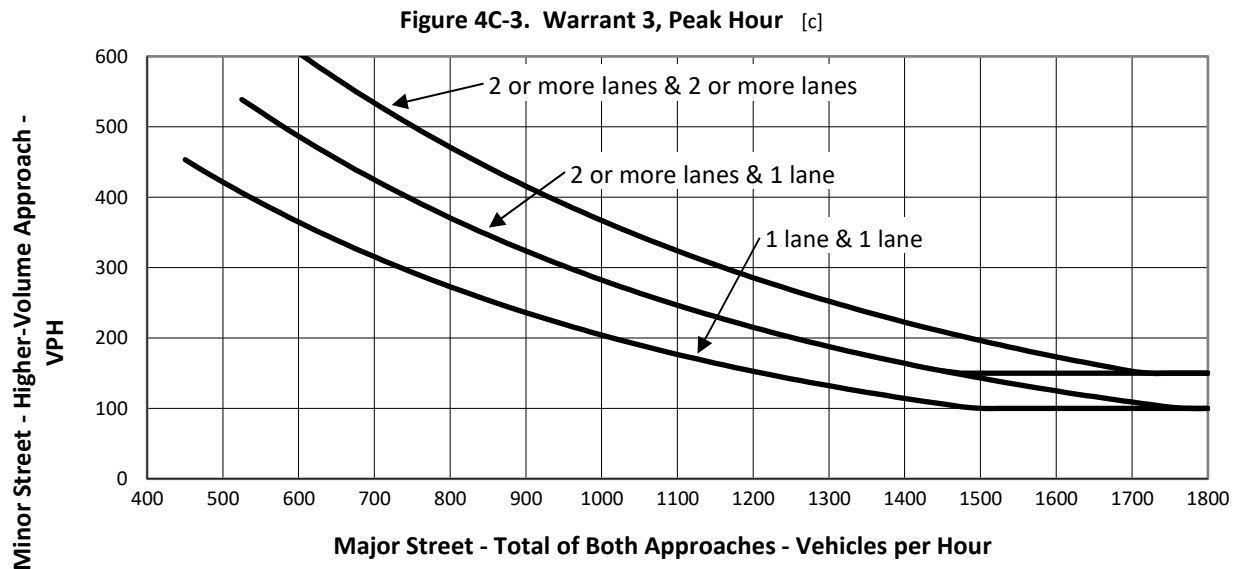
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**9. BANDINI BLVD & I-5 SB RAMPS**

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 641
	Major Street (Approach 2): 401
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 120
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	641	Minimum Major Street Volume:	510
Major Street (Approach 2):	401	Satisfied?	YES
<hr/> Total Major Street Volume:	1,042		
Major Street Left Turns:	0	Minimum Minor Street Volume:	267
Minor Street (Higher Volume):	120	Satisfied?	NO
<hr/> Total Minor Street Volume:	120	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - MORNING PEAK HOUR**

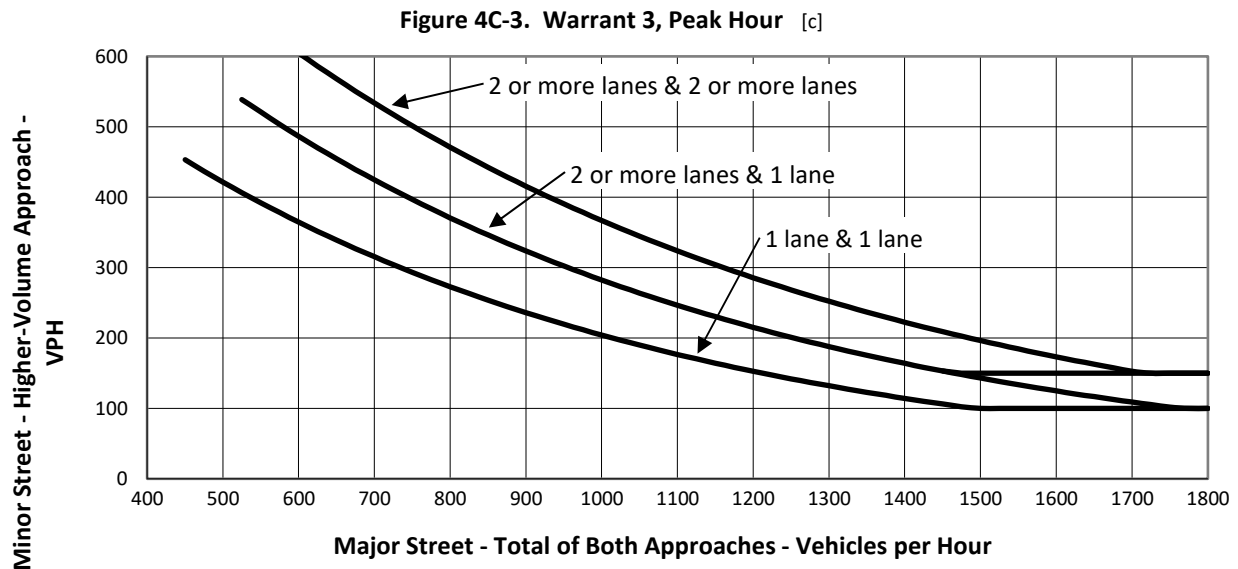
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**21. GAGE AVENUE & PROJECT DRIVEWAY**

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 540
Major Street Lanes: 2	Major Street (Approach 2): 1,048
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 15
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	540	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,048	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>1,588</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	127
Minor Street (Higher Volume):	15	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>15</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - MORNING PEAK HOUR

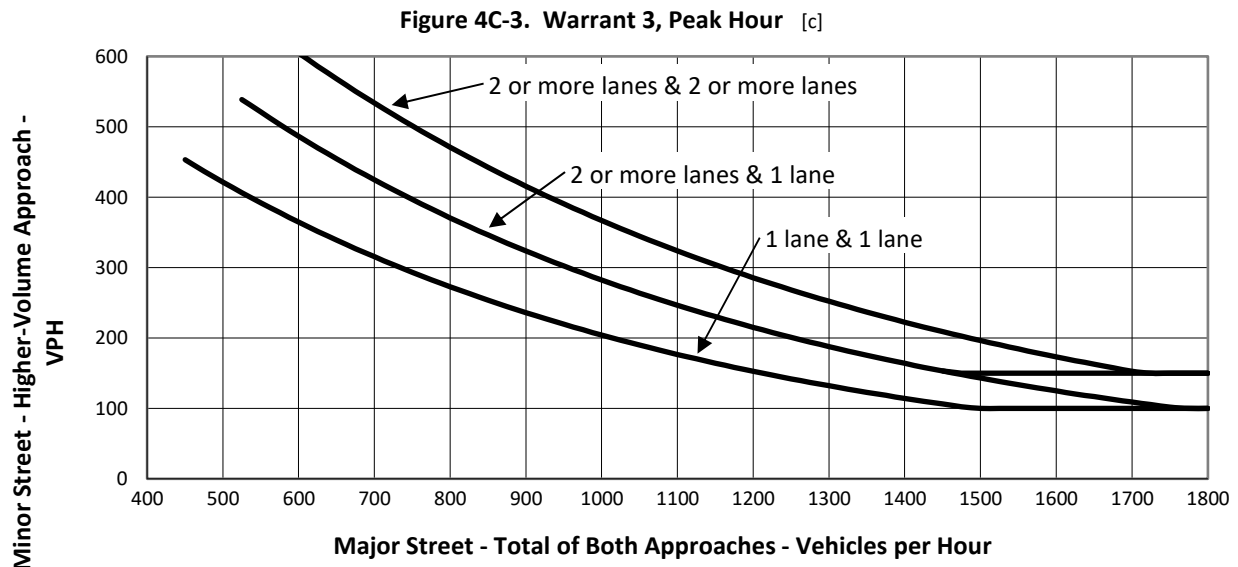
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,481
Major Street Lanes: 2	Major Street (Approach 2): 2,416
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 14
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,481	Minimum Major Street Volume:	510
Major Street (Approach 2):	2,416	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 3,897		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	14	Satisfied?	NO
<hr/> Total Minor Street Volume:	<hr/> 14	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - AFTERNOON PEAK HOUR**

**7316 Gage Avenue**

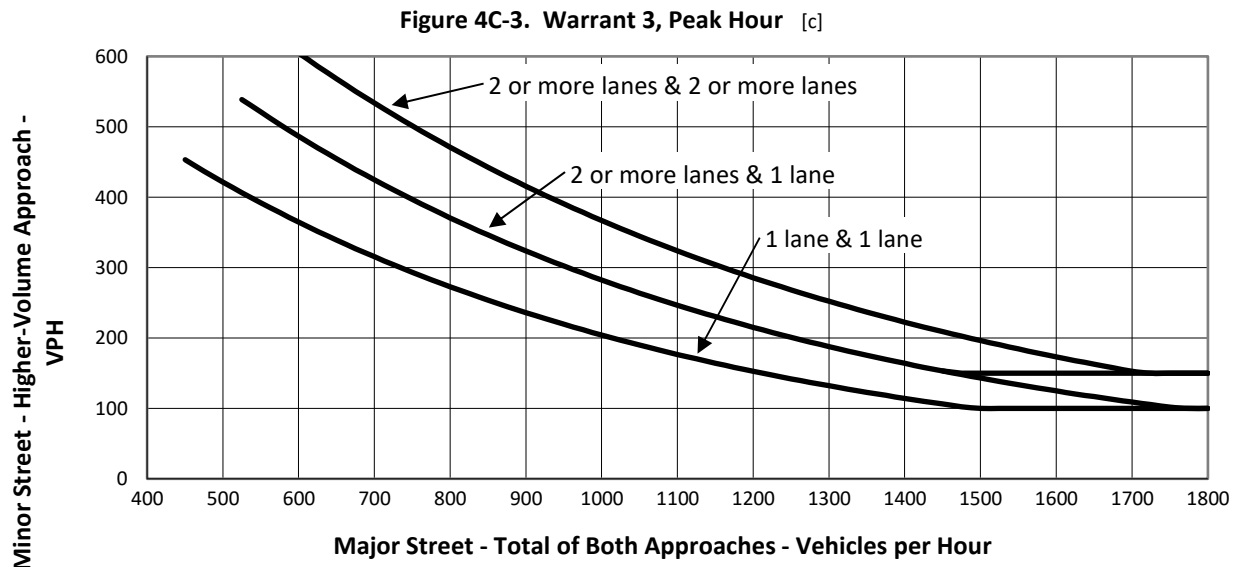
Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**6. TELEGRAPH ROAD & I-5 NB OFF RAMP N/O SLAUSON AVENUE**

Major Street Name: Telegraph Road	Vehicles per Hour (Peak Hour)	
Minor Street Name: I-5 NB Off Ramp n/o Slauson Avenue	Major Street (Approach 1):	1,740
	Major Street (Approach 2):	779
Major Street Lanes: 2	[a] Major Street Left-Turns:	0
Minor Street Lanes: 2	Minor Street (Higher Volume):	393

[b] Urban/Rural: Urban

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,740	Minimum Major Street Volume:	620
Major Street (Approach 2):	779	Satisfied?	YES
<hr/> Total Major Street Volume:			
		Minimum Minor Street Volume:	150
Major Street Left Turns:	0	Satisfied?	YES
Minor Street (Higher Volume):	393		
<hr/> Total Minor Street Volume:		Warrant 3 Satisfied?	<b>YES</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - AFTERNOON PEAK HOUR**

**7316 Gage Avenue**

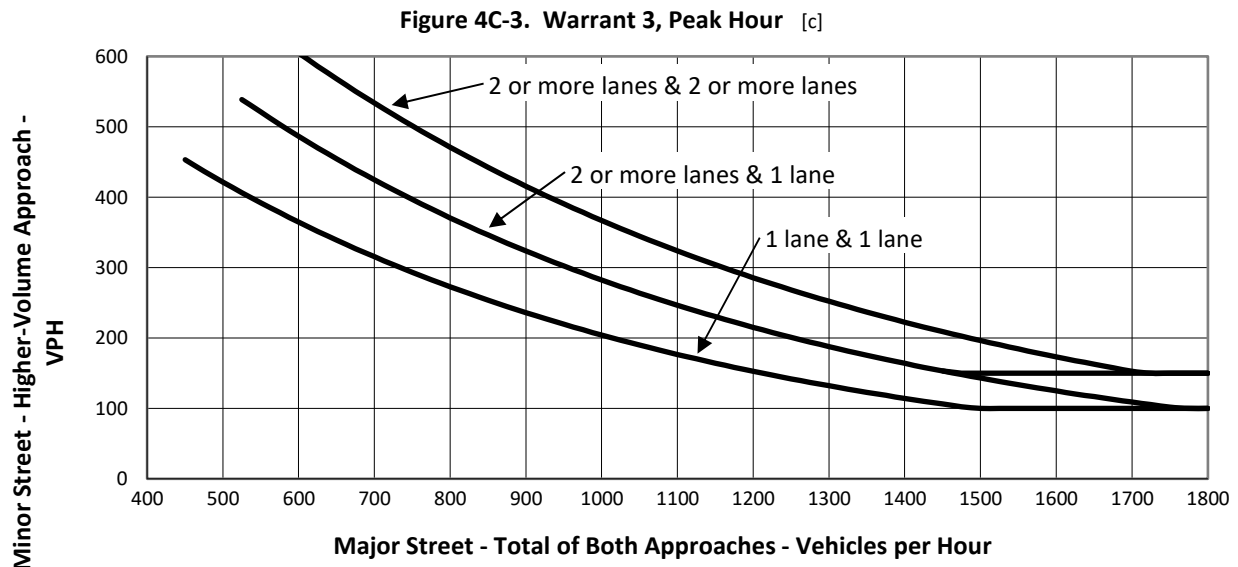
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**9. BANDINI BLVD & I-5 SB RAMPS**

Major Street Name: Bandini Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 1,207
	Major Street (Approach 2): 189
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 53
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	1,207	Minimum Major Street Volume:	510
Major Street (Approach 2):	189	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>1,396</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	165
Minor Street (Higher Volume):	53	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>53</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - AFTERNOON PEAK HOUR**

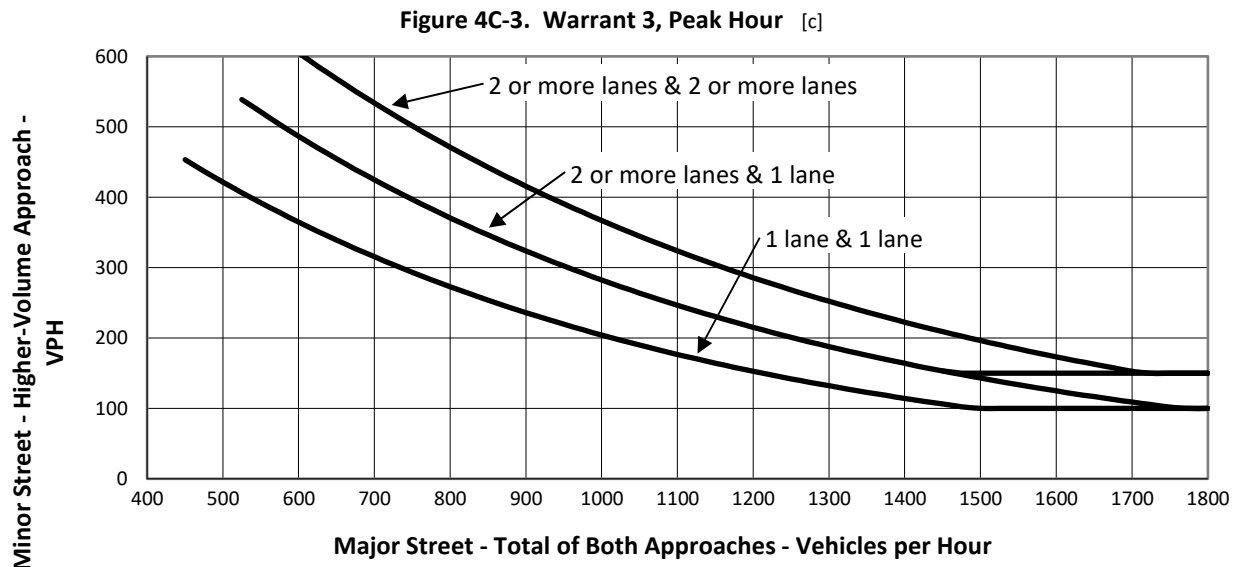
**7316 Gage Avenue**

Traffic Signal Warrant Analysis  
Warrant 3, Peak Hour

**21. GAGE AVENUE & PROJECT DRIVEWAY**

Major Street Name: Gage Avenue	Vehicles per Hour (Peak Hour)
Minor Street Name: Project Driveway	Major Street (Approach 1): 913
	Major Street (Approach 2): 967
Major Street Lanes: 2	[a] Major Street Left-Turns: 0
Minor Street Lanes: 1	Minor Street (Higher Volume): 23
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	913	Minimum Major Street Volume:	510
Major Street (Approach 2):	967	Satisfied?	YES
<u>Total Major Street Volume:</u>	<u>1,880</u>		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	23	Satisfied?	NO
<u>Total Minor Street Volume:</u>	<u>23</u>	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.



**FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2023) - AFTERNOON PEAK HOUR**

**7316 Gage Avenue**

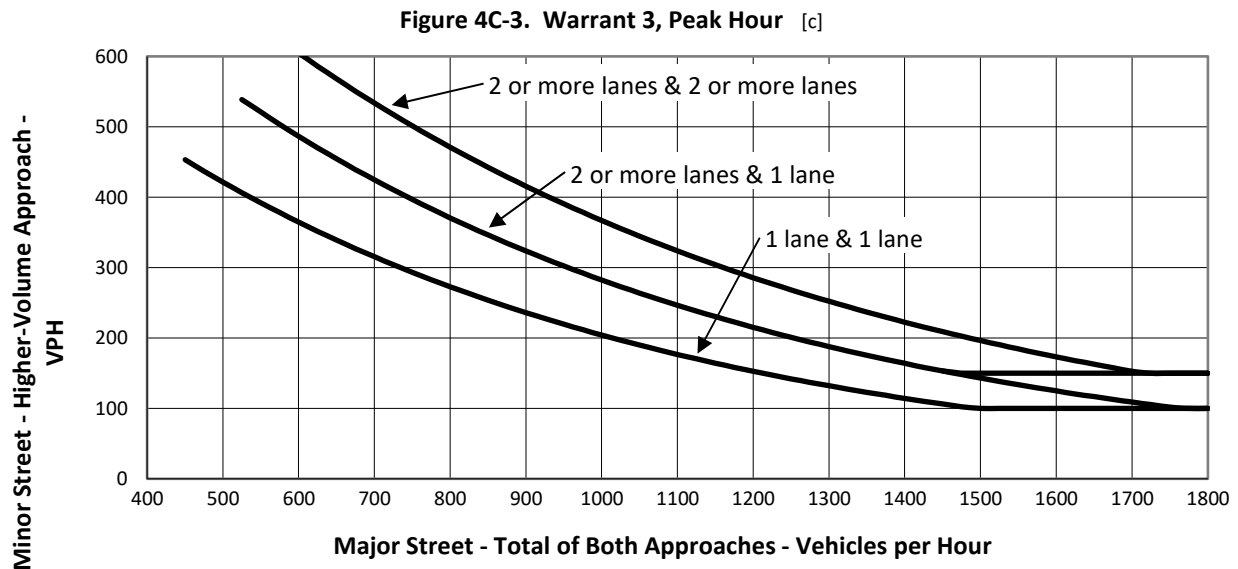
Traffic Signal Warrant Analysis

Warrant 3, Peak Hour

**24. PARAMOUNT BLVD & I-5 SB RAMPS**

Major Street Name: Paramount Blvd	Vehicles per Hour (Peak Hour)
Minor Street Name: I-5 SB Ramps	Major Street (Approach 1): 2,237
Major Street Lanes: 2	Major Street (Approach 2): 1,862
Minor Street Lanes: 1	[a] Major Street Left-Turns: 0
	Minor Street (Higher Volume): 8
[b] Urban/Rural: Urban	

Vehicles per Hour (Peak Hour)			
Major Street (Approach 1):	2,237	Minimum Major Street Volume:	510
Major Street (Approach 2):	1,862	Satisfied?	YES
<hr/> Total Major Street Volume:	<hr/> 4,099		
Major Street Left Turns:	0	Minimum Minor Street Volume:	100
Minor Street (Higher Volume):	8	Satisfied?	NO
<hr/> Total Minor Street Volume:	<hr/> 8	Warrant 3 Satisfied?	<b>NO</b>



- [a] Major street left-turn volume is added to minor street volume if a protected left-turn signal phase is proposed.
- [b] Setting to "Rural" reduces minimum test volumes to approximately 70% of "Urban" test volumes. This may be used when major street speed exceeds 40 mph or in an isolated community of less than 10,000 residents.
- [c] From *California Manual on Uniform Traffic Control Devices, 2014 Edition*; Caltrans.

***Appendix F***

***Caltrans Level of Service Worksheets***

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,097 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,655 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 33.6 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,257 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,969 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	40.0 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,471 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,756 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	35.7 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,594 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,518 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 30.9 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,484 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,760 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,045 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,641 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 33.3 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,861 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,862 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 37.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,330 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,718 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 34.9 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,762 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,564 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 31.8 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,820 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,851 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	37.6 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,601 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,520 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	30.9 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

**2 I-5 Southbound**

*between Paramount Avenue & Slauson Avenue*

**PM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>5,039</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ]	vp: <u>1,368</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$		(Eq. 12-1) S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <b>27.8</b> pc/mi/ln
Level of Service (LOS):			LOS: <b>D</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**3 I-5 Northbound**

*between Slauson Avenue & Garfield Avenue*

**PM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>5,605</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate ( $v_p$ ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ]	$v_p$ : <u>1,521</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > c_{adj}$ )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <b>30.9</b> pc/mi/ln
Level of Service (LOS):			LOS: <b>D</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,239 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,422 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 28.9 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,127 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,663 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 33.8 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**PM Peak Hour**

**GEOMETRIC DATA INPUTS**

**DEMAND INPUTS**

Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>4,044</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

**FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS**

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln	
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln	
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ] vp: <u>1,097</u> pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

**SPEED, DENSITY, & LEVEL OF SERVICE**

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(cadj - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <b>22.3</b> pc/mi/ln	
Level of Service (LOS):		LOS: <b>C</b>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,121 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,661 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 33.8 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,298 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,981 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 40.3 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,487 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,760 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,635 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,529 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 31.1 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,486 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,760 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,067 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,646 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	33.5 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,923 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,879 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 38.2 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,362 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,727 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.1 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,809 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,576 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 32.0 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,856 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,861 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 37.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>5,632</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: <u>1,528</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <u>31.1</u> pc/mi/ln
Level of Service (LOS):			LOS: <u>D</u>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,075 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,377 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 28.0 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,609 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,522 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 30.9 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,282 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,433 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	29.1 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	55.0	mi/h
Mainline Lanes (N):	4	lanes
Lane Widths:	12	ft
Right-Side Lateral Clearance:	10	ft
Total Ramp Density (TRD):	2.0	ramps/mi
Terrain Type:	Level	

### DEMAND INPUTS

Hourly Demand Volume (V):	6,174	veh/h
Heavy Vehicle Percentage (PT):	2.00	%
Peak Hour Factor (PHF):	0.940	
Capacity Adj. Factor (CAF):	1.00	
Speed Adj. Factor (SAF):	1.00	
Density at Capacity (Dc):	45.0	pc/mi/ln
Exponent Calibration Parameter (a):	2.00	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: 1,676 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : FFSadj If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: 34.1 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	4,107 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,115 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	22.7 pc/mi/ln
Level of Service (LOS):		LOS:	C

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,417 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,741 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.4 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,596 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,061 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	41.9 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>6,807</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: <u>1,847</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <u>37.5</u> pc/mi/ln
Level of Service (LOS):			LOS: <u>E</u>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):  $\frac{55.0}{\text{mi/h}}$   
 Mainline Lanes (N):  $\frac{4}{\text{lanes}}$   
 Lane Widths:  $\frac{12}{\text{ft}}$   
 Right-Side Lateral Clearance:  $\frac{10}{\text{ft}}$   
 Total Ramp Density (TRD):  $\frac{2.0}{\text{ramps/mi}}$   
 Terrain Type:  $\frac{\text{Level}}{\text{Level}}$

### DEMAND INPUTS

Hourly Demand Volume (V):  $\frac{5,860}{\text{veh/h}}$   
 Heavy Vehicle Percentage (PT):  $\frac{2.00}{\%}$   
 Peak Hour Factor (PHF):  $\frac{0.940}{\text{Peak Hour Factor}}$   
 Capacity Adj. Factor (CAF):  $\frac{1.00}{\text{Capacity Adj. Factor}}$   
 Speed Adj. Factor (SAF):  $\frac{1.00}{\text{Speed Adj. Factor}}$   
 Density at Capacity (Dc):  $\frac{45.0}{\text{pc/mi/ln}}$   
 Exponent Calibration Parameter (a):  $\frac{2.00}{\text{Exponent Calibration Parameter}}$

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):  $BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$  (Eq. 12-2) [  $f_{LW}$ : 0.00 ]  
[  $f_{RLC}$ : 0.00 ]  
 FFS:  $\frac{49.2}{\text{mi/h}}$

Adjusted Free Flow Speed (FFS<sub>adj</sub>):  $FFS \times SAF$  (Eq. 12-5) FFS<sub>adj</sub>:  $\frac{49.2}{\text{mi/h}}$

Basic Freeway Seg. Capacity (c):  $2,200 + 10 \times (FFS_{adj} - 50)$  (Eq. 12-6) c:  $\frac{2,192}{\text{pc/h/ln}}$

Adj. Freeway Seg. Capacity (c<sub>adj</sub>):  $c \times CAF$  (Eq. 12-8) c<sub>adj</sub>:  $\frac{2,192}{\text{pc/h/ln}}$

Breakpoint (BP):  $[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$  (Ex. 12-6) BP:  $\frac{2,032}{\text{pc/h/ln}}$

Flow Rate (v<sub>p</sub>):  $\frac{V}{(PHF \times N \times f_{HV})}$  (Eq. 12-9) [  $f_{HV}$ : 0.980 ]  
v<sub>p</sub>:  $\frac{1,590}{\text{pc/h/ln}}$

Flow Rate > Adjusted Freeway Segment Capacity (v<sub>p</sub> > c<sub>adj</sub>)? NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):  $\begin{cases} \text{If } v_p \leq BP: & FFS_{adj} \\ \text{If } BP < v_p \leq c: & FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a} \end{cases}$  (Eq. 12-1)  
 S:  $\frac{49.2}{\text{mi/h}}$

Density (D):  $D = v_p / S$  (Eq. 12-11) D:  $\frac{32.3}{\text{pc/mi/ln}}$

Level of Service (LOS): LOS: **D**

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,821 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,851 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 37.6 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,327 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,717 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	34.9 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,208 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,956 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	39.8 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,636 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,801 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	36.6 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,064 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,646 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	33.4 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>7,199</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln	
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln	
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ] vp: <u>1,954</u> pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <u>39.7</u> pc/mi/ln	
Level of Service (LOS):		LOS: <u>E</u>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,896 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,600 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 32.5 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,340 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,449 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 29.5 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,900 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,601 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	32.5 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,546 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,505 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	30.6 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.



**4 I-5 Northbound**

*between Garfield Avenue & Eastern Avenue*

**PM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>6,454</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>1,752</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>NO</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>35.6</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>E</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**PM Peak Hour**

**GEOMETRIC DATA INPUTS**

**DEMAND INPUTS**

Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>4,304</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

**FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS**

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln	
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln	
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ] vp: <u>1,168</u> pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>NO</b>

**SPEED, DENSITY, & LEVEL OF SERVICE**

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <b>23.7</b> pc/mi/ln	
Level of Service (LOS):		LOS: <b>C</b>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,441 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,748 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.5 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,637 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,073 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	42.1 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,823 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,852 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 37.6 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,901 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,601 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	32.5 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,823 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,852 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	37.6 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,349 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	2,200 + 10 x (FFS <sub>adj</sub> - 50) (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,723 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 35.0 pc/mi/ln
Level of Service (LOS):			LOS: D

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>7,270</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln	
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln	
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ] vp: <u>1,973</u> pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <u>40.1</u> pc/mi/ln	
Level of Service (LOS):		LOS: <u>E</u>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>6,668</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: <u>1,810</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <u>36.8</u> pc/mi/ln
Level of Service (LOS):			LOS: <u>E</u>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,111 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,658 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	33.7 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,235 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,963 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 39.9 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	5,927 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,608 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	32.7 pc/mi/ln
Level of Service (LOS):		LOS:	D

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):  $\frac{55.0}{\text{mi/h}}$   
 Mainline Lanes (N):  $\frac{4}{\text{lanes}}$   
 Lane Widths:  $\frac{12}{\text{ft}}$   
 Right-Side Lateral Clearance:  $\frac{10}{\text{ft}}$   
 Total Ramp Density (TRD):  $\frac{2.0}{\text{ramps/mi}}$   
 Terrain Type:  $\frac{\text{Level}}{\text{Level}}$

### DEMAND INPUTS

Hourly Demand Volume (V):  $\frac{5,376}{\text{veh/h}}$   
 Heavy Vehicle Percentage (PT):  $\frac{2.00}{\%}$   
 Peak Hour Factor (PHF):  $\frac{0.940}{\text{Peak Hour Factor}}$   
 Capacity Adj. Factor (CAF):  $\frac{1.00}{\text{Capacity Adj. Factor}}$   
 Speed Adj. Factor (SAF):  $\frac{1.00}{\text{Speed Adj. Factor}}$   
 Density at Capacity (Dc):  $\frac{45.0}{\text{pc/mi/ln}}$   
 Exponent Calibration Parameter (a):  $\frac{2.00}{\text{Exponent Calibration Parameter}}$

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):  $\text{BFFS} - f_{\text{LW}} - f_{\text{RLC}} - 3.22 \times \text{TRD}^{0.84}$  (Eq. 12-2) [  $f_{\text{LW}}$ : 0.00 ]  
[  $f_{\text{RLC}}$ : 0.00 ]  
 FFS:  $\frac{49.2}{\text{mi/h}}$

Adjusted Free Flow Speed (FFSadj):  $\text{FFS} \times \text{SAF}$  (Eq. 12-5) FFSadj:  $\frac{49.2}{\text{mi/h}}$

Basic Freeway Seg. Capacity (c):  $2,200 + 10 \times (\text{FFSadj} - 50)$  (Eq. 12-6) c:  $\frac{2,192}{\text{pc/h/ln}}$

Adj. Freeway Seg. Capacity (cadj):  $c \times \text{CAF}$  (Eq. 12-8) cadj:  $\frac{2,192}{\text{pc/h/ln}}$

Breakpoint (BP):  $[1,000 + 40 \times (75 - \text{FFSadj})] \times \text{CAF}^2$  (Ex. 12-6) BP:  $\frac{2,032}{\text{pc/h/ln}}$

Flow Rate ( $v_p$ ):  $\frac{V}{(\text{PHF} \times N \times f_{\text{HV}})}$  (Eq. 12-9) [  $f_{\text{HV}}$ : 0.980 ]  
 $v_p$ :  $\frac{1,459}{\text{pc/h/ln}}$

Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > \text{cadj}$ )? NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):  $\text{If } v_p \leq \text{BP: FFSadj}$  (Eq. 12-1)  
 $\text{If } \text{BP} < v_p \leq c: \text{FFSadj} - \frac{[(\text{FFSadj} - \text{cadj} / \text{Dc}) \times (v_p - \text{BP})^a]}{(\text{cadj} - \text{BP})^a}$   
 S:  $\frac{49.2}{\text{mi/h}}$

Density (D):  $D = v_p / S$  (Eq. 12-11) D:  $\frac{29.7}{\text{pc/mi/ln}}$

Level of Service (LOS): LOS: **D**

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>5,904</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate ( $v_p$ ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	$v_p$ : <u>1,602</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > c_{adj}$ )?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : FFSadj If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <b>32.6</b> pc/mi/ln
Level of Service (LOS):			LOS: <b>D</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):  $\frac{55.0}{\text{mi/h}}$   
 Mainline Lanes (N):  $\frac{4}{\text{lanes}}$   
 Lane Widths:  $\frac{12}{\text{ft}}$   
 Right-Side Lateral Clearance:  $\frac{10}{\text{ft}}$   
 Total Ramp Density (TRD):  $\frac{2.0}{\text{ramps/mi}}$   
 Terrain Type:  $\frac{\text{Level}}{\text{Level}}$

### DEMAND INPUTS

Hourly Demand Volume (V):  $\frac{5,589}{\text{veh/h}}$   
 Heavy Vehicle Percentage (PT):  $\frac{2.00}{\%}$   
 Peak Hour Factor (PHF):  $\frac{0.940}{\text{Peak Hour Factor}}$   
 Capacity Adj. Factor (CAF):  $\frac{1.00}{\text{Capacity Adj. Factor}}$   
 Speed Adj. Factor (SAF):  $\frac{1.00}{\text{Speed Adj. Factor}}$   
 Density at Capacity (Dc):  $\frac{45.0}{\text{pc/mi/ln}}$   
 Exponent Calibration Parameter (a):  $\frac{2.00}{\text{Exponent Calibration Parameter}}$

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):  $\text{BFFS} - f_{\text{LW}} - f_{\text{RLC}} - 3.22 \times \text{TRD}^{0.84}$  (Eq. 12-2) [  $f_{\text{LW}}$ : 0.00 ]  
[  $f_{\text{RLC}}$ : 0.00 ]  
 FFS:  $\frac{49.2}{\text{mi/h}}$

Adjusted Free Flow Speed (FFSadj):  $\text{FFS} \times \text{SAF}$  (Eq. 12-5) FFSadj:  $\frac{49.2}{\text{mi/h}}$

Basic Freeway Seg. Capacity (c):  $2,200 + 10 \times (\text{FFSadj} - 50)$  (Eq. 12-6) c:  $\frac{2,192}{\text{pc/h/ln}}$

Adj. Freeway Seg. Capacity (cadj):  $c \times \text{CAF}$  (Eq. 12-8) cadj:  $\frac{2,192}{\text{pc/h/ln}}$

Breakpoint (BP):  $[1,000 + 40 \times (75 - \text{FFSadj})] \times \text{CAF}^2$  (Ex. 12-6) BP:  $\frac{2,032}{\text{pc/h/ln}}$

Flow Rate ( $v_p$ ):  $\frac{V}{(\text{PHF} \times N \times f_{\text{HV}})}$  (Eq. 12-9) [  $f_{\text{HV}}$ : 0.980 ]  
 $v_p$ :  $\frac{1,517}{\text{pc/h/ln}}$

Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > \text{cadj}$ )? NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):  $\text{If } v_p \leq \text{BP: FFSadj}$  (Eq. 12-1)  
 $\text{If } \text{BP} < v_p \leq c: \text{FFSadj} - \frac{[(\text{FFSadj} - \text{cadj} / \text{Dc}) \times (v_p - \text{BP})^a]}{(\text{cadj} - \text{BP})^a}$   
 S:  $\frac{49.2}{\text{mi/h}}$

Density (D):  $D = v_p / S$  (Eq. 12-11) D:  $\frac{30.8}{\text{pc/mi/ln}}$

Level of Service (LOS): LOS: **D**

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>6,501</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate ( $v_p$ ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	$v_p$ : <u>1,764</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > c_{adj}$ )?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <u>35.9</u> pc/mi/ln
Level of Service (LOS):			LOS: <u>E</u>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**PM Peak Hour**

**GEOMETRIC DATA INPUTS**

**DEMAND INPUTS**

Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>4,367</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

**FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS**

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]
		FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp: <u>1,185</u> pc/h/ln
	Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?	NO

**SPEED, DENSITY, & LEVEL OF SERVICE**

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)
		S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <b>24.1</b> pc/mi/ln
Level of Service (LOS):		LOS: <b>C</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**1 I-5 Northbound**

*between Rosemead Boulevard & Paramount Avenue*

**AM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>8,019</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate ( $v_p$ ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>2,176</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > c_{adj}$ )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFS_{adj}$ If $BP < v_p \leq c$ : $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: <b>48.8</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>44.6</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>E</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	9,503 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,579 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: n/a pc/mi/ln
Level of Service (LOS):			LOS: F

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>8,508</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS:	<u>49.2</u>	mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj:	<u>49.2</u>	mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c:	<u>2,192</u>	pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj:	<u>2,192</u>	pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP:	<u>2,032</u>	pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp:	<u>2,309</u>	pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?				<b>YES</b>	

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S:	<b>n/a</b>	mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D:	<b>n/a</b>	pc/mi/ln
Level of Service (LOS):			LOS:	<b>F</b>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,330 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,989 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 40.4 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

**3 I-5 Northbound**

*between Slauson Avenue & Garfield Avenue*

**AM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>8,525</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate ( $v_p$ ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>2,314</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity ( $v_p > c_{adj}$ )?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFS_{adj}$ If $BP < v_p \leq c$ : $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: <b>n/a</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>n/a</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>F</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,915 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,148 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 48.9 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 43.9 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.



**4 I-5 Northbound**

*between Garfield Avenue & Eastern Avenue*

**AM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>9,011</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>2,445</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>n/a</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>n/a</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>F</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**AM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>8,300</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>2,252</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>n/a</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>n/a</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>F</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,579 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,057 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	41.8 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	8,991 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,440 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		<b>YES</b>	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	n/a pc/mi/ln
Level of Service (LOS):		LOS:	F

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,368 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,000 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 40.6 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,664 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,809 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	36.8 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,373 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,001 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	40.7 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,923 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,879 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	38.2 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):  $\frac{55.0}{\text{mi/h}}$   
 Mainline Lanes (N):  $\frac{4}{\text{lanes}}$   
 Lane Widths:  $\frac{12}{\text{ft}}$   
 Right-Side Lateral Clearance:  $\frac{10}{\text{ft}}$   
 Total Ramp Density (TRD):  $\frac{2.0}{\text{ramps/mi}}$   
 Terrain Type:  $\frac{\text{Level}}{\text{Level}}$

### DEMAND INPUTS

Hourly Demand Volume (V):  $\frac{8,065}{\text{veh/h}}$   
 Heavy Vehicle Percentage (PT):  $\frac{2.00}{\%}$   
 Peak Hour Factor (PHF):  $\frac{0.940}{\text{Peak Hour Factor}}$   
 Capacity Adj. Factor (CAF):  $\frac{1.00}{\text{Capacity Adj. Factor}}$   
 Speed Adj. Factor (SAF):  $\frac{1.00}{\text{Speed Adj. Factor}}$   
 Density at Capacity (Dc):  $\frac{45.0}{\text{pc/mi/ln}}$   
 Exponent Calibration Parameter (a):  $\frac{2.00}{\text{Exponent Calibration Parameter}}$

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):  $\text{BFFS} - f_{\text{LW}} - f_{\text{RLC}} - 3.22 \times \text{TRD}^{0.84}$  (Eq. 12-2) [  $f_{\text{LW}}$ : 0.00 ]  
[  $f_{\text{RLC}}$ : 0.00 ]  
 FFS:  $\frac{49.2}{\text{mi/h}}$

Adjusted Free Flow Speed (FFS<sub>adj</sub>):  $\text{FFS} \times \text{SAF}$  (Eq. 12-5) FFS<sub>adj</sub>:  $\frac{49.2}{\text{mi/h}}$

Basic Freeway Seg. Capacity (c):  $2,200 + 10 \times (\text{FFS}_{\text{adj}} - 50)$  (Eq. 12-6) c:  $\frac{2,192}{\text{pc/h/ln}}$

Adj. Freeway Seg. Capacity (c<sub>adj</sub>):  $c \times \text{CAF}$  (Eq. 12-8) c<sub>adj</sub>:  $\frac{2,192}{\text{pc/h/ln}}$

Breakpoint (BP):  $[1,000 + 40 \times (75 - \text{FFS}_{\text{adj}})] \times \text{CAF}^2$  (Ex. 12-6) BP:  $\frac{2,032}{\text{pc/h/ln}}$

Flow Rate (v<sub>p</sub>):  $\frac{V}{(\text{PHF} \times N \times f_{\text{HV}})}$  (Eq. 12-9) [  $f_{\text{HV}}$ : 0.980 ]  
v<sub>p</sub>:  $\frac{2,189}{\text{pc/h/ln}}$

Flow Rate > Adjusted Freeway Segment Capacity (v<sub>p</sub> > c<sub>adj</sub>)? NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S): (Eq. 12-1)  
 If v<sub>p</sub> ≤ BP:  $\text{FFS}_{\text{adj}}$   
 If BP < v<sub>p</sub> ≤ c:  $\text{FFS}_{\text{adj}} - \frac{[(\text{FFS}_{\text{adj}} - \text{c}_{\text{adj}} / \text{Dc}) \times (v_p - \text{BP})^a]}{(\text{c}_{\text{adj}} - \text{BP})^a}$   
 S:  $\frac{48.7}{\text{mi/h}}$

Density (D):  $D = v_p / S$  (Eq. 12-11) D:  $\frac{44.9}{\text{pc/mi/ln}}$

Level of Service (LOS): LOS: **E**

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**AM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>5,367</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>1,457</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>NO</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caadj - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>29.6</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>D</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	8,043 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,183 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 48.8 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 44.7 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	9,544 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,590 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: n/a pc/mi/ln
Level of Service (LOS):			LOS: F

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	55.0	mi/h
Mainline Lanes (N):	4	lanes
Lane Widths:	12	ft
Right-Side Lateral Clearance:	10	ft
Total Ramp Density (TRD):	2.0	ramps/mi
Terrain Type:	Level	

### DEMAND INPUTS

Hourly Demand Volume (V):	8,524	veh/h
Heavy Vehicle Percentage (PT):	2.00	%
Peak Hour Factor (PHF):	0.940	
Capacity Adj. Factor (CAF):	1.00	
Speed Adj. Factor (SAF):	1.00	
Density at Capacity (Dc):	45.0	pc/mi/ln
Exponent Calibration Parameter (a):	2.00	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> : 49.2 mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c: 2,192 pc/h/ln	
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> : 2,192 pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP: 2,032 pc/h/ln	
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> : 2,313 pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		<b>YES</b>	

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D: n/a pc/mi/ln	
Level of Service (LOS):		LOS: F	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>7,371</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: <u>2,000</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			NO

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : FFSadj If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <u>49.2</u> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <u>40.7</u> pc/mi/ln
Level of Service (LOS):			LOS: <u>E</u>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	8,527 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,314 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			<b>YES</b>

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: n/a pc/mi/ln
Level of Service (LOS):			LOS: F

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,937 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,154 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 48.9 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	44.0 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	9,073 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,462 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		<b>YES</b>	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	n/a pc/mi/ln
Level of Service (LOS):		LOS:	F

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Southbound

between Garfield Avenue & Eastern Avenue

AM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>8,332</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u>	mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj: <u>49.2</u>	mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c: <u>2,192</u>	pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj: <u>2,192</u>	pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP: <u>2,032</u>	pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp: <u>2,261</u>	pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>YES</b>	

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>n/a</b>	mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D: <b>n/a</b>	pc/mi/ln
Level of Service (LOS):			LOS: <b>F</b>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Northbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,626 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,070 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	42.1 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 1 I-5 Southbound

between Rosemead Boulevard & Paramount Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	9,027 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	2,450 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		<b>YES</b>	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: n/a mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	n/a pc/mi/ln
Level of Service (LOS):		LOS:	F

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Northbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	7,399 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 2,008 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$		(Eq. 12-1) S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 40.8 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 2 I-5 Southbound

between Paramount Avenue & Slauson Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,700 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)	FFS <sub>adj</sub> :	49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)	c:	2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)	c <sub>adj</sub> :	2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)	BP:	2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ] v <sub>p</sub> :	1,818 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / D_c) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)	D:	37.0 pc/mi/ln
Level of Service (LOS):		LOS:	E

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Northbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	55.0	mi/h
Mainline Lanes (N):	4	lanes
Lane Widths:	12	ft
Right-Side Lateral Clearance:	10	ft
Total Ramp Density (TRD):	2.0	ramps/mi
Terrain Type:	Level	

### DEMAND INPUTS

Hourly Demand Volume (V):	7,377	veh/h
Heavy Vehicle Percentage (PT):	2.00	%
Peak Hour Factor (PHF):	0.940	
Capacity Adj. Factor (CAF):	1.00	
Speed Adj. Factor (SAF):	1.00	
Density at Capacity (Dc):	45.0	pc/mi/ln
Exponent Calibration Parameter (a):	2.00	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS:	49.2	mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)		FFSadj:	49.2	mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)		c:	2,192	pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)		cadj:	2,192	pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)		BP:	2,032	pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ]	vp:	2,002	pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?				NO	

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S:	49.2	mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)		D:	40.7	pc/mi/ln
Level of Service (LOS):			LOS:	E	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 3 I-5 Southbound

between Slauson Avenue & Garfield Avenue

PM Peak Hour

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	55.0 mi/h	Hourly Demand Volume (V):	6,966 veh/h
Mainline Lanes (N):	4 lanes	Heavy Vehicle Percentage (PT):	2.00 %
Lane Widths:	12 ft	Peak Hour Factor (PHF):	0.940
Right-Side Lateral Clearance:	10 ft	Capacity Adj. Factor (CAF):	1.00
Total Ramp Density (TRD):	2.0 ramps/mi	Speed Adj. Factor (SAF):	1.00
Terrain Type:	Level	Density at Capacity (Dc):	45.0 pc/mi/ln
		Exponent Calibration Parameter (a):	2.00

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ f <sub>LW</sub> : 0.00 ] [ f <sub>RLC</sub> : 0.00 ]	FFS: 49.2 mi/h
Adjusted Free Flow Speed (FFS <sub>adj</sub> ):	FFS x SAF (Eq. 12-5)		FFS <sub>adj</sub> : 49.2 mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFS_{adj} - 50)$ (Eq. 12-6)		c: 2,192 pc/h/ln
Adj. Freeway Seg. Capacity (c <sub>adj</sub> ):	c x CAF (Eq. 12-8)		c <sub>adj</sub> : 2,192 pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFS_{adj})] \times CAF^2$ (Ex. 12-6)		BP: 2,032 pc/h/ln
Flow Rate (v <sub>p</sub> ):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ f <sub>HV</sub> : 0.980 ]	v <sub>p</sub> : 1,890 pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (v <sub>p</sub> > c <sub>adj</sub> )?			NO

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If v <sub>p</sub> ≤ BP: FFS <sub>adj</sub> If BP < v <sub>p</sub> ≤ c: $FFS_{adj} - \frac{[(FFS_{adj} - c_{adj} / Dc) \times (v_p - BP)^a]}{(c_{adj} - BP)^a}$	(Eq. 12-1)	S: 49.2 mi/h
Density (D):	D = v <sub>p</sub> / S (Eq. 12-11)		D: 38.4 pc/mi/ln
Level of Service (LOS):			LOS: E

Notes: Methodology from Highway Capacity Manual 6th Edition , Transportation Research Board, 2016.



# 7316 Gage Avenue

Highway Capacity Manual 6th Edition - Basic Freeway Segments Worksheet

## 4 I-5 Northbound

between Garfield Avenue & Eastern Avenue

PM Peak Hour

### GEOMETRIC DATA INPUTS

Base Free Flow Speed (BFFS):	<u>55.0</u>	mi/h
Mainline Lanes (N):	<u>4</u>	lanes
Lane Widths:	<u>12</u>	ft
Right-Side Lateral Clearance:	<u>10</u>	ft
Total Ramp Density (TRD):	<u>2.0</u>	ramps/mi
Terrain Type:	<u>Level</u>	

### DEMAND INPUTS

Hourly Demand Volume (V):	<u>8,112</u>	veh/h
Heavy Vehicle Percentage (PT):	<u>2.00</u>	%
Peak Hour Factor (PHF):	<u>0.940</u>	
Capacity Adj. Factor (CAF):	<u>1.00</u>	
Speed Adj. Factor (SAF):	<u>1.00</u>	
Density at Capacity (Dc):	<u>45.0</u>	pc/mi/ln
Exponent Calibration Parameter (a):	<u>2.00</u>	

### FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS

Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : 0.00 ] [ $f_{RLC}$ : 0.00 ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj: <u>49.2</u> mi/h	
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c: <u>2,192</u> pc/h/ln	
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj: <u>2,192</u> pc/h/ln	
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP: <u>2,032</u> pc/h/ln	
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : 0.980 ] vp: <u>2,201</u> pc/h/ln	
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?			<b>YES</b>

### SPEED, DENSITY, & LEVEL OF SERVICE

Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caj - BP)^a}$	(Eq. 12-1)	S: <b>n/a</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D: <b>n/a</b> pc/mi/ln	
Level of Service (LOS):		LOS: <b>F</b>	

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**4 I-5 Southbound**

*between Garfield Avenue & Eastern Avenue*

**PM Peak Hour**

GEOMETRIC DATA INPUTS		DEMAND INPUTS	
Base Free Flow Speed (BFFS):	<u>55.0</u> mi/h	Hourly Demand Volume (V):	<u>5,430</u> veh/h
Mainline Lanes (N):	<u>4</u> lanes	Heavy Vehicle Percentage (PT):	<u>2.00</u> %
Lane Widths:	<u>12</u> ft	Peak Hour Factor (PHF):	<u>0.940</u>
Right-Side Lateral Clearance:	<u>10</u> ft	Capacity Adj. Factor (CAF):	<u>1.00</u>
Total Ramp Density (TRD):	<u>2.0</u> ramps/mi	Speed Adj. Factor (SAF):	<u>1.00</u>
Terrain Type:	<u>Level</u>	Density at Capacity (Dc):	<u>45.0</u> pc/mi/ln
		Exponent Calibration Parameter (a):	<u>2.00</u>

FREE FLOW SPEED, CAPACITY, & FLOW CALCULATIONS			
Free Flow Speed (FFS):	$BFFS - f_{LW} - f_{RLC} - 3.22 \times TRD^{0.84}$ (Eq. 12-2)	[ $f_{LW}$ : <u>0.00</u> ] [ $f_{RLC}$ : <u>0.00</u> ]	FFS: <u>49.2</u> mi/h
Adjusted Free Flow Speed (FFSadj):	$FFS \times SAF$ (Eq. 12-5)	FFSadj:	<u>49.2</u> mi/h
Basic Freeway Seg. Capacity (c):	$2,200 + 10 \times (FFSadj - 50)$ (Eq. 12-6)	c:	<u>2,192</u> pc/h/ln
Adj. Freeway Seg. Capacity (cadj):	$c \times CAF$ (Eq. 12-8)	cadj:	<u>2,192</u> pc/h/ln
Breakpoint (BP):	$[1,000 + 40 \times (75 - FFSadj)] \times CAF^2$ (Ex. 12-6)	BP:	<u>2,032</u> pc/h/ln
Flow Rate (vp):	$\frac{V}{(PHF \times N \times f_{HV})}$ (Eq. 12-9)	[ $f_{HV}$ : <u>0.980</u> ] vp:	<u>1,474</u> pc/h/ln
Flow Rate > Adjusted Freeway Segment Capacity (vp > cadj)?		NO	

SPEED, DENSITY, & LEVEL OF SERVICE			
Mean Speed (S):	If $v_p \leq BP$ : $FFSadj$ If $BP < v_p \leq c$ : $FFSadj - \frac{[(FFSadj - cadj / Dc) \times (v_p - BP)^a]}{(caadj - BP)^a}$	(Eq. 12-1)	S: <b>49.2</b> mi/h
Density (D):	$D = v_p / S$ (Eq. 12-11)	D:	<b>30.0</b> pc/mi/ln
Level of Service (LOS):		LOS:	<b>D</b>

Notes: Methodology from *Highway Capacity Manual 6th Edition*, Transportation Research Board, 2016.

**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	474	1002	443	195	521	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	474	1002	443	195	521	6
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]	119	251	111	49	130	2
Total Analysis Volume [veh/h]	474	1002	443	195	521	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	67	29	0	23	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	63	25	25	19	19
g / C, Green / Cycle	0.38	0.70	0.28	0.28	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.30	0.31	0.19	0.21	0.16	0.16
s, saturation flow rate [veh/h]	1603	3204	1683	1519	1603	1598
c, Capacity [veh/h]	606	2243	467	422	338	337
d1, Uniform Delay [s]	24.74	5.89	28.96	29.71	33.52	33.52
k, delay calibration	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
d2, Incremental Delay [s]	9.74	0.65	7.84	11.92	16.19	16.23
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.78	0.45	0.68	0.76	0.78	0.78
d, Delay for Lane Group [s/veh]	34.48	6.54	36.80	41.63	49.71	49.75
Lane Group LOS	C	A	D	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.17	3.57	6.99	7.52	6.84	6.83
50th-Percentile Queue Length [ft/ln]	254.17	89.15	174.74	188.08	171.00	170.63
95th-Percentile Queue Length [veh/ln]	15.40	6.42	11.33	12.02	11.13	11.11
95th-Percentile Queue Length [ft/ln]	384.90	160.47	283.14	300.54	278.23	277.75

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.48	6.54	38.15	41.63	49.73	49.75
Movement LOS	C	A	D	D	D	D
d_A, Approach Delay [s/veh]	15.51		39.22		49.73	
Approach LOS	B		D		D	
d_I, Intersection Delay [s/veh]	28.07					
Intersection LOS	C					
Intersection V/C	0.754					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.767	2.896	2.330
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	556	422
d_b, Bicycle Delay [s]	4.05	23.47	28.01
I_b,int, Bicycle LOS Score for Intersection	2.777	2.086	2.429
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	122.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1422	739	0	109	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1422	739	0	109	231
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	356	185	0	27	58
Total Analysis Volume [veh/h]	0	1422	739	0	109	231
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	0.01	0.01	0.00	0.90	0.37
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	122.74	14.04
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	5.65	1.69
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	141.19	42.24
d_A, Approach Delay [s/veh]	0.00		0.00		48.89	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.65					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	372	0	528	66	102	380
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	372	0	528	66	102	380
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]	93	0	132	17	26	95
Total Analysis Volume [veh/h]	372	0	528	66	102	380
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	714	637	700	700
Degree of Utilization, x	0.52	0.83	0.09	0.15

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.05	8.82	0.31	0.51
95th-Percentile Queue Length [ft]	76.22	220.45	7.78	12.71
Approach Delay [s/veh]	13.40	27.38		9.02
Approach LOS	B	D		A
Intersection Delay [s/veh]	20.76			
Intersection LOS	C			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	38.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.689

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	7	265	710	315	28	24	190	473	9	475	1226	243
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	265	710	315	28	24	190	473	9	475	1226	243
Peak Hour 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
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]	2	66	178	79	7	6	48	118	2	119	307	61
Total Analysis Volume [veh/h]	7	265	710	315	28	24	190	473	9	475	1226	243
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		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.10	0.10	0.04	0.12	0.10	0.10	0.30	0.31	0.31
s, saturation flow rate [veh/h]	1679	1532	1603	1603	1416	1603	3204	1667	1603	3204	1545
c, Capacity [veh/h]	187	170	267	267	236	249	534	278	606	1246	601
d1, Uniform Delay [s]	38.85	38.84	34.66	34.66	32.44	36.40	34.68	34.69	24.76	24.30	24.40
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
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]	25.14	27.04	9.22	9.22	2.14	19.55	4.79	9.06	9.82	5.24	10.72
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	0.76	0.76	0.59	0.59	0.22	0.76	0.59	0.59	0.78	0.79	0.80
d, Delay for Lane Group [s/veh]	63.99	65.89	43.87	43.87	34.58	55.95	39.47	43.75	34.58	29.54	35.12
Lane Group LOS	E	E	D	D	C	E	D	D	C	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.31	4.02	3.82	3.82	1.11	5.28	3.51	3.99	10.21	9.76	10.44
50th-Percentile Queue Length [ft/ln]	107.75	100.45	95.48	95.48	27.73	132.07	87.74	99.78	255.15	244.01	261.02
95th-Percentile Queue Length [veh/ln]	7.71	7.23	6.87	6.87	2.00	9.05	6.32	7.18	15.45	14.88	15.74
95th-Percentile Queue Length [ft/ln]	192.86	180.80	171.86	171.86	49.92	226.31	157.94	179.61	386.14	372.10	393.50

**Movement, Approach, & Intersection Results**

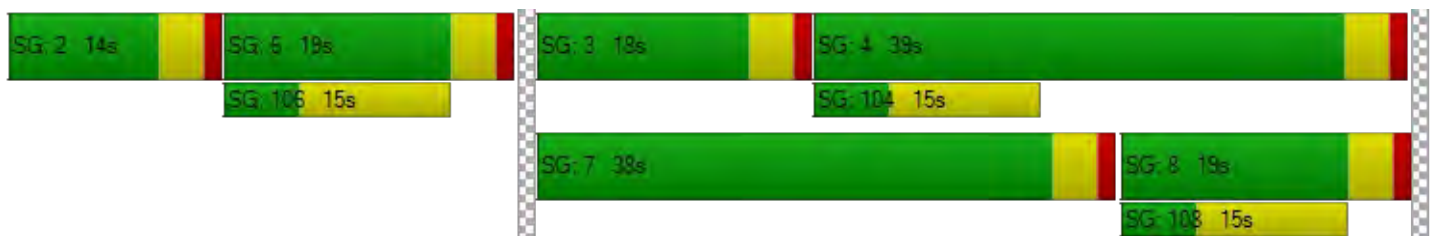
d_M, Delay for Movement [s/veh]	63.99	64.92	0.00	43.87	34.58	34.58	55.95	40.88	43.75	34.58	30.62	35.12
Movement LOS	E	E		D	C	C	E	D	D	C	C	D
d_A, Approach Delay [s/veh]	64.89			42.56			45.18			32.15		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	38.75											
Intersection LOS	D											
Intersection V/C	0.689											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.582	2.509	2.864	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.784	1.862	1.929	2.629
Bicycle LOS	A	A	A	B

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,015.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.434

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	13	0	0	0	1919	0	122	1275	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	13	0	0	0	1919	0	122	1275	0
Peak Hour 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
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	3	0	0	0	480	0	31	319	0
Total Analysis Volume [veh/h]	0	0	0	13	0	0	0	1919	0	122	1275	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.43	0.00	0.00	0.00	0.02	0.00	0.40	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1015.06	0.00	0.00	0.00	0.00	0.00	24.52	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.86	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	61.68	0.00	0.00	0.00	0.00	0.00	46.39	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1015.06			0.00			2.14		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	4.86											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	21	19	968	96	297	1442
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	19	968	96	297	1442
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]	5	5	242	24	74	361
Total Analysis Volume [veh/h]	21	19	968	96	297	1442
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.30	0.07	0.19	0.45
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.66	12.44	20.70	15.49	29.70	5.34
k, delay calibration	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
d2, Incremental Delay [s]	0.57	0.08	2.92	0.53	9.00	1.15
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.03	0.70	0.15	0.69	0.60
d, Delay for Lane Group [s/veh]	32.24	12.51	23.63	16.02	38.70	6.49
Lane Group LOS	C	B	C	B	D	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.42	0.21	8.39	1.25	6.70	4.97
50th-Percentile Queue Length [ft/ln]	10.61	5.25	209.69	31.31	167.51	124.35
95th-Percentile Queue Length [veh/ln]	0.76	0.38	13.14	2.25	10.95	8.63
95th-Percentile Queue Length [ft/ln]	19.10	9.46	328.43	56.36	273.64	215.79

**Movement, Approach, & Intersection Results**

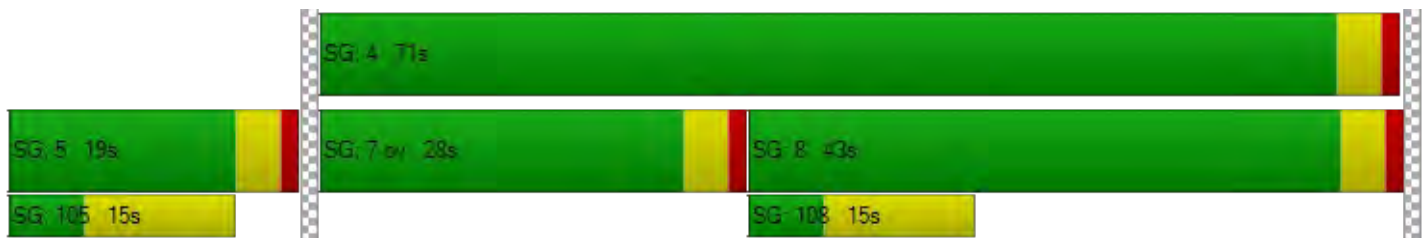
d_M, Delay for Movement [s/veh]	32.24	12.51	23.63	16.02	38.70	6.49
Movement LOS	C	B	C	B	D	A
d_A, Approach Delay [s/veh]	22.87		22.94		11.99	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	16.24					
Intersection LOS	B					
Intersection V/C	0.563					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.082	2.794	2.975
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.437	2.994
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	39.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.867

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	380	482	956	218	457	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	380	482	956	218	457	55
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]	95	121	239	55	114	14
Total Analysis Volume [veh/h]	380	482	956	218	457	55
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	69	41	0	21	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	65	37	37	17	17
g / C, Green / Cycle	0.27	0.72	0.41	0.41	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.24	0.15	0.35	0.37	0.16	0.16
s, saturation flow rate [veh/h]	1603	3204	1683	1579	1603	1562
c, Capacity [veh/h]	427	2314	692	649	303	295
d1, Uniform Delay [s]	31.72	4.09	23.96	24.84	35.32	35.32
k, delay calibration	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
d2, Incremental Delay [s]	23.08	0.20	12.33	18.33	25.45	25.97
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.21	0.85	0.90	0.86	0.86
d, Delay for Lane Group [s/veh]	54.80	4.29	36.29	43.16	60.77	61.29
Lane Group LOS	D	A	D	D	E	E
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	10.43	1.22	13.04	14.36	7.52	7.37
50th-Percentile Queue Length [ft/ln]	260.87	30.44	326.01	359.12	188.02	184.31
95th-Percentile Queue Length [veh/ln]	15.73	2.19	18.96	20.58	12.02	11.83
95th-Percentile Queue Length [ft/ln]	393.32	54.79	474.07	514.51	300.46	295.63

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	54.80	4.29	38.95	43.16	61.00	61.29
Movement LOS	D	A	D	D	E	E
d_A, Approach Delay [s/veh]	26.56		39.73		61.03	
Approach LOS	C		D		E	
d_I, Intersection Delay [s/veh]	39.55					
Intersection LOS	D					
Intersection V/C	0.867					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.759	2.890	2.302
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1444	822	378
d_b, Bicycle Delay [s]	3.47	15.61	29.61
I_b,int, Bicycle LOS Score for Intersection	2.271	2.528	2.404
Bicycle LOS	B	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	991.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.855

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	697	1597	0	162	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	697	1597	0	162	207
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	174	399	0	41	52
Total Analysis Volume [veh/h]	0	697	1597	0	162	207
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	0.01	0.02	0.00	2.86	0.63
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	991.62	32.87
Movement LOS		A	A		F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	16.78	4.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	419.46	100.84
d_A, Approach Delay [s/veh]	0.00		0.00		453.78	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	62.88					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	82.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.212

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	162	3	827	309	45	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	162	3	827	309	45	62
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]	41	1	207	77	11	16
Total Analysis Volume [veh/h]	162	3	827	309	45	62
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	731	827	754	787
Degree of Utilization, x	0.23	1.21	0.41	0.06

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.86	28.85	2.01	0.18
95th-Percentile Queue Length [ft]	21.61	721.21	50.28	4.54
Approach Delay [s/veh]	9.36	95.78		7.85
Approach LOS	A	F		A
Intersection Delay [s/veh]	82.25			
Intersection LOS	F			



**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	93.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.894

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	12	200	708	85	5	3	405	1008	6	792	590	326
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	200	708	85	5	3	405	1008	6	792	590	326
Peak Hour 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
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	50	177	21	1	1	101	252	2	198	148	82
Total Analysis Volume [veh/h]	12	200	708	85	5	3	405	1008	6	792	590	326
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	31	20	0	41	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	27	16	16	37	26	26
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.30	0.18	0.18	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.03	0.03	0.01	0.25	0.21	0.21	0.49	0.18	0.23
s, saturation flow rate [veh/h]	1674	1532	1603	1603	1436	1603	3204	1678	1603	3204	1431
c, Capacity [veh/h]	112	102	267	267	239	481	570	298	659	926	413
d1, Uniform Delay [s]	41.98	41.97	32.10	32.10	31.43	29.51	37.00	37.00	26.50	27.89	29.47
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
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]	83.50	86.50	1.27	1.27	0.26	16.26	93.48	105.72	104.94	3.35	14.16
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	0.99	0.99	0.16	0.16	0.03	0.84	1.17	1.17	1.20	0.64	0.79
d, Delay for Lane Group [s/veh]	125.48	128.47	33.37	33.37	31.68	45.77	130.48	142.72	131.44	31.24	43.63
Lane Group LOS	F	F	C	C	C	D	F	F	F	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.02	4.67	0.88	0.88	0.16	10.09	13.52	15.17	32.46	5.82	7.91
50th-Percentile Queue Length [ft/ln]	125.42	116.68	21.95	21.95	4.04	252.32	337.96	379.27	811.38	145.39	197.85
95th-Percentile Queue Length [veh/ln]	8.69	8.21	1.58	1.58	0.29	15.30	21.02	23.22	47.23	9.77	12.53
95th-Percentile Queue Length [ft/ln]	217.25	205.25	39.51	39.51	7.28	382.58	525.60	580.38	1180.79	244.27	313.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	125.48	126.99	0.00	33.37	31.68	31.68	45.77	134.64	142.72	131.44	31.24	43.63
Movement LOS	F	F		C	C	C	D	F	F	F	C	D
d_A, Approach Delay [s/veh]	126.91			33.23			109.31			80.07		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	93.78											
Intersection LOS	F											
Intersection V/C	0.894											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.619	2.501	2.877	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	578
d_b, Bicycle Delay [s]	39.20	31.25	30.42	22.76
I_b,int, Bicycle LOS Score for Intersection	1.735	1.636	2.340	2.499
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	3,922.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.592

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1430	0	265	1834	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1430	0	265	1834	0
Peak Hour 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
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	2	0	0	0	358	0	66	459	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1430	0	265	1834	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	3.59	0.00	0.00	0.00	0.01	0.00	0.56	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	3922.95	0.00	0.00	0.00	0.00	0.00	22.01	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	3.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	53.25	0.00	0.00	0.00	0.00	0.00	85.12	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			3922.95			0.00			2.78		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	10.52											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.881

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	394	239	1239	0	64	1721
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	394	239	1239	0	64	1721
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]	99	60	310	0	16	430
Total Analysis Volume [veh/h]	394	239	1239	0	64	1721
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.25	0.17	0.39	0.00	0.04	0.54
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	30.17	20.18	16.75	0.00	41.81	13.87
k, delay calibration	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
d2, Incremental Delay [s]	17.58	2.41	2.99	0.00	39.39	5.25
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.85	0.43	0.74	0.00	0.72	0.86
d, Delay for Lane Group [s/veh]	47.75	22.59	19.74	0.00	81.20	19.12
Lane Group LOS	D	C	B	A	F	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	10.04	3.93	9.85	0.00	2.36	13.65
50th-Percentile Queue Length [ft/ln]	251.04	98.23	246.16	0.00	58.90	341.19
95th-Percentile Queue Length [veh/ln]	15.24	7.07	14.99	0.00	4.24	19.71
95th-Percentile Queue Length [ft/ln]	380.96	176.82	374.81	0.00	106.02	492.65

**Movement, Approach, & Intersection Results**

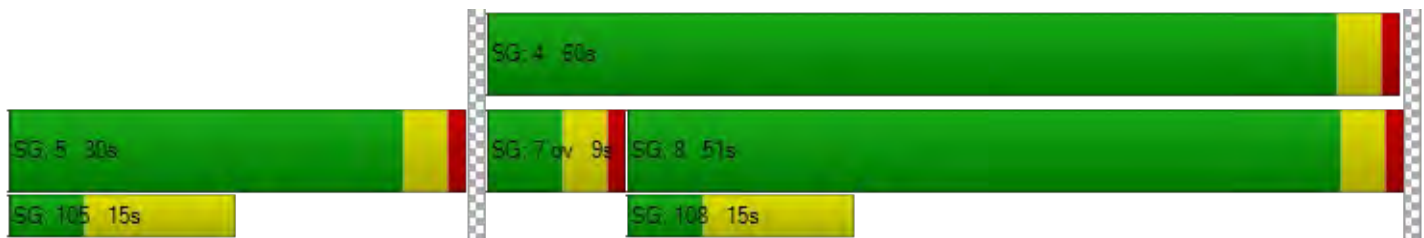
d_M, Delay for Movement [s/veh]	47.75	22.59	19.74	0.00	81.20	19.12
Movement LOS	D	C	B	A	F	B
d_A, Approach Delay [s/veh]	38.25		19.74		21.35	
Approach LOS	D		B		C	
d_I, Intersection Delay [s/veh]	23.73					
Intersection LOS	C					
Intersection V/C	0.881					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.168	2.955	3.050
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.582	3.032
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	523	1017	453	205	521	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	523	1017	453	205	521	6
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]	131	254	113	51	130	2
Total Analysis Volume [veh/h]	523	1017	453	205	521	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	67	29	0	23	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	63	25	25	19	19
g / C, Green / Cycle	0.38	0.70	0.28	0.28	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.33	0.32	0.20	0.22	0.16	0.16
s, saturation flow rate [veh/h]	1603	3204	1683	1516	1603	1598
c, Capacity [veh/h]	606	2243	467	421	338	337
d1, Uniform Delay [s]	25.86	5.93	29.18	29.98	33.52	33.52
k, delay calibration	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
d2, Incremental Delay [s]	15.12	0.66	8.59	13.42	16.19	16.23
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.45	0.70	0.78	0.78	0.78
d, Delay for Lane Group [s/veh]	40.98	6.60	37.77	43.40	49.71	49.75
Lane Group LOS	D	A	D	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	12.38	3.65	7.32	7.95	6.84	6.83
50th-Percentile Queue Length [ft/ln]	309.48	91.13	183.00	198.63	171.00	170.63
95th-Percentile Queue Length [veh/ln]	18.15	6.56	11.76	12.57	11.13	11.11
95th-Percentile Queue Length [ft/ln]	453.74	164.03	293.93	314.19	278.23	277.75



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.98	6.60	39.31	43.40	49.73	49.75
Movement LOS	D	A	D	D	D	D
d_A, Approach Delay [s/veh]	18.27		40.58		49.73	
Approach LOS	B		D		D	
d_I, Intersection Delay [s/veh]	29.74					
Intersection LOS	C					
Intersection V/C	0.796					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.779	2.901	2.350
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	556	422
d_b, Bicycle Delay [s]	4.05	23.47	28.01
I_b,int, Bicycle LOS Score for Intersection	2.830	2.102	2.429
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	148.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1491	756	0	109	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1491	756	0	109	245
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	373	189	0	27	61
Total Analysis Volume [veh/h]	0	1491	756	0	109	245
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	0.01	0.01	0.00	0.97	0.40
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	148.24	14.56
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	6.18	1.89
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	154.42	47.14
d_A, Approach Delay [s/veh]	0.00		0.00		55.72	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	7.58					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	387	0	528	73	109	384
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	387	0	528	73	109	384
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]	97	0	132	18	27	96
Total Analysis Volume [veh/h]	387	0	528	73	109	384
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	709	633	694	694
Degree of Utilization, x	0.55	0.83	0.11	0.16

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.33	8.99	0.35	0.56
95th-Percentile Queue Length [ft]	83.24	224.65	8.78	13.88
Approach Delay [s/veh]	14.01	27.89		9.15
Approach LOS	B	D		A
Intersection Delay [s/veh]	21.13			
Intersection LOS	C			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	46.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
Peak Hour 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
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]	13	77	212	79	13	6	48	118	14	141	307	61
Total Analysis Volume [veh/h]	51	306	847	315	50	24	190	473	55	564	1226	243
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.10	0.10	0.05	0.12	0.11	0.11	0.35	0.31	0.31
s, saturation flow rate [veh/h]	1660	1532	1603	1603	1449	1603	3204	1596	1603	3204	1546
c, Capacity [veh/h]	184	170	267	267	241	249	534	266	606	1246	601
d1, Uniform Delay [s]	40.00	40.00	34.66	34.66	32.93	36.40	35.09	35.15	26.88	24.29	24.42
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
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]	68.69	69.99	9.22	9.22	3.26	19.55	6.21	12.46	23.10	5.21	10.82
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	1.01	1.00	0.59	0.59	0.31	0.76	0.66	0.67	0.93	0.79	0.80
d, Delay for Lane Group [s/veh]	108.69	109.99	43.87	43.87	36.19	55.95	41.30	47.61	49.98	29.49	35.25
Lane Group LOS	F	F	D	D	D	E	D	D	D	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.53	7.01	3.82	3.82	1.62	5.28	4.00	4.50	14.91	9.74	10.49
50th-Percentile Queue Length [ft/ln]	188.33	175.26	95.48	95.48	40.46	132.07	99.92	112.40	372.78	243.48	262.25
95th-Percentile Queue Length [veh/ln]	12.08	11.37	6.87	6.87	2.91	9.05	7.19	7.97	21.24	14.86	15.80
95th-Percentile Queue Length [ft/ln]	301.99	284.25	171.86	171.86	72.83	226.31	179.86	199.34	531.10	371.43	395.04

**Movement, Approach, & Intersection Results**

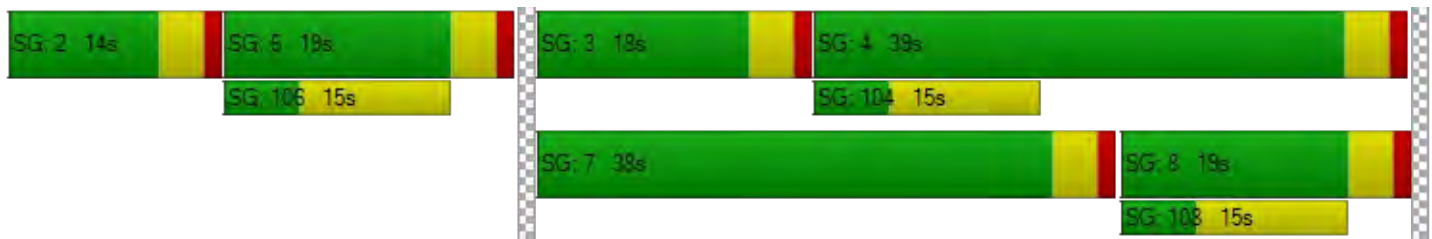
d_M, Delay for Movement [s/veh]	108.69	109.41	0.00	43.87	36.19	36.19	55.95	42.93	47.61	49.98	30.62	35.25
Movement LOS	F	F		D	D	D	E	D	D	D	C	D
d_A, Approach Delay [s/veh]	109.31			42.41			46.74			36.54		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	46.72											
Intersection LOS	D											
Intersection V/C	0.757											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.621	2.521	2.877	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.854	1.881	1.955	2.678
Bicycle LOS	A	A	A	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,029.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.450

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	13	0	0	0	1923	0	122	1278	0
Peak Hour 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
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	3	0	0	0	481	0	31	320	0
Total Analysis Volume [veh/h]	0	0	0	13	0	0	0	1923	0	122	1278	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.45	0.00	0.00	0.00	0.02	0.00	0.40	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1029.66	0.00	0.00	0.00	0.00	0.00	24.63	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	1.87	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	61.86	0.00	0.00	0.00	0.00	0.00	46.63	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1029.66			0.00			2.15		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	4.91											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	21	29	972	96	299	1445
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	29	972	96	299	1445
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]	5	7	243	24	75	361
Total Analysis Volume [veh/h]	21	29	972	96	299	1445
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.30	0.07	0.19	0.45
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.66	12.53	20.74	15.49	29.75	5.35
k, delay calibration	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
d2, Incremental Delay [s]	0.57	0.12	2.96	0.53	9.18	1.15
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.04	0.70	0.15	0.70	0.61
d, Delay for Lane Group [s/veh]	32.24	12.64	23.70	16.02	38.93	6.50
Lane Group LOS	C	B	C	B	D	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.42	0.32	8.44	1.25	6.77	4.99
50th-Percentile Queue Length [ft/ln]	10.61	8.08	211.04	31.31	169.22	124.84
95th-Percentile Queue Length [veh/ln]	0.76	0.58	13.21	2.25	11.04	8.66
95th-Percentile Queue Length [ft/ln]	19.10	14.54	330.16	56.36	275.89	216.45



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.24	12.64	23.70	16.02	38.93	6.50
Movement LOS	C	B	C	B	D	A
d_A, Approach Delay [s/veh]	20.87		23.01		12.06	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	16.30					
Intersection LOS	B					
Intersection V/C	0.567					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.086	2.795	2.978
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.441	2.998
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	43.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.903

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	418	497	976	224	457	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	418	497	976	224	457	55
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]	105	124	244	56	114	14
Total Analysis Volume [veh/h]	418	497	976	224	457	55
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	69	41	0	21	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	65	37	37	17	17
g / C, Green / Cycle	0.27	0.72	0.41	0.41	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.26	0.16	0.36	0.38	0.16	0.16
s, saturation flow rate [veh/h]	1603	3204	1683	1579	1603	1562
c, Capacity [veh/h]	427	2314	692	649	303	295
d1, Uniform Delay [s]	32.74	4.11	24.25	25.17	35.32	35.32
k, delay calibration	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
d2, Incremental Delay [s]	38.37	0.21	13.80	20.96	25.45	25.97
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.98	0.21	0.87	0.92	0.86	0.86
d, Delay for Lane Group [s/veh]	71.11	4.32	38.05	46.13	60.77	61.29
Lane Group LOS	E	A	D	D	E	E
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	13.29	1.26	13.69	15.24	7.52	7.37
50th-Percentile Queue Length [ft/ln]	332.30	31.56	342.26	380.90	188.02	184.31
95th-Percentile Queue Length [veh/ln]	19.27	2.27	19.76	21.64	12.02	11.83
95th-Percentile Queue Length [ft/ln]	481.78	56.81	493.96	540.94	300.46	295.63

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	71.11	4.32	41.17	46.13	61.00	61.29
Movement LOS	E	A	D	D	E	E
d_A, Approach Delay [s/veh]	34.83		42.09		61.03	
Approach LOS	C		D		E	
d_I, Intersection Delay [s/veh]	43.25					
Intersection LOS	D					
Intersection V/C	0.903					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.771	2.895	2.317
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1444	822	378
d_b, Bicycle Delay [s]	3.47	15.61	29.61
I_b,int, Bicycle LOS Score for Intersection	2.314	2.550	2.404
Bicycle LOS	B	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,134.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.148

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	760	1628	0	162	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	760	1628	0	162	234
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	190	407	0	41	59
Total Analysis Volume [veh/h]	0	760	1628	0	162	234
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	0.01	0.02	0.00	3.15	0.73
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1134.83	41.24
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	17.32	5.39
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	433.08	134.83
d_A, Approach Delay [s/veh]	0.00		0.00		488.62	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	69.50					
Intersection LOS	F					



**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	83.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.223

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	177	3	827	321	57	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	177	3	827	321	57	72
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]	44	1	207	80	14	18
Total Analysis Volume [veh/h]	177	3	827	321	57	72
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	726	827	747	780
Degree of Utilization, x	0.25	1.22	0.43	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.98	29.40	2.17	0.24
95th-Percentile Queue Length [ft]	24.41	735.09	54.36	5.90
Approach Delay [s/veh]	9.60	98.23		7.98
Approach LOS	A	F		A
Intersection Delay [s/veh]	83.00			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	149.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.071

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
Peak Hour 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
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]	17	59	211	21	12	1	101	252	22	240	148	82
Total Analysis Volume [veh/h]	69	236	845	85	48	3	405	1008	89	960	590	326
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	31	20	0	41	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	27	16	16	37	26	26
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.30	0.18	0.18	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.03	0.03	0.03	0.25	0.23	0.23	0.60	0.18	0.23
s, saturation flow rate [veh/h]	1647	1532	1603	1616	1513	1603	3204	1614	1603	3204	1431
c, Capacity [veh/h]	110	102	267	269	252	481	570	287	659	926	413
d1, Uniform Delay [s]	42.00	42.00	32.18	32.18	32.16	29.51	37.00	37.00	26.50	27.89	29.47
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
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]	244.45	241.35	1.42	1.39	1.45	16.26	139.35	150.35	213.96	3.35	14.16
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	1.45	1.43	0.17	0.17	0.17	0.84	1.28	1.28	1.46	0.64	0.79
d, Delay for Lane Group [s/veh]	286.45	283.35	33.60	33.57	33.61	45.77	176.35	187.35	240.46	31.24	43.63
Lane Group LOS	F	F	C	C	C	D	F	F	F	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	9.86	9.08	0.97	0.97	0.89	10.09	17.15	18.15	52.41	5.82	7.91
50th-Percentile Queue Length [ft/ln]	246.57	227.05	24.14	24.17	22.30	252.32	428.68	453.75	1310.25	145.39	197.85
95th-Percentile Queue Length [veh/ln]	16.62	15.48	1.74	1.74	1.61	15.30	26.75	28.12	80.10	9.77	12.53
95th-Percentile Queue Length [ft/ln]	415.56	386.91	43.46	43.51	40.14	382.58	668.80	702.90	2002.52	244.27	313.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	286.45	284.53	0.00	33.59	33.61	33.61	45.77	179.39	187.35	240.46	31.24	43.63
Movement LOS	F	F		C	C	C	D	F	F	F	C	D
d_A, Approach Delay [s/veh]	284.96			33.60			143.83			140.46		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	149.52											
Intersection LOS	F											
Intersection V/C	1.071											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.682	2.516	2.897	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	578
d_b, Bicycle Delay [s]	39.20	31.25	30.42	22.76
I_b,int, Bicycle LOS Score for Intersection	1.811	1.672	2.386	2.591
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	4,032.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.685

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1437	0	265	1840	0
Peak Hour 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
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	2	0	0	0	359	0	66	460	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1437	0	265	1840	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	3.69	0.00	0.00	0.00	0.01	0.00	0.57	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	4032.34	0.00	0.00	0.00	0.00	0.00	22.24	0.00	0.00
Movement LOS				F				A		C	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.13	0.00	0.00	0.00	0.00	0.00	3.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	53.36	0.00	0.00	0.00	0.00	0.00	86.08	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			4032.34			0.00			2.80		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	10.75											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.883

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	394	259	1246	0	68	1727
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	394	259	1246	0	68	1727
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]	99	65	312	0	17	432
Total Analysis Volume [veh/h]	394	259	1246	0	68	1727
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.25	0.18	0.39	0.00	0.04	0.54
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	30.17	20.52	16.81	0.00	41.92	13.93
k, delay calibration	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
d2, Incremental Delay [s]	17.58	2.79	3.05	0.00	45.69	5.36
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.85	0.47	0.74	0.00	0.76	0.87
d, Delay for Lane Group [s/veh]	47.75	23.31	19.86	0.00	87.60	19.29
Lane Group LOS	D	C	B	A	F	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	10.04	4.35	9.95	0.00	2.60	13.77
50th-Percentile Queue Length [ft/ln]	251.04	108.75	248.64	0.00	65.05	344.31
95th-Percentile Queue Length [veh/ln]	15.24	7.77	15.12	0.00	4.68	19.86
95th-Percentile Queue Length [ft/ln]	380.96	194.27	377.94	0.00	117.09	496.46

**Movement, Approach, & Intersection Results**

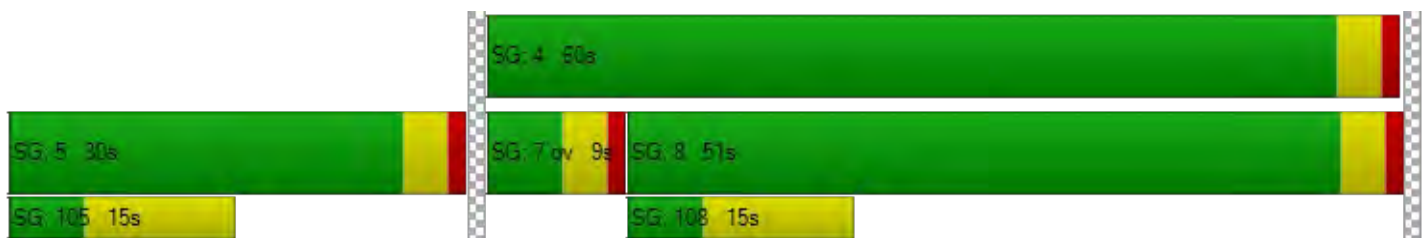
d_M, Delay for Movement [s/veh]	47.75	23.31	19.86	0.00	87.60	19.29
Movement LOS	D	C	B	A	F	B
d_A, Approach Delay [s/veh]	38.06		19.86		21.88	
Approach LOS	D		B		C	
d_I, Intersection Delay [s/veh]	24.06					
Intersection LOS	C					
Intersection V/C	0.883					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.176	2.958	3.055
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.588	3.040
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	510	1093	479	213	574	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	510	1093	479	213	574	6
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]	128	273	120	53	144	2
Total Analysis Volume [veh/h]	510	1093	479	213	574	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	66	28	0	24	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	62	24	24	20	20
g / C, Green / Cycle	0.38	0.69	0.27	0.27	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.32	0.34	0.21	0.23	0.18	0.18
s, saturation flow rate [veh/h]	1603	3204	1683	1518	1603	1599
c, Capacity [veh/h]	606	2207	449	405	356	355
d1, Uniform Delay [s]	25.55	6.61	30.46	31.34	33.24	33.24
k, delay calibration	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
d2, Incremental Delay [s]	13.36	0.80	12.08	20.02	18.27	18.32
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.84	0.50	0.77	0.85	0.82	0.82
d, Delay for Lane Group [s/veh]	38.91	7.41	42.55	51.37	51.52	51.56
Lane Group LOS	D	A	D	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.73	4.30	8.24	9.18	7.68	7.67
50th-Percentile Queue Length [ft/ln]	293.13	107.58	205.88	229.38	191.99	191.64
95th-Percentile Queue Length [veh/ln]	17.34	7.71	12.94	14.14	12.22	12.21
95th-Percentile Queue Length [ft/ln]	433.52	192.63	323.54	353.57	305.62	305.16

**Movement, Approach, & Intersection Results**

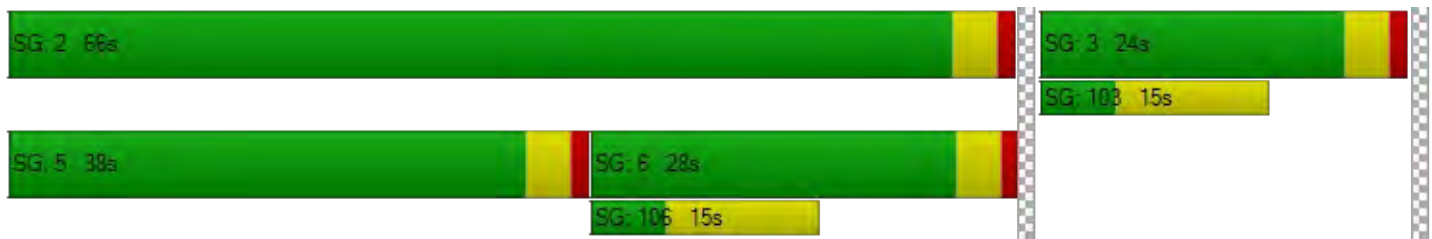
d_M, Delay for Movement [s/veh]	38.91	7.41	45.00	51.37	51.54	51.56
Movement LOS	D	A	D	D	D	D
d_A, Approach Delay [s/veh]	17.43		46.96		51.54	
Approach LOS	B		D		D	
d_I, Intersection Delay [s/veh]	31.42					
Intersection LOS	C					
Intersection V/C	0.818					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.794	2.924	2.365
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1378	533	444
d_b, Bicycle Delay [s]	4.36	24.20	27.22
I_b,int, Bicycle LOS Score for Intersection	2.882	2.131	2.517
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	205.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.126

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1546	792	0	115	244
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1546	792	0	115	244
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	387	198	0	29	61
Total Analysis Volume [veh/h]	0	1546	792	0	115	244
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	0.02	0.01	0.00	1.13	0.40
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	205.29	14.96
Movement LOS		A	A		F	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	7.42	1.95
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	185.53	48.81
d_A, Approach Delay [s/veh]	0.00		0.00		75.93	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	10.11					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	25.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	401	0	559	82	120	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	401	0	559	82	120	397
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]	100	0	140	21	30	99
Total Analysis Volume [veh/h]	401	0	559	82	120	397
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	698	626	686	687
Degree of Utilization, x	0.58	0.89	0.12	0.17

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.69	10.89	0.41	0.63
95th-Percentile Queue Length [ft]	92.36	272.33	10.13	15.75
Approach Delay [s/veh]	14.92	34.41		9.35
Approach LOS	B	D		A
Intersection Delay [s/veh]	25.10			
Intersection LOS	D			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		



**Volumes**

Name												
Base Volume Input [veh/h]	7	280	759	333	33	25	208	503	10	503	1302	257
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	280	759	333	33	25	208	503	10	503	1302	257
Peak Hour 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
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]	2	70	190	83	8	6	52	126	3	126	326	64
Total Analysis Volume [veh/h]	7	280	759	333	33	25	208	503	10	503	1302	257
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.10	0.10	0.04	0.13	0.11	0.11	0.31	0.33	0.33
s, saturation flow rate [veh/h]	1679	1532	1603	1603	1423	1603	3204	1666	1603	3204	1546
c, Capacity [veh/h]	187	170	267	267	237	249	534	278	606	1246	601
d1, Uniform Delay [s]	39.05	39.04	34.87	34.87	32.58	36.87	34.93	34.94	25.39	24.96	25.13
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
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]	29.74	31.88	10.50	10.50	2.44	26.74	5.59	10.51	12.53	6.92	14.19
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	0.80	0.80	0.62	0.62	0.24	0.83	0.63	0.63	0.83	0.84	0.85
d, Delay for Lane Group [s/veh]	68.79	70.92	45.37	45.37	35.02	63.62	40.51	45.45	37.92	31.88	39.32
Lane Group LOS	E	E	D	D	D	E	D	D	D	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.73	4.41	4.11	4.11	1.25	6.21	3.80	4.34	11.40	10.83	11.86
50th-Percentile Queue Length [ft/ln]	118.27	110.31	102.85	102.85	31.15	155.22	94.91	108.46	284.89	270.80	296.57
95th-Percentile Queue Length [veh/ln]	8.30	7.86	7.41	7.41	2.24	10.30	6.83	7.75	16.93	16.23	17.51
95th-Percentile Queue Length [ft/ln]	207.45	196.43	185.13	185.13	56.07	257.38	170.84	193.85	423.29	405.74	437.78

**Movement, Approach, & Intersection Results**

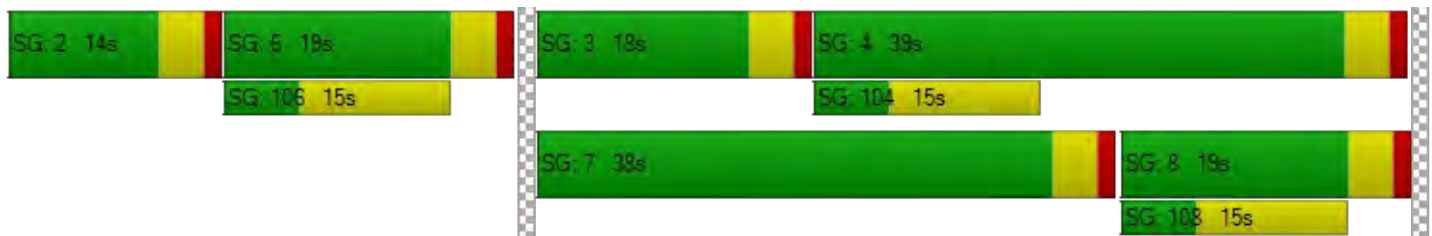
d_M, Delay for Movement [s/veh]	68.79	69.83	0.00	45.37	35.02	35.02	63.62	42.14	45.45	37.92	33.34	39.32
Movement LOS	E	E		D	D	D	E	D	D	D	C	D
d_A, Approach Delay [s/veh]	69.81			43.83			48.38			35.20		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	41.79											
Intersection LOS	D											
Intersection V/C	0.736											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.590	2.523	2.882	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.796	1.882	1.956	2.694
Bicycle LOS	A	A	A	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,733.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.310

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	14	0	0	0	2042	0	129	1352	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	14	0	0	0	2042	0	129	1352	0
Peak Hour 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
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	4	0	0	0	511	0	32	338	0
Total Analysis Volume [veh/h]	0	0	0	14	0	0	0	2042	0	129	1352	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	2.31	0.00	0.00	0.00	0.02	0.00	0.47	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1733.00	0.00	0.00	0.00	0.00	0.00	29.56	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.84	0.00	0.00	0.00	0.00	0.00	2.38	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	71.02	0.00	0.00	0.00	0.00	0.00	59.55	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1733.00			0.00			2.57		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	7.94											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	22	20	1036	102	314	1529
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	20	1036	102	314	1529
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]	6	5	259	26	79	382
Total Analysis Volume [veh/h]	22	20	1036	102	314	1529
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.01	0.01	0.32	0.07	0.20	0.48
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.68	12.45	21.35	15.56	30.10	5.62
k, delay calibration	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
d2, Incremental Delay [s]	0.60	0.08	3.69	0.57	10.70	1.34
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.03	0.75	0.16	0.73	0.64
d, Delay for Lane Group [s/veh]	32.29	12.53	25.04	16.13	40.80	6.96
Lane Group LOS	C	B	C	B	D	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.45	0.22	9.35	1.34	7.30	5.57
50th-Percentile Queue Length [ft/ln]	11.13	5.53	233.70	33.44	182.58	139.18
95th-Percentile Queue Length [veh/ln]	0.80	0.40	14.36	2.41	11.74	9.44
95th-Percentile Queue Length [ft/ln]	20.03	9.96	359.06	60.19	293.38	235.92

**Movement, Approach, & Intersection Results**

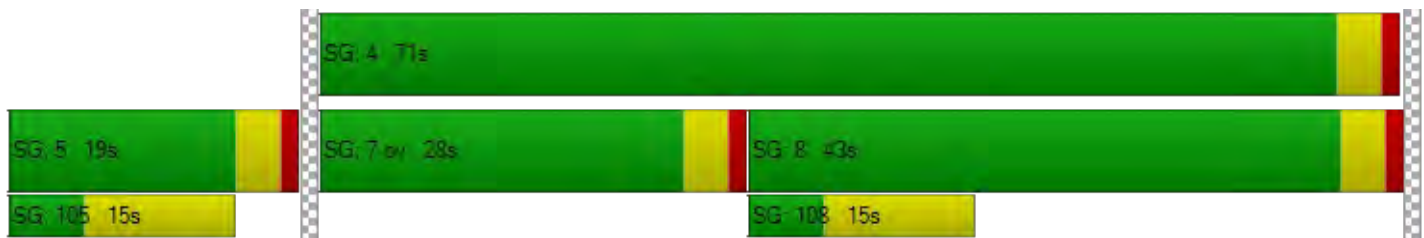
d_M, Delay for Movement [s/veh]	32.29	12.53	25.04	16.13	40.80	6.96
Movement LOS	C	B	C	B	D	A
d_A, Approach Delay [s/veh]	22.88		24.24		12.72	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	17.20					
Intersection LOS	B					
Intersection V/C	0.600					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.091	2.826	2.999
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.498	3.080
Bicycle LOS	A	B	C

**Sequence**




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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	51.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.953

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	412	541	1061	246	499	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	412	541	1061	246	499	58
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]	103	135	265	62	125	15
Total Analysis Volume [veh/h]	412	541	1061	246	499	58
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	70	42	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	66	38	38	16	16
g / C, Green / Cycle	0.27	0.73	0.42	0.42	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.26	0.17	0.39	0.41	0.18	0.18
s, saturation flow rate [veh/h]	1603	3204	1683	1578	1603	1563
c, Capacity [veh/h]	427	2350	711	666	285	278
d1, Uniform Delay [s]	32.57	3.85	24.56	25.64	36.92	36.92
k, delay calibration	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
d2, Incremental Delay [s]	35.38	0.23	19.00	30.47	50.70	51.48
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.96	0.23	0.92	0.98	0.99	0.99
d, Delay for Lane Group [s/veh]	67.96	4.08	43.56	56.11	87.61	88.40
Lane Group LOS	E	A	D	E	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	12.77	1.31	16.10	18.53	10.06	9.87
50th-Percentile Queue Length [ft/ln]	319.21	32.64	402.54	463.33	251.45	246.83
95th-Percentile Queue Length [veh/ln]	18.63	2.35	22.68	25.59	15.26	15.03
95th-Percentile Queue Length [ft/ln]	465.71	58.76	567.06	639.83	381.48	375.66

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	67.96	4.08	48.38	56.11	87.96	88.40
Movement LOS	E	A	D	E	F	F
d_A, Approach Delay [s/veh]	31.69		49.83		88.00	
Approach LOS	C		D		F	
d_I, Intersection Delay [s/veh]	51.24					
Intersection LOS	D					
Intersection V/C	0.953					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.791	2.922	2.337
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	844	356
d_b, Bicycle Delay [s]	3.20	15.02	30.42
I_b,int, Bicycle LOS Score for Intersection	2.346	2.638	2.479
Bicycle LOS	B	B	B

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,549.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.012

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	779	1739	0	171	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	779	1739	0	171	219
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	195	435	0	43	55
Total Analysis Volume [veh/h]	0	779	1739	0	171	219
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	0.01	0.02	0.00	4.01	0.74
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1549.46	45.49
Movement LOS		A	A		F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	19.36	5.48
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	484.00	137.08
d_A, Approach Delay [s/veh]	0.00		0.00		704.92	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	94.54					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	101.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.293

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	186	3	875	332	53	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	186	3	875	332	53	65
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]	47	1	219	83	13	16
Total Analysis Volume [veh/h]	186	3	875	332	53	65
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	727	875	747	776
Degree of Utilization, x	0.26	1.29	0.44	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.04	34.35	2.30	0.22
95th-Percentile Queue Length [ft]	25.96	858.84	57.45	5.49
Approach Delay [s/veh]	9.69	119.34		7.98
Approach LOS	A	F		A
Intersection Delay [s/veh]	100.96			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	111.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.947

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	212	759	90	19	3	444	1071	6	838	626	345
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	212	759	90	19	3	444	1071	6	838	626	345
Peak Hour 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
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	53	190	23	5	1	111	268	2	210	157	86
Total Analysis Volume [veh/h]	13	212	759	90	19	3	444	1071	6	838	626	345
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	32	20	0	41	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	28	16	16	37	25	25
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.31	0.18	0.18	0.41	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.03	0.03	0.01	0.28	0.22	0.22	0.52	0.20	0.24
s, saturation flow rate [veh/h]	1674	1532	1603	1603	1496	1603	3204	1678	1603	3204	1431
c, Capacity [veh/h]	112	102	267	267	249	499	570	298	659	890	397
d1, Uniform Delay [s]	42.00	42.00	32.15	32.15	31.72	29.54	37.00	37.00	26.50	29.17	30.93
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
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]	100.64	103.56	1.36	1.36	0.70	20.66	122.72	133.57	133.95	4.63	21.82
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	1.05	1.05	0.17	0.17	0.09	0.89	1.24	1.24	1.27	0.70	0.87
d, Delay for Lane Group [s/veh]	142.64	145.56	33.51	33.51	32.41	50.20	159.72	170.57	160.45	33.80	52.75
Lane Group LOS	F	F	C	C	C	D	F	F	F	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.56	5.17	0.93	0.93	0.45	11.67	15.83	17.48	37.76	6.47	9.31
50th-Percentile Queue Length [ft/ln]	139.10	129.35	23.30	23.30	11.23	291.69	395.78	437.03	944.11	161.86	232.64
95th-Percentile Queue Length [veh/ln]	9.59	9.04	1.68	1.68	0.81	17.27	24.67	26.89	55.82	10.65	14.31
95th-Percentile Queue Length [ft/ln]	239.79	226.09	41.94	41.94	20.21	431.73	616.71	672.27	1395.51	266.18	357.71



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	142.64	144.12	0.00	33.51	32.41	32.41	50.20	163.41	170.57	160.45	33.80	52.75
Movement LOS	F	F		C	C	C	D	F	F	F	C	D
d_A, Approach Delay [s/veh]	144.03			33.30			130.39			96.08		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	111.34											
Intersection LOS	F											
Intersection V/C	0.947											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.631	2.518	2.897	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	556
d_b, Bicycle Delay [s]	39.20	31.25	30.42	23.47
I_b,int, Bicycle LOS Score for Intersection	1.745	1.652	2.396	2.555
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	7,287.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.453

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1524	0	280	1957	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1524	0	280	1957	0
Peak Hour 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
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	2	0	0	0	381	0	70	489	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1524	0	280	1957	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.02	0.00	0.65	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7287.78	0.00	0.00	0.00	0.00	0.00	27.23	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	4.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	55.13	0.00	0.00	0.00	0.00	0.00	111.07	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7287.78			0.00			3.41		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	17.49											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	27.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	417	253	1321	0	68	1838
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	253	1321	0	68	1838
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]	104	63	330	0	17	460
Total Analysis Volume [veh/h]	417	253	1321	0	68	1838
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.26	0.18	0.41	0.00	0.04	0.57
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	30.76	20.42	17.48	0.00	41.92	15.06
k, delay calibration	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
d2, Incremental Delay [s]	23.19	2.67	3.87	0.00	45.69	8.56
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.45	0.79	0.00	0.76	0.92
d, Delay for Lane Group [s/veh]	53.95	23.09	21.35	0.00	87.60	23.62
Lane Group LOS	D	C	C	A	F	C
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.38	4.22	11.08	0.00	2.60	16.51
50th-Percentile Queue Length [ft/ln]	284.43	105.55	277.05	0.00	65.05	412.74
95th-Percentile Queue Length [veh/ln]	16.91	7.59	16.54	0.00	4.68	23.17
95th-Percentile Queue Length [ft/ln]	422.73	189.79	413.54	0.00	117.09	579.34

**Movement, Approach, & Intersection Results**

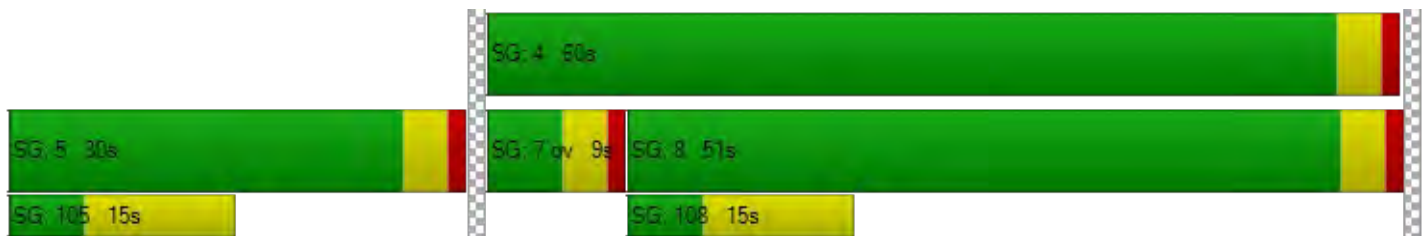
d_M, Delay for Movement [s/veh]	53.95	23.09	21.35	0.00	87.60	23.62
Movement LOS	D	C	C	A	F	C
d_A, Approach Delay [s/veh]	42.29		21.35		25.91	
Approach LOS	D		C		C	
d_I, Intersection Delay [s/veh]	27.18					
Intersection LOS	C					
Intersection V/C	0.938					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.182	2.999	3.080
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.649	3.132
Bicycle LOS	A	B	C

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	34.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	559	1108	489	223	574	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	559	1108	489	223	574	6
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]	140	277	122	56	144	2
Total Analysis Volume [veh/h]	559	1108	489	223	574	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	66	28	0	24	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	62	24	24	20	20
g / C, Green / Cycle	0.38	0.69	0.27	0.27	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.35	0.35	0.21	0.23	0.18	0.18
s, saturation flow rate [veh/h]	1603	3204	1683	1515	1603	1599
c, Capacity [veh/h]	606	2207	449	404	356	355
d1, Uniform Delay [s]	26.75	6.66	30.69	31.63	33.24	33.24
k, delay calibration	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
d2, Incremental Delay [s]	21.88	0.82	13.44	23.04	18.27	18.32
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.92	0.50	0.79	0.88	0.82	0.82
d, Delay for Lane Group [s/veh]	48.63	7.48	44.14	54.67	51.52	51.56
Lane Group LOS	D	A	D	D	D	D
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	14.56	4.39	8.65	9.78	7.68	7.67
50th-Percentile Queue Length [ft/ln]	363.91	109.87	216.29	244.38	191.99	191.64
95th-Percentile Queue Length [veh/ln]	20.81	7.83	13.48	14.90	12.22	12.21
95th-Percentile Queue Length [ft/ln]	520.33	195.83	336.88	372.57	305.62	305.16

**Movement, Approach, & Intersection Results**

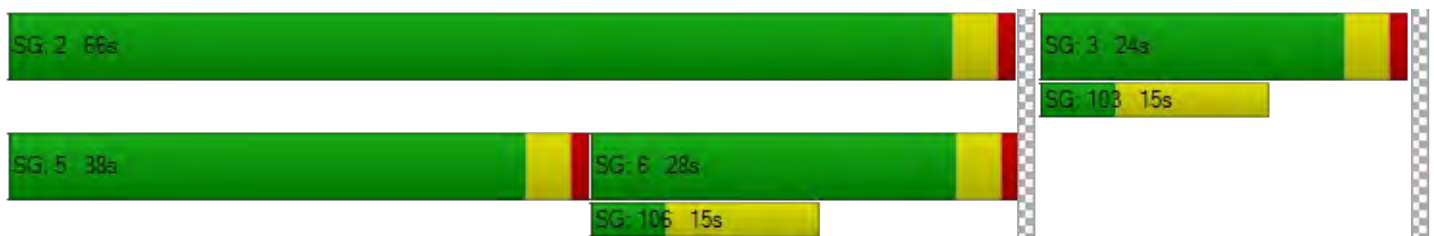
d_M, Delay for Movement [s/veh]	48.63	7.48	47.00	54.67	51.54	51.56
Movement LOS	D	A	D	D	D	D
d_A, Approach Delay [s/veh]	21.28		49.40		51.54	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	33.98					
Intersection LOS	C					
Intersection V/C	0.860					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.806	2.929	2.384
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1378	533	444
d_b, Bicycle Delay [s]	4.36	24.20	27.22
I_b,int, Bicycle LOS Score for Intersection	2.935	2.147	2.517
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	245.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.219

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1615	809	0	115	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1615	809	0	115	258
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	404	202	0	29	65
Total Analysis Volume [veh/h]	0	1615	809	0	115	258
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	0.02	0.01	0.00	1.22	0.43
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	245.14	15.58
Movement LOS		A	A		F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	7.98	2.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	199.55	54.49
d_A, Approach Delay [s/veh]	0.00		0.00		86.36	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	11.52					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	416	0	559	89	127	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	416	0	559	89	127	401
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]	104	0	140	22	32	100
Total Analysis Volume [veh/h]	416	0	559	89	127	401
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	693	621	680	681
Degree of Utilization, x	0.60	0.90	0.13	0.19

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	4.04	11.11	0.45	0.68
95th-Percentile Queue Length [ft]	101.01	277.81	11.22	17.05
Approach Delay [s/veh]	15.70	35.23		9.50
Approach LOS	C	E		A
Intersection Delay [s/veh]	25.67			
Intersection LOS	D			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	51.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
Peak Hour 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
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]	13	80	224	83	14	6	52	126	14	148	326	64
Total Analysis Volume [veh/h]	51	321	896	333	55	25	208	503	56	592	1302	257
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.10	0.10	0.06	0.13	0.12	0.12	0.37	0.33	0.33
s, saturation flow rate [veh/h]	1661	1532	1603	1603	1451	1603	3204	1599	1603	3204	1546
c, Capacity [veh/h]	185	170	267	267	242	249	534	266	606	1246	601
d1, Uniform Delay [s]	40.00	40.00	34.87	34.87	33.07	36.87	35.35	35.40	27.63	24.94	25.17
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
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]	80.40	81.65	10.50	10.50	3.63	26.74	7.31	14.47	31.49	6.86	14.39
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	1.05	1.05	0.62	0.62	0.33	0.83	0.70	0.70	0.98	0.84	0.85
d, Delay for Lane Group [s/veh]	120.40	121.65	45.37	45.37	36.71	63.62	42.66	49.87	59.11	31.80	39.56
Lane Group LOS	F	F	D	D	D	E	D	D	E	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.14	7.56	4.11	4.11	1.76	6.21	4.31	4.88	17.19	10.80	11.94
50th-Percentile Queue Length [ft/ln]	203.43	189.04	102.85	102.85	44.09	155.22	107.85	122.07	429.77	270.01	298.50
95th-Percentile Queue Length [veh/ln]	13.07	12.29	7.41	7.41	3.17	10.30	7.72	8.51	23.99	16.19	17.61
95th-Percentile Queue Length [ft/ln]	326.86	307.22	185.13	185.13	79.37	257.38	193.01	212.66	599.77	404.75	440.17

**Movement, Approach, & Intersection Results**

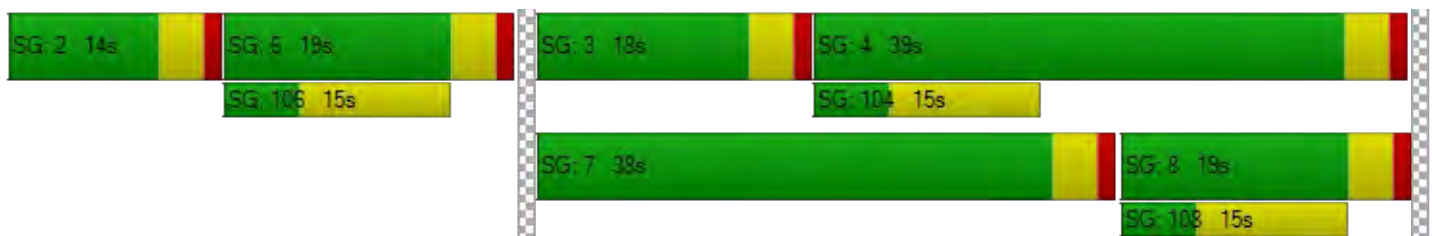
d_M, Delay for Movement [s/veh]	120.40	121.09	0.00	45.37	36.71	36.71	63.62	44.55	49.87	59.11	33.33	39.56
Movement LOS	F	F		D	D	D	E	D	D	E	C	D
d_A, Approach Delay [s/veh]	121.00			43.69			50.11			41.17		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	51.32											
Intersection LOS	D											
Intersection V/C	0.796											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.629	2.535	2.894	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.867	1.900	1.981	2.743
Bicycle LOS	A	A	A	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	1,758.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.338

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	14	0	0	0	2046	0	129	1355	0
Peak Hour 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
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	4	0	0	0	512	0	32	339	0
Total Analysis Volume [veh/h]	0	0	0	14	0	0	0	2046	0	129	1355	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.02	0.00	0.48	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	1758.06	0.00	0.00	0.00	0.00	0.00	29.72	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.85	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	71.16	0.00	0.00	0.00	0.00	0.00	59.88	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			1758.06			0.00			2.58		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	F											



**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.604

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	22	30	1040	102	316	1532
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	30	1040	102	316	1532
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]	6	8	260	26	79	383
Total Analysis Volume [veh/h]	22	30	1040	102	316	1532
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.01	0.02	0.32	0.07	0.20	0.48
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.68	12.54	21.39	15.56	30.14	5.63
k, delay calibration	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
d2, Incremental Delay [s]	0.60	0.12	3.74	0.57	10.93	1.34
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.04	0.75	0.16	0.74	0.64
d, Delay for Lane Group [s/veh]	32.29	12.66	25.14	16.13	41.07	6.97
Lane Group LOS	C	B	C	B	D	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.45	0.33	9.41	1.34	7.38	5.59
50th-Percentile Queue Length [ft/ln]	11.13	8.37	235.20	33.44	184.45	139.72
95th-Percentile Queue Length [veh/ln]	0.80	0.60	14.44	2.41	11.83	9.47
95th-Percentile Queue Length [ft/ln]	20.03	15.06	360.95	60.19	295.81	236.65

**Movement, Approach, & Intersection Results**

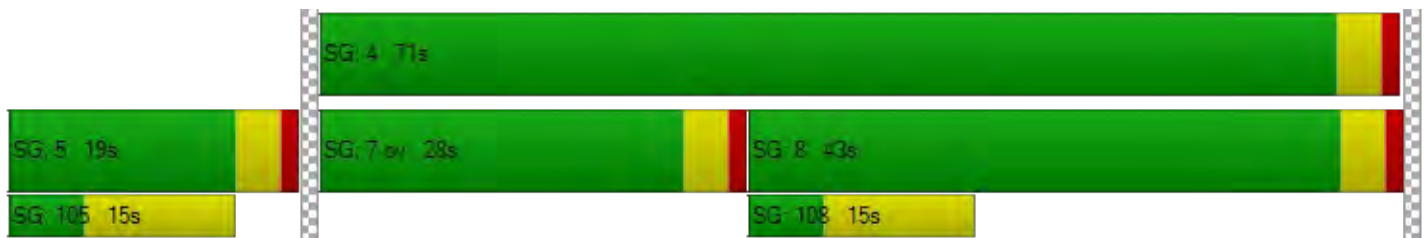
d_M, Delay for Movement [s/veh]	32.29	12.66	25.14	16.13	41.07	6.97
Movement LOS	C	B	C	B	D	A
d_A, Approach Delay [s/veh]	20.96		24.33		12.80	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	17.27					
Intersection LOS	B					
Intersection V/C	0.604					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.094	2.827	3.002
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.502	3.084
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	56.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.989

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↩ ↑ ↑		↑ ↩		↩↪	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	450	556	1081	252	499	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	450	556	1081	252	499	58
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]	113	139	270	63	125	15
Total Analysis Volume [veh/h]	450	556	1081	252	499	58
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	70	42	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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



**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	66	38	38	16	16
g / C, Green / Cycle	0.27	0.73	0.42	0.42	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.28	0.17	0.40	0.42	0.18	0.18
s, saturation flow rate [veh/h]	1603	3204	1683	1578	1603	1563
c, Capacity [veh/h]	427	2350	711	666	285	278
d1, Uniform Delay [s]	33.00	3.87	24.87	26.00	36.92	36.92
k, delay calibration	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
d2, Incremental Delay [s]	58.11	0.24	21.59	35.00	50.70	51.48
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.05	0.24	0.94	1.00	0.99	0.99
d, Delay for Lane Group [s/veh]	91.11	4.11	46.46	61.00	87.61	88.40
Lane Group LOS	F	A	D	F	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	15.90	1.35	17.02	19.80	10.06	9.87
50th-Percentile Queue Length [ft/ln]	397.58	33.74	425.48	495.12	251.45	246.83
95th-Percentile Queue Length [veh/ln]	23.14	2.43	23.78	27.11	15.26	15.03
95th-Percentile Queue Length [ft/ln]	578.50	60.74	594.62	677.84	381.48	375.66

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	91.11	4.11	52.04	61.00	87.96	88.40
Movement LOS	F	A	D	E	F	F
d_A, Approach Delay [s/veh]	43.02		53.73		88.00	
Approach LOS	D		D		F	
d_I, Intersection Delay [s/veh]	56.60					
Intersection LOS	E					
Intersection V/C	0.989					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.803	2.928	2.351
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	844	356
d_b, Bicycle Delay [s]	3.20	15.02	30.42
I_b,int, Bicycle LOS Score for Intersection	2.390	2.659	2.479
Bicycle LOS	B	B	B

**Sequence**

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



**Intersection Level Of Service Report  
Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	1,752.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.426

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	842	1770	0	171	246
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	842	1770	0	171	246
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	211	443	0	43	62
Total Analysis Volume [veh/h]	0	842	1770	0	171	246
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	0.01	0.02	0.00	4.43	0.85
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	1752.28	61.35
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	19.79	7.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	494.67	183.25
d_A, Approach Delay [s/veh]	0.00		0.00		754.75	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	103.91					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	101.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.305

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	201	3	875	344	65	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	201	3	875	344	65	75
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]	50	1	219	86	16	19
Total Analysis Volume [veh/h]	201	3	875	344	65	75
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	721	875	740	768
Degree of Utilization, x	0.28	1.31	0.47	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.16	34.96	2.48	0.28
95th-Percentile Queue Length [ft]	29.07	873.96	62.11	6.91
Approach Delay [s/veh]	9.95	122.05		8.12
Approach LOS	A	F		A
Intersection Delay [s/veh]	101.71			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	168.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.127

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
Peak Hour 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
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]	18	62	224	23	16	1	111	268	22	252	157	86
Total Analysis Volume [veh/h]	70	248	896	90	62	3	444	1071	89	1006	626	345
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	32	20	0	41	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	28	16	16	37	25	25
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.31	0.18	0.18	0.41	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.03	0.03	0.03	0.28	0.24	0.24	0.63	0.20	0.24
s, saturation flow rate [veh/h]	1648	1532	1603	1626	1515	1603	3204	1618	1603	3204	1431
c, Capacity [veh/h]	110	102	267	271	253	499	570	288	659	890	397
d1, Uniform Delay [s]	42.00	42.00	32.32	32.31	32.29	29.54	37.00	37.00	26.50	29.17	30.93
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
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]	269.38	266.26	1.66	1.62	1.70	20.66	170.14	180.22	244.68	4.63	21.82
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	1.51	1.49	0.20	0.20	0.19	0.89	1.35	1.35	1.53	0.70	0.87
d, Delay for Lane Group [s/veh]	311.38	308.26	33.98	33.92	33.99	50.20	207.14	217.22	271.18	33.80	52.75
Lane Group LOS	F	F	C	C	C	D	F	F	F	C	D
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.63	9.79	1.11	1.11	1.02	11.67	19.58	20.58	58.03	6.47	9.31
50th-Percentile Queue Length [ft/ln]	265.73	244.71	27.67	27.73	25.59	291.69	489.59	514.46	1450.80	161.86	232.64
95th-Percentile Queue Length [veh/ln]	17.85	16.62	1.99	2.00	1.84	17.27	30.63	32.00	89.57	10.65	14.31
95th-Percentile Queue Length [ft/ln]	446.20	415.39	49.81	49.92	46.07	431.73	765.75	800.08	2239.20	266.18	357.71

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	311.38	309.46	0.00	33.95	33.97	33.99	50.20	209.97	217.22	271.18	33.80	52.75
Movement LOS	F	F		C	C	C	D	F	F	F	C	D
d_A, Approach Delay [s/veh]	309.88			33.96			166.15			157.90		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	168.34											
Intersection LOS	F											
Intersection V/C	1.127											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.694	2.534	2.916	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	556
d_b, Bicycle Delay [s]	39.20	31.25	30.42	23.47
I_b,int, Bicycle LOS Score for Intersection	1.822	1.687	2.442	2.647
Bicycle LOS	A	A	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	7,515.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.646

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	8	0	0	0	1531	0	280	1963	0
Peak Hour 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
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	2	0	0	0	383	0	70	491	0
Total Analysis Volume [veh/h]	0	0	0	8	0	0	0	1531	0	280	1963	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	6.65	0.00	0.00	0.00	0.02	0.00	0.65	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7515.16	0.00	0.00	0.00	0.00	0.00	27.58	0.00	0.00
Movement LOS				F				A		D	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	55.20	0.00	0.00	0.00	0.00	0.00	112.42	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7515.16			0.00			3.44		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	17.94											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.940

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	417	273	1328	0	72	1844
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	417	273	1328	0	72	1844
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]	104	68	332	0	18	461
Total Analysis Volume [veh/h]	417	273	1328	0	72	1844
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.26	0.19	0.41	0.00	0.04	0.58
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	30.76	20.77	17.54	0.00	42.03	15.13
k, delay calibration	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
d2, Incremental Delay [s]	23.19	3.08	3.97	0.00	52.90	8.81
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.49	0.79	0.00	0.81	0.92
d, Delay for Lane Group [s/veh]	53.95	23.85	21.51	0.00	94.92	23.94
Lane Group LOS	D	C	C	A	F	C
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.38	4.66	11.20	0.00	2.87	16.69
50th-Percentile Queue Length [ft/ln]	284.43	116.42	279.89	0.00	71.77	417.19
95th-Percentile Queue Length [veh/ln]	16.91	8.20	16.68	0.00	5.17	23.39
95th-Percentile Queue Length [ft/ln]	422.73	204.90	417.08	0.00	129.19	584.68

**Movement, Approach, & Intersection Results**

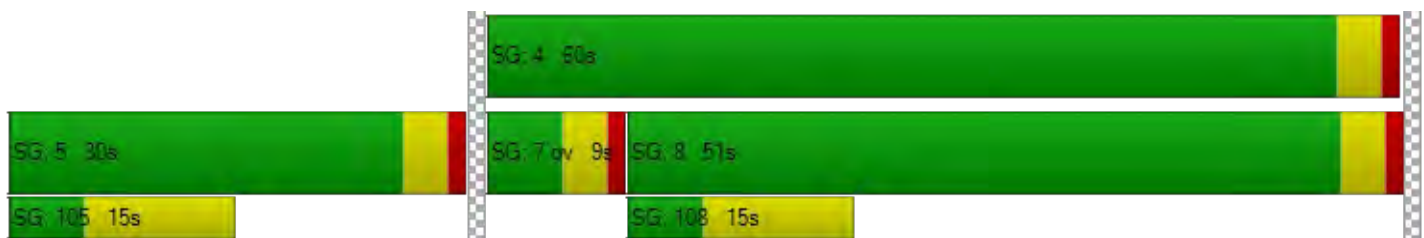
d_M, Delay for Movement [s/veh]	53.95	23.85	21.51	0.00	94.92	23.94
Movement LOS	D	C	C	A	F	C
d_A, Approach Delay [s/veh]	42.04		21.51		26.61	
Approach LOS	D		C		C	
d_I, Intersection Delay [s/veh]	27.59					
Intersection LOS	C					
Intersection V/C	0.940					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.189	3.001	3.085
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.655	3.140
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	51.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.006

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	627	1341	589	262	704	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	627	1341	589	262	704	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]	157	335	147	66	176	2
Total Analysis Volume [veh/h]	627	1341	589	262	704	8
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	66	28	0	24	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	62	24	24	20	20
g / C, Green / Cycle	0.38	0.69	0.27	0.27	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.39	0.42	0.25	0.28	0.22	0.22
s, saturation flow rate [veh/h]	1603	3204	1683	1518	1603	1599
c, Capacity [veh/h]	606	2207	449	405	356	355
d1, Uniform Delay [s]	28.00	7.49	32.39	33.00	35.00	35.00
k, delay calibration	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
d2, Incremental Delay [s]	46.05	1.25	31.30	58.78	47.82	48.03
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.04	0.61	0.95	1.05	1.00	1.00
d, Delay for Lane Group [s/veh]	74.05	8.74	63.69	91.78	82.82	83.03
Lane Group LOS	F	A	E	F	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	20.08	6.03	12.70	15.14	12.32	12.30
50th-Percentile Queue Length [ft/ln]	501.91	150.67	317.51	378.45	307.89	307.56
95th-Percentile Queue Length [veh/ln]	28.10	10.05	18.55	22.16	18.08	18.07
95th-Percentile Queue Length [ft/ln]	702.46	251.32	463.63	554.03	451.91	451.65

**Movement, Approach, & Intersection Results**

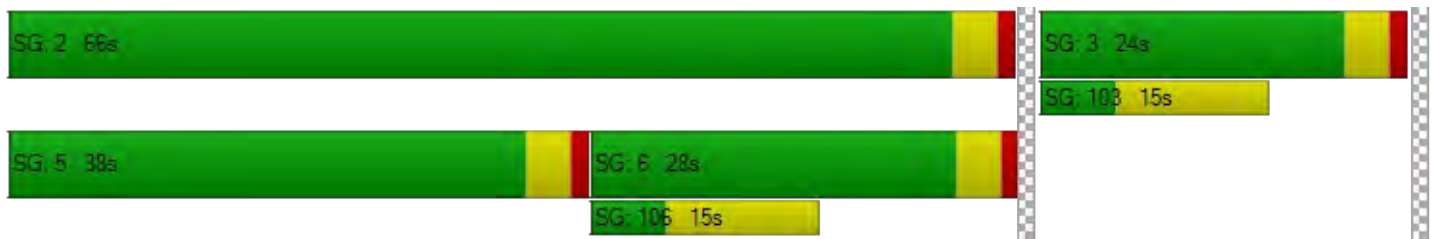
d_M, Delay for Movement [s/veh]	74.05	8.74	71.49	91.78	82.93	83.03
Movement LOS	F	A	E	F	F	F
d_A, Approach Delay [s/veh]	29.55		77.74		82.93	
Approach LOS	C		E		F	
d_I, Intersection Delay [s/veh]	51.93					
Intersection LOS	D					
Intersection V/C	1.006					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.871	2.999	2.462
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1378	533	444
d_b, Bicycle Delay [s]	4.36	24.20	27.22
I_b,int, Bicycle LOS Score for Intersection	3.183	2.262	2.734
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	799.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.426

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1899	976	0	142	302
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1899	976	0	142	302
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	475	244	0	36	76
Total Analysis Volume [veh/h]	0	1899	976	0	142	302
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	0.02	0.01	0.00	2.43	0.57
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	799.78	20.69
Movement LOS		A	A		F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	14.19	3.59
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	354.67	89.76
d_A, Approach Delay [s/veh]	0.00		0.00		269.86	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	36.10					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	60.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.148

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	493	0	690	98	145	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	493	0	690	98	145	397
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]	123	0	173	25	36	99
Total Analysis Volume [veh/h]	493	0	690	98	145	397
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	675	690	657	648
Degree of Utilization, x	0.73	1.15	0.15	0.22

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	6.34	22.58	0.52	0.85
95th-Percentile Queue Length [ft]	158.58	564.38	13.06	21.33
Approach Delay [s/veh]	21.34	94.64		10.15
Approach LOS	C	F		B
Intersection Delay [s/veh]	60.71			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	69.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	346	936	412	40	31	255	620	12	621	1606	318
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	346	936	412	40	31	255	620	12	621	1606	318
Peak Hour 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
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]	2	87	234	103	10	8	64	155	3	155	402	80
Total Analysis Volume [veh/h]	9	346	936	412	40	31	255	620	12	621	1606	318
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.13	0.13	0.05	0.16	0.13	0.13	0.39	0.40	0.42
s, saturation flow rate [veh/h]	1679	1532	1603	1603	1422	1603	3204	1667	1603	3204	1548
c, Capacity [veh/h]	187	170	267	267	237	249	534	278	606	1246	602
d1, Uniform Delay [s]	39.98	39.97	35.86	35.86	32.89	38.00	35.91	35.91	28.00	27.50	27.50
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
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]	64.78	67.62	19.14	19.14	3.22	62.98	10.68	19.17	43.24	32.18	57.79
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	1.00	0.99	0.77	0.77	0.30	1.02	0.78	0.78	1.03	1.03	1.07
d, Delay for Lane Group [s/veh]	104.76	107.60	55.00	55.00	36.11	100.98	46.58	55.09	71.24	59.68	85.29
Lane Group LOS	F	F	E	E	D	F	D	E	F	F	F
Critical Lane Group	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.40	6.88	5.66	5.66	1.55	9.74	5.08	5.94	19.60	18.21	21.88
50th-Percentile Queue Length [ft/ln]	184.89	171.91	141.59	141.59	38.83	243.60	126.92	148.61	490.09	455.14	546.97
95th-Percentile Queue Length [veh/ln]	11.86	11.18	9.57	9.57	2.80	15.02	8.77	9.94	27.34	25.65	31.02
95th-Percentile Queue Length [ft/ln]	296.38	279.43	239.16	239.16	69.89	375.54	219.30	248.57	683.59	641.27	775.46

**Movement, Approach, & Intersection Results**

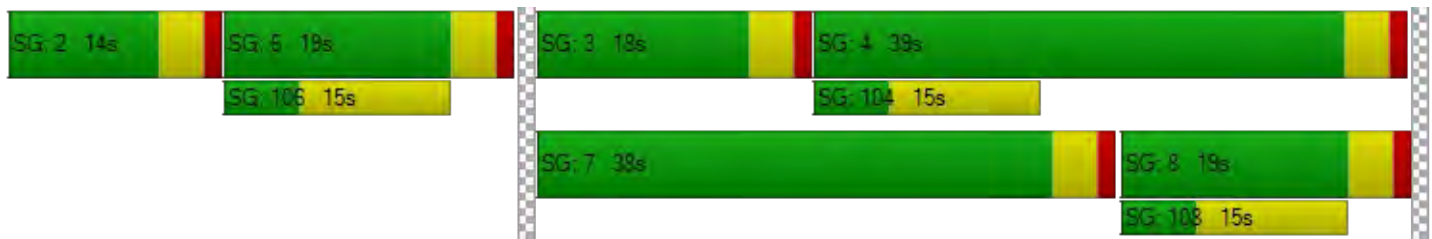
d_M, Delay for Movement [s/veh]	104.76	106.15	0.00	55.00	36.11	36.11	100.98	49.39	55.09	71.24	64.91	85.29
Movement LOS	F	F		E	D	D	F	D	E	F	E	F
d_A, Approach Delay [s/veh]	106.11			52.23			64.30			69.00		
Approach LOS	F			D			E			E		
d_I, Intersection Delay [s/veh]	69.21											
Intersection LOS	E											
Intersection V/C	0.917											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.621	2.575	2.948	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.852	1.958	2.047	2.959
Bicycle LOS	A	A	B	C

**Sequence**

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





**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	46.567

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	17	0	0	0	2518	0	159	1669	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	17	0	0	0	2518	0	159	1669	0
Peak Hour 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
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	4	0	0	0	630	0	40	417	0
Total Analysis Volume [veh/h]	0	0	0	17	0	0	0	2518	0	159	1669	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	46.57	0.00	0.00	0.00	0.03	0.00	0.90	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10000.0	0.00	0.00	0.00	0.00	0.00	96.71	0.00	0.00
Movement LOS				F				A		F	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.77	0.00	0.00	0.00	0.00	0.00	6.70	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	94.26	0.00	0.00	0.00	0.00	0.00	167.62	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10000.00			0.00			8.41		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	42.49											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	27	25	1276	125	388	1887
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	25	1276	125	388	1887
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]	7	6	319	31	97	472
Total Analysis Volume [veh/h]	27	25	1276	125	388	1887
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.40	0.09	0.24	0.59
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.79	12.49	24.01	15.83	31.93	7.15
k, delay calibration	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
d2, Incremental Delay [s]	0.76	0.10	11.23	0.73	25.63	2.77
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.10	0.04	0.92	0.20	0.91	0.79
d, Delay for Lane Group [s/veh]	32.54	12.59	35.25	16.57	57.55	9.92
Lane Group LOS	C	B	D	B	E	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.55	0.28	14.13	1.67	10.95	8.96
50th-Percentile Queue Length [ft/ln]	13.73	6.94	353.19	41.78	273.78	224.06
95th-Percentile Queue Length [veh/ln]	0.99	0.50	20.29	3.01	16.38	13.87
95th-Percentile Queue Length [ft/ln]	24.71	12.50	507.30	75.21	409.46	346.80

**Movement, Approach, & Intersection Results**

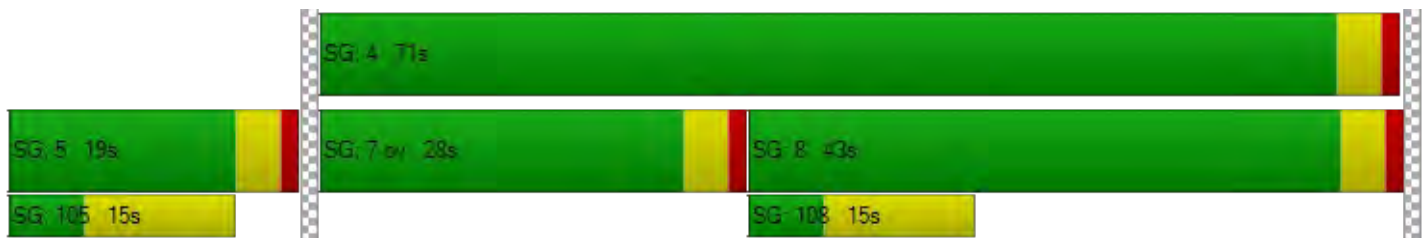
d_M, Delay for Movement [s/veh]	32.54	12.59	35.25	16.57	57.55	9.92
Movement LOS	C	B	D	B	E	A
d_A, Approach Delay [s/veh]	22.95		33.58		18.05	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	23.95					
Intersection LOS	C					
Intersection V/C	0.739					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.125	2.948	3.093
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.715	3.436
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	106.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.169

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↩ ↑ ↑		↑ ↩		↩↻	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	507	661	1298	300	612	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	507	661	1298	300	612	72
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]	127	165	325	75	153	18
Total Analysis Volume [veh/h]	507	661	1298	300	612	72
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	70	42	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	66	38	38	16	16
g / C, Green / Cycle	0.27	0.73	0.42	0.42	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.32	0.21	0.47	0.51	0.22	0.22
s, saturation flow rate [veh/h]	1603	3204	1683	1578	1603	1563
c, Capacity [veh/h]	427	2350	711	666	285	278
d1, Uniform Delay [s]	33.00	4.03	26.00	26.00	37.00	37.00
k, delay calibration	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
d2, Incremental Delay [s]	105.16	0.30	73.44	103.58	123.73	126.17
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.19	0.28	1.12	1.20	1.21	1.22
d, Delay for Lane Group [s/veh]	138.16	4.33	99.44	129.58	160.73	163.17
Lane Group LOS	F	A	F	F	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	21.49	1.67	28.71	32.51	15.92	15.71
50th-Percentile Queue Length [ft/ln]	537.24	41.82	717.84	812.73	397.94	392.70
95th-Percentile Queue Length [veh/ln]	32.01	3.01	40.72	47.28	24.57	24.33
95th-Percentile Queue Length [ft/ln]	800.26	75.27	1017.92	1182.10	614.27	608.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	138.16	4.33	111.03	129.58	161.79	163.17
Movement LOS	F	A	F	F	F	F
d_A, Approach Delay [s/veh]	62.42		114.51		161.94	
Approach LOS	E		F		F	
d_I, Intersection Delay [s/veh]	106.28					
Intersection LOS	F					
Intersection V/C	1.169					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.867	2.995	2.426
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	844	356
d_b, Bicycle Delay [s]	3.20	15.02	30.42
I_b,int, Bicycle LOS Score for Intersection	2.523	2.878	2.688
Bicycle LOS	B	C	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	4,745.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	10.703

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	952	2136	0	212	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	952	2136	0	212	270
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	238	534	0	53	68
Total Analysis Volume [veh/h]	0	952	2136	0	212	270
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	0.01	0.02	0.00	10.70	1.24
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	4745.27	186.28
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	26.97	13.86
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	674.29	346.61
d_A, Approach Delay [s/veh]	0.00		0.00		2191.48	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	295.88					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	186.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.619

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	227	4	1081	409	64	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	227	4	1081	409	64	401
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]	57	1	270	102	16	100
Total Analysis Volume [veh/h]	227	4	1081	409	64	401
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	721	1081	736	756
Degree of Utilization, x	0.32	1.62	0.56	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.38	58.59	3.46	0.28
95th-Percentile Queue Length [ft]	34.56	1464.81	86.46	6.91
Approach Delay [s/veh]	10.33	221.50		8.20
Approach LOS	B	F		A
Intersection Delay [s/veh]	186.52			
Intersection LOS	F			



**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	194.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.169

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	261	935	111	21	4	544	1321	8	1035	773	426
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	261	935	111	21	4	544	1321	8	1035	773	426
Peak Hour 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
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	65	234	28	5	1	136	330	2	259	193	107
Total Analysis Volume [veh/h]	16	261	935	111	21	4	544	1321	8	1035	773	426
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	31	20	0	41	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	27	16	16	37	26	26
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.30	0.18	0.18	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.03	0.03	0.02	0.34	0.27	0.27	0.65	0.24	0.30
s, saturation flow rate [veh/h]	1674	1532	1603	1603	1489	1603	3204	1678	1603	3204	1431
c, Capacity [veh/h]	112	102	267	267	248	481	570	298	659	926	413
d1, Uniform Delay [s]	42.00	42.00	32.37	32.37	31.78	31.50	37.00	37.00	26.50	29.99	32.00
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
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]	185.05	187.31	1.76	1.76	0.81	82.26	247.77	255.43	264.12	8.80	52.41
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	1.30	1.29	0.21	0.21	0.10	1.13	1.53	1.53	1.57	0.84	1.03
d, Delay for Lane Group [s/veh]	227.05	229.31	34.13	34.13	32.59	113.76	284.77	292.43	290.62	38.79	84.41
Lane Group LOS	F	F	C	C	C	F	F	F	F	D	F
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.18	7.55	1.16	1.16	0.51	21.03	25.73	27.57	61.59	8.72	14.67
50th-Percentile Queue Length [ft/ln]	204.51	188.73	29.06	29.06	12.81	525.70	643.14	689.36	1539.78	217.94	366.81
95th-Percentile Queue Length [veh/ln]	13.89	12.98	2.09	2.09	0.92	30.75	40.47	43.08	95.58	13.56	21.35
95th-Percentile Queue Length [ft/ln]	347.16	324.60	52.31	52.31	23.05	768.85	1011.87	1077.06	2389.61	339.00	533.69

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	227.05	228.19	0.00	34.13	32.59	32.59	113.76	287.37	292.43	290.62	38.79	84.41
Movement LOS	F	F		C	C	C	F	F	F	F	D	F
d_A, Approach Delay [s/veh]	228.12			33.85			236.97			164.16		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	194.33											
Intersection LOS	F											
Intersection V/C	1.169											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.672	2.568	2.967	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	578
d_b, Bicycle Delay [s]	39.20	31.25	30.42	22.76
I_b,int, Bicycle LOS Score for Intersection	1.788	1.672	2.590	2.788
Bicycle LOS	A	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	10	0	0	0	1878	0	346	2412	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	10	0	0	0	1878	0	346	2412	0
Peak Hour 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
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	3	0	0	0	470	0	87	603	0
Total Analysis Volume [veh/h]	0	0	0	10	0	0	0	1878	0	346	2412	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.10	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10000.0	0.00	0.00	0.00	0.00	0.00	115.85	0.00	0.00
Movement LOS				F				A		F	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.66	0.00	0.00	0.00	0.00	0.00	13.43	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	66.50	0.00	0.00	0.00	0.00	0.00	335.75	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10000.00			0.00			14.53		
Approach LOS	A			F			A			B		
d_I, Intersection Delay [s/veh]	30.15											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	68.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.157

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	515	312	1629	0	84	2265
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	515	312	1629	0	84	2265
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]	129	78	407	0	21	566
Total Analysis Volume [veh/h]	515	312	1629	0	84	2265
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.32	0.22	0.51	0.00	0.05	0.71
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	32.00	21.49	20.89	0.00	42.36	17.00
k, delay calibration	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
d2, Incremental Delay [s]	76.07	4.05	16.54	0.00	80.75	67.99
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.11	0.56	0.97	0.00	0.94	1.14
d, Delay for Lane Group [s/veh]	108.07	25.54	37.44	0.00	123.11	84.99
Lane Group LOS	F	C	D	A	F	F
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	19.48	5.57	18.85	0.00	3.83	36.14
50th-Percentile Queue Length [ft/ln]	487.06	139.28	471.37	0.00	95.87	903.47
95th-Percentile Queue Length [veh/ln]	28.48	9.44	25.98	0.00	6.90	50.97
95th-Percentile Queue Length [ft/ln]	711.94	236.05	649.41	0.00	172.57	1274.24

**Movement, Approach, & Intersection Results**

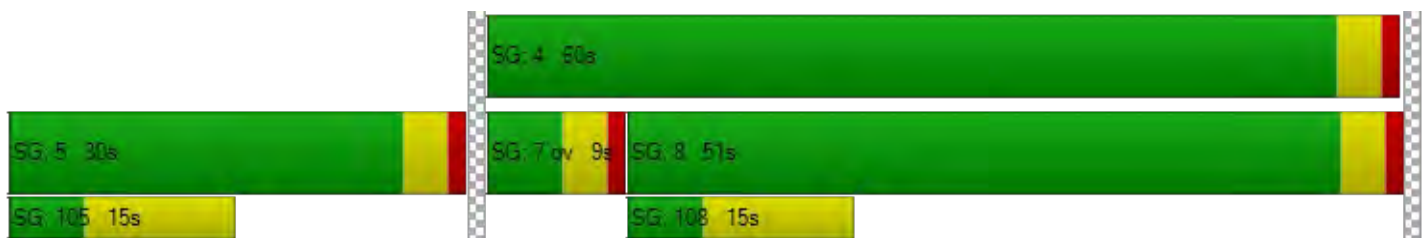
d_M, Delay for Movement [s/veh]	108.07	25.54	37.44	0.00	123.11	84.99
Movement LOS	F	C	D	A	F	F
d_A, Approach Delay [s/veh]	76.93		37.44		86.35	
Approach LOS	E		D		F	
d_I, Intersection Delay [s/veh]	68.15					
Intersection LOS	E					
Intersection V/C	1.157					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.238	3.161	3.193
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.904	3.498
Bicycle LOS	A	C	C

**Sequence**




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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	58.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.048

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	676	1356	599	272	704	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	676	1356	599	272	704	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]	169	339	150	68	176	2
Total Analysis Volume [veh/h]	676	1356	599	272	704	8
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	66	28	0	24	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	62	24	24	20	20
g / C, Green / Cycle	0.38	0.69	0.27	0.27	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.42	0.42	0.26	0.29	0.22	0.22
s, saturation flow rate [veh/h]	1603	3204	1683	1516	1603	1599
c, Capacity [veh/h]	606	2207	449	404	356	355
d1, Uniform Delay [s]	28.00	7.55	32.65	33.00	35.00	35.00
k, delay calibration	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
d2, Incremental Delay [s]	72.87	1.29	35.71	67.01	47.82	48.03
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.12	0.61	0.97	1.08	1.00	1.00
d, Delay for Lane Group [s/veh]	100.87	8.84	68.36	100.01	82.82	83.03
Lane Group LOS	F	A	E	F	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	24.59	6.15	13.53	16.04	12.32	12.30
50th-Percentile Queue Length [ft/ln]	614.71	153.68	338.22	401.02	307.89	307.56
95th-Percentile Queue Length [veh/ln]	35.22	10.21	19.56	23.61	18.08	18.07
95th-Percentile Queue Length [ft/ln]	880.58	255.33	489.03	590.33	451.91	451.65



**Movement, Approach, & Intersection Results**

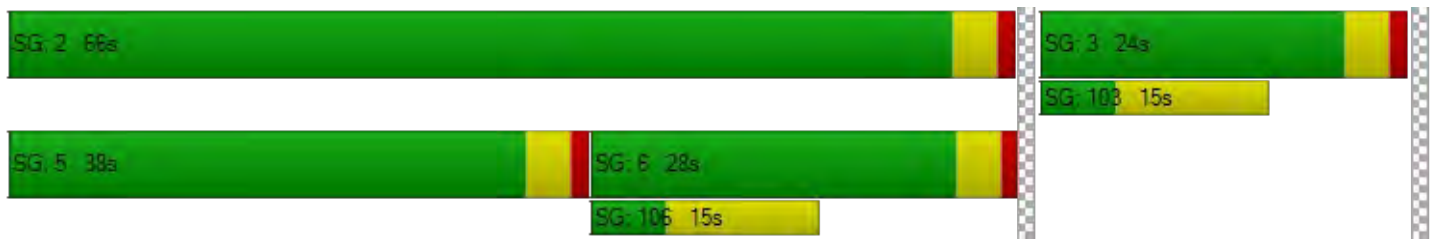
d_M, Delay for Movement [s/veh]	100.87	8.84	77.00	100.01	82.93	83.03
Movement LOS	F	A	E	F	F	F
d_A, Approach Delay [s/veh]	39.46		84.19		82.93	
Approach LOS	D		F		F	
d_I, Intersection Delay [s/veh]	58.80					
Intersection LOS	E					
Intersection V/C	1.048					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.883	3.004	2.481
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1378	533	444
d_b, Bicycle Delay [s]	4.36	24.20	27.22
I_b,int, Bicycle LOS Score for Intersection	3.236	2.278	2.734
Bicycle LOS	C	B	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	899.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.629

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1968	993	0	142	316
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1968	993	0	142	316
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	492	248	0	36	79
Total Analysis Volume [veh/h]	0	1968	993	0	142	316
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	0.02	0.01	0.00	2.63	0.61
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	899.75	22.15
Movement LOS		A	A		F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	14.64	4.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	365.90	100.77
d_A, Approach Delay [s/veh]	0.00		0.00		294.24	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	39.42					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	62.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.158

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	508	0	690	105	152	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	508	0	690	105	152	397
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]	127	0	173	26	38	99
Total Analysis Volume [veh/h]	508	0	690	105	152	397
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	671	690	650	642
Degree of Utilization, x	0.76	1.16	0.16	0.24

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	6.95	23.00	0.57	0.92
95th-Percentile Queue Length [ft]	173.81	575.07	14.32	22.92
Approach Delay [s/veh]	23.04	97.25		10.34
Approach LOS	C	F		B
Intersection Delay [s/veh]	62.26			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	86.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.957

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
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	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	53	387	1073	412	62	31	255	620	58	710	1606	318
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	387	1073	412	62	31	255	620	58	710	1606	318
Peak Hour 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
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]	13	97	268	103	16	8	64	155	15	178	402	80
Total Analysis Volume [veh/h]	53	387	1073	412	62	31	255	620	58	710	1606	318
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	19	0	18	19	0	38	39	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	10	10	15	15	15	14	15	15	34	35	35
g / C, Green / Cycle	0.11	0.11	0.17	0.17	0.17	0.16	0.17	0.17	0.38	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.13	0.13	0.06	0.16	0.14	0.14	0.44	0.40	0.42
s, saturation flow rate [veh/h]	1664	1532	1603	1603	1446	1603	3204	1611	1603	3204	1549
c, Capacity [veh/h]	185	170	267	267	241	249	534	268	606	1246	602
d1, Uniform Delay [s]	40.00	40.00	35.86	35.86	33.40	38.00	36.36	36.39	28.00	27.50	27.50
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
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]	145.90	146.81	19.14	19.14	4.61	62.98	14.96	26.87	94.28	31.39	59.55
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	1.24	1.24	0.77	0.77	0.39	1.02	0.84	0.85	1.17	1.02	1.08
d, Delay for Lane Group [s/veh]	185.90	186.81	55.00	55.00	38.01	100.98	51.32	63.26	122.28	58.89	87.05
Lane Group LOS	F	F	E	E	D	F	D	E	F	F	F
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.51	10.64	5.66	5.66	2.09	9.74	5.81	6.76	28.19	18.07	22.18
50th-Percentile Queue Length [ft/ln]	287.84	266.04	141.59	141.59	52.32	243.60	145.31	169.04	704.74	451.72	554.56
95th-Percentile Queue Length [veh/ln]	18.52	17.31	9.57	9.57	3.77	15.02	9.77	11.03	40.93	25.44	31.50
95th-Percentile Queue Length [ft/ln]	463.02	432.66	239.16	239.16	94.18	375.54	244.16	275.65	1023.21	635.92	787.40

**Movement, Approach, & Intersection Results**

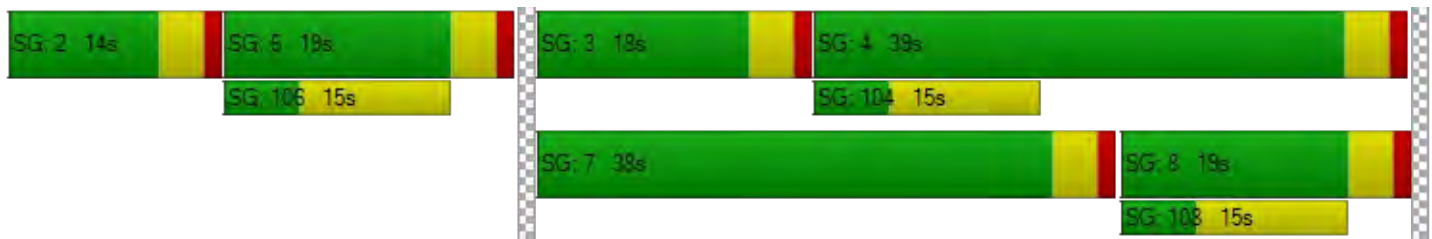
d_M, Delay for Movement [s/veh]	185.90	186.39	0.00	55.00	38.01	38.01	100.98	54.59	63.26	122.28	64.70	87.05
Movement LOS	F	F		E	D	D	F	D	E	F	E	F
d_A, Approach Delay [s/veh]	186.33			51.87			67.81			82.92		
Approach LOS	F			D			E			F		
d_I, Intersection Delay [s/veh]	86.41											
Intersection LOS	F											
Intersection V/C	0.957											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.661	2.587	2.961	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	222	333	333	778
d_b, Bicycle Delay [s]	35.56	31.25	31.25	16.81
I_b,int, Bicycle LOS Score for Intersection	1.923	1.976	2.073	3.008
Bicycle LOS	A	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	48.687

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	17	0	0	0	2522	0	159	1672	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	17	0	0	0	2522	0	159	1672	0
Peak Hour 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
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	4	0	0	0	631	0	40	418	0
Total Analysis Volume [veh/h]	0	0	0	17	0	0	0	2522	0	159	1672	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	48.69	0.00	0.00	0.00	0.03	0.00	0.90	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10000.0	0.00	0.00	0.00	0.00	0.00	97.68	0.00	0.00
Movement LOS				F				A		F	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.77	0.00	0.00	0.00	0.00	0.00	6.74	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	94.29	0.00	0.00	0.00	0.00	0.00	168.49	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10000.00			0.00			8.48		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	42.46											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	27	35	1280	125	390	1890
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	35	1280	125	390	1890
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]	7	9	320	31	98	473
Total Analysis Volume [veh/h]	27	35	1280	125	390	1890
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	19	19	43	0	28	71
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	43	39	39	24	67
g / C, Green / Cycle	0.17	0.48	0.43	0.43	0.27	0.74
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.40	0.09	0.24	0.59
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	267	683	1389	620	427	2385
d1, Uniform Delay [s]	31.79	12.58	24.06	15.83	31.98	7.16
k, delay calibration	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
d2, Incremental Delay [s]	0.76	0.14	11.51	0.73	26.31	2.79
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.10	0.05	0.92	0.20	0.91	0.79
d, Delay for Lane Group [s/veh]	32.54	12.72	35.58	16.57	58.29	9.96
Lane Group LOS	C	B	D	B	E	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.55	0.39	14.24	1.67	11.09	9.00
50th-Percentile Queue Length [ft/ln]	13.73	9.80	356.11	41.78	277.17	225.00
95th-Percentile Queue Length [veh/ln]	0.99	0.71	20.43	3.01	16.55	13.92
95th-Percentile Queue Length [ft/ln]	24.71	17.64	510.85	75.21	413.69	348.00



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.54	12.72	35.58	16.57	58.29	9.96
Movement LOS	C	B	D	B	E	A
d_A, Approach Delay [s/veh]	21.35		33.88		18.23	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	24.15					
Intersection LOS	C					
Intersection V/C	0.743					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.129	2.949	3.096
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	333	867	1489
d_b, Bicycle Delay [s]	31.25	14.45	2.94
I_b,int, Bicycle LOS Score for Intersection	1.560	2.719	3.441
Bicycle LOS	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 4: Telegraph Road & I-5 NB Ramps**

Control Type:	Signalized	Delay (sec / veh):	115.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.205

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↩ ↑		↑ ↩		↩↪	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	545	676	1318	306	612	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	545	676	1318	306	612	72
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]	136	169	330	77	153	18
Total Analysis Volume [veh/h]	545	676	1318	306	612	72
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	6	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	28	70	42	0	20	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	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
Detector Length [ft]	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

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

Lane Group	L	C	C	C	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	66	38	38	16	16
g / C, Green / Cycle	0.27	0.73	0.42	0.42	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.34	0.21	0.48	0.51	0.22	0.22
s, saturation flow rate [veh/h]	1603	3204	1683	1578	1603	1563
c, Capacity [veh/h]	427	2350	711	666	285	278
d1, Uniform Delay [s]	33.00	4.06	26.00	26.00	37.00	37.00
k, delay calibration	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
d2, Incremental Delay [s]	140.93	0.31	80.42	111.68	123.73	126.17
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	0.29	1.14	1.22	1.21	1.22
d, Delay for Lane Group [s/veh]	173.93	4.36	106.42	137.68	160.73	163.17
Lane Group LOS	F	A	F	F	F	F
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	25.74	1.72	30.09	34.00	15.92	15.71
50th-Percentile Queue Length [ft/ln]	643.43	43.03	752.27	850.02	397.94	392.70
95th-Percentile Queue Length [veh/ln]	38.81	3.10	42.88	49.69	24.57	24.33
95th-Percentile Queue Length [ft/ln]	970.36	77.45	1072.12	1242.18	614.27	608.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	173.93	4.36	118.42	137.68	161.79	163.17
Movement LOS	F	A	F	F	F	F
d_A, Approach Delay [s/veh]	80.05		122.05		161.94	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	115.25					
Intersection LOS	F					
Intersection V/C	1.205					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.879	3.001	2.441
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	844	356
d_b, Bicycle Delay [s]	3.20	15.02	30.42
I_b,int, Bicycle LOS Score for Intersection	2.567	2.899	2.688
Bicycle LOS	B	C	B

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 6: Telegraph Rd & I-5 NB Off Ramp**

Control Type:	Two-way stop	Delay (sec / veh):	5,289.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	11.830

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↑↑		↑↑		↵↶	
Turning Movement	Left	Thru	Thru	Right	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1015	2167	0	212	297
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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	1015	2167	0	212	297
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	254	542	0	53	74
Total Analysis Volume [veh/h]	0	1015	2167	0	212	297
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	0.01	0.02	0.00	11.83	1.40
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	5289.76	248.39
Movement LOS		A	A		F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	27.18	17.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	679.61	427.35
d_A, Approach Delay [s/veh]	0.00		0.00		2348.13	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	323.81					
Intersection LOS	F					



**Intersection Level Of Service Report**  
**Intersection 9: I-5 SB Ramps & Bandini Boulevard**

Control Type:	All-way stop	Delay (sec / veh):	187.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.635

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	242	4	1081	421	76	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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]	242	4	1081	421	76	401
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]	61	1	270	105	19	100
Total Analysis Volume [veh/h]	242	4	1081	421	76	401
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	716	1081	728	749
Degree of Utilization, x	0.34	1.63	0.58	0.10

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.53	59.30	3.74	0.34
95th-Percentile Queue Length [ft]	38.30	1482.51	93.57	8.43
Approach Delay [s/veh]	10.64	225.03		8.35
Approach LOS	B	F		A
Intersection Delay [s/veh]	187.09			
Intersection LOS	F			

**Intersection Level Of Service Report**

**Intersection 13: I-5 SB Ramps / Gage Avenue & Slauson Avenue**

Control Type:	Signalized	Delay (sec / veh):	254.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.348

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	73	297	1072	111	64	4	544	1321	91	1203	773	426
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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	297	1072	111	64	4	544	1321	91	1203	773	426
Peak Hour 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
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]	18	74	268	28	16	1	136	330	23	301	193	107
Total Analysis Volume [veh/h]	73	297	1072	111	64	4	544	1321	91	1203	773	426
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	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]	90
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]	10.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	10	0	0	19	0	31	20	0	41	30	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	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	10	0	0	10	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]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
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	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
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]	6	6	15	15	15	27	16	16	37	26	26
g / C, Green / Cycle	0.07	0.07	0.17	0.17	0.17	0.30	0.18	0.18	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.04	0.04	0.04	0.34	0.29	0.29	0.75	0.24	0.30
s, saturation flow rate [veh/h]	1652	1532	1603	1617	1513	1603	3204	1628	1603	3204	1431
c, Capacity [veh/h]	110	102	267	270	252	481	570	289	659	926	413
d1, Uniform Delay [s]	42.00	42.00	32.49	32.48	32.46	31.50	37.00	37.00	26.50	29.99	32.00
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
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]	371.90	369.01	1.99	1.96	2.05	82.26	296.52	306.49	377.49	8.80	52.41
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	1.75	1.74	0.23	0.23	0.22	1.13	1.64	1.65	1.83	0.84	1.03
d, Delay for Lane Group [s/veh]	413.90	411.01	34.48	34.44	34.51	113.76	333.52	343.49	403.99	38.79	84.41
Lane Group LOS	F	F	C	C	C	F	F	F	F	D	F
Critical Lane Group	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	13.79	12.70	1.29	1.29	1.19	21.03	29.58	30.86	82.34	8.72	14.67
50th-Percentile Queue Length [ft/ln]	344.69	317.57	32.25	32.30	29.87	525.70	739.57	771.59	2058.53	217.94	366.81
95th-Percentile Queue Length [veh/ln]	22.84	21.26	2.32	2.33	2.15	30.75	46.67	48.54	130.75	13.56	21.35
95th-Percentile Queue Length [ft/ln]	570.94	531.38	58.05	58.15	53.76	768.85	1166.82	1213.46	3268.87	339.00	533.69

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	413.90	412.18	0.00	34.46	34.49	34.51	113.76	336.43	343.49	403.99	38.79	84.41
Movement LOS	F	F		C	C	C	F	F	F	F	D	F
d_A, Approach Delay [s/veh]	412.52			34.48			274.83			229.78		
Approach LOS	F			C			F			F		
d_I, Intersection Delay [s/veh]	254.39											
Intersection LOS	F											
Intersection V/C	1.348											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
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]	36.45	36.45	36.45	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.735	2.583	2.986	0.000
Crosswalk LOS	B	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	333	356	578
d_b, Bicycle Delay [s]	39.20	31.25	30.42	22.76
I_b,int, Bicycle LOS Score for Intersection	1.865	1.707	2.635	2.881
Bicycle LOS	A	A	B	C

**Sequence**

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



**Intersection Level Of Service Report**  
**Intersection 24: I-5 SB Ramps & Paramount Boulevard**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			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	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	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			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	0	0	10	0	0	0	1885	0	346	2418	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 [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
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]	0	0	0	10	0	0	0	1885	0	346	2418	0
Peak Hour 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
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	3	0	0	0	471	0	87	605	0
Total Analysis Volume [veh/h]	0	0	0	10	0	0	0	1885	0	346	2418	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

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

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.10	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10000.0	0.00	0.00	0.00	0.00	0.00	118.38	0.00	0.00
Movement LOS				F				A		F	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.66	0.00	0.00	0.00	0.00	0.00	13.57	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	66.50	0.00	0.00	0.00	0.00	0.00	339.37	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10000.00			0.00			14.82		
Approach LOS	A			F			A			B		
d_I, Intersection Delay [s/veh]	30.26											
Intersection LOS	F											

**Intersection Level Of Service Report**  
**Intersection 25: I-5 NB Ramps & Paramount Boulevard**

Control Type:	Signalized	Delay (sec / veh):	69.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.159

**Intersection Setup**

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↵↵		↑↑↵		↵↑↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	515	332	1636	0	88	2271
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	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	0	0	0	0	0
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
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	515	332	1636	0	88	2271
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]	129	83	409	0	22	568
Total Analysis Volume [veh/h]	515	332	1636	0	88	2271
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
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]	10.00

**Phasing & Timing**

Control Type	Permissive	Overlap	Permissive	Permissive	Protected	Permissive
Signal Group	5	5	8	0	7	4
Auxiliary Signal Groups		5,7				
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	5	5	0	5	5
Maximum Green [s]	30	30	30	0	30	30
Amber [s]	3.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	30	51	0	9	60
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	5	5	0	0	5
Pedestrian Clearance [s]	10	10	10	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No	No	No		No	No
Maximum Recall	No	No	No		No	No
Pedestrian Recall	No	No	No		No	No
Detector Location [ft]	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
I, Upstream Filtering Factor	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	R	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	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
l2, Clearance Lost Time [s]	2.00	0.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	35	47	47	5	56
g / C, Green / Cycle	0.29	0.39	0.52	0.52	0.06	0.62
(v / s)_i Volume / Saturation Flow Rate	0.32	0.23	0.51	0.00	0.05	0.71
s, saturation flow rate [veh/h]	1603	1431	3204	1431	1603	3204
c, Capacity [veh/h]	463	556	1673	747	89	1994
d1, Uniform Delay [s]	32.00	21.88	20.99	0.00	42.47	17.00
k, delay calibration	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
d2, Incremental Delay [s]	76.07	4.67	17.30	0.00	92.20	69.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.11	0.60	0.98	0.00	0.99	1.14
d, Delay for Lane Group [s/veh]	108.07	26.55	38.29	0.00	134.68	86.24
Lane Group LOS	F	C	D	A	F	F
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	19.48	6.08	19.16	0.00	4.21	36.48
50th-Percentile Queue Length [ft/ln]	487.06	151.99	479.06	0.00	105.27	912.12
95th-Percentile Queue Length [veh/ln]	28.48	10.12	26.34	0.00	7.58	51.51
95th-Percentile Queue Length [ft/ln]	711.94	253.09	658.54	0.00	189.40	1287.66

**Movement, Approach, & Intersection Results**

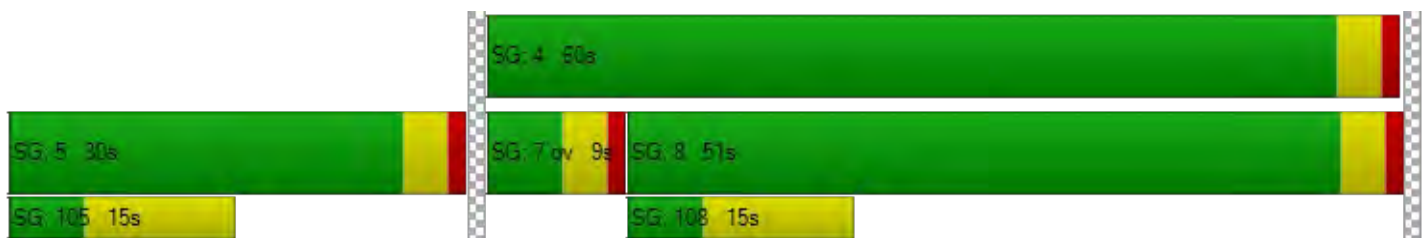
d_M, Delay for Movement [s/veh]	108.07	26.55	38.29	0.00	134.68	86.24
Movement LOS	F	C	D	A	F	F
d_A, Approach Delay [s/veh]	76.12		38.29		88.04	
Approach LOS	E		D		F	
d_I, Intersection Delay [s/veh]	69.14					
Intersection LOS	E					
Intersection V/C	1.159					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	2.246	3.164	3.198
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	1044	1244
d_b, Bicycle Delay [s]	22.76	10.27	6.42
I_b,int, Bicycle LOS Score for Intersection	1.560	2.909	3.506
Bicycle LOS	A	C	D

**Sequence**

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



## MEMORANDUM

**TO:** Jose Jimenez, City of Commerce

**FROM:** Patrick Gibson, P.E., P.T.O.E.  
Richard Gibson, LEED Green Associate

**DATE:** March 16, 2020

**RE:** Construction Traffic Analysis for the  
Modelo Mixed-Use Project  
Commerce, California

**Ref:** J1567b

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Gibson Transportation Consulting, Inc. (GTC) was asked to conduct an assessment of construction traffic for the proposed Modelo Mixed-Use Project (the Project). This memo is a supplement to the approved *Transportation Impact Study for the Modelo Mixed-Use Development, Commerce, California* (GTC, December 2019) (Transportation Study).

GTC reviewed the construction assumptions provided by the team and incorporated pertinent data relative to traffic and circulation. This construction traffic analysis relates to the temporary impacts that may result from the construction activities of the Project, which may include safety, operational, or capacity impacts.

### TYPES OF CONSTRUCTION IMPACTS

There are four types of in-street construction impacts. Each of the four types of impacts refers to a particular population that could be inconvenienced by construction activities. The four types of impacts and related populations are:

1. Temporary traffic impacts: potential impacts on vehicular travelers on roadways
2. Temporary loss of access: potential impacts on visitors entering and leaving sites
3. Temporary loss of bus stops or rerouting of bus lines: potential impacts on bus travelers
4. Temporary loss of on-street parking: potential impacts on parkers

The factors used to determine the significance of a project's impacts involve the likelihood and extent to which an impact might occur, the potential inconvenience caused to a population, and consideration for public safety. Traffic impacts from a project's construction activities could occur as a result of the following types of activities:

- Increases in truck traffic associated with export of fill materials and delivery of construction materials
- Increases in automobile traffic associated with construction workers traveling to and from the site
- Reductions in existing street capacity or on-street parking from temporary lane closures necessary for the construction of roadway improvements, utility relocation, and drainage facilities
- Blocking existing vehicle or pedestrian access to other parcels fronting street

A project's construction traffic could decrease the capacity of access streets and haul routes due to slower movements and larger turning radii of trucks.

## **CONSTRUCTION ASSUMPTIONS**

This Project's construction processes were broken into four separate phases: remediation/demolition, grading, foundations, and vertical construction. A trip generation for each of the four phases was developed for each of the four phases as shown in Table 1.

Each of the processes involves two types of vehicular trips. Heavy vehicle trips, which include hauling trucks and other large construction vehicles, are predominately oriented toward freeway routes, while the worker trips, mainly passenger vehicles, have diverse destinations more similar to the Project's distribution assumptions.

The Project will be constructed over a period of 49 months. Each phase of construction is expected to require the following timeframe to complete:

- Remediation/Demolition – 12 months
- Site Preparation – 6 months
- Grading – 6 months
- Building Construction – 21 months
- Paving – 2 months
- Architectural Coating – 2 months

For this Project, the highest number of heavy vehicle trips occurs during the remediation/demolition phase while the highest number of worker trips occurs during the building construction phase. Thus, this analysis covers the remediation/demolition building construction processes.

The City of Commerce limits construction activities to the hours between 7:00 AM and 10:00 PM. Some activities may require after-hours construction and the appropriate approvals/permits would be secured.



## **Remediation/Demolition**

Based on data provided for the total number of trucks needed for this phase and the number of days the phase would last, it was determined that the worst-case truck trip demand occurs during the remediation/demolition component, requiring 95 trucks daily.

Additionally, the remediation/demolition phase anticipates 8 workers per day and is estimated to require approximately 12 months for completion.

## **Building Construction**

Building construction activities are planned over a 21-month period and include a maximum of 531 workers per day and 136 vendors per day.

## **CONSTRUCTION TRIP GENERATION**

Based on implementation of the Construction Management Plan which is described in more detail later in this memo, it is assumed that heavy vehicle activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, as discussed in more detail in the following section, worker trips to and from the Project Site would also occur outside of the peak hours. Therefore, no peak hour construction traffic impacts would occur during the remediation/excavation, grading, or construction components of this development.

## **Remediation/Demolition**

Based on the construction trip generation data provided in Table 1, the remediation/demolition phase of construction is anticipated to have the highest number of heavy vehicle trips. For the purposes of analysis, heavy vehicles were converted into passenger car equivalencies (PCEs). *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, (Transportation Research Board, 1980) (*Circular No. 212*) defines PCE for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay-creating effects. Table 8 of *Circular No. 212* and Exhibit 12-25 of *6<sup>TH</sup> Edition Highway Capacity Manual* (Transportation Research Board, 2017) suggest a PCE of 2.0 for trucks for the local terrain.

Applying the conversion factor of 2.0 for trucks to calculate the PCE, truck traffic for the remediation/demolition period will generate 190 PCE trips inbound and 190 PCE trips outbound per day (380 total trips during the entire day).

In addition, during this period a maximum of 8 construction workers for the Project would work at the Project Site during this phase. With no carpooling or transit assumed amongst those workers, a total of 16 worker trips (8 inbound and 8 outbound) is anticipated.

The total number of trips for the remediation/demolition period is provided on Table 1.

Based on implementation of the Construction Management Plan, it is assumed that haul truck activity to and from the Project Site would occur outside of the morning and afternoon peak hours.

In addition, hours of construction typically require worker trips to and from the Project Site to also occur outside of the peak hours.

### **Building Construction**

Based on the construction trip generation data provided in Table 1, the building construction phase is anticipated to have the highest number of worker trips.

The trip generation for the building construction component was developed in the same way as the foundation component. During this period a maximum of 531 construction workers and 136 vendors for the Project would work at the Project Site during this phase. With no carpooling or transit assumed amongst those workers, a total of 1,334 worker/vendor trips (667 inbound and 667 outbound) is anticipated.

The total number of trips for the building construction period is provided on Table 1.

Based on implementation of the Construction Management Plan, it is assumed that vendor activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, hours of construction typically require worker trips to and from the Project Site to also occur outside of the peak hours.

### **HAUL ROUTES**

Construction haul trucks must travel on approved truck routes designated within the City and on State facilities. Final haul routes will be established through the Construction Management Plan application, a process which is overseen by the City to avoid creating impacts from cumulative construction activities. The haul route will utilize Gage Avenue for access to the Project site to avoid impacts to the residential street Zindell Avenue.

### **POTENTIAL IMPACTS ON ACCESS, TRANSIT, AND PARKING**

Construction activities are expected to be primarily contained within the Project Site boundaries and would generally not affect the adjacent street access, transit or parking in the area. However, construction events may affect roadway operations by creating periodic curb lane closures to allow installation or removal of scaffolding, temporary placement of cranes or other heavy equipment and other activities. However, Project construction would not create such hazards for roadway travelers, bus riders, or parkers, as long as commonly practiced safety procedures for construction are followed, since such procedures are routinely incorporated into the Construction Management Plan.

Implementation of a Construction Management Plan would also avoid significant impacts due to the temporary loss of on-street parking, bus stops, or rerouting of bus lines during construction if those plans are expected to temporarily relocate transit service or restrict parking.

## CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Advance, bilingual notification of adjacent property owners and occupants of upcoming construction activities, including durations and daily hours of operation.
- Prohibition of construction worker or equipment parking on adjacent streets.
- Temporary pedestrian, bicycle, and vehicular traffic controls (i.e., flag persons) during all construction activities adjacent to public rights-of-way to ensure traffic safety on public roadways. These controls shall include, but not be limited to, flag people trained in pedestrian and bicycle safety.
- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag persons).
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Potential sequencing of construction activity to reduce the amount of construction-related traffic on arterial streets.
- Containment of construction activity within the Project Site boundaries.
- Prohibition of construction-related vehicles/equipment parking on surrounding public streets.
- Safety precautions for roadway travelers, transit riders, vehicular parking, pedestrians, and bicyclists through such measures as alternate routing and protection barriers shall be implemented as appropriate.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible.

**TABLE 1  
CONSTRUCTION TRAFFIC**

<b>Land Use</b>	<b>Units per day</b>	<b>Daily</b>	<b>Inbound</b>	<b>Outbound</b>
<u>Construction Trip Generation (Remediation/Demolition)</u>				
Heavy Vehicles	1350 yards			
(converted to PCE x 2.0)	95 trucks			
	190 pce	380	190	190
Workers	8 each	16	8	8
Vendors	0 each	0	0	0
<b>Total (Remediation/Demolition)</b>		<b>396</b>	<b>198</b>	<b>198</b>
<u>Construction Trip Generation (Site Preparation)</u>				
Heavy Vehicles	0 trucks			
(converted to PCE x 2.0)	0 pce	0	0	0
Workers	9 each	18	9	9
Vendors	0 each	0	0	0
<b>Total (Site Preparation)</b>		<b>18</b>	<b>9</b>	<b>9</b>
<u>Construction Trip Generation (Grading)</u>				
Heavy Vehicles	53 trucks			
(converted to PCE x 2.0)	106 pce	212	106	106
Workers	10 each	20	10	10
Vendors	0 each	0	0	0
<b>Total (Grading)</b>		<b>232</b>	<b>116</b>	<b>116</b>
<u>Construction Trip Generation (Building Construction)</u>				
Heavy Vehicles	0 trucks			
(converted to PCE x 2.0)	0 pce	0	0	0
Workers	531 each	1,062	531	531
Vendors	136 each	272	136	136
<b>Total (Building Construction)</b>		<b>1,334</b>	<b>667</b>	<b>667</b>
<u>Construction Trip Generation (Paving)</u>				
Heavy Vehicles	0 trucks			
(converted to PCE x 2.0)	0 pce	0	0	0
Workers	8 each	16	8	8
Vendors	0 each	0	0	0
<b>Total (Paving)</b>		<b>16</b>	<b>8</b>	<b>8</b>
<u>Construction Trip Generation (Architectural Coating)</u>				
Heavy Vehicles	0 trucks			
(converted to PCE x 2.0)	0 pce	0	0	0
Workers	106 each	212	106	106
Vendors	0 each	0	0	0
<b>Total (Architectural Coating)</b>		<b>212</b>	<b>106</b>	<b>106</b>

PCE = passenger car equivalency (to convert trucks into passenger cars for analysis)

