

Appendix H: Traffic Impact Analysis

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18181 IMPERIAL HIGHWAY IN-N-OUT TRAFFIC IMPACT ANALYSIS

City of Yorba Linda

March 18, 2020



Traffic Engineering • Transportation Planning • Parking • Noise & Vibration
Air Quality • Global Climate Change • Health Risk Assessment

18181 IMPERIAL HIGHWAY IN-N-OUT TRAFFIC IMPACT ANALYSIS

City of Yorba Linda

March 18, 2020

prepared by
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EXECUTIVE SUMMARY

The purpose of this Traffic Impact Analysis is to provide an assessment of traffic operations resulting from development of the proposed 18181 Imperial Highway In-N-Out project and to identify measures necessary to mitigate potentially significant transportation impacts. This report analyzes transportation impacts for the anticipated project opening year in Year 2021 and for a 21-year forecast reflective of the City of Yorba Linda Build-Out.

Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering.

PROJECT DESCRIPTION

The 1.43-acre project site is located at 18181 Imperial Highway. The project site is currently developed with the Yorba Linda Public Library, which will be relocated to the southeast corner of Lakeview Avenue and Lemon Drive.

The proposed project involves the construction of a 3,867 square foot In-N-Out Burger restaurant with drive-thru. All existing driveways currently serving the Yorba Linda Public Library will be closed, and new full access driveways are proposed at Lemon Drive and Olinda Street. The proposed project is anticipated to be constructed and fully operational by Year 2021.

EXISTING CONDITIONS

The study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions (see Table 1).

PROJECT TRIPS

The proposed project is forecast to generate a total of approximately 48 net new trips during the weekday evening peak hour and 36 net new trips during the Saturday mid-day peak hour (see Table 4).

FORECAST LEVEL OF SERVICE OPERATIONS

Existing Plus Project Conditions: The study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Project conditions and the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance (see Table 6).

Opening Year (2021) Without Project: The study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) Without Project conditions (see Table 7).

Opening Year (2021) With Project: The study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) With Project conditions and the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance (see Table 8).

Build-Out (Year 2040) Without Project: The study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Build-Out (Year 2040) Without Project conditions, with the exception of the following intersection (see Table 9):

- Imperial Highway at Yorba Linda Boulevard (#5) [LOS F – weekday evening peak hour]

Build-Out (Year 2040) With Project: The study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Build-Out (Year 2040) With Project conditions, with the exception of the following intersection (see Table 10):

- Imperial Highway at Yorba Linda Boulevard (#5) [LOS F – weekday evening peak hour]

Although the intersection of Imperial Highway at Yorba Linda Boulevard is forecast to operate at Level of Service F during the weekday evening peak hour, the project-related impact is less than one-percent of the capacity. Therefore, the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance for Build-Out (Year 2040) With Project conditions.

MITIGATION MEASURES

Mitigation Measure #1:

Extend the storage length of the southbound left turn lane at the intersection of Imperial Highway and Lemon Drive (east) from approximately 150 to 180 feet. This will require the northbound left turn lane at the intersection of Imperial Highway and Lemon Drive (west) to be reduced from approximately 150 to 120 feet.

Mitigation Measure #2:

Widen the south side of Lemon Drive between Imperial Highway and Plumosa Drive to provide two eastbound lanes, including a dedicated left turn lane and a shared through/right turn lane at the Plumosa Drive approach, and two westbound lanes, including a shared left/through lane and a dedicated right turn lane at the Imperial Highway approach.

Mitigation Measure #3:

Prohibit on-street parking on Olinda Street along the project frontage for approximately 80 feet from the curb return at Imperial Highway.

1. INTRODUCTION

This section describes the purpose of this traffic impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this traffic impact analysis is to provide an assessment of traffic operations resulting from development of the proposed 18181 Imperial Highway In-N-Out project and to identify measures necessary to mitigate potentially significant transportation impacts. This report analyzes transportation impacts for the anticipated project opening year in 2021.

Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with technical terms related to transportation engineering.

PROJECT DESCRIPTION

The 1.43 acre project site is located at 18181 Imperial Highway. The project site is currently developed with the Yorba Linda Public Library, which will be relocated to the southeast corner of Lakeview Avenue and Lemon Drive.

The proposed project involves the construction of a 3,867 square foot In-N-Out Burger restaurant with drive-thru. All existing driveways currently serving the Yorba Linda Public Library will be closed, and new full access driveways are proposed at Lemon Drive and Olinda Street. The proposed project is anticipated to be constructed and fully operational by Year 2021.

STUDY AREA

Based on the study intersections identified in the approved scoping agreement (Appendix B), the study area consists of the following study intersections within the City of Yorba Linda jurisdiction:

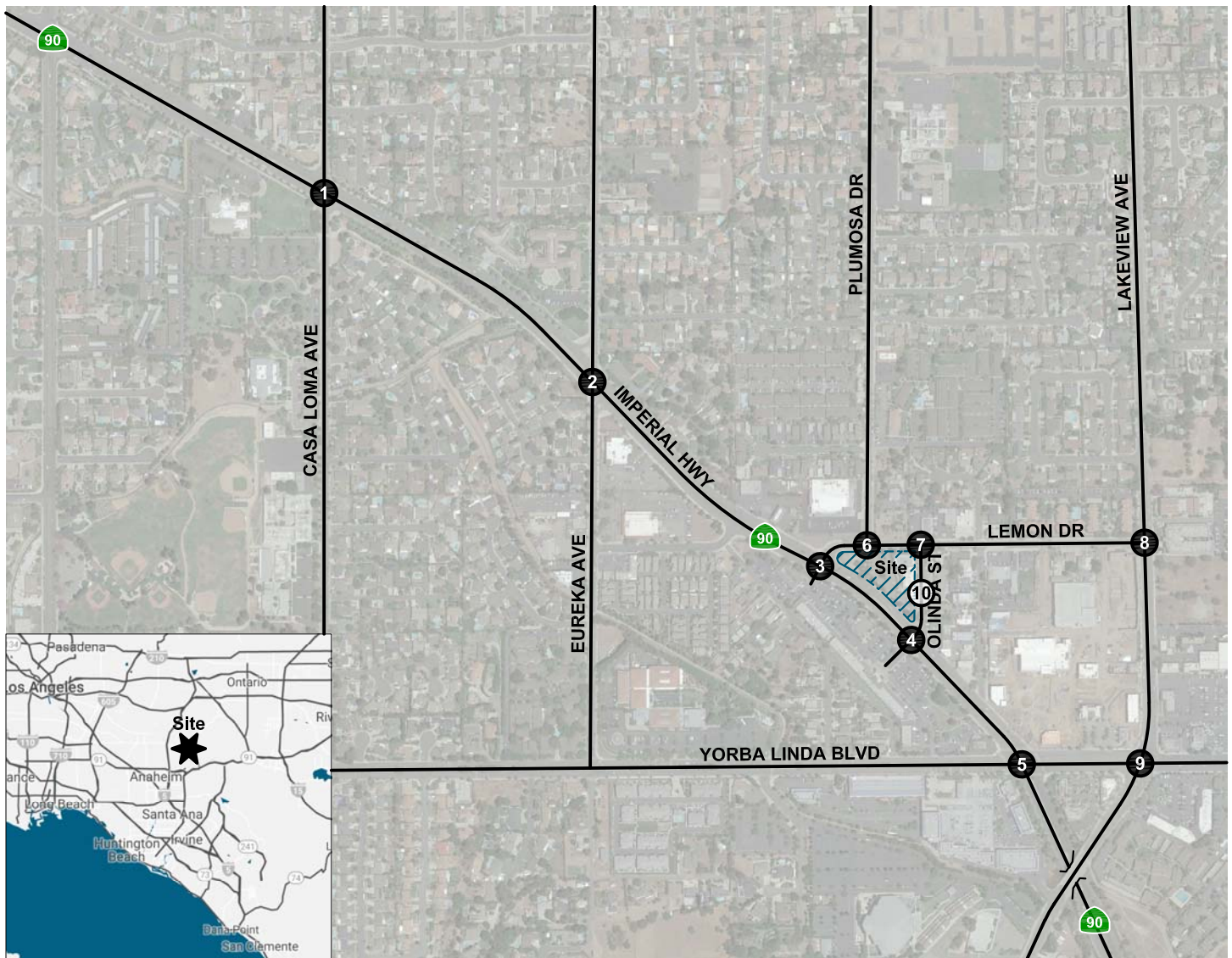
Study Intersections ¹	Jurisdiction
1. Imperial Highway (SR-90) (NS) at Casa Loma Avenue (EW)	Yorba Linda
2. Imperial Highway (SR-90) (NS) at Eureka Avenue (EW)	Yorba Linda
3. Imperial Highway (SR-90) (NS) at Lemon Drive (EW)	Yorba Linda
4. Imperial Highway (SR-90) (NS) at Olinda Street (EW)	Yorba Linda
5. Imperial Highway (SR-90) (NS) at Yorba Linda Boulevard (EW)	Yorba Linda
6. Plumosa Drive (NS) at Lemon Drive (EW)	Yorba Linda
7. Olinda Street (NS) at Lemon Drive (EW)	Yorba Linda
8. Lakeview Avenue (NS) at Lemon Drive (EW)	Yorba Linda
9. Lakeview Avenue (NS) at Yorba Linda Boulevard (EW)	Yorba Linda

ANALYSIS SCENARIOS

The following scenarios are analyzed during typical weekday evening (PM) and Saturday mid-day peak hour conditions:

¹ (NS) = north-south roadway; (EW) = east-west roadway

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year (2021) Without Project Conditions
- Opening Year (2021) With Project Conditions
- Build-Out (Year 2040) Without Project Conditions
- Build-Out (Year 2040) With Project Conditions



Legend

-  Study Intersection
-  Project Driveway

Figure 1
Project Location Map

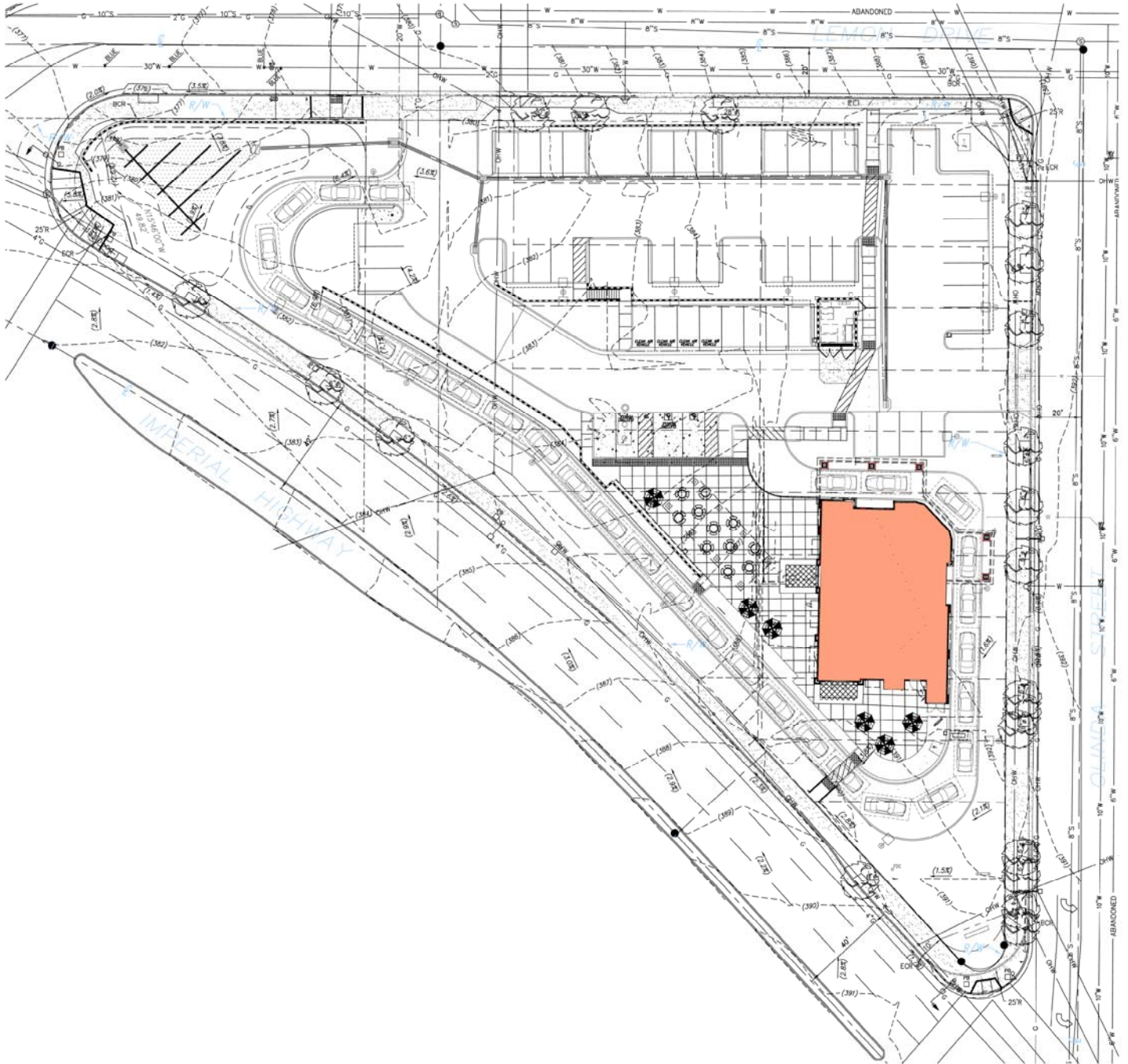


Figure 2
Site Plan

2. METHODOLOGY

This section describes the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

INTERSECTION CAPACITY UTILIZATION METHODOLOGY

Analysis of signalized intersections within the City of Yorba Linda is based on the Intersection Capacity Utilization (ICU) methodology. The ICU methodology compares the traffic volume using the intersection to the capacity of the intersection. The resulting volume-to-capacity ratio represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

The volume-to-capacity ratio is then correlated to a performance measure known as Level of Service based on the following thresholds:

Level of Service	Volume/Capacity Ratio
A	≤ 0.600
B	0.601 to 0.700
C	0.701 to 0.800
D	0.801 to 0.900
E	0.901 to 1.000
F	> 1.000

Source: Transportation Research Board, Interim Materials on Highway Capacity, Transportation Research Circular No. 212, January 1980.

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). ICU analysis was performed using the Vistro (Version 6.00-00) software.

Based on City of Yorba Linda guidelines², the ICU analysis utilizes 1,700 vehicles per hour per lane for through and turn lanes, 2,880 vehicles per hour for dual left-turn lanes, and a total clearance adjustment of 5 percent (i.e., 0.05 added to critical Volume/Capacity).

INTERSECTION DELAY METHODOLOGY

The technique used to assess the performance of unsignalized intersections is known as the intersection delay methodology based on the procedures contained in the Highway Capacity Manual. The methodology compares the traffic volume using the intersection to the capacity of the intersection to calculate the delay associated with the traffic control at the intersection. The intersection delay is then correlated to a performance measure known as Level of Service based on the following thresholds:

² City of Yorba Linda Traffic Impact Analysis (TIA) Guidelines; March 2008.

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, [Highway Capacity Manual](#) (6th Edition).

Level of Service is used to qualitatively describe the performance of a roadway facility, ranging from Level of Service A (free-flow conditions) to Level of Service F (extreme congestion and system failure). Intersection delay analysis was performed using the Vistro (Version 6.00-00) software.

PERFORMANCE STANDARDS

The City of Yorba Linda has established Level of Service D as the minimum acceptable Level of Service.

THRESHOLDS OF SIGNIFICANCE

For signalized study intersections within City of Yorba Linda jurisdiction, a project traffic impact is considered significant if the addition of project generated trips is forecast to cause an increase in volume-to-capacity of 0.01 or greater when the intersection is operating at unacceptable Level of Service (E or F) in the baseline condition.

Many jurisdictions, including the City of Yorba Linda, have not established significant impact thresholds for unsignalized intersections. For this traffic impact analysis, a project impact at an unsignalized intersection shall be considered significant if the addition of project-generated trips is forecast to cause or worsen Level of Service E or F and a traffic signal is warranted based on the peak hour volume criteria established in the [California Manual on Uniform Traffic Control Devices](#) (2014 Edition).

If a project is forecast to cause a significant traffic impact, feasible mitigation measures that will reduce the impact to a less than significant level are identified. Mitigation measures can be in many forms, including the addition of lanes, traffic control modification, or demand management measures. If no feasible mitigation measures can be identified for a significantly impacted facility, the impact will remain significant and unavoidable and a statement of overriding considerations is required.

3. EXISTING CONDITIONS

EXISTING ROADWAY SYSTEM

Figure 3 identifies the lane geometry and intersection traffic controls for Existing conditions based on a field survey of the study area. Regional access to the project area is provided by Imperial Highway (SR-90). Key north-south roadways providing local circulation include Imperial Highway, Casa Loma Avenue, Eureka Avenue, Plumosa Drive, and Lakeview Avenue. Key east-west roadways providing local circulation include Lemon Drive and Yorba Linda Boulevard.

Imperial Highway is a 6 lane divided roadway. Imperial Highway is classified as a Smart Street 6 Lane (100 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is prohibited. Sidewalks are generally provided on both sides of the roadway.

Casa Loma Avenue is a 2 lane undivided roadway. Casa Loma Avenue is classified as a Collector 2 Lane (60 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is prohibited. Sidewalks are generally provided on both sides of the roadway.

Eureka Avenue is a 2 lane undivided roadway. Eureka Avenue is classified as a Collector 2 Lane (60 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is prohibited. Sidewalks are generally provided on both sides of the roadway.

Plumosa Drive is a 2 lane undivided roadway. Plumosa Drive is classified as a Collector 2 Lane (60 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is generally permitted on both sides. Sidewalks are generally provided on both sides of the roadway.

Lakeview Avenue is a 4 lane divided roadway south of Lemon Drive and a 2 lane undivided roadway north of Lemon Drive. Lakeview Avenue is classified as a Secondary 4 Lane (80 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is prohibited. Sidewalks are generally provided on both sides of the roadway.

Lemon Drive is a 2 lane undivided roadway. Lemon Drive is not classified in the City of Yorba Linda General Plan. On-street parking is permitted east of Plumosa Drive. Sidewalks are generally provided on both sides of the roadway.

Yorba Linda Boulevard is a 6 lane divided roadway. Yorba Linda Boulevard is classified as a Modified Major 6 Lane (100 foot right-of-way) in the City of Yorba Linda General Plan. On-street parking is prohibited. Sidewalks are generally provided on both sides of the roadway.

PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown on Figure 4. As shown on Figure 4, pedestrian sidewalks are currently provided along the roadways adjacent to the project site.

BICYCLE ROUTES

There are currently no bicycle paths (existing or proposed) adjacent to the project site. The City of Yorba Linda Bikeway Master Plan is depicted on Figure 5.

TRANSIT FACILITIES

Figure 6 shows the existing transit routes available in the project vicinity. As shown on Figure 6, OCTA Local Route 26 traverses the site along Lemon Drive and Imperial Highway.

TRUCK ROUTES

Figure 7 shows the designated truck routes in the City of Yorba Linda. As shown on Figure 7, Imperial Highway, Plumosa Drive, Lakeview Avenue, and Yorba Linda Boulevard are designated truck routes in the project vicinity.

GENERAL PLAN CONTEXT

Figure 8 shows the City of Yorba Linda General Plan Circulation Element roadway classifications map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Yorba Linda standard roadway cross-sections are illustrated on Figure 9.

EXISTING ROADWAY VOLUMES

Existing peak hour volumes are based upon weekday PM peak period and Saturday mid-day peak period intersection turning movement counts obtained in May 2019 during typical weekday and weekend conditions when local schools were in session. The weekday evening peak period was counted between 4:00 PM and 6:00 PM and the Saturday mid-day peak period was counted between 11:00 AM and 1:00 PM. The actual peak hour within the peak period is the four consecutive 15 minute periods with the highest total volume when all movements are added together. Thus, the weekday evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15 minute periods have the highest combined volume. Intersection turning movement count worksheets are provided in Appendix C.

Figure 10 and Figure 11 show the Existing weekday evening peak hour and Saturday mid-day intersection turning movement volumes.

EXISTING INTERSECTION LEVEL OF SERVICE

The intersection Levels of Service for Existing conditions have been calculated and are shown in Table 1. Existing intersection Level of Service worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable Levels of Service (D or better) during the peak hours for Existing conditions.

Table 1
Existing Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Weekday PM Peak Hour		Saturday MD Peak Hour	
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴
1.	Imperial Hwy at Casa Loma Ave	TS	0.512	A	0.345	A
2.	Imperial Hwy at Eureka Ave	TS	0.528	A	0.385	A
3.	Imperial Hwy at Lemon Dr	TS	0.519	A	0.436	A
4.	Imperial Hwy at Olinda St	TS	0.530	A	0.408	A
5.	Imperial Hwy at Yorba Linda Blvd	TS	0.762	C	0.619	B
6.	Plumosa Dr/Project Dwy at Lemon Dr	AWS	[8.9]	A	[8.8]	A
7.	Olinda St at Lemon Dr	CSS	[12.0]	B	[12.0]	B
8.	Lakeview Ave at Lemon Dr	TS	0.337	A	0.346	A
9.	Lakeview Ave at Yorba Linda Blvd	TS	0.583	A	0.535	A

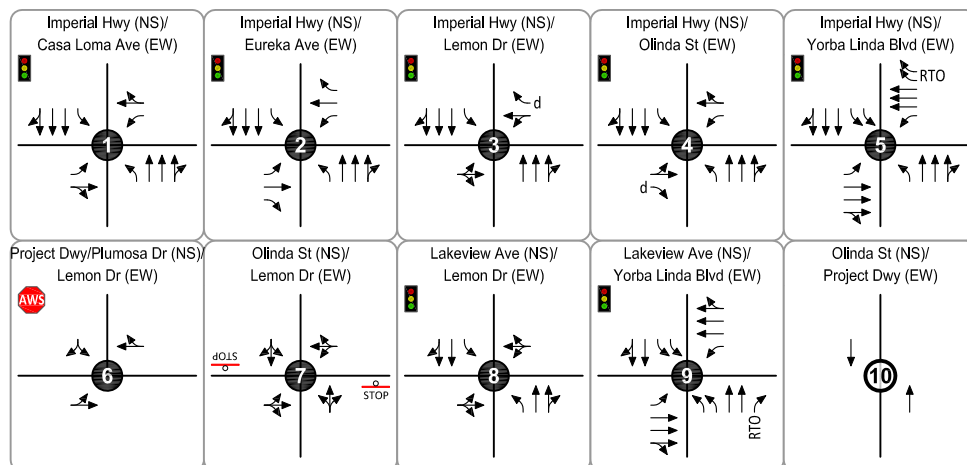
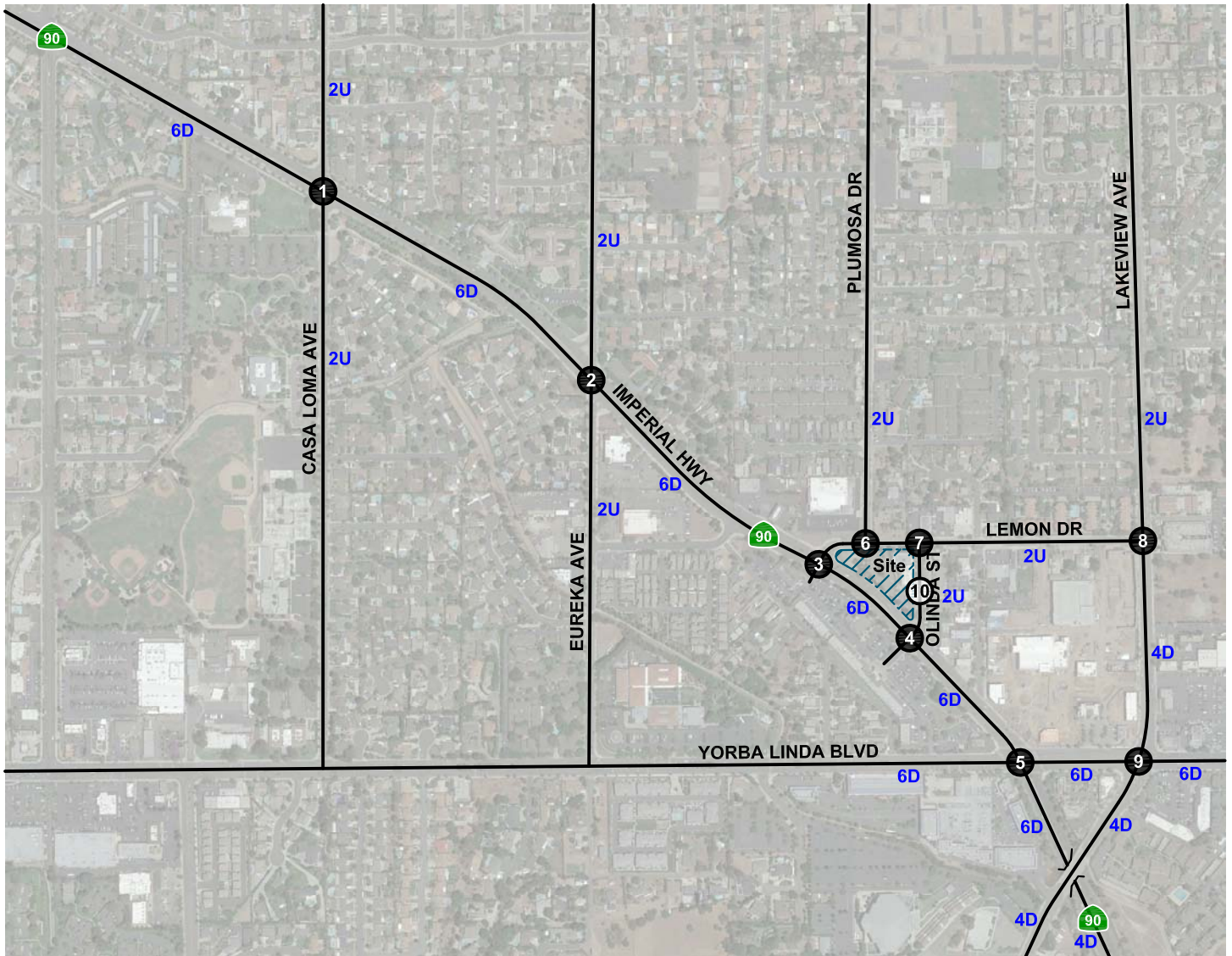
Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for un-signalized study intersections. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

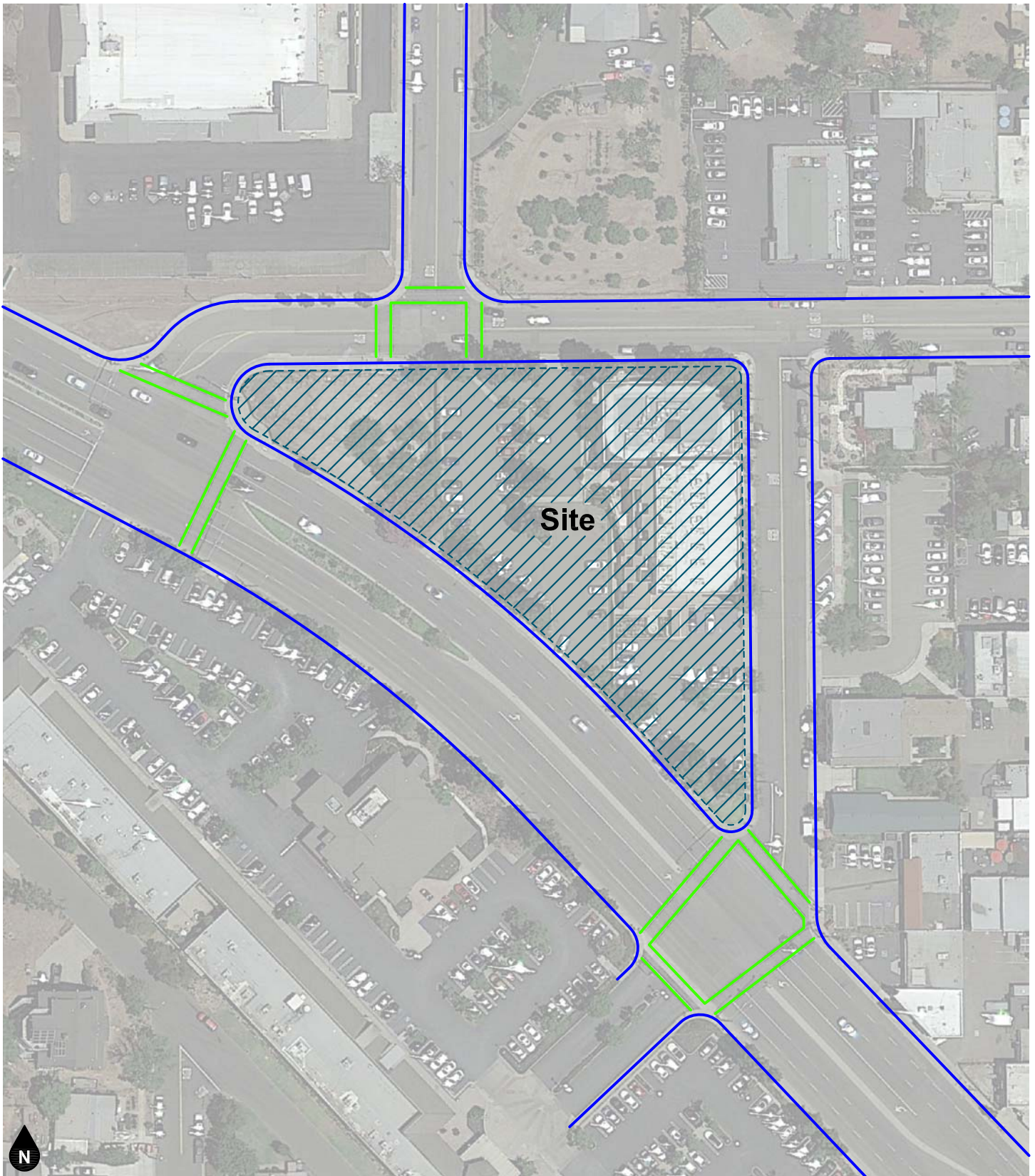
(4) LOS = Level of Service



Legend

- Traffic Signal
- All Way Stop
- Stop Sign
- #D #Lane Divided Roadway
- #U #Lane Undivided Roadway
- Existing Lane
- RTO Right Turn Overlap
- d De Facto Right Turn Lane

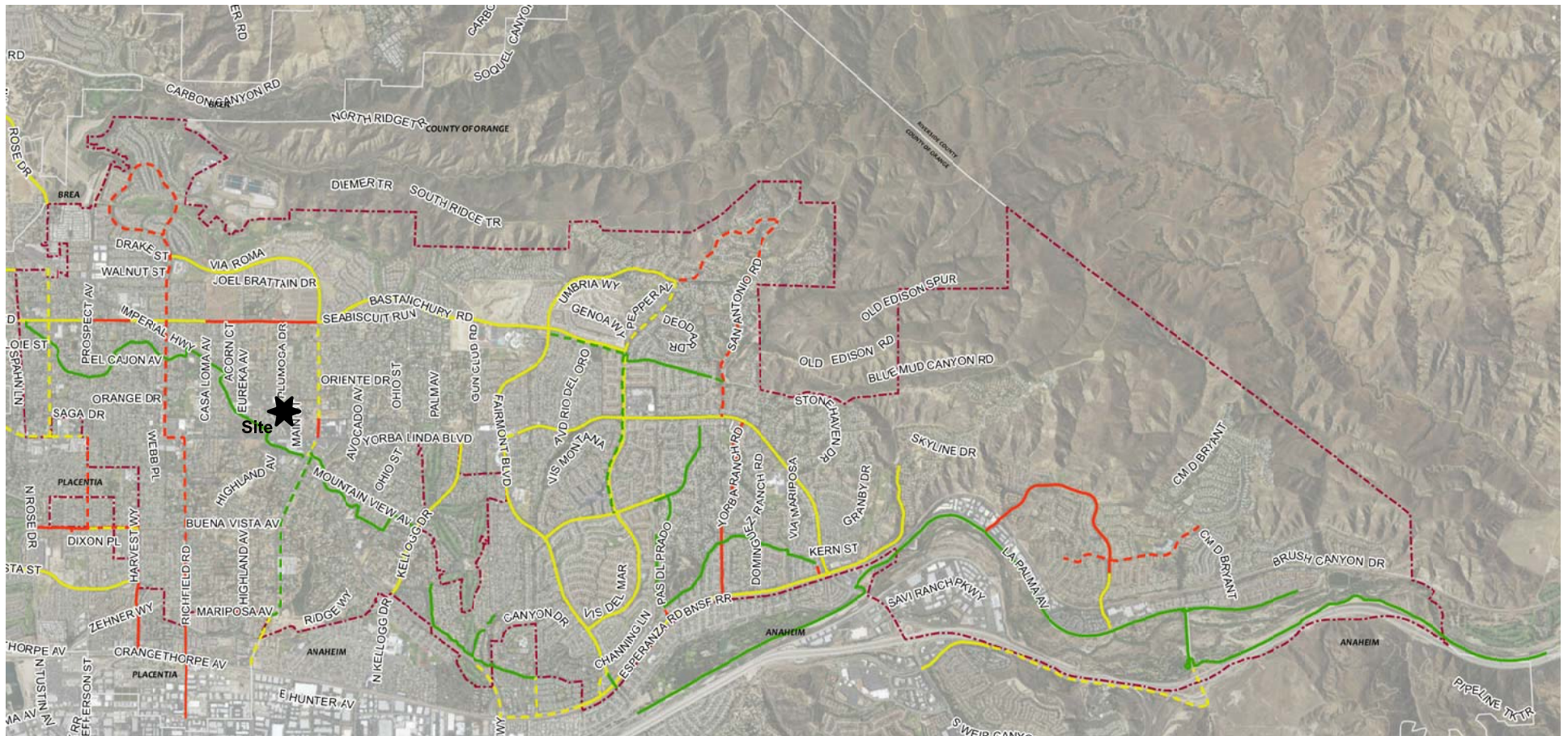
Figure 3
Existing Lane Geometry and Intersection Traffic Controls



Legend

- Sidewalk
- Cross Walk

Figure 4
Existing Pedestrian Facilities



- City Boundary
- Class I, Existing - - - Class I, Proposed
- Class II, Existing - - - Class II, Proposed
- Class III, Existing - - - Class III, Proposed



Figure 5
City of Yorba Linda Bikeway Map

Source: City of Yorba Linda

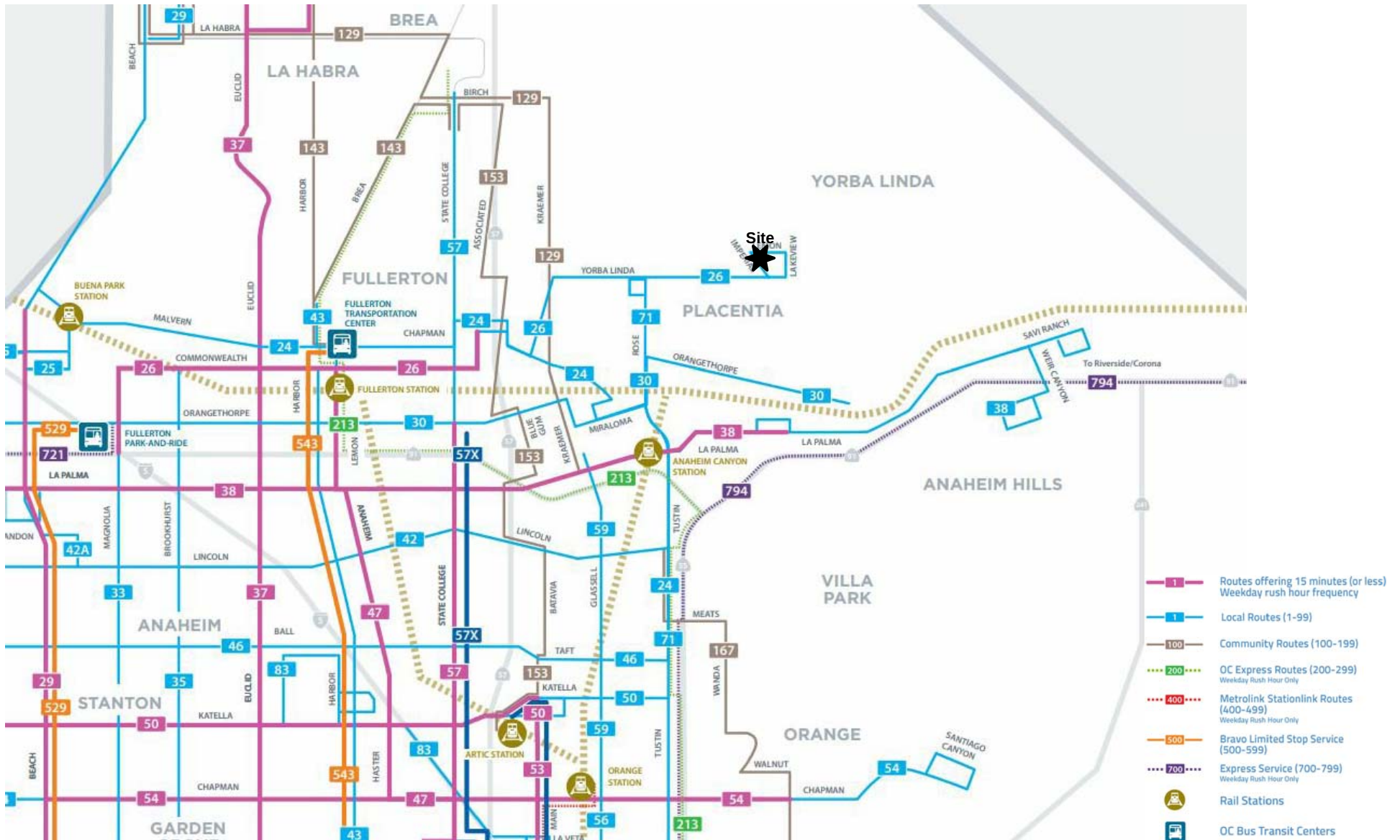
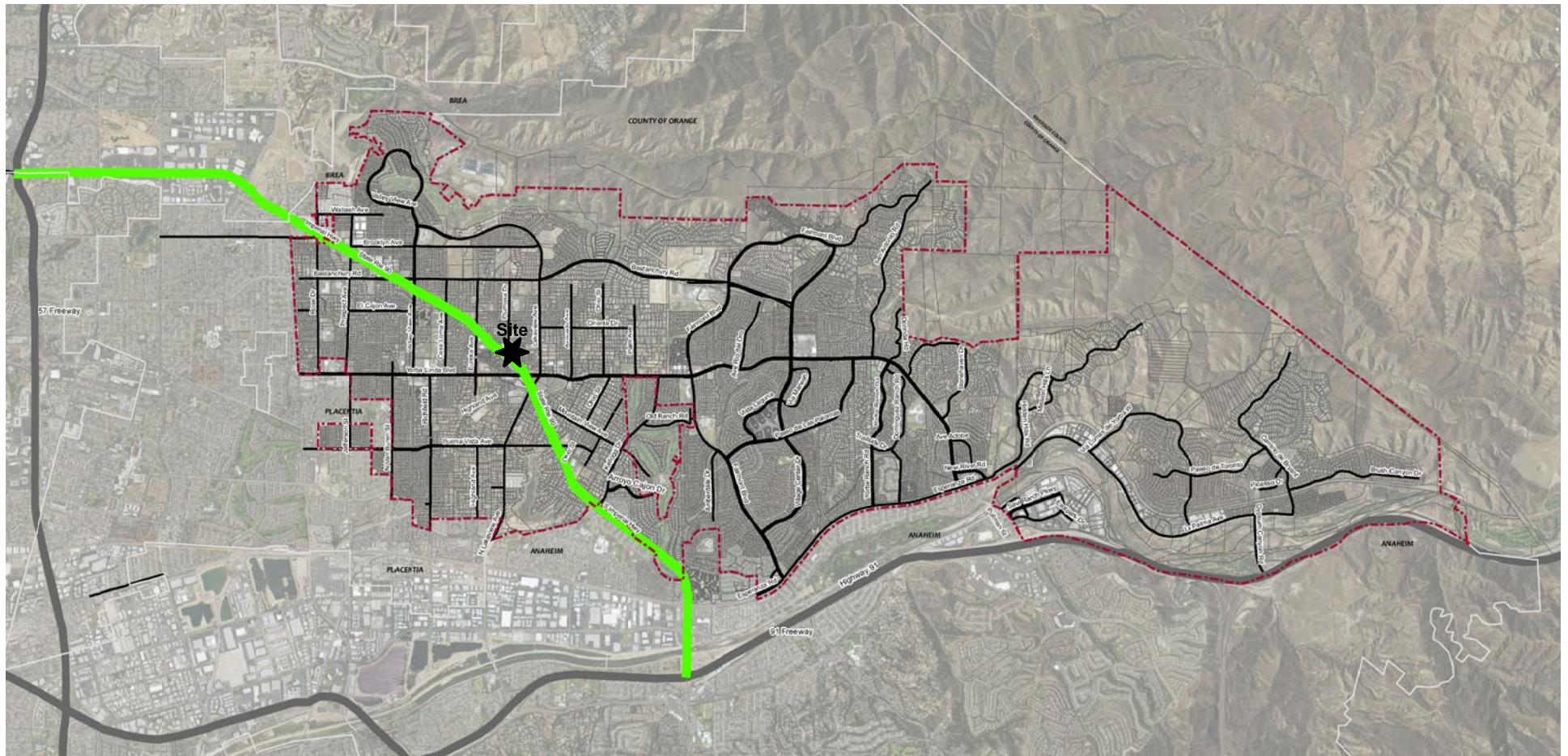


Figure 6
City of Yorba Linda Transit Routes

Source: Orange County Transit Authority



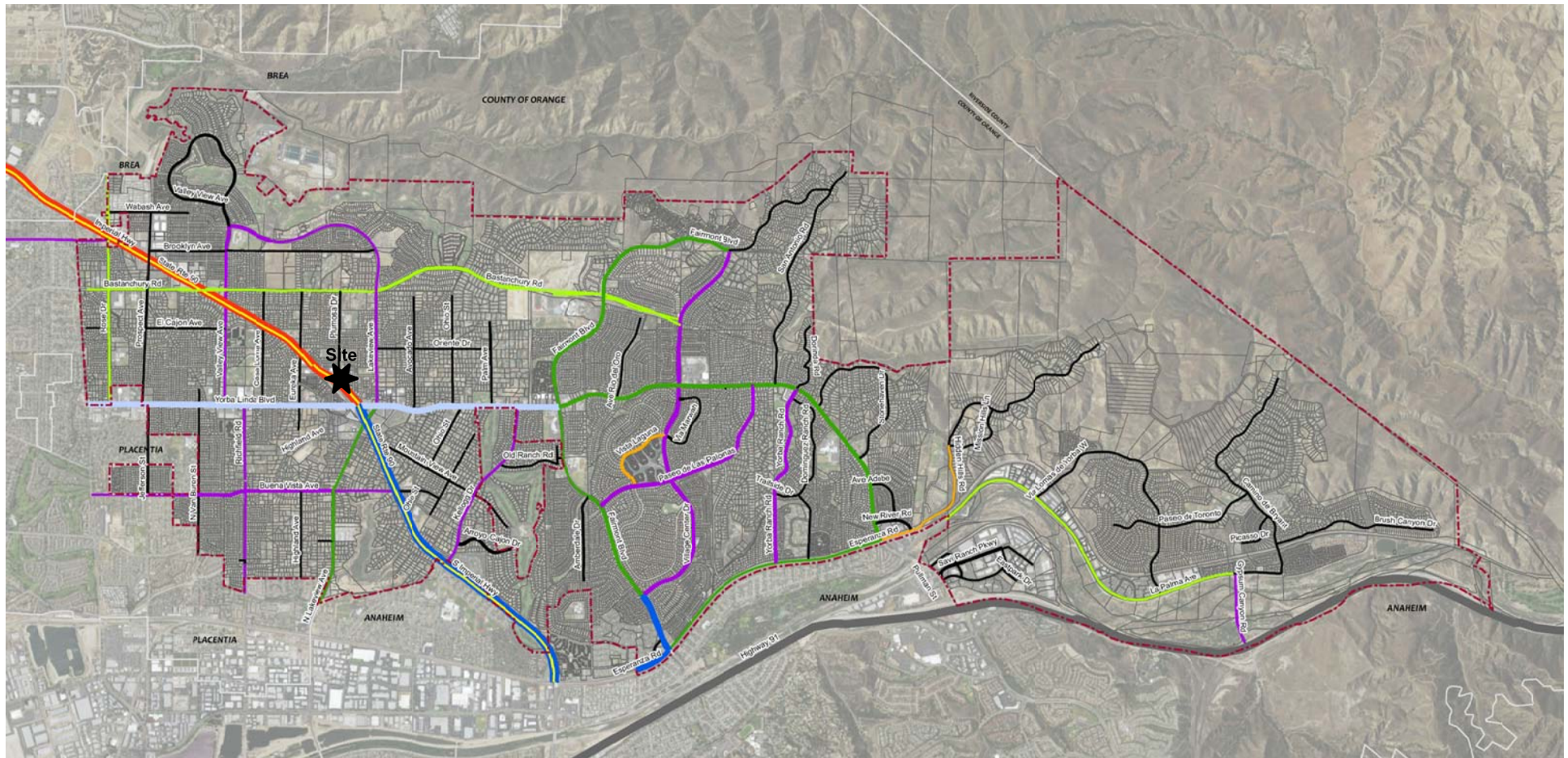
--- City Boundary **Truck Route**
--- Roads --- Imperial Highway



Source: City of Yorba Linda



Figure 7
City of Yorba Linda Truck Route Map



- - - - - City Boundary — Smart Street 6 Lane — Modified Primary 4 Lane
— Smart Street 4 Lane — Secondary 4 Lane
— Major 6 Lane — Collector 2 Lane
— Modified Major 6 Lane — Modified Collector 2 Lane
— Primary 4 Lane



Figure 8
City of Yorba Linda General Plan Circulation Element

Source: City of Yorba Linda

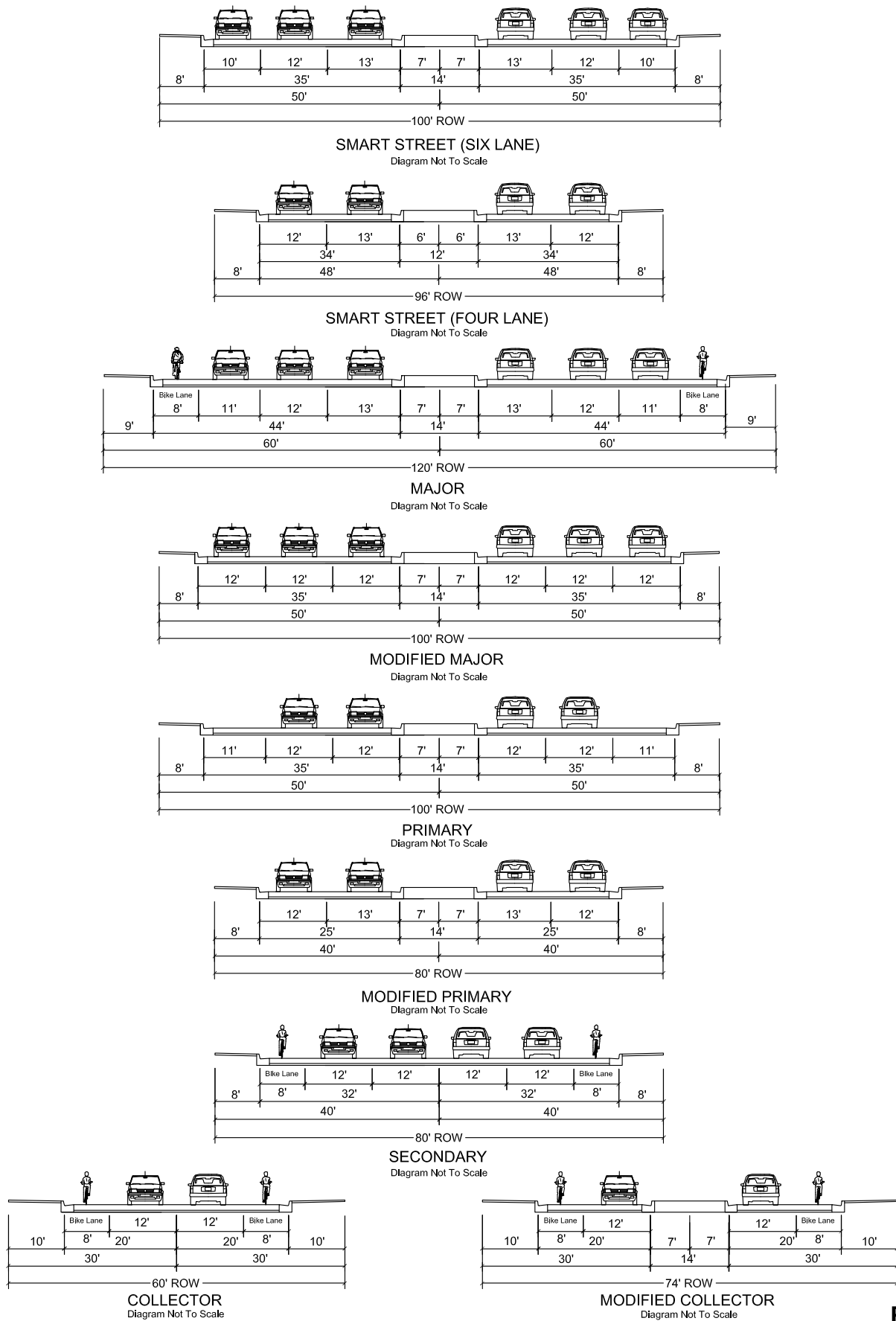


Figure 9

City of Yorba Linda General Plan Roadway Cross-Sections

Source: City of Yorba Linda



Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- # Study Intersection
- # Project Driveway

Figure 10
Existing Weekday Evening
Peak Hour Intersection Turning Movement Volumes



Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- Study Intersection
- Project Driveway

Figure 11
Existing Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

PROJECT TRIP GENERATION

Table 2 and Table 3 show the In-N-Out trip generation rates and directional distributions during the weekday evening peak hour and Saturday mid-day peak hour derived from trip generation surveys conducted at the existing Rancho Santa Margarita In-N-Out location. Table 4 shows the proposed, existing, and total net project site trip generation.

As shown in Table 4, the proposed project is forecast to generate a total of approximately 48 net new trips during the weekday evening peak hour and 36 net new trips during the Saturday mid-day peak hour.

OTHER FACTORS AFFECTING TRIP GENERATION

The project trip generation shown in Table 4 includes applicable pass-by trip adjustments in accordance with procedures outlined in the Institute of Transportation Engineers (ITE) Trip Generation Handbook (3rd Edition, 2017). Commercial land uses such as fast food restaurants will often locate next to busy roadways to attract motorists already on the street. For example, if a patron visits the restaurant on the way home from work, one pass-by trip occurs as the vehicle enters the project site driveway and one pass-by trip occurs as the vehicle exits the project site driveway. Since the vehicle is already using the street system to travel home from work, no new trips would be added to the street system as a result of the new restaurant, except at the project site driveway(s). Since the trip generation survey of the Rancho Santa Margarita In-N-Out location is based on vehicles entering and exiting the driveways, it is appropriate to adjust the initial trip generation forecast by the number of pass-by trips when calculating the net new trips that will be added to the surrounding street system by the proposed project. As noted in the ITE Trip Generation Handbook, the average pass-by rate for fast food restaurants with a drive through window is 50 percent during the weekday evening peak hour. To provide a conservative analysis, a lower pass-by reduction of 25 percent during the weekday evening peak hour and 10 percent during the Saturday mid-day peak hour have been applied to the project trip generation. Pass-by trips are assigned at the project driveways and immediately adjacent study intersections as shown on the project trip distribution forecasts discussed below.

Because the project site is currently occupied by the operational Yorba Linda Public Library, trips currently produced by the Yorba Linda Public Library have been removed from the total project trip generation. Based on trip generation surveys recorded in May 2019 at the site, 166 weekday evening trips and 198 Saturday mid-day trips are currently produced by the Yorba Linda Public Library.

The proposed project is forecast to generate a net total of approximately 48 vehicle trips during the weekday evening peak hour and a net total of approximately 36 vehicle trips during the Saturday mid-day peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 12 and Figure 13 show the forecast outbound and inbound directional distribution patterns for the project generated trips, respectively. The project trip distribution patterns are based on review of existing volume data, surrounding land uses, designated truck routes, and the local and regional roadway facilities in the project vicinity.

Based on the identified project trip generation and distributions, weekday evening peak hour and Saturday mid-day intersection turning movement volumes expected from the project are depicted on Figure 14 and Figure 15, respectively.

Table 2
Trip Generation Survey at Existing Rancho Santa Margarita In-N-Out Burger Location (Weekday Evening)

Location	Source ¹	Quantity	Units ²	Weekday PM Peak Hour Trips ³			Rate	Directional Distribution	
				Inbound	Outbound	Total		Inbound	Outbound
Rancho Santa Margarita	[a]	3.665	TSF	137	133	270	73.67	51%	49%

Notes:

(1) Source:

[a] = Trip survey conducted on Thursday, May 9, 2019.

(2) TSF = Thousand Square Feet

(3) Trip generation surveys were conducted during the weekday PM peak period of adjacent street traffic (4:00 PM - 6:00 PM).

Table 3
Trip Generation Survey at Existing Rancho Santa Margarita In-N-Out Burger Location (Saturday Mid-Day)

Location	Source ¹	Quantity	Units ²	Saturday Mid-Day Peak Hour Trips ³			Rate	Directional Distribution	
				Inbound	Outbound	Total		Inbound	Outbound
Rancho Santa Margarita	[a]	3.665	TSF	145	101	246	67.12	59%	41%

Notes:

(1) Source:

[a] = Trip survey conducted on Saturday, May 11, 2019.

(2) TSF = Thousand Square Feet

(3) Trip generation surveys were conducted during the weekend mid-day peak period of adjacent street traffic (11:00 AM - 1:00 PM).

Table 4
Project Trip Generation

Proposed Land Use Trip Generation Rates									
Land Use	Source ¹	Quantity	Units ²	Weekday PM Peak Hour			Saturday MD Peak Hour		
				Rate	Directional Distribution		Rate	Directional Distribution	
					Inbound	Outbound		Inbound	Outbound
<u>Trip Generation Rates</u>									
In-N-Out Burger	[a]	1.000	TSF	73.67	51%	49%	67.12	59%	41%

Trips Generated									
Land Use	Source ¹	Quantity	Units ²	Weekday PM Peak Hour			Saturday MD Peak Hour		
				Total	Directional Distribution		Total	Directional Distribution	
					Inbound	Outbound		Inbound	Outbound
<u>Proposed Use</u>									
Proposed In-N-Out Burger	[a]	3.867	TSF	285	145	140	260	153	107
- Pass-By Trip Reduction (25%/10%)	[b]			-71	-36	-35	-26	-15	-11
Gross New Trips Generated				214	109	105	234	138	96
<u>Existing Use</u>									
Yorba Linda Public Library	[c]	-	-	166	70	96	198	87	111
Net New Trips Generated				+48	+39	+9	+36	+51	-15

Notes:

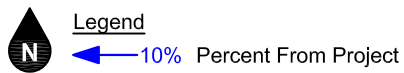
(1) Sources:

[a] = See Table 1 and Table 2.

[b] = RBF Consulting, Queen Esther Square Shopping Center Traffic Impact Analysis, March 4, 2013, Table 10.

[c] = Trip generation surveys were conducted on Thursday, May 9, 2019 and Saturday, May 11, 2019.

(2) TSF = Thousand Square Feet



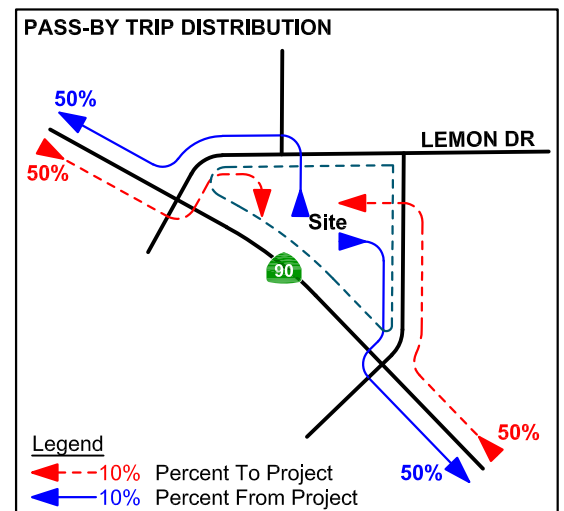
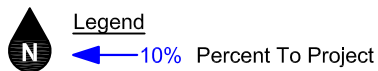
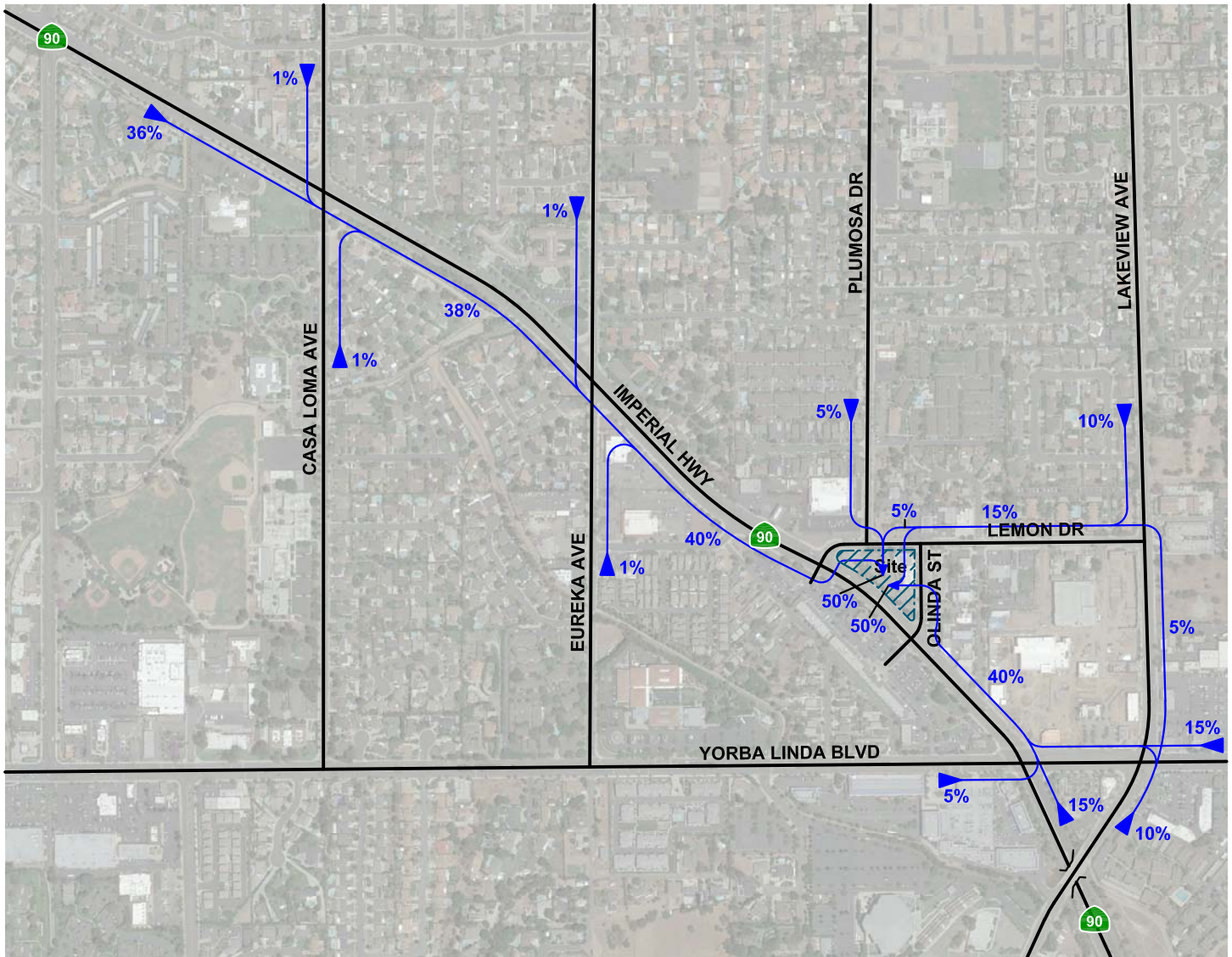
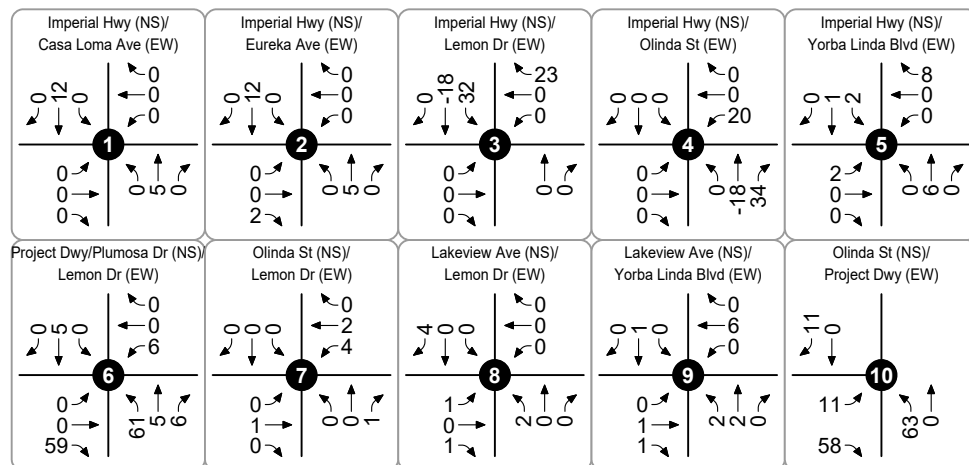
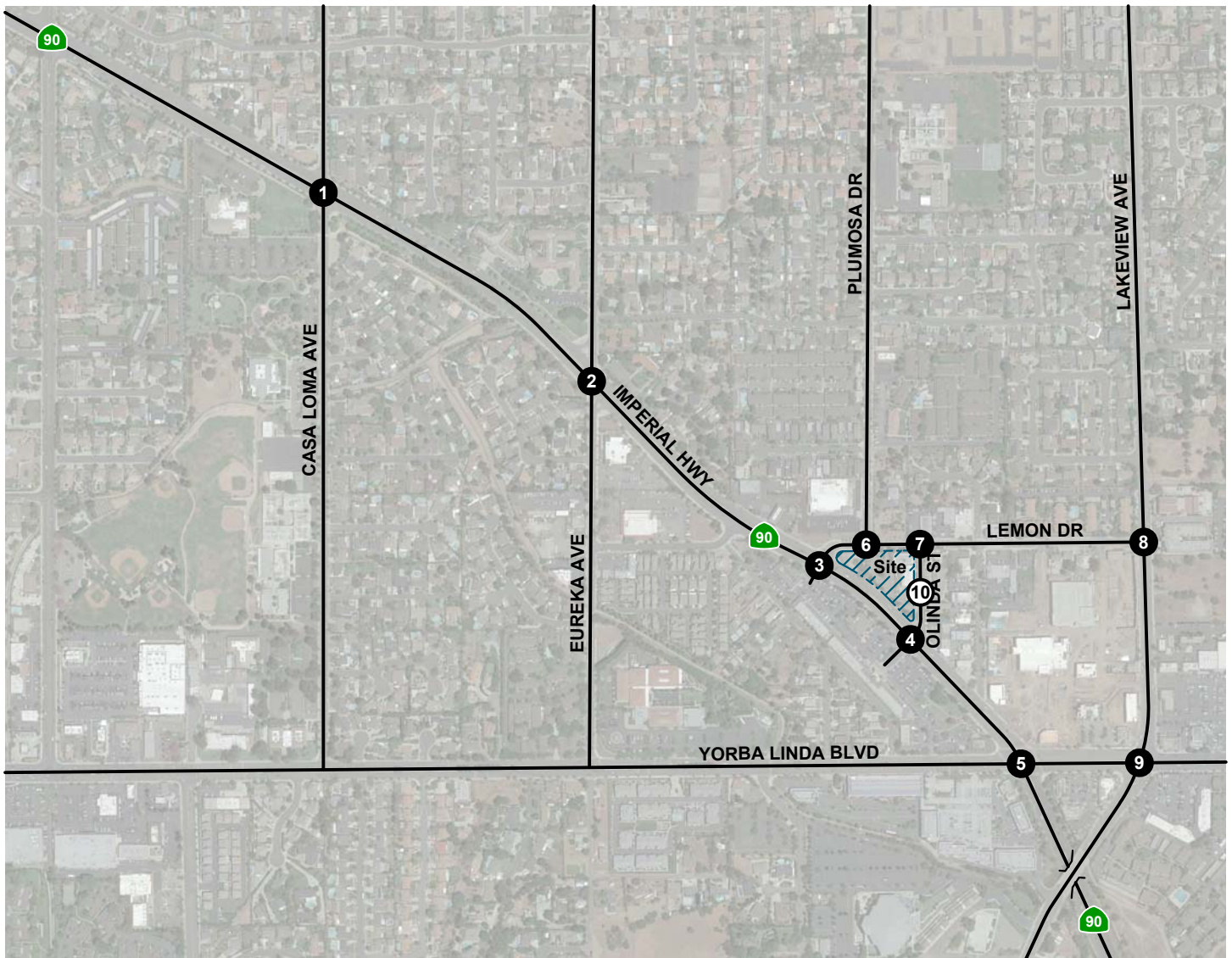


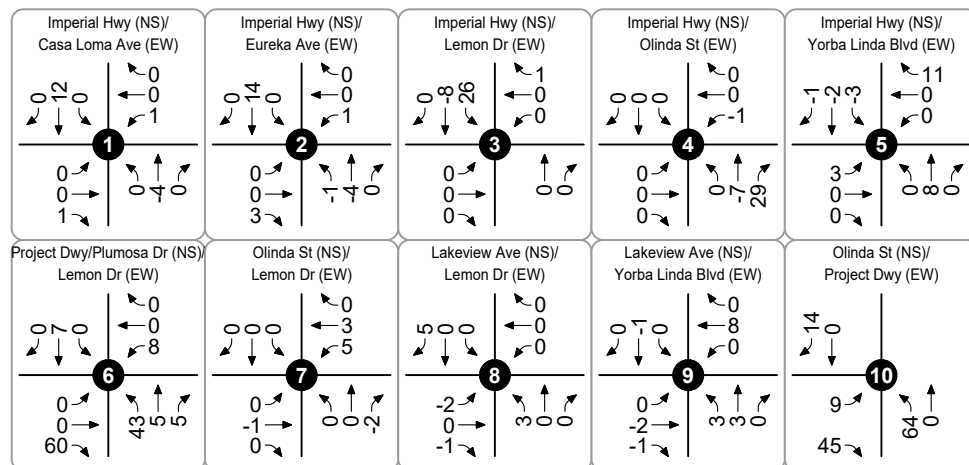
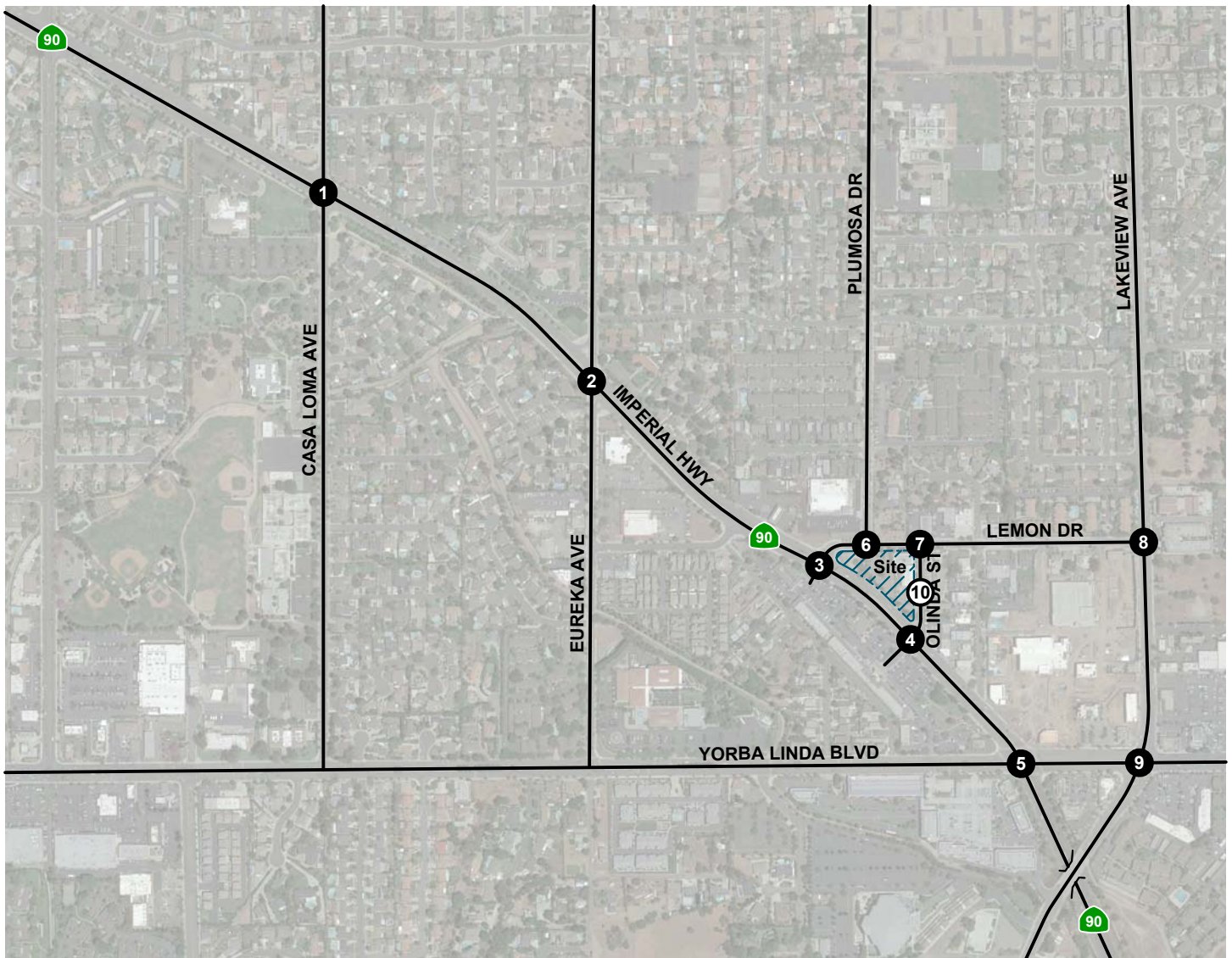
Figure 13
Project Inbound Trip Distribution



Legend

- # Study Intersection
- # Project Driveway

Figure 14
Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- # Project Driveway

Figure 15
Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

CUMULATIVE TRIPS

Ambient Growth Rate

To account for ambient growth on roadways, existing traffic volumes were increased by a growth rate of one percent (1.0%) per year over a two year period for Opening Year (2021) conditions and a 21 year period for Build-Out (Year 2040) conditions. This equates to a total growth factor of approximately 1.02 for Opening Year and 1.25 for Build-Out (Year 2040) conditions. The growth rate was derived based on the growth in roadway segment volumes in the project vicinity between the Year 2015 and build-out Year 2035. The volumes were obtained from the Orange County Transportation Authority Traffic Model as noted in the City of Yorba Linda Traffic Impact Study for the Circulation Element Update. The ambient growth rate was conservatively applied to all movements at the study intersections.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Yorba Linda were added to the study area. Table 5 shows the trip generation summary for other development projects. Figure 16 shows the other development location map. The previously discussed ambient growth is assumed to account for any additional trips generated by other development projects located outside the project vicinity and not specifically listed in this report.

Figure 17 and Figure 18 show the forecast weekday evening and Saturday mid-day peak hour intersection turning movement volumes for trips generated by other developments.

ANALYSIS SCENARIO VOLUME FORECASTS

Existing Plus Project

Existing Plus Project volume forecasts were derived by adding the project generated trips to Existing volumes. Existing Plus Project weekday evening and Saturday mid-day peak hour intersection turning movement volumes are shown on Figure 19 and Figure 20.

Opening Year (2021) Without Project

To develop Opening Year (2021) Without Project volume forecasts, Existing volumes were combined with ambient growth (1.02 growth factor) and trips generated by other developments. Opening Year (2021) Without Project weekday evening and Saturday mid-day peak hour intersection turning movement volumes are shown Figure 21 and Figure 22.

Opening Year (2021) With Project

Opening Year (2021) With Project volume forecasts were developed by adding project generated trips to the Opening Year (2021) Without Project forecast. Opening Year (2021) With Project weekday evening and Saturday mid-day peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24.

Build-Out (Year 2040) Without Project

To develop Build-Out (Year 2040) Without Project volume forecasts, Existing volumes were combined with ambient growth (1.25 growth factor) and trips generated by other developments. Build-Out (Year 2040) Without Project weekday evening and Saturday mid-day peak hour intersection turning movement volumes are shown on Figure 25 and Figure 26.

Build-Out (Year 2040) With Project

Build-Out (Year 2040) With Project volume forecasts were developed by adding project generated trips to the Build-Out (Year 2040) Without Project forecast. Build-Out (Year 2040) With Project weekday evening and Saturday mid-day peak hour intersection turning movement volumes are shown on Figure 27 and Figure 28.

Table 5
Other Development Trip Generation

ID	Project Name	Land Use	Quantity	Units ¹	Source ²	Weekday PM Peak Hour			Saturday MD Peak Hour		
						In	Out	Total	In	Out	Total
1	Wedgewood (Shea Homes)	Single-Family Detached Housing	22	DU	ITE 210	14	8	22	11	9	20
2	ETCO Homes	Senior Adult Housing - Attached	82	DU	ITE 252	12	9	21	17	10	27
		Assisted Living	158	BEDS	ITE 254	16	25	41	20	23	43
3	Town Center/Zelman Retail Center	Shopping Center	140.427	TSF	ITE 820	257	278	535	329	303	632
4	Toll Brothers	Single-Family Detached Housing	119	DU	ITE 210	74	44	118	60	51	111
5	Melia Homes	Multifamily Housing (Low-Rise)	192	DU	ITE 220	68	40	108	67	67	134
6	Yorba Linda Gardens	Single-Family Detached Housing	12	DU	ITE 210	8	4	12	6	5	11
7	Yorba Linda Library	Library	45.000	TSF	[1]	70	96	166	87	111	198
8	The Church in Yorba Linda	Church	11.000	TSF	ITE 560	2	3	5	18	13	31
9	Toll Brothers (Estancia at Yorba Linda)	Single-Family Detached Housing	47	DU	ITE 210	30	17	47	24	20	44
10	Altrudy Site	Senior Adult Housing - Attached	48	DU	ITE 252	7	5	12	10	6	16
11	Esperanza Hills	Single-Family Detached Housing	378	DU	[2], ITE 210	242	140	382	190	162	352
Total Other Development Trips Generated						800	669	1,469	839	780	1,619

Notes:

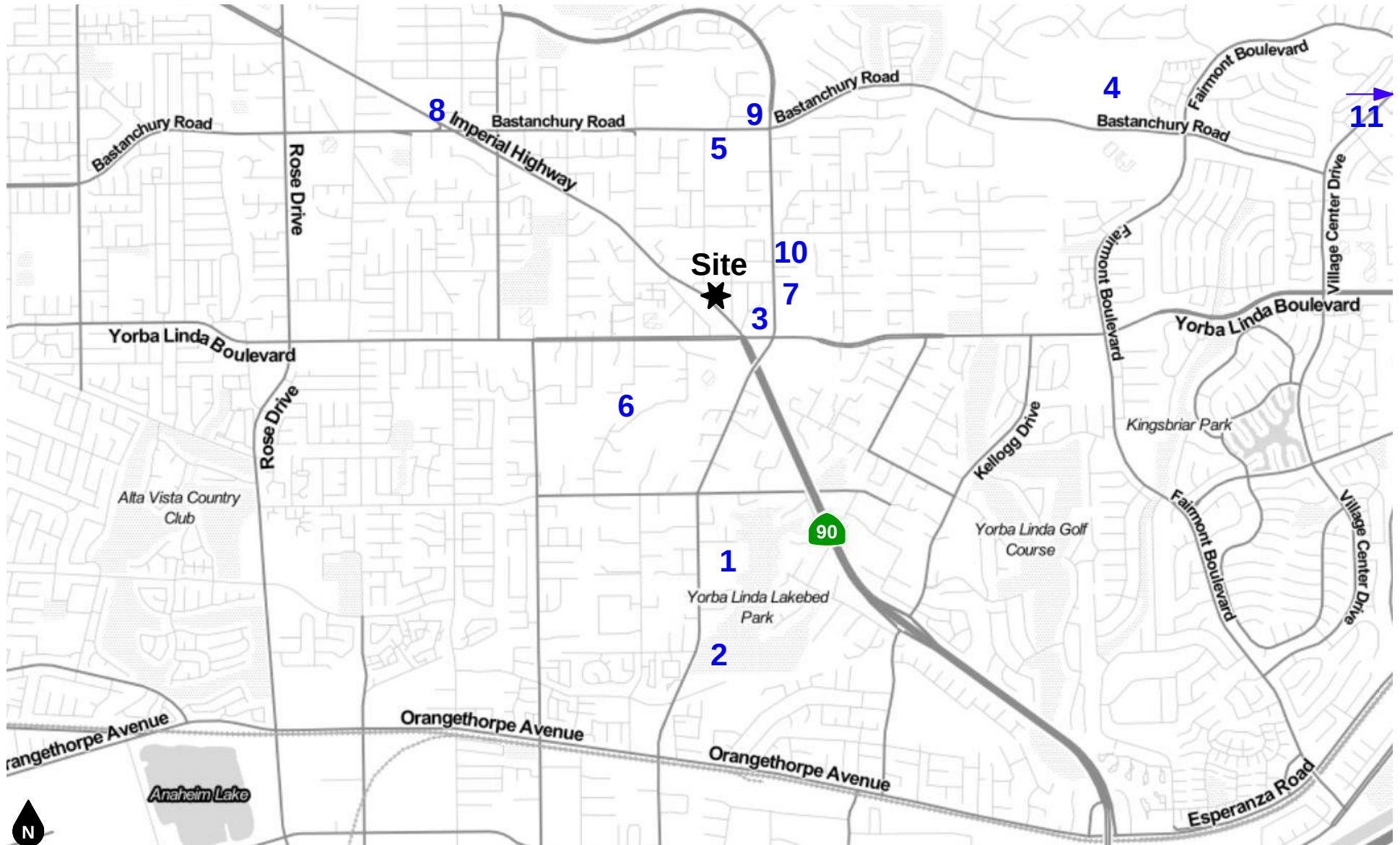
(1) DU = Dwelling Units; TSF = Thousand Square Feet

(2) Sources:

ITE = Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017; ### = Land Use Code

[1] = Trip generation surveys were conducted on Thursday, May 9, 2019 and Saturday, May 11, 2019.

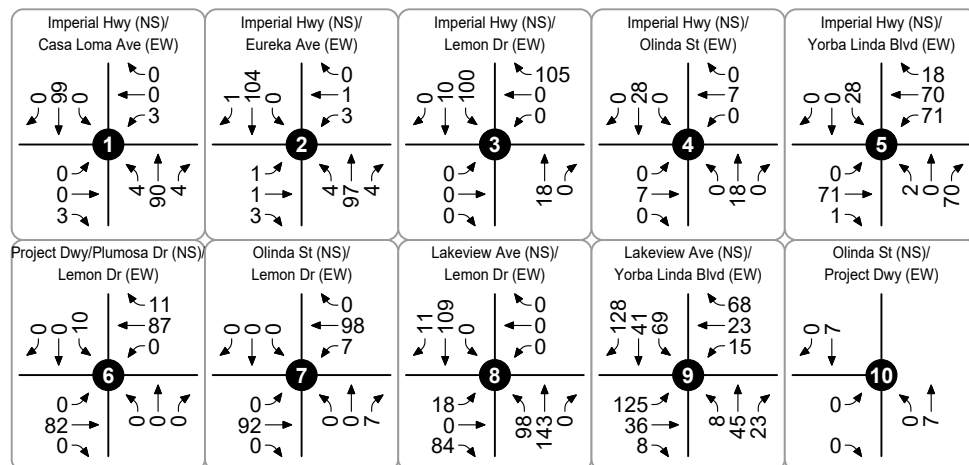
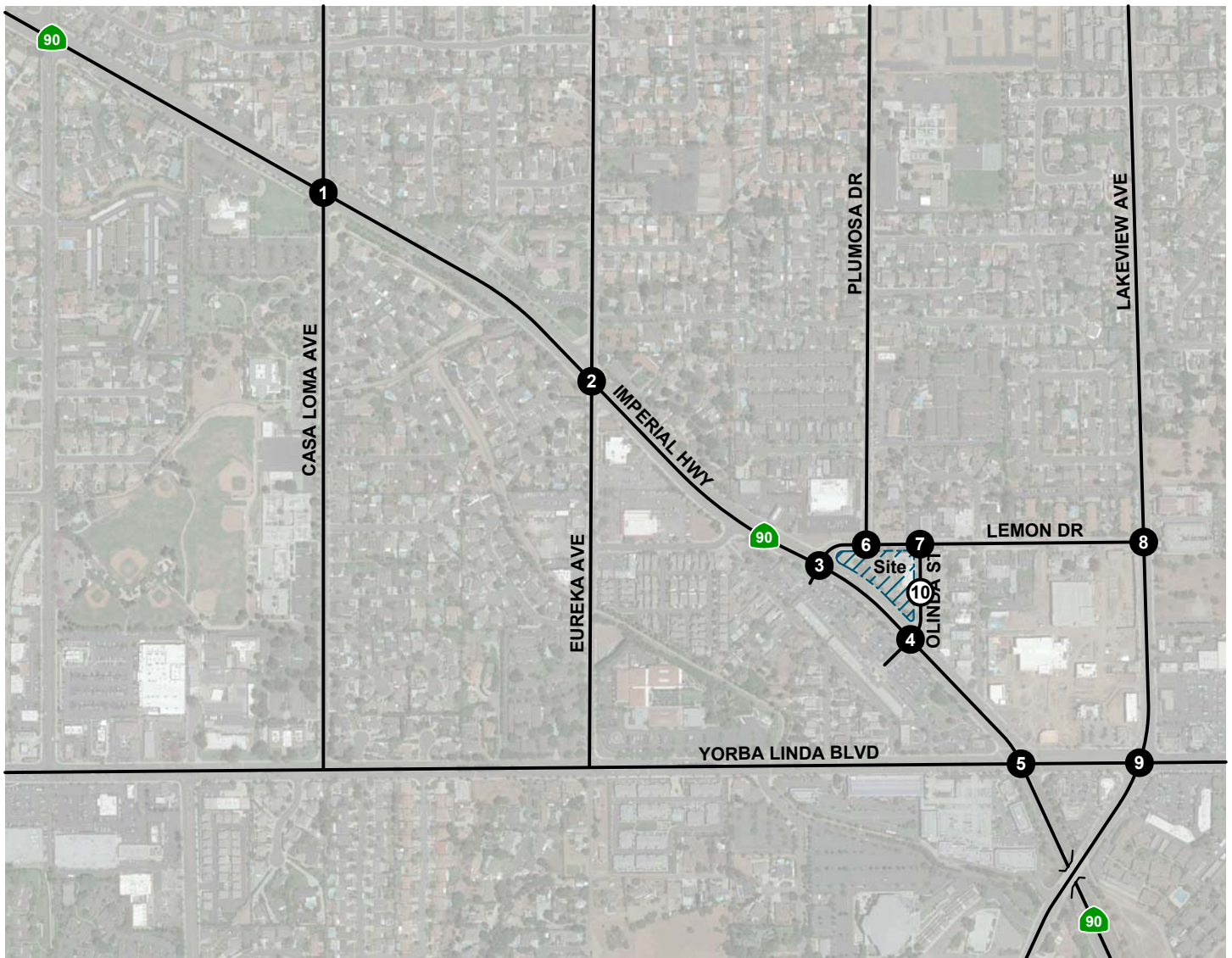
[2] = Linscott, Law & Greenspan, Esperanza Hills Traffic Impact Analysis Report, March 18, 2013.



Legend

- | | |
|------------------------------------|---|
| 1 Wedgwood (Shea Homes) | 6 Yorba Linda Gardens |
| 2 ETCO Homes | 7 Yorba Linda Library |
| 3 Town Center/Zelman Retail Center | 8 The Church in Yorba Linda |
| 4 Toll Brothers | 9 Toll Brothers (Estancia at Yorba Linda) |
| 5 Melia Homes | 10 Altrudy Site |
| | 11 Esperanza Hills |

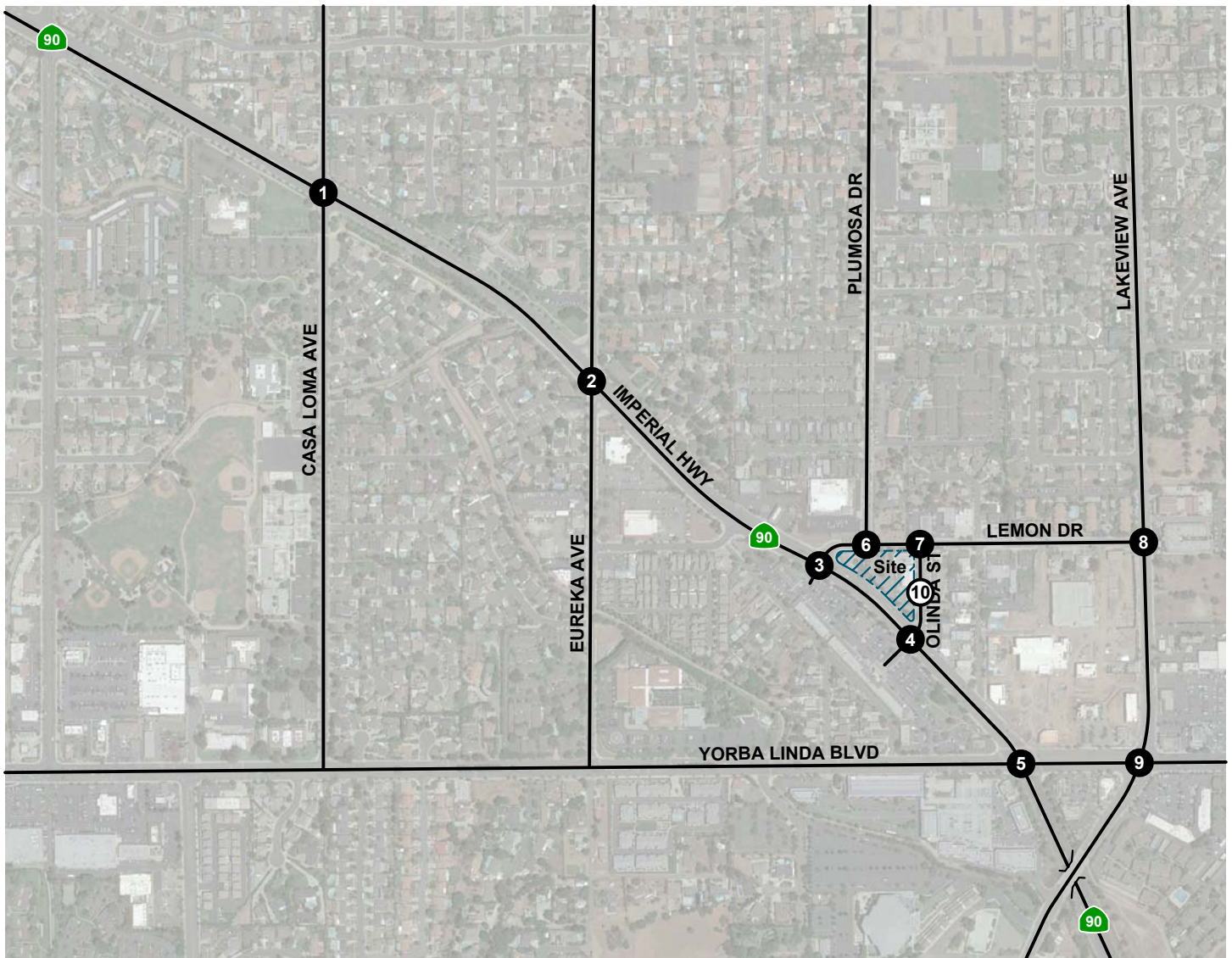
Figure 16
Other Development Location Map



Legend

- Study Intersection
- Project Driveway

Figure 17
Other Development Weekday Evening
Peak Hour Intersection Turning Movement Volumes

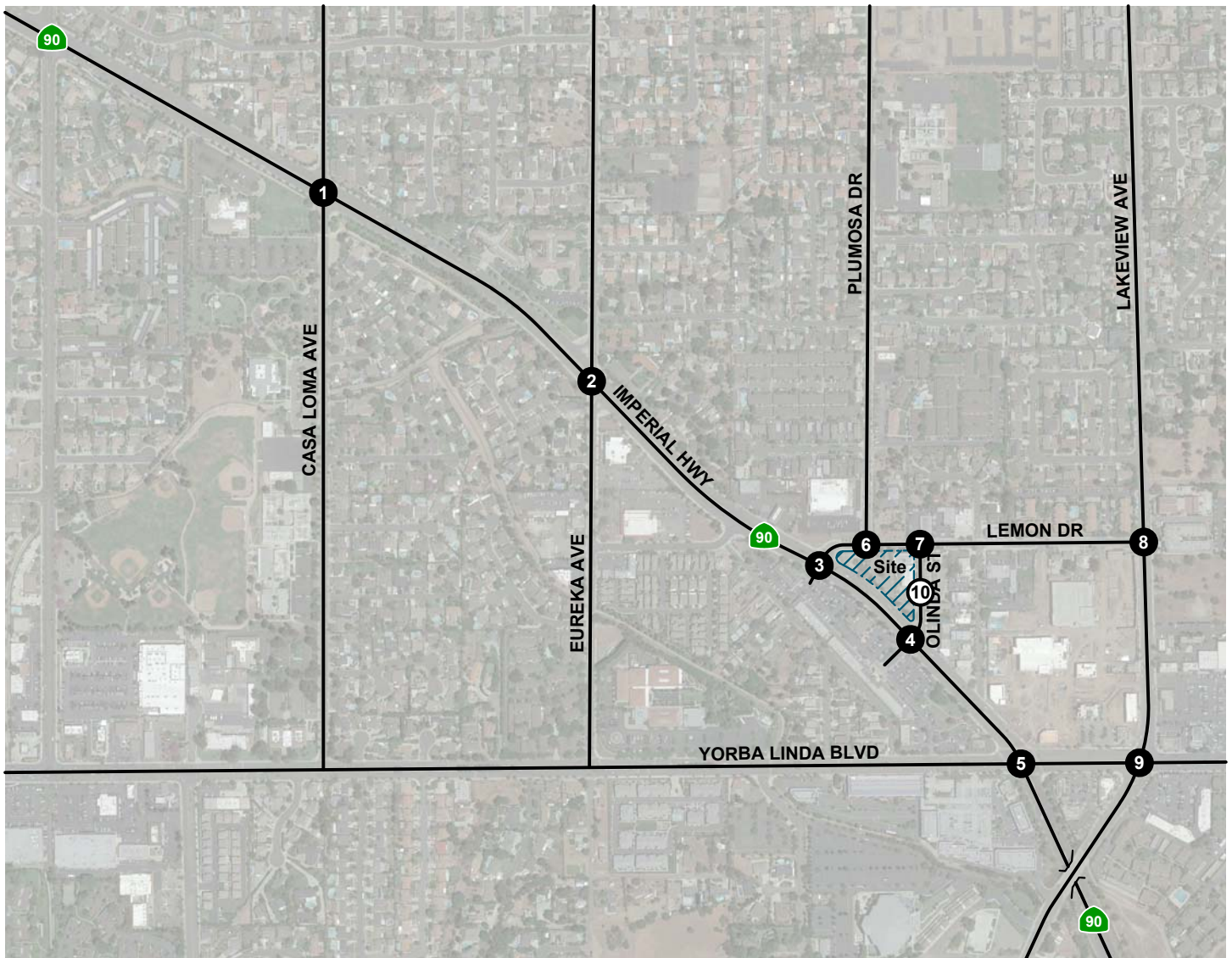


Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- Study Intersection
- Project Driveway

Figure 18
Other Development Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

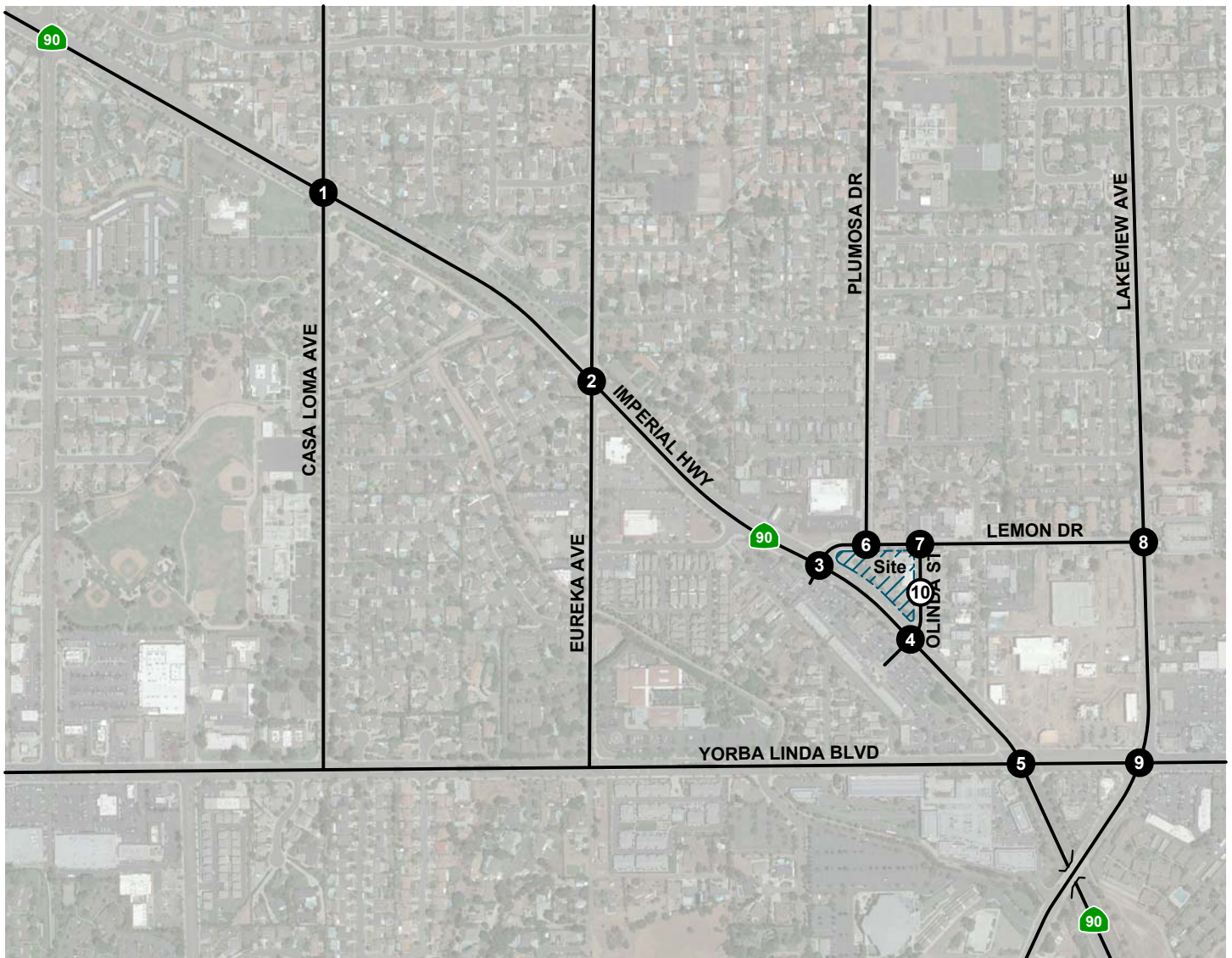


Imperial Hwy (NS)/ Casa Loma Ave (EW) 48 → 1892 10 ← 5 19 → 10 55 → 24 18 ← 1600 15 ← 10	Imperial Hwy (NS)/ Eureka Ave (EW) 96 → 1771 19 ← 27 30 → 20 84 → 66 20 ← 56 1466 → 29	Imperial Hwy (NS)/ Lemon Dr (EW) 21 → 1741 146 ← 143 50 → 13 3 → 15 1460 → 59	Imperial Hwy (NS)/ Olinda St (EW) 25 → 1761 17 ← 14 5 → 66 20 → 8 57 ← 61 1484 → 92	Imperial Hwy (NS)/ Yorba Linda Blvd (EW) 75 → 1051 627 ← 611 583 → 162 100 → 576 321 ← 293 967 → 186
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 101 → 5 84 ← 78 79 → 6 99 → 71 59 ← 61 5 → 6	Olinda St (NS)/ Lemon Dr (EW) 0 → 1 2 ← 5 99 → 20 1 → 160 20 ← 28 2 → 54	Lakeview Ave (NS)/ Lemon Dr (EW) 40 → 297 0 ← 1 2 → 1 62 → 125 98 ← 518 1 → 1	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 141 → 213 197 ← 89 1023 → 200 180 → 1117 75 ← 182 288 → 286	Olinda St (NS)/ Project Dwy (EW) 11 → 37 11 → 63 83 → 58

Legend

- # Study Intersection
- # Project Driveway

Figure 19
Existing Plus Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes

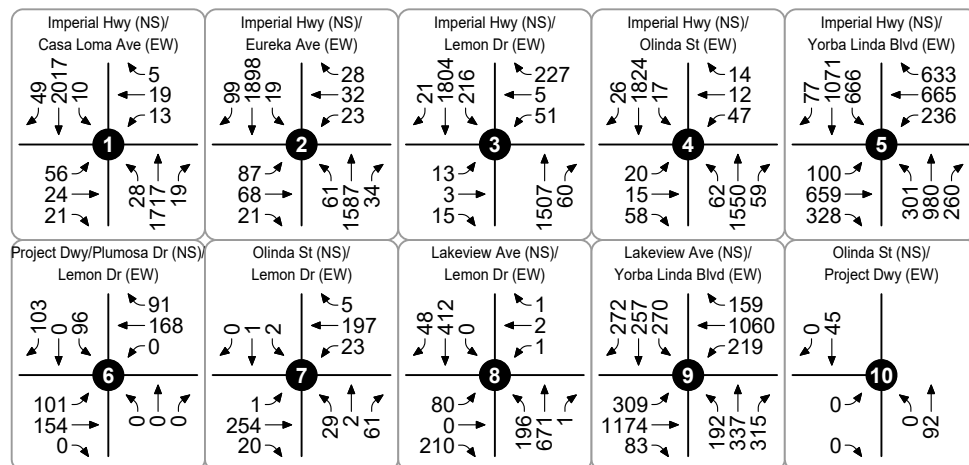
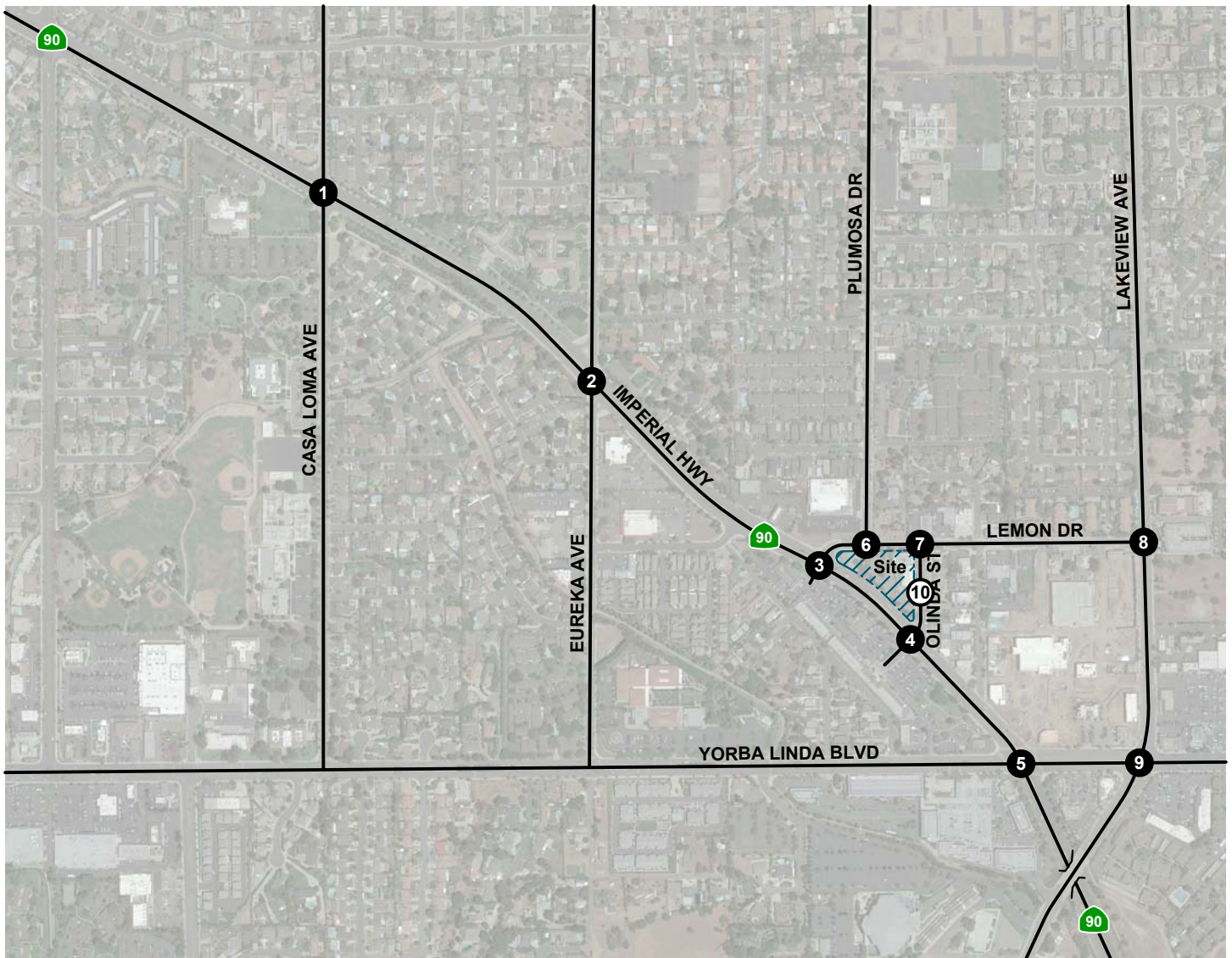


Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- Study Intersection
- Project Driveway

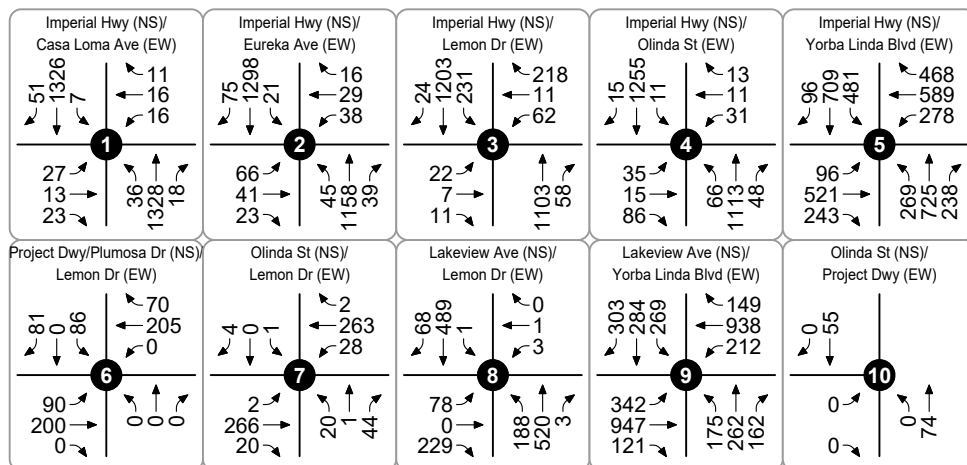
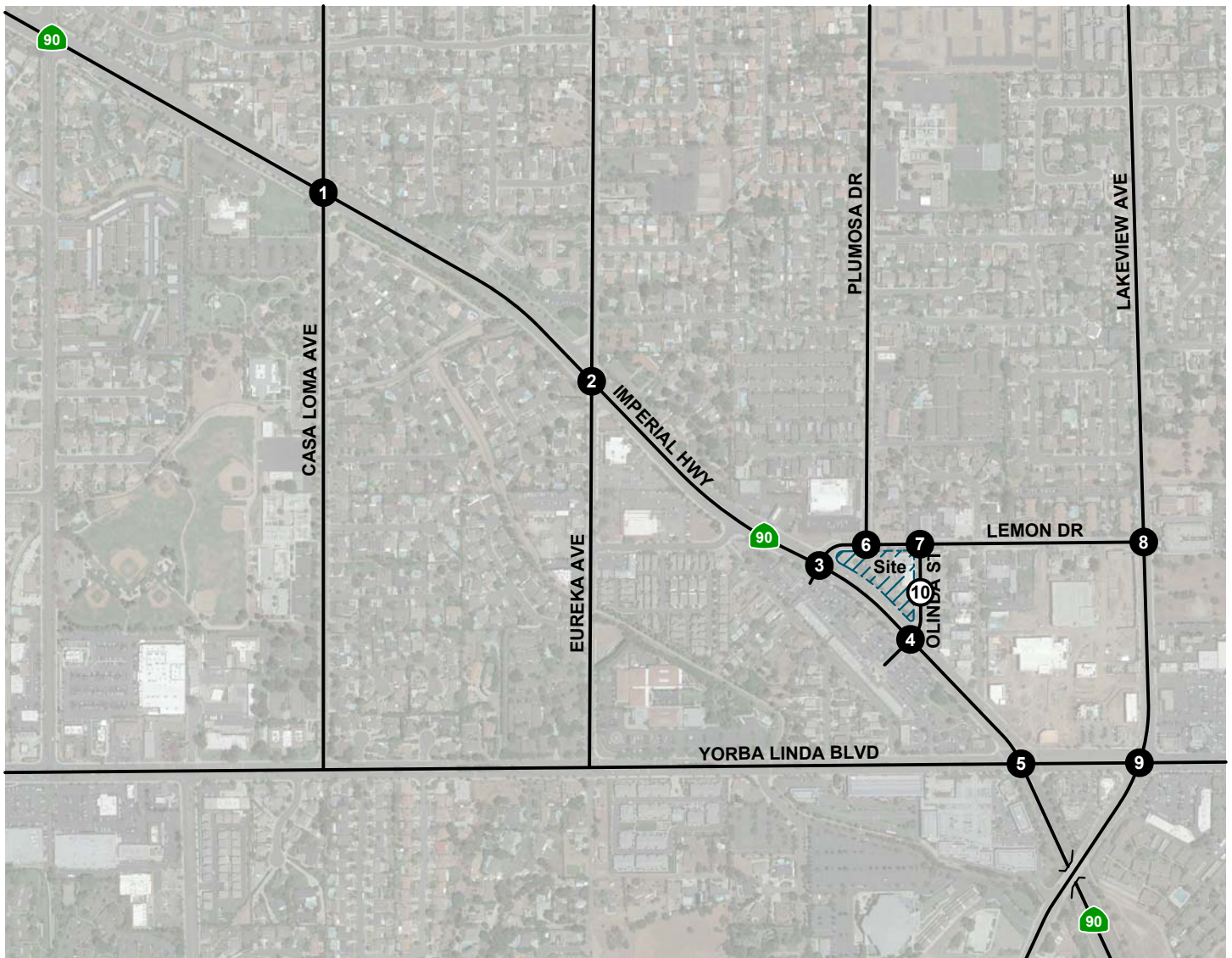
Figure 20
Existing Plus Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- # Project Driveway

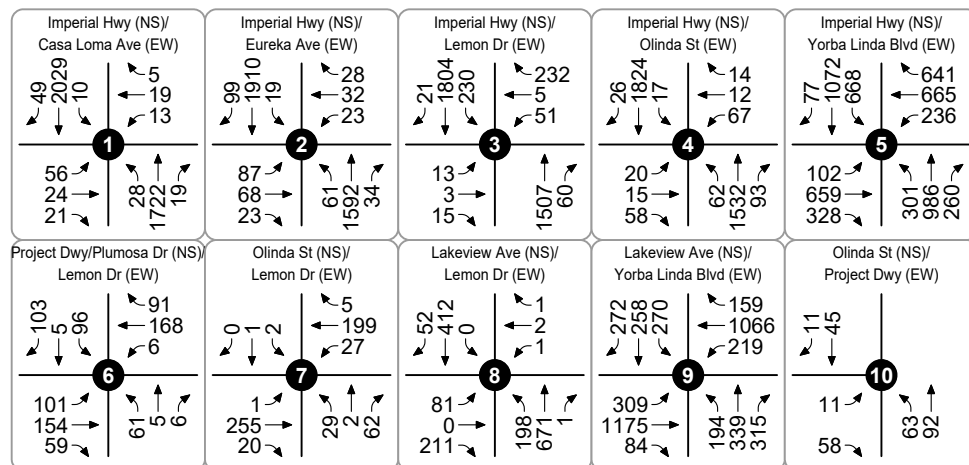
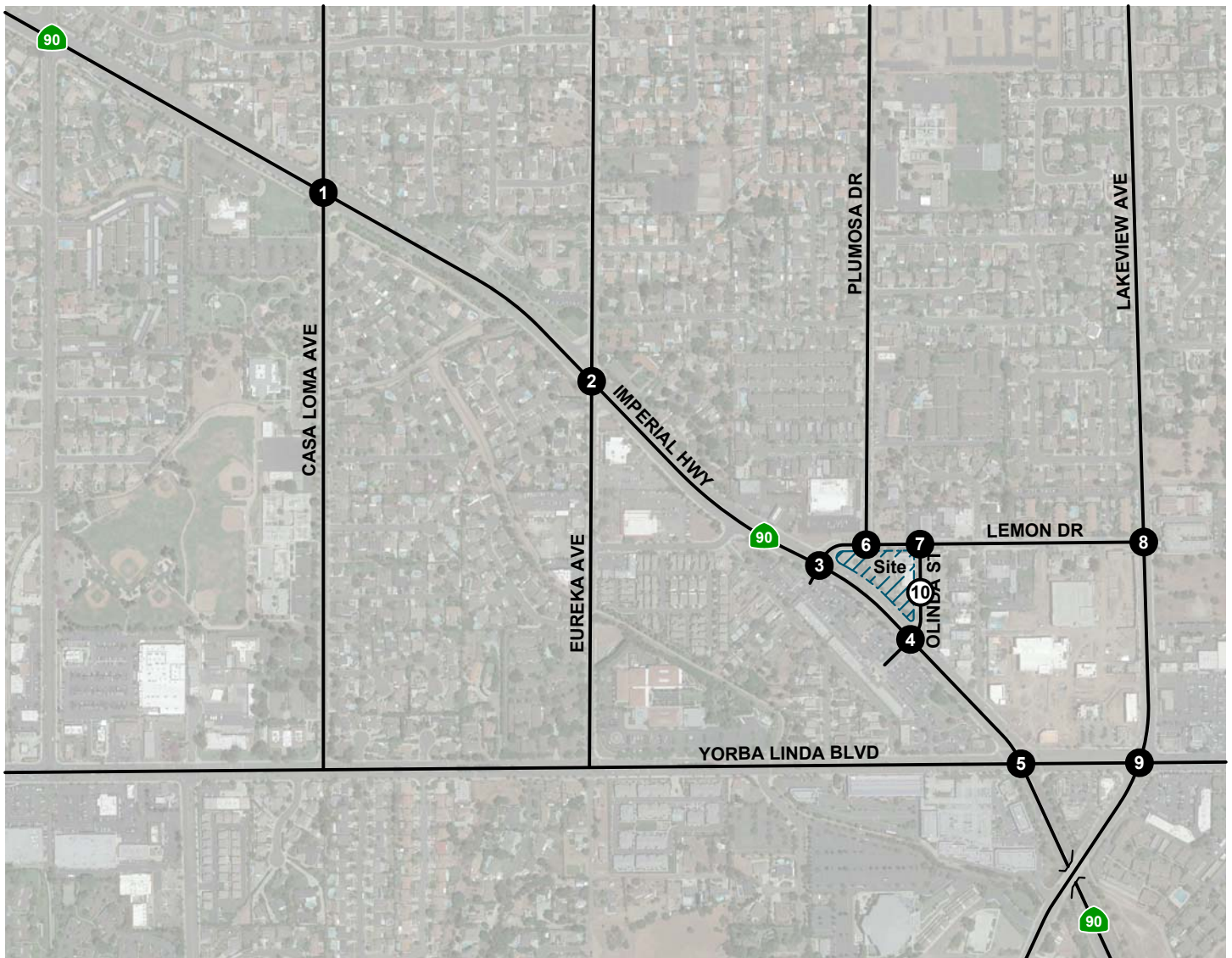
Figure 21
Opening Year (2021) Without Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- # Project Driveway

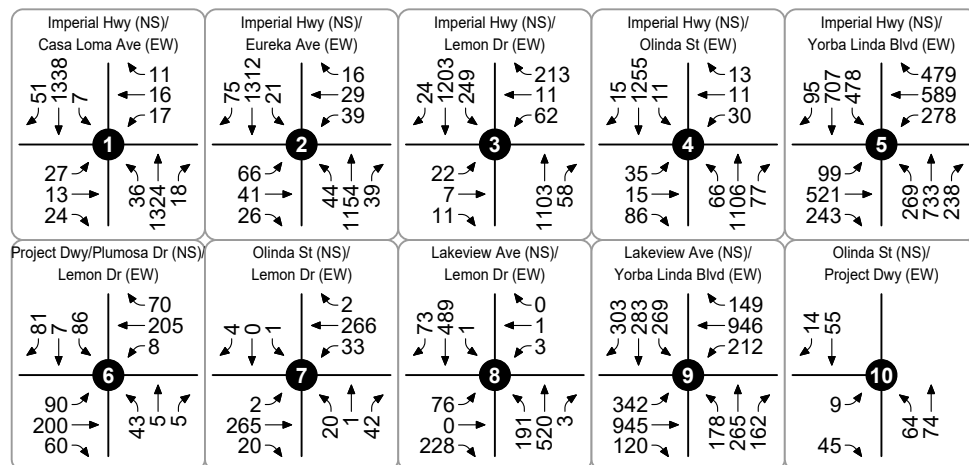
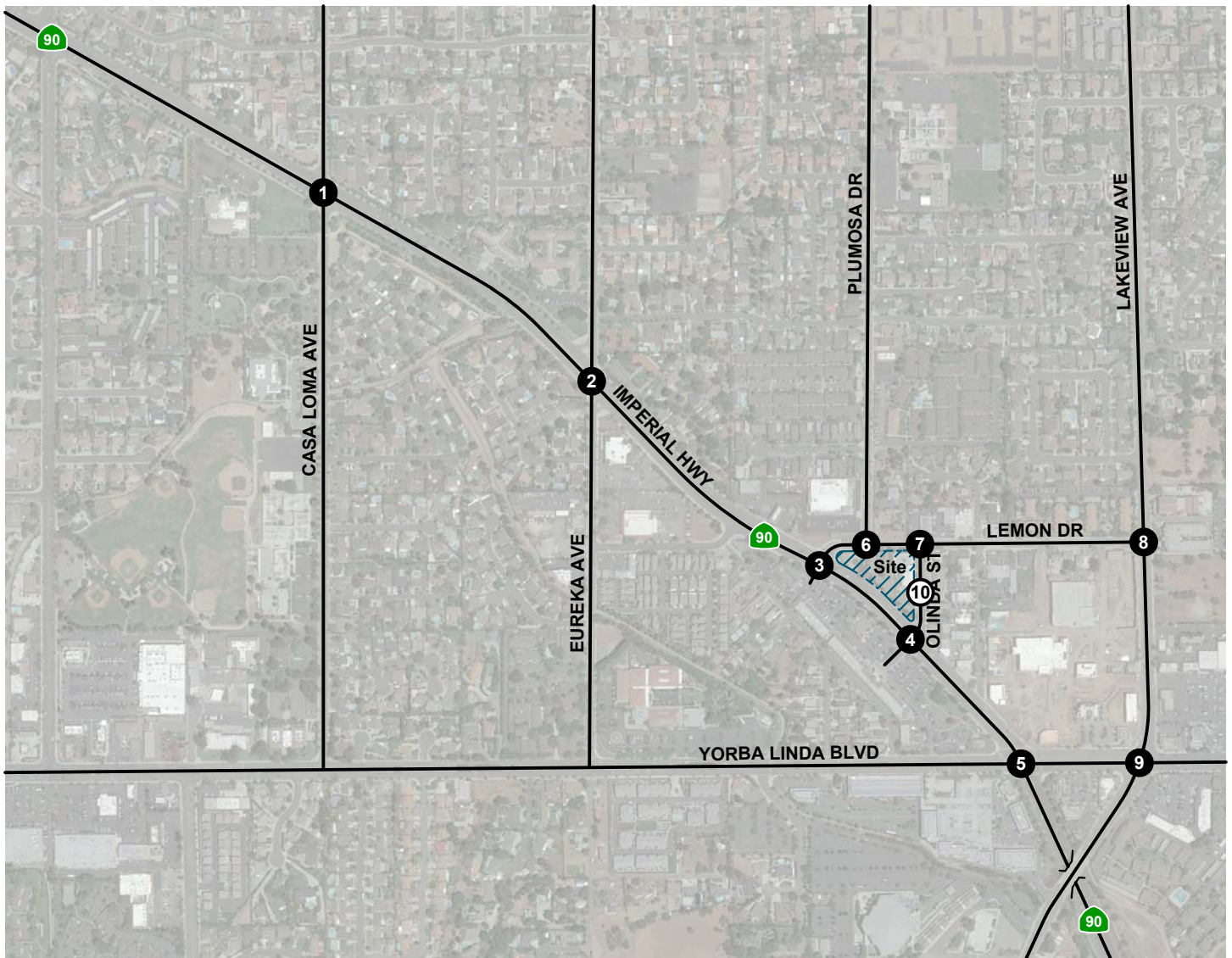
Figure 22
Opening Year (2021) Without Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes



Legend

- #** Study Intersection
- #** Project Driveway

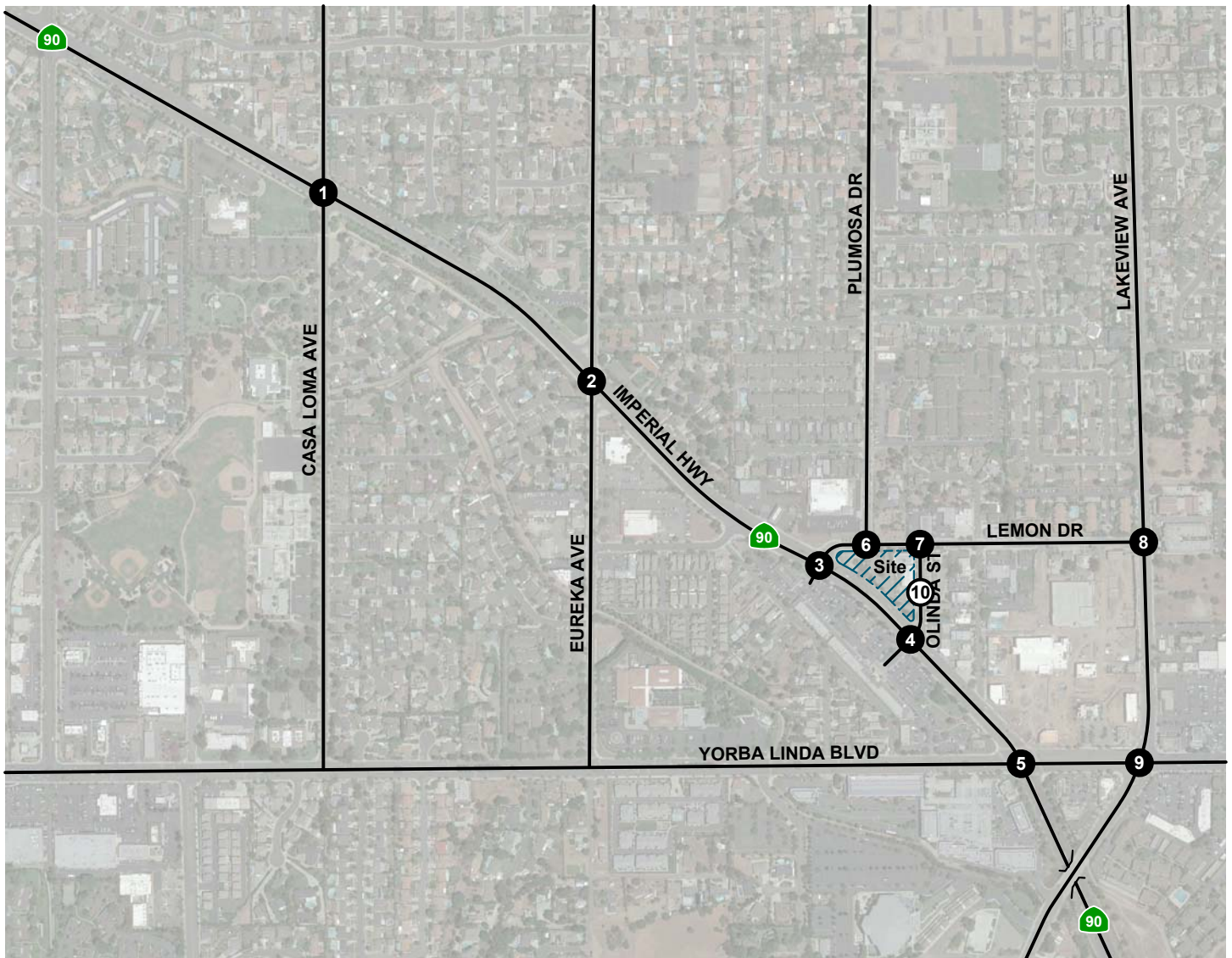
Figure 23
Opening Year (2021) With Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes



Legend

- Study Intersection
- Project Driveway

Figure 24
Opening Year (2021) With Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

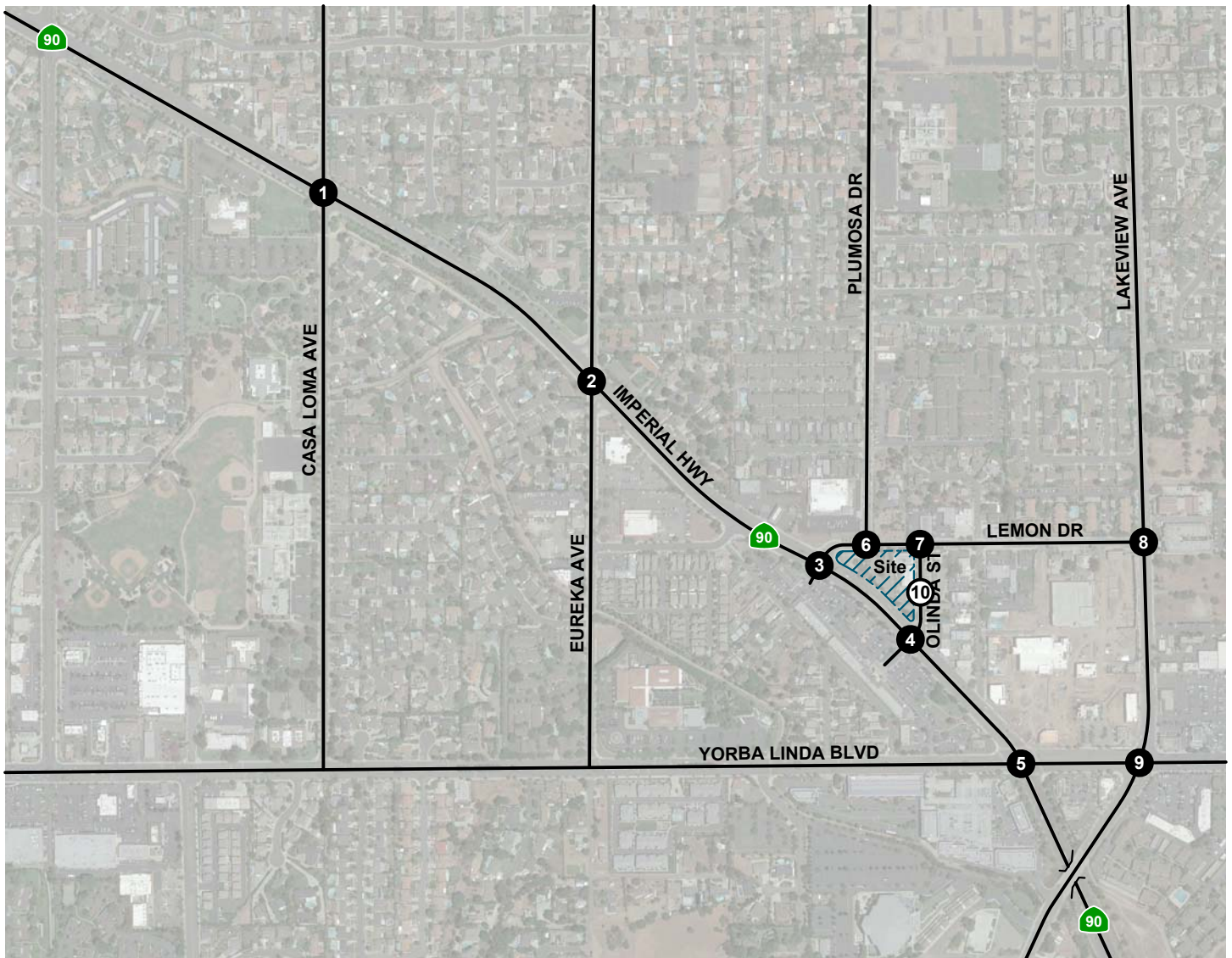


Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- Study Intersection
- Project Driveway

Figure 25
Build-Out (Year 2040) Without Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes

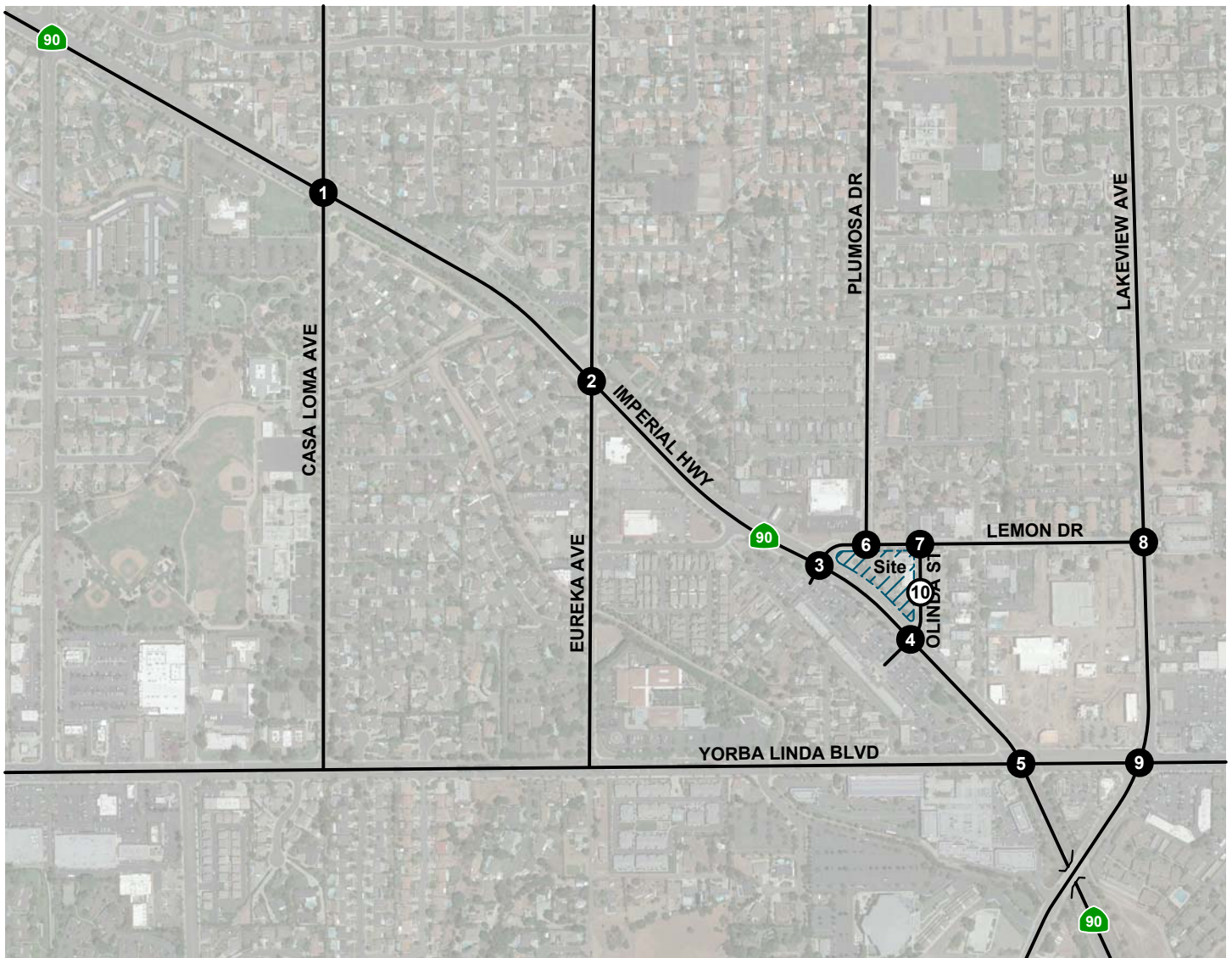


Imperial Hwy (NS)/ Casa Loma Ave (EW) 	Imperial Hwy (NS)/ Eureka Ave (EW) 	Imperial Hwy (NS)/ Lemon Dr (EW) 	Imperial Hwy (NS)/ Olinda St (EW) 	Imperial Hwy (NS)/ Yorba Linda Blvd (EW)
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 	Olinda St (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Lemon Dr (EW) 	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 	Olinda St (NS)/ Project Dwy (EW)

Legend

- Study Intersection
- Project Driveway

Figure 26
Build-Out (Year 2040) Without Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

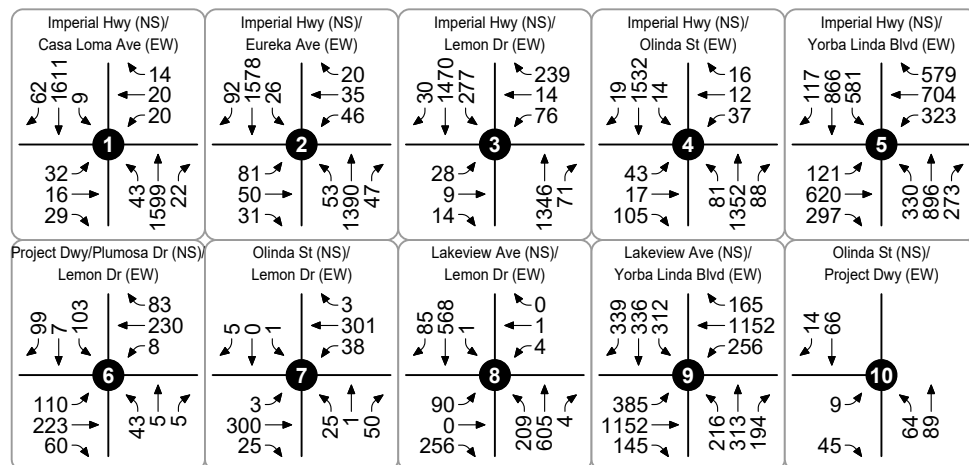
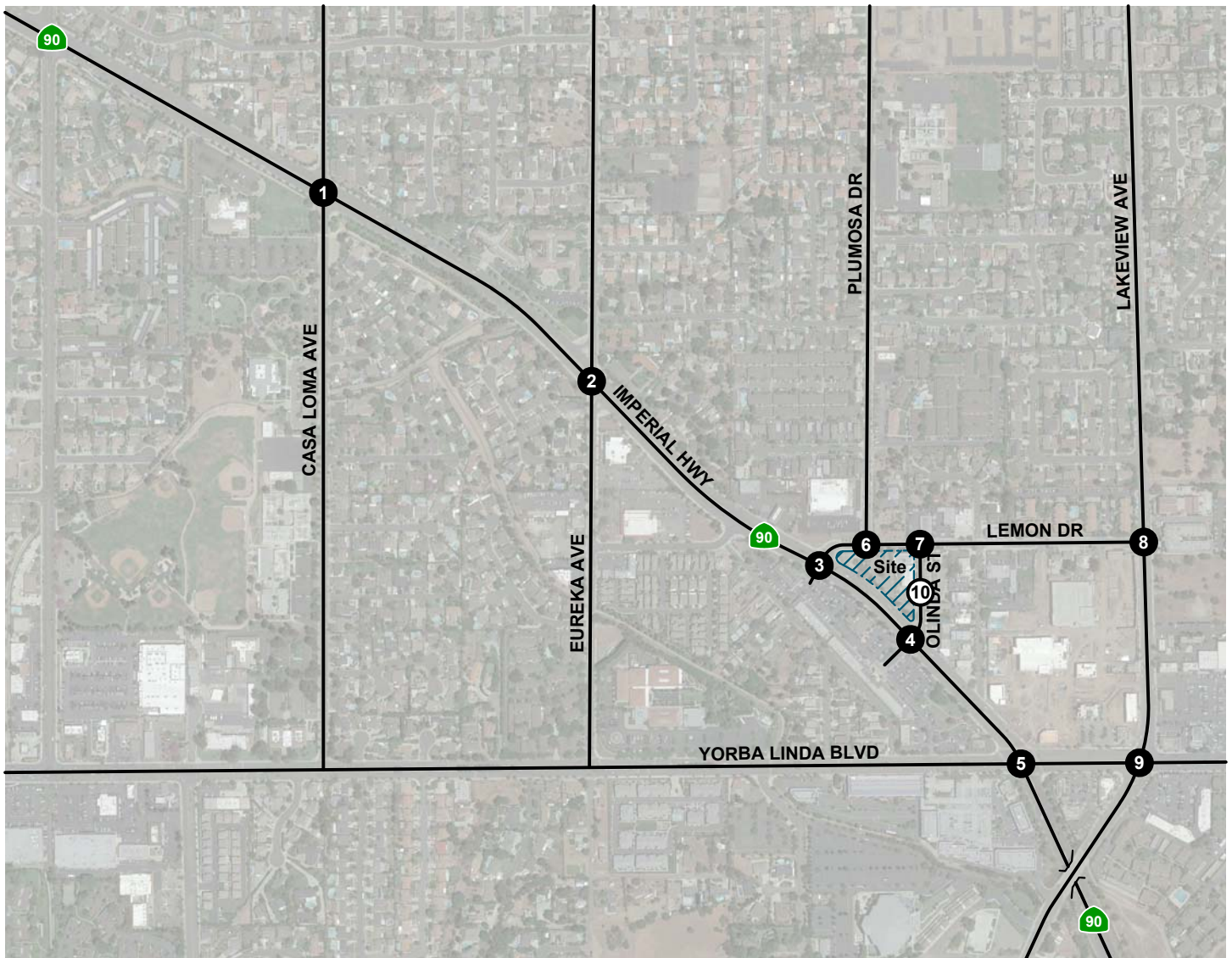


Imperial Hwy (NS)/ Casa Loma Ave (EW) 1	Imperial Hwy (NS)/ Eureka Ave (EW) 2	Imperial Hwy (NS)/ Lemon Dr (EW) 3	Imperial Hwy (NS)/ Olinda St (EW) 4	Imperial Hwy (NS)/ Yorba Linda Blvd (EW) 5
Project Dwy/Plumosa Dr (NS)/ Lemon Dr (EW) 6	Olinda St (NS)/ Lemon Dr (EW) 7	Lakeview Ave (NS)/ Lemon Dr (EW) 8	Lakeview Ave (NS)/ Yorba Linda Blvd (EW) 9	Olinda St (NS)/ Project Dwy (EW) 10

Legend

- Study Intersection
- Project Driveway

Figure 27
Build-Out (Year 2040) With Project Weekday Evening
Peak Hour Intersection Turning Movement Volumes



Legend

- # Study Intersection
- # Project Driveway

Figure 28
Build-Out (Year 2040) With Project Saturday Mid-Day
Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

EXISTING PLUS PROJECT

The intersection Levels of Service for Existing Plus Project conditions are shown in Table 6. As shown in Table 6, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Existing Plus Project conditions and the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance.

OPENING YEAR (2021) WITHOUT PROJECT

The intersection Levels of Service for Opening Year (2021) Without Project conditions are shown in Table 7. As shown in Table 7, the study intersections are forecast to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) Without Project conditions.

OPENING YEAR (2021) WITH PROJECT

The intersection Levels of Service for Opening Year (2021) With Project conditions are shown in Table 8. As shown in Table 8, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Opening Year (2021) With Project conditions and the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance.

BUILD-OUT (YEAR 2040) WITHOUT PROJECT

The intersection Levels of Service for Build-Out (Year 2040) Without Project conditions are shown in Table 9. As shown in Table 9, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Build-Out (Year 2040) Without Project conditions, except for the following intersection:

- Imperial Highway at Yorba Linda Boulevard (#5) [LOS F – weekday evening peak hour]

BUILD-OUT (YEAR 2040) WITH PROJECT

The intersection Levels of Service for Build-Out (Year 2040) With Project conditions are shown in Table 10. As shown in Table 10, the study intersections are projected to operate within acceptable Levels of Service (D or better) during the peak hours for Build-Out (Year 2040) With Project conditions, with the exception of the following intersection:

- Imperial Highway at Yorba Linda Boulevard (#5) [LOS F – weekday evening peak hour]

Although the intersection of Imperial Highway at Yorba Linda Boulevard is forecast to operate at Level of Service F during the weekday evening peak hour, the project-related impact is less than one-percent of the capacity. Therefore, the project is forecast to result in no significant traffic impacts based on the City-established thresholds of significance for Build-Out (Year 2040) With Project conditions.

OFF-SITE QUEUING ANALYSIS

Methodology

To ensure adequate circulation in the immediate project vicinity, a queuing analysis was performed using the SimTraffic software. SimTraffic is a micro-simulation software that tracks each individual vehicle in the roadway network model and records operational measures, such as vehicular queues, based on the simulated performance. The SimTraffic software provides a stochastic analysis that accounts for random probability of vehicle arrivals based on the Poisson distribution in accordance with established traffic flow theory. To simulate real-life variability, the software uses a randomization process to generate vehicles with varying driver behaviors. Therefore, each run of the model will result in slightly different simulations, just as no two days in reality experience exactly the same operations. The results reported are based on the average of three simulation runs over a one-hour interval with application of existing peak hour factors. Signal timing parameters are based on existing actual signal timing plans obtained from the City of Yorba Linda. The queuing analysis worksheets are provided in Appendix E.

Alternatives

The off-site queueing analysis was performed for the following three alternatives:

- **Alternative A:** Convert the existing all way stop control at Plumosa Drive/Lemon Drive to a two-way stop control for the north-south approaches and restripe Lemon Drive to provide two westbound lanes between Imperial Highway and Plumosa Drive, including a dedicated westbound right turn lane and a shared left/through lane at the Imperial Highway and Lemon Drive (east) intersection.
- **Alternative B:** Widen the south side of Lemon Drive between Imperial Highway and Plumosa Drive to provide two eastbound lanes, including a shared left/through lane and a dedicated right turn lane at the Plumosa Drive approach, and two westbound lanes, including a shared left/through lane and a dedicated right turn lane at the Imperial Highway approach. The existing all way stop control at Plumosa Drive/Lemon Drive would remain.
- **Alternative C:** Widen the south side of Lemon Drive between Imperial Highway and Plumosa Drive to provide two eastbound lanes, including a dedicated left turn lane and a shared through/right turn lane at the Plumosa Drive approach, and two westbound lanes, including a shared left/through lane and a dedicated right turn lane at the Imperial Highway approach. The existing all way stop control at Plumosa Drive/Lemon Drive would remain.

All three alternatives also include extending the storage length of the southbound left turn lane at the intersection of Imperial Highway and Lemon Drive (east) from approximately 150 to 180 feet. This will require the northbound left turn lane at the intersection of Imperial Highway and Lemon Drive (west) to be reduced from approximately 150 to 120 feet. Additionally, on-street parking will be prohibited on Olinda Street along the project frontage for approximately 80 feet from the curb return at Imperial Highway to accommodate queues at the Olinda Street/Imperial Highway intersection.

Results

Table 11 shows the 95th-percentile queue lengths for key movements in the project vicinity. The 95th-percentile queue length effectively represents the maximum queue length expected (to a 95 percent confidence level) and is a standard measure used in transportation engineering practice to determine turning lane storage and intersection spacing requirements.

Without Project/No Build

As shown in Table 11, insufficient storage length is expected to occur at the following locations without the proposed project or any improvements:

- Imperial Highway (NS) at Lemon Drive (EW) - #3
 - Southbound left turn lane
 - Westbound shared left/through lane
- Plumosa Drive (NS) at Lemon Drive (EW) - #6
 - Eastbound shared left/through

Alternative A

Alternative A improvements are forecast to provide sufficient stacking distance on Lemon Drive between Imperial Highway and Plumosa Drive for Opening Year conditions; however, this alternative requires the removal of the existing eastbound and westbound stop controls at the intersection with Plumosa Drive. For Build-Out (Year 2040) conditions, the eastbound queue from Plumosa Drive is forecast to extend 5 to 15 feet past the crosswalk limit line on the north leg of Imperial Highway/Lemon Drive (west).

The feasibility of replacing the existing all way stop control with a two-way stop control at the intersection of Plumosa Drive and Lemon Drive was confirmed by conducting a multiway stop evaluation in accordance with Section 2B.07 of the California Manual on Uniform Traffic Control Devices (California MUTCD). Additional intersection volume count and multiway stop evaluation data are provided in Appendix F.

Based on the criteria outlined in the California MUTCD, the existing multiway stop at the intersection of Plumosa Drive and Lemon Drive does not appear to be currently warranted. Future conditions are also not anticipated to satisfy the multi-way stop criteria since the peak hour minor street delay is forecast to be less than 30 seconds per vehicle. Unless a previous all way stop evaluation exists for this intersection that indicates the all way stop was warranted based on collision history, the all way stop is not currently warranted and is not anticipated to be warranted with the proposed project; however, further analysis should be performed once the proposed project is in operation to verify the all way stop control is warranted with the project.

Alternative B

Alternative B is forecast to provide insufficient intersection spacing for the eastbound shared left/through lane on Lemon Drive at Plumosa Drive for Opening Year conditions. The eastbound queue from Plumosa Drive is forecast to extend 10 to 15 feet past the crosswalk limit line on the north leg of Imperial Highway/Lemon Drive (west) for Opening Year conditions and approximately 30 feet for Build-Out Year (2040) conditions.

Alternative C

Alternative C is forecast to generally provide sufficient intersection spacing for the eastbound lanes on Lemon Drive at Plumosa Drive for Opening Year conditions (one foot into crosswalk). For Build-out Year (2040), the eastbound through/right turn lane queue from Plumosa Drive is forecast to extend 10 feet past the crosswalk limit line on the north leg of Imperial Highway/Lemon Drive (west) for Build-Out Year (2040) Saturday mid-day peak hour conditions.

Recommended Mitigation Measures

To offset potential vehicular queue lengths and ensure the project does not result in potential safety hazards, the following mitigation measures are proposed in accordance with Alternative C:

Mitigation Measure #1:

Extend the storage length of the southbound left turn lane at the intersection of Imperial Highway and Lemon Drive (east) from approximately 150 to 180 feet. This will require the northbound left turn lane at the intersection of Imperial Highway and Lemon Drive (west) to be reduced from approximately 150 to 120 feet.

The addition of project-generated trips is forecast to increase the southbound left turn queue at Imperial Highway/Lemon Drive by 21 feet during Opening Year conditions and 31 feet during Build-out Year (2040) conditions. Although the southbound left turn lane queue from Imperial Highway to Lemon Drive (east) is forecast to continue to exceed the storage capacity with the proposed modifications, the proposed improvements would mitigate the project's impact by increasing the storage capacity by an amount relatively equal to the additional queue contributed by the project.

Further extension of the southbound left turn lane is constrained by the back-to-back northbound left turn lane at the Lemon Drive (west) intersection.

Mitigation Measure #2:

Widen the south side of Lemon Drive between Imperial Highway and Plumosa Drive to provide two eastbound lanes, including a dedicated left turn lane and a shared through/right turn lane at the Plumosa Drive approach, and two westbound lanes, including a shared left/through lane and a dedicated right turn lane at the Imperial Highway approach.

Mitigation Measure #3:

Prohibit on-street parking on Olinda Street along the project frontage for approximately 80 feet from the curb return at Imperial Highway.

Conceptual plans for the mitigation measure improvements are illustrated in the Conclusions section.

Table 6
Existing Plus Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Existing				Existing Plus Project							
			Weekday PM Peak Hour		Saturday MD Peak Hour		Weekday PM Peak Hour				Saturday MD Peak Hour			
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?
1.	Imperial Hwy at Casa Loma Ave	TS	0.512	A	0.345	A	0.514	A	+0.002	No	0.347	A	+0.002	No
2.	Imperial Hwy at Eureka Ave	TS	0.528	A	0.385	A	0.531	A	+0.003	No	0.388	A	+0.003	No
3.	Imperial Hwy at Lemon Dr	TS	0.519	A	0.436	A	0.552	A	+0.033	No	0.453	A	+0.017	No
4.	Imperial Hwy at Olinda St	TS	0.530	A	0.408	A	0.543	A	+0.013	No	0.407	A	-0.001	No
5.	Imperial Hwy at Yorba Linda Blvd	TS	0.762	C	0.619	B	0.764	C	+0.002	No	0.618	B	-0.001	No
6.	Plumosa Dr/Project Dwy at Lemon Dr	AWS	[8.9]	A	[8.8]	A	[9.6]	A	+0.7	No	[9.5]	A	+0.7	No
7.	Olinda St at Lemon Dr	CSS	[12.0]	B	[12.0]	B	[12.1]	B	+0.1	No	[12.2]	B	+0.2	No
8.	Lakeview Ave at Lemon Dr	TS	0.337	A	0.346	A	0.341	A	+0.004	No	0.348	A	+0.002	No
9.	Lakeview Ave at Yorba Linda Blvd	TS	0.583	A	0.535	A	0.584	A	+0.001	No	0.535	A	+0.000	No
10.	Olinda St at Project Dwy	CSS	-	-	-	-	[10.6]	B	-	No	[11.0]	B	-	No

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for un-signalized study intersections. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(4) LOS = Level of Service

Table 7
Opening Year (2021) Without Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Weekday PM Peak Hour		Saturday MD Peak Hour	
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴
1.	Imperial Highway at Casa Loma Avenue	TS	0.543	A	0.378	A
2.	Imperial Highway at Eureka Avenue	TS	0.563	A	0.422	A
3.	Imperial Highway at Lemon Drive	TS	0.658	B	0.580	A
4.	Imperial Highway at Olinda Street	TS	0.546	A	0.421	A
5.	Imperial Highway at Yorba Linda Boulevard	TS	0.857	D	0.712	C
6.	Plumosa Drive/Project Driveway at Lemon Drive	AWS	[10.4]	B	[10.7]	B
7.	Olinda Street at Lemon Drive	CSS	[15.1]	C	[15.4]	C
8.	Lakeview Avenue at Lemon Drive	TS	0.509	A	0.549	A
9.	Lakeview Avenue at Yorba Linda Boulevard	TS	0.718	C	0.715	C

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for unsignalized study intersections. For intersections with cross street stop control, Level of Service is based on average delay of the worst individual lane (or movements sharing a lane).

(4) LOS = Level of Service

Table 8
Opening Year (2021) With Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Opening Year Without Project				Opening Year With Project							
			Weekday PM Peak Hour		Saturday MD Peak Hour		Weekday PM Peak Hour				Saturday MD Peak Hour			
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?
1.	Imperial Hwy at Casa Loma Ave	TS	0.543	A	0.378	A	0.545	A	+0.002	No	0.380	A	+0.002	No
2.	Imperial Hwy at Eureka Ave	TS	0.563	A	0.422	A	0.565	A	+0.002	No	0.425	A	+0.003	No
3.	Imperial Hwy at Lemon Dr	TS	0.658	B	0.580	A	0.670	B	+0.012	No	0.589	A	+0.009	No
4.	Imperial Hwy at Olinda St	TS	0.546	A	0.421	A	0.558	A	+0.012	No	0.420	A	-0.001	No
5.	Imperial Hwy at Yorba Linda Blvd	TS	0.857	D	0.712	C	0.859	D	+0.002	No	0.712	C	+0.000	No
6.	Plumosa Dr/Project Dwy at Lemon Dr	AWS	[10.4]	B	[10.7]	B	[11.7]	B	+1.3	No	[12.1]	B	+1.4	No
7.	Olinda St at Lemon Dr	CSS	[15.1]	C	[15.4]	C	[15.3]	C	+0.2	No	[15.6]	C	+0.2	No
8.	Lakeview Ave at Lemon Dr	TS	0.509	A	0.549	A	0.513	A	+0.004	No	0.551	A	+0.002	No
9.	Lakeview Ave at Yorba Linda Blvd	TS	0.718	C	0.715	C	0.716	C	-0.002	No	0.711	C	-0.004	No
10.	Olinda St at Project Dwy	CSS	-	-	-	-	[10.7]	B	-	No	[11.2]	B	-	No

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for un-signalized study intersections. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(4) LOS = Level of Service

Table 9
Build-Out (Year 2040) Without Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Weekday PM Peak Hour		Saturday MD Peak Hour	
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴
1.	Imperial Highway at Casa Loma Avenue	TS	0.650	B	0.446	A
2.	Imperial Highway at Eureka Avenue	TS	0.672	B	0.499	A
3.	Imperial Highway at Lemon Drive	TS	0.767	C	0.670	B
4.	Imperial Highway at Olinda Street	TS	0.656	B	0.504	A
5.	Imperial Highway at Yorba Linda Boulevard	TS	1.022	F	0.841	D
6.	Plumosa Drive/Project Driveway at Lemon Drive	AWS	[11.8]	B	[12.1]	B
7.	Olinda Street at Lemon Drive	CSS	[16.9]	C	[17.3]	C
8.	Lakeview Avenue at Lemon Drive	TS	0.575	A	0.618	B
9.	Lakeview Avenue at Yorba Linda Boulevard	TS	0.829	D	0.818	D

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for unsignalized study intersections. For intersections with cross street stop control, Level of Service is based on average delay of the worst individual lane (or movements sharing a lane).

(4) LOS = Level of Service

Table 10
Build-Out (Year 2040) With Project Intersection Levels of Service

ID	Study Intersection	Traffic Control ¹	Build-Out Without Project				Build-Out With Project							
			Weekday PM Peak Hour		Saturday MD Peak Hour		Weekday PM Peak Hour				Saturday MD Peak Hour			
			V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?	V/C ² or [Delay] ³	LOS ⁴	Net Change	Significant Impact?
1.	Imperial Hwy at Casa Loma Ave	TS	0.650	B	0.446	A	0.653	B	+0.003	No	0.449	A	+0.003	No
2.	Imperial Hwy at Eureka Ave	TS	0.672	B	0.499	A	0.675	B	+0.003	No	0.501	A	+0.002	No
3.	Imperial Hwy at Lemon Dr	TS	0.767	C	0.670	B	0.779	C	+0.012	No	0.678	B	+0.008	No
4.	Imperial Hwy at Olinda St	TS	0.656	B	0.504	A	0.669	B	+0.013	No	0.503	A	-0.001	No
5.	Imperial Hwy at Yorba Linda Blvd	TS	1.022	F	0.841	D	1.023	F	+0.001	No	0.841	D	+0.000	No
6.	Plumosa Dr/Project Dwy at Lemon Dr	AWS	[11.8]	B	[12.1]	B	[13.8]	B	+2.0	No	[14.3]	B	+2.2	No
7.	Olinda St at Lemon Dr	CSS	[16.9]	C	[17.3]	C	[17.3]	C	+0.4	No	[17.6]	C	+0.3	No
8.	Lakeview Ave at Lemon Dr	TS	0.575	A	0.618	B	0.579	A	+0.004	No	0.619	B	+0.001	No
9.	Lakeview Ave at Yorba Linda Blvd	TS	0.829	D	0.818	D	0.831	D	+0.002	No	0.821	D	+0.003	No
10.	Olinda St at Project Dwy	CSS	-	-	-	-	[11.0]	B	-	No	[11.4]	B	-	No

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) V/C = Volume/Capacity

(3) Delay is shown in [seconds/vehicle] for un-signalized study intersections. For intersections with all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst individual lane (or movements sharing a lane).

(4) LOS = Level of Service

Table 11
Off-Site Queueing Analysis Summary

Alternative	Intersection	Traffic Control ¹	Lane ²	Storage Length (Feet)	Peak Hour 95th-Percentile Queue (Feet) ³			
					Opening Year		Build-Out (Year 2040)	
					Wkdy PM	Sat MD	Wkdy PM	Sat MD
Without Project (No Build)	Imperial Highway at Lemon Dr (west)	TS	NB L	150	102	97	94	135
	Imperial Highway at Lemon Dr (east)	TS	SB L	150	243	243	260	269
			WB LT	160	124	119	185	145
			WB R(d)	175	115	117	142	130
	Plumosa Dr at Lemon Dr	AWS	EB LTR	150	160	174	174	181
	Olinda St at Imperial Hwy	TS	WB L	250	97	66	109	71
			WB TR	65	62	62	80	69
A (2-Way Stop at Plumosa)	Imperial Highway at Lemon Dr (west)	TS	NB L	130	86	93	107	149
	Imperial Highway at Lemon Dr (east)	TS	SB L	190	260	268	291	267
			WB LT	160	112	108	110	116
			WB R	160	128	95	162	123
	Plumosa Dr/Project Dwy at Lemon Drive	CSS	EB LTR	150	127	118	163	155
	Olinda St at Project Dwy	CSS	NB L	200	22	21	24	23
	Olinda St at Imperial Hwy	TS	WB L	250	136	73	138	70
			WB TR	100	70	55	87	66
B (4 Lanes on Lemon: EB left/thru and right, WB left/thru and right)	Imperial Highway at Lemon Dr (west)	TS	NB L	130	77	100	103	149
	Imperial Highway at Lemon Dr (east)	TS	SB L	190	249	251	278	293
			WB LT	175	98	107	121	131
			WB R	175	107	85	172	117
	Plumosa Dr/Project Dwy at Lemon Dr	AWS	EB LT	140	149	163	167	171
			EB R	140	54	61	52	54
	Olinda St at Imperial Hwy	TS	NB L	200	25	26	23	24
			WB L	250	117	65	128	93
			WB TR	100	65	51	78	60
C (4 Lanes on Lemon: EB left and thru/right, WB left/thru and right)	Imperial Highway at Lemon Dr (west)	TS	NB L	130	92	124	93	120
	Imperial Highway at Lemon Dr (east)	TS	SB L	190	264	251	290	300
			WB LT	175	93	112	110	120
			WB R	175	148	95	161	156
	Plumosa Dr/Project Dwy at Lemon Dr	AWS	EB L	140	81	71	101	86
			EB TR	140	141	141	144	150
	Olinda St at Project Dwy	CSS	NB L	200	24	29	37	21
	Olinda St at Imperial Hwy	TS	WB L	250	103	73	122	72
			WB TR	100	74	58	85	65

Notes:

(1) TS = Traffic Signal; AWS = All Way Stop; CSS = Cross Street Stop

(2) NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; L = Left; T = Thru; R = Right; (d) = de facto

(3) Source: SimTraffic queueing analysis; see Appendix E.

7. ON-SITE CIRCULATION

STANDARD OPERATIONS

As a standard policy, In-N-Out Burger provides associates in the parking areas to acquaint new customers with the flow and layout of the site by directing traffic and assisting customers in parking, entering, and exiting the site. During peak operations (lunch period from 12 – 2 PM and dinner period from 5 – 7 PM), associates will monitor the parking lot to ensure that on-site circulation flows smoothly and vehicles are not blocking parking spaces and/or the drive through lane. Ingress and egress drive aisles will be kept clear at all times.

The drive through lane is monitored by three to four cameras with the video feeds displayed at the manager's office, cooking grills, and both the pay and pick-up windows. During peak demand, a wireless handheld ordering system is implemented once the drive through lane queue extends beyond the menu board and ordering speaker generally located at the 8th vehicle position upstream of the pick-up window. This enables orders to be processed sooner and ensure that the order is ready by the time the vehicle reaches the pick-up window. The associate operating the handheld ordering system will also communicate management inside the restaurant and can notify of the need for additional associates to assist in the parking area, if needed.

Compared to older In-N-Out locations, the proposed project will provide substantially more vehicular storage length in the drive through lane and will have a larger, more efficient kitchen. Two grills are typically operated at all times and a third grill is used during periods of high volume. Activation of the third grill is typically done in response to drive through demand and enables the restaurant to increase the speed at which drive through orders are picked up. With implementation of handheld ordering, combined with the higher capacity kitchen, drive through orders can be processed at an average of approximately one vehicle every 40 seconds during peak periods.

Figure 29 and Figure 30 illustrate the circulation patterns to and from the drive through lane that are expected under typical operations.

DRIVE THROUGH LANE QUEUING

Table 12 shows the drive through queues observed at three other existing In-N-Out locations in Orange County based on data obtained from the Chick-Fil-A and In-N-Out at 17th Street and Tustin Avenue in County of Orange Traffic Impact Analysis (Michael Baker International, December 2017). As shown in Table 12, the average peak queue observed at the three survey sites was 21 vehicles during the Saturday mid-day period and the maximum queue at any individual site did not exceed 23 vehicles.

The proposed In-N-Out drive through lane can accommodate approximately 30 passenger vehicles. Based on the observed peak average of 21 queued vehicles, the proposed project is forecast to accommodate peak drive through queues entirely within the drive through lane with a buffer for 8 additional vehicles (+38%), thus maintaining unimpeded drive aisles and allowing vehicles to circulate efficiently throughout the site.

DRIVE THROUGH MANAGEMENT & CONTINGENCY PLAN

As noted above, the drive through lane is anticipated to provide more than sufficient stacking length based on the observed maximum drive through queue lengths at three other In-N-Out locations in Orange County. Although the drive through lane is forecast to provide more than sufficient storage to accommodate peak demand, Figure 31 illustrates a drive through management plan that can be implemented should the drive through lane queue exceed expectations. This plan is not anticipated to be needed on a regular basis, if at all, but is provided to demonstrate how drive through queue overflow can be accommodated on-site without adversely impacting on-site circulation and project site ingress or egress.

The following description of the drive through management plan is provided as a starting point. Once the proposed restaurant is in operation, on-site In-N-Out management shall monitor operation of the drive through lane and circulation and make adjustments as necessary. In-N-Out has a specialized team of “all-stars” staff that travel to each new store opening to ensure efficient circulation by directing dine-in and drive through customers to and from the project site ingress and egress. As traffic operations normalize, the drive through management plan should be modified as necessary.

Stage 1: Hand-Held Ordering System

As shown on Figure 31, the menu board is located at the 8th vehicle position from the pick-up window. As previously described, the manager’s office has multiple video feeds of the drive through lane. Hand-held ordering is deployed once the vehicle queue exceeds the menu board.

Stage 2: Begin Set Up of Directional Signage

Once the drive through queue reaches the 21st vehicle position, In-N-Out Associates shall begin setting up directional signage to re-route customers to Olinda Street access. The 21st vehicle position represents the maximum queue on average that was observed at three comparable In-N-Out locations in Orange County. Based on the average arrival rate derived from the project trip generation, it would take just over three minutes for the drive through to reach capacity from this point, which should provide sufficient time for two or three In-N-Out Associates to set up the directional signs. Set up time should be monitored and can easily be adjusted to begin sooner, if needed.

Stage 3: Begin Re-Routing Drive Through Customers to Olinda Street

If queue reaches the drive through lane entrance, In-N-Out associates shall place an A-frame sign in the driveway at Lemon Drive and begin directing drive through customers to the Olinda Street access. An In-N-Out associate shall manage the Lemon Drive entrance to provide verbal and physical directions as necessary. Upon entering from Olinda Street, additional signage and In-N-Out associates would direct vehicles to make an immediate right turn, travel northbound along the drive aisle parallel to Olinda Street, then turn left and queue in the drive aisle parallel to Lemon Drive. This plan would allow for up to 42 queued vehicles on-site without blocking the points of ingress or egress.

The drive through management plan is intended to serve as living document. Actual operations should be monitored and adjusted as necessary. If necessary, In-N-Out may coordinate with City of Yorba Linda to modify circulation in the vicinity of the project. Additional measures that may be considered include:

- A traffic management plan that requires review of on-site circulation and site access once the project is in operation after one month, six month, and 12 months of operation.
- Modify traffic controls (e.g., remove stop signs on eastbound/westbound Lemon Drive).
- Provide free right turn movement into the project site and/or restrict other movements.
- Temporarily close project ingress at all driveways until drive through queue is reduced.

TRUCK CIRCULATION

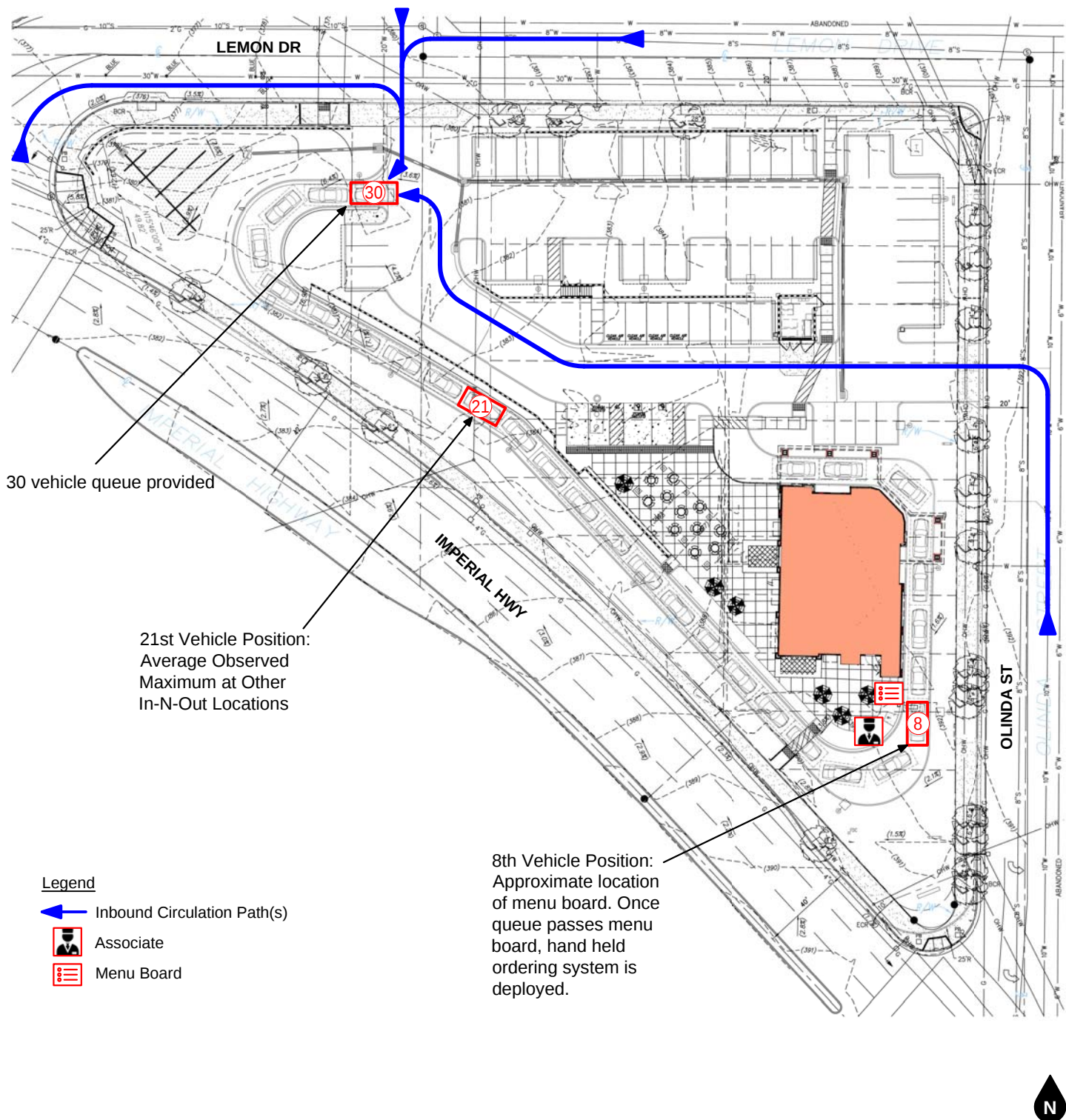
Truck deliveries are scheduled to occur after store closing and before opening, typically between 2:00 AM and 8:00 AM, so as not to interfere with on-site circulation and operations while the restaurant is open to the public.

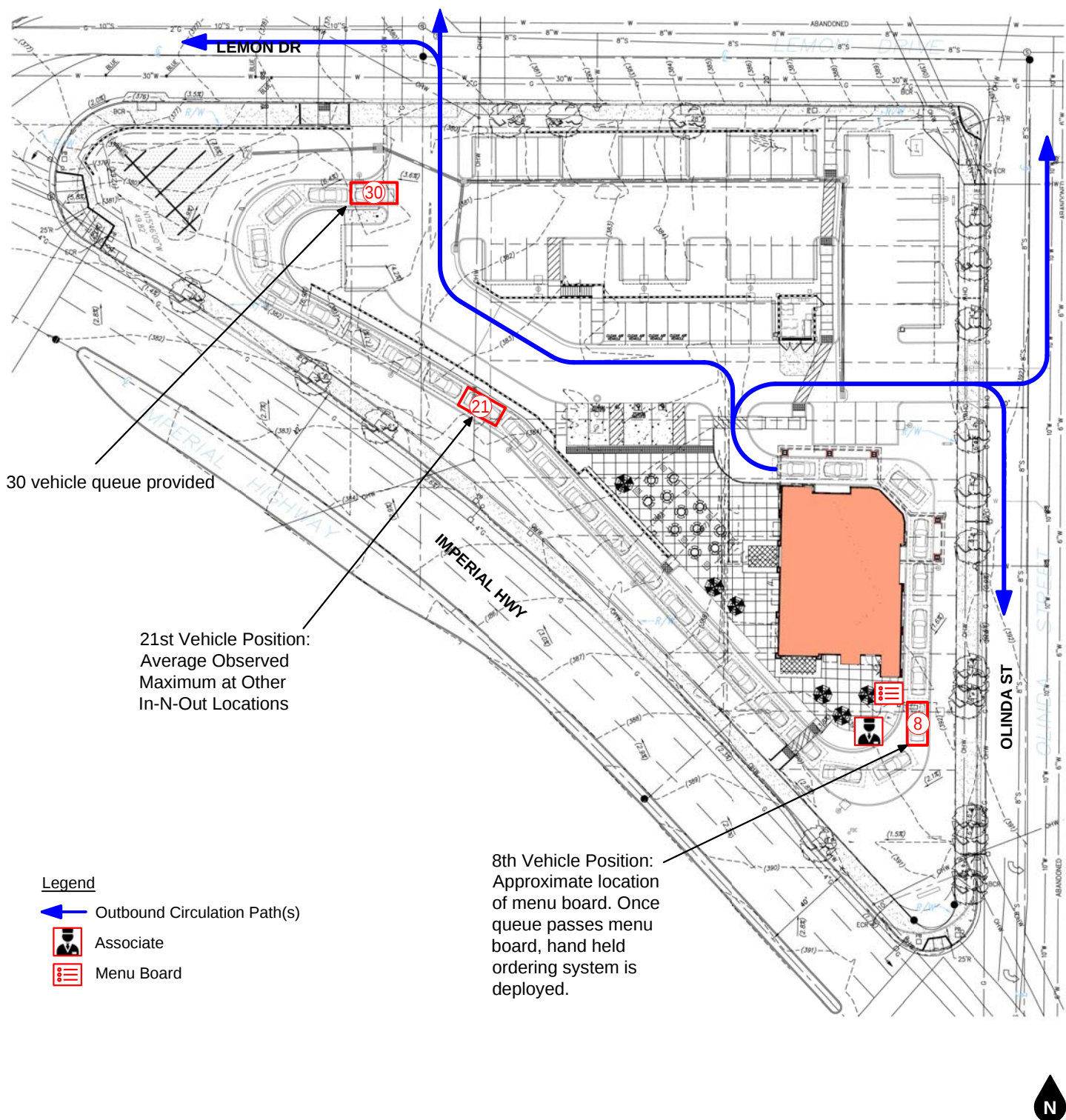
Figure 32 shows the truck turning path through the project site. Truck ingress would occur at Olinda Street and egress would occur at Lemon Drive. Truck loading/unloading would occur on-site in the drive aisle closest to the building entrance. As shown Figure 32, adequate circulation is provided to accommodate truck turning through the site.

Table 12
In-N-Out Drive Through Lane Queue Survey

Time of Day	Maximum Queue Observed ¹			
	Santa Ana 815 N Birstol St	Costa Mesa 3211 Harbor Blvd	Orange 2585 N Tustin St	Average
Weekday Mid-Day	17	22	15	18
Weekday Evening	17	15	15	16
Saturday Mid-Day	17	21	23	21

Source: Based on surveys conducted in June/October 2016 as documented in [Chick-Fil-A and In-N-Out at 17th Street and Tustin Avenue in County of Orange Traffic Impact Analysis](#) (Michael Baker International, December 2017); see Appendix E.





Contingency Measure:

If queue reaches the 30th Vehicle Position, place A-frame in Lemon driveway ingress to direct drive through traffic to Olinda access.

42 vehicle queue provided with implementation of contingency plan

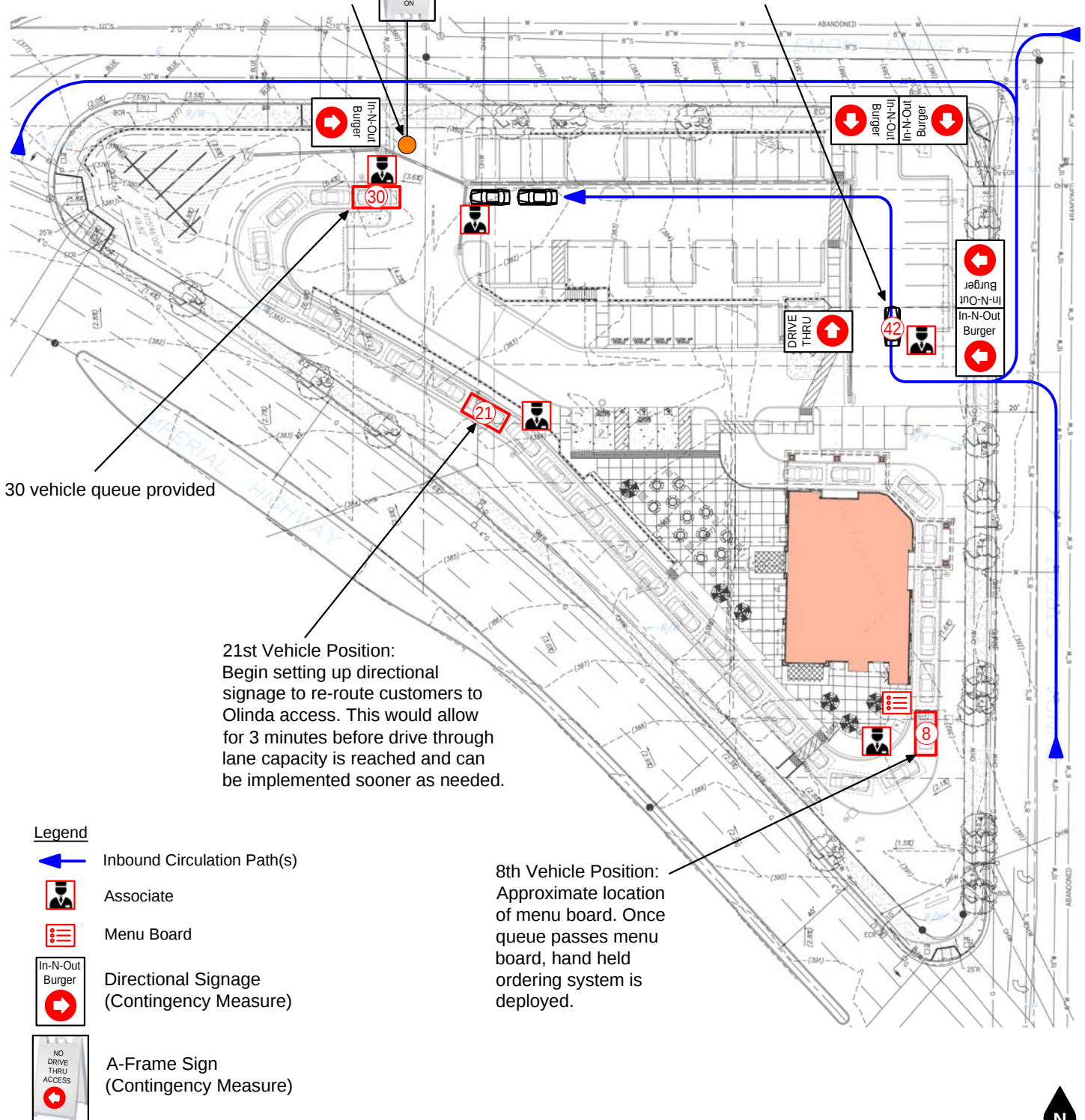
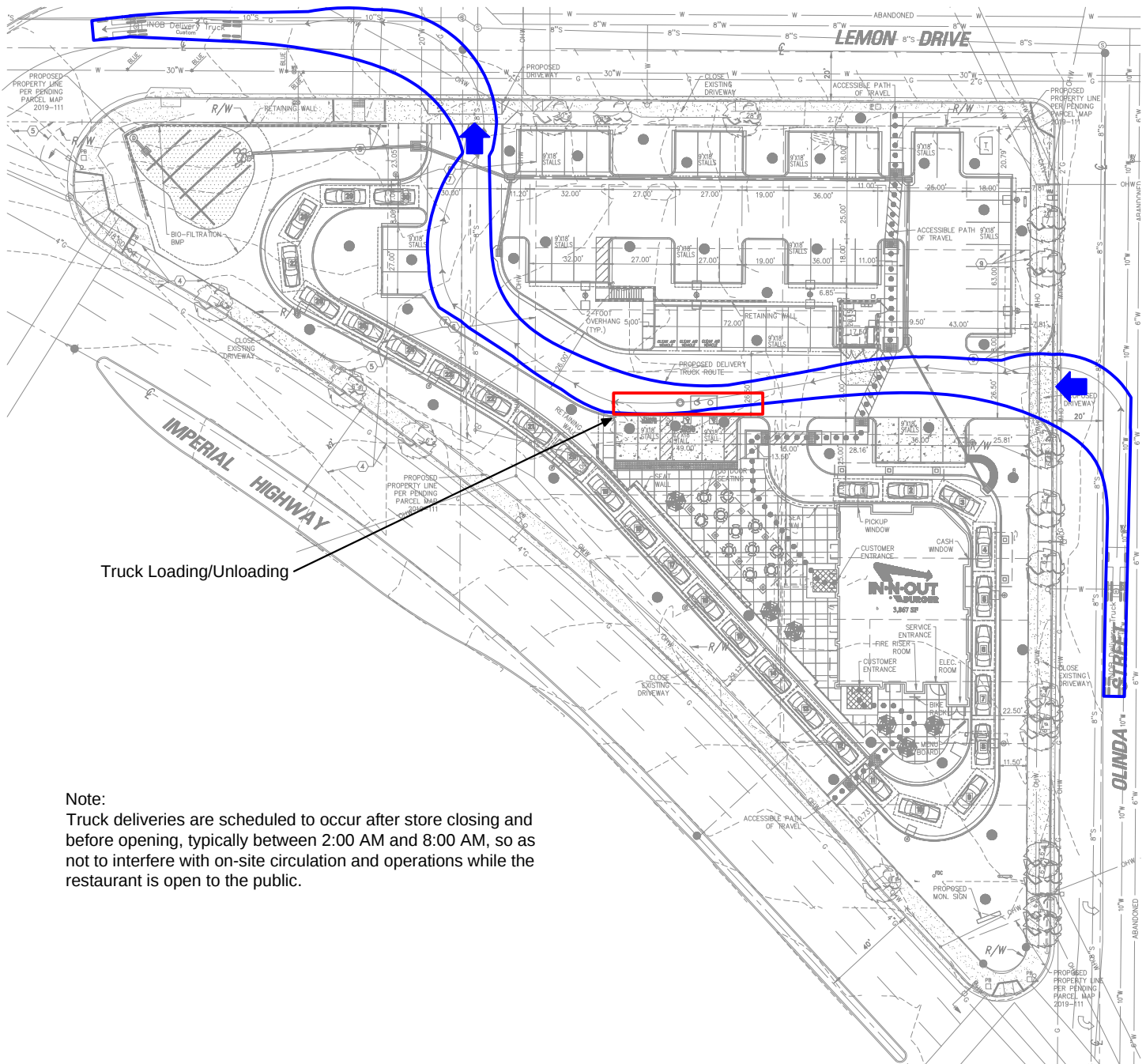


Figure 31
Drive Through Management & Contingency Plan



Note:
Truck deliveries are scheduled to occur after store closing and before opening, typically between 2:00 AM and 8:00 AM, so as not to interfere with on-site circulation and operations while the restaurant is open to the public.



Figure 32
Truck Circulation

8. PARKING

OFF-STREET PARKING REQUIREMENTS

The proposed project has been reviewed for consistency with off-street parking requirements of both the Town Center Specific Plan and the City of Yorba Linda Municipal Code. Table 13 shows the off-street parking requirements for the proposed project based on the Town Center Specific Plan and Municipal Code standards.

The project site is located within the Town Center Specific Plan, which establishes the site design standards for the developments contained within the Specific Plan boundary. The Town Center Specific Plan requires eight (8) parking spaces per 1,000 square feet of gross floor area for restaurant land uses. The parking rate for outdoor dining area is the same as for indoor, except that no parking spaces are required for the first ten seats of outdoor dining.

At approximately 64 square feet per outdoor dining table, the proposed project provides approximately 1,088 square feet of outdoor dining area. Since each 4-person table is approximately 64 square feet, the outdoor dining reduction equates to 160 square feet, or approximately two parking spaces. As shown in Table 13, the proposed project requires 38 parking spaces under the Town Center Specific Plan off-street parking standards.

The Municipal Code requires one (1) parking space per 100 square feet of gross floor area for restaurant land uses and does not include a provision for outdoor dining area. As shown in Table 13, the proposed project would be required to provide 39 on-site parking spaces under the Municipal Code off-street parking standards.

The project is proposing to provide a total of 49 parking spaces, which exceeds the minimum required under both the Town Center Specific Plan and the Municipal Code off-street parking standards by at least 10 parking spaces. Therefore, the proposed project provides 25 percent more parking than required per City Code and Specific Plan standards. Since the project proposes to provide more than the minimum number of parking spaces required per code, ample on-site parking is anticipated to be available such that public parking areas in the vicinity are not necessary to accommodate parking associated with the proposed restaurant.

The proposed restaurant typically employs three shifts per day with 10 to 15 employees. These employees would be instructed to park in the northern most parking spaces perpendicular to Lemon Drive, thus leaving the parking spaces closer to the building available for use by dine-in customers. This would also minimize the need for access to those spaces during peak times if the drive aisle is utilized for overflow drive through stacking. Some employees work longer hours than others; therefore, not all employees would change shift at the same time. Additionally, shift changes would be scheduled to avoid peak hours, thus minimizing the parking overlap during peak parking demand for the site. Based on the 10 to 15 employees per shift, approximately 34 to 39 parking spaces would be available for customers.

PUBLIC PARKING

On-Street

On-street parking along the project site frontage is available to the public and generally used by the existing library and adjacent businesses. Existing on-street parking areas along the project site frontage are shown on Figure 33. As shown on Figure 33, there are currently a total of approximately 11 on-street parking spaces along the project site frontage.

The proposed project will modify existing on-street parking along the project site frontage due to relocation or removal of existing driveways and the library book return drop boxes. Additionally, on-street parking along the south side of Lemon Drive is proposed to be prohibited approximately 90 feet from the curb return at

Olinda Street due to existing public safety concerns regarding sight distance at the intersection of Olinda Street and Lemon Drive. The proposed prohibition of on-street parking on Lemon Drive relates to an existing safety concern that is not caused by the proposed project; however, the proposed project would help offset some of the displaced parking spaces on Lemon Drive by allowing for additional parking along Olinda Street. Additionally, the project will prohibit on-street parking on Olinda Street along the project frontage for approximately 80 feet from the curb return at Imperial Highway to improve queue capacity on southbound Olinda Street at Imperial Highway.

Available on-street parking for proposed conditions is shown on Figure 34. As shown on Figure 34, proposed conditions would provide a total of approximately eight (8) on-street parking spaces along the project site frontage. The resulting net loss of three (3) on-street parking spaces along the project frontage is primarily related to proposed red curb markings associated with sight distance improvements at the Olinda Street/Lemon Drive intersection and providing additional queuing capacity for southbound Olinda Street at Imperial Highway. The proposed project would not have a substantial impact on the availability of public parking the vicinity.

Assuming 10 to 15 on-site parking spaces are occupied by employees, the proposed project would have access to a total of up to 47 parking spaces for customers with the eight (8) on-street parking spaces along the project frontage.

Olinda Street Public Lot

There is a public parking lot located on the east side of Olinda Street opposite from the project site that provides 24 parking spaces, plus an additional seven (7) angled parking spaces along Olinda Street. These parking spaces are understood to be generally used by surrounding business and nearby apartments; overnight parking is prohibited. These public parking areas are intended to serve land uses within the Town Center Specific Plan, which includes the project site. While it is possible that some customers may park in the public areas while they eat and visit other businesses, the proposed project does not require these public parking areas to satisfy on-site parking requirements. The majority of, if not all, customers who visit only the proposed In-N-Out are anticipated to park on-site.

Pedestrian access between the public lot and the project site is separated by Olinda Street and would remain the same as current conditions. A marked crosswalk is provided at the signalized intersection of Imperial Highway/Olinda Street. An unmarked crosswalk is available at the intersection of Olinda Street/Lemon Drive where Olinda Street is stop-controlled. The intersection spacing between existing crosswalks at Imperial Highway and Lemon Drive does not warrant an additional crosswalk. Additionally, the project satisfies on-site parking requirements and is not anticipated to substantially increase pedestrian volumes in area.

Furthermore, the proposed project may help alleviate parking demand in public areas since it will displace public parking usage associated with the existing library. The existing library parking lot appears heavily utilized and it is likely that existing library employees and visitors are parking off-site. The public parking spaces currently utilized by library employees and visitors will become available for other uses. Fast-food customers are also likely to park for shorter periods of time than library visitors. Therefore, if a fast-food customer does park on-street adjacent to the site, the parking space is likely to become available more frequently.

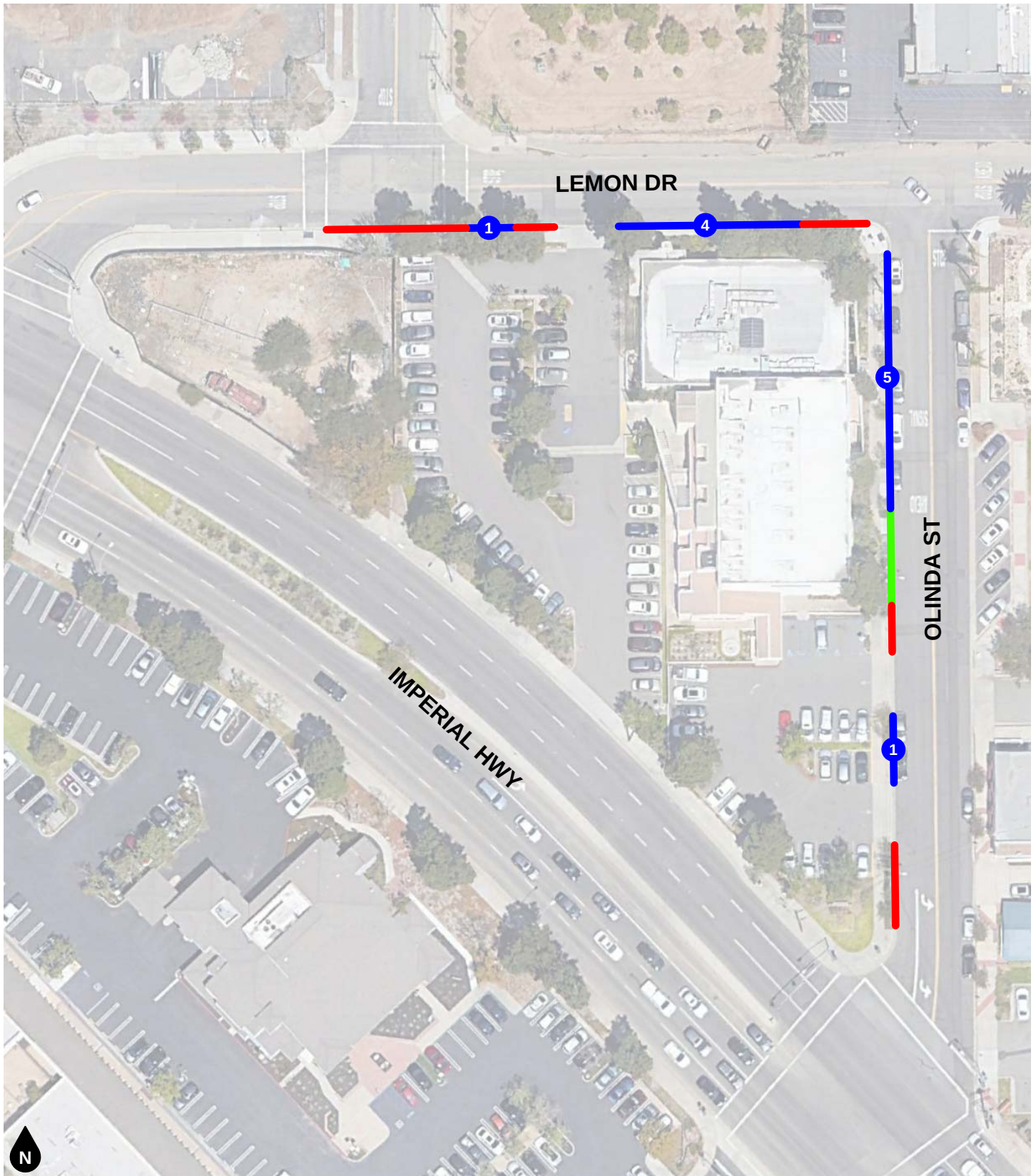
Table 13
Off-Street Parking Requirements

Standard	Land Use	Off-Street Parking Spaces Required ^{1,2}	Quantity	Units	Number of Parking Spaces
Town Center Specific Plan	Restaurant	Indoor: 8 parking spaces per 1,000 SF GFA	3,867	SF	30.9
		Outdoor: 8 parking spaces per 1,000 SF, except no spaces required for first 10 seats of outdoor dining (approx. 160 SF)	848	SF	6.8
		Total (rounded up)			38
Municipal Code	Restaurant	1 parking space per 100 SF GFA	3,867	SF	39
Number of On-Site Parking Spaces Proposed					49
Surplus					10 (+25%)

Notes:

(1) SF = Square Feet; GFA = Gross Floor Area

(2) Source = City of Yorba Linda Parking Code (see Appendix B)

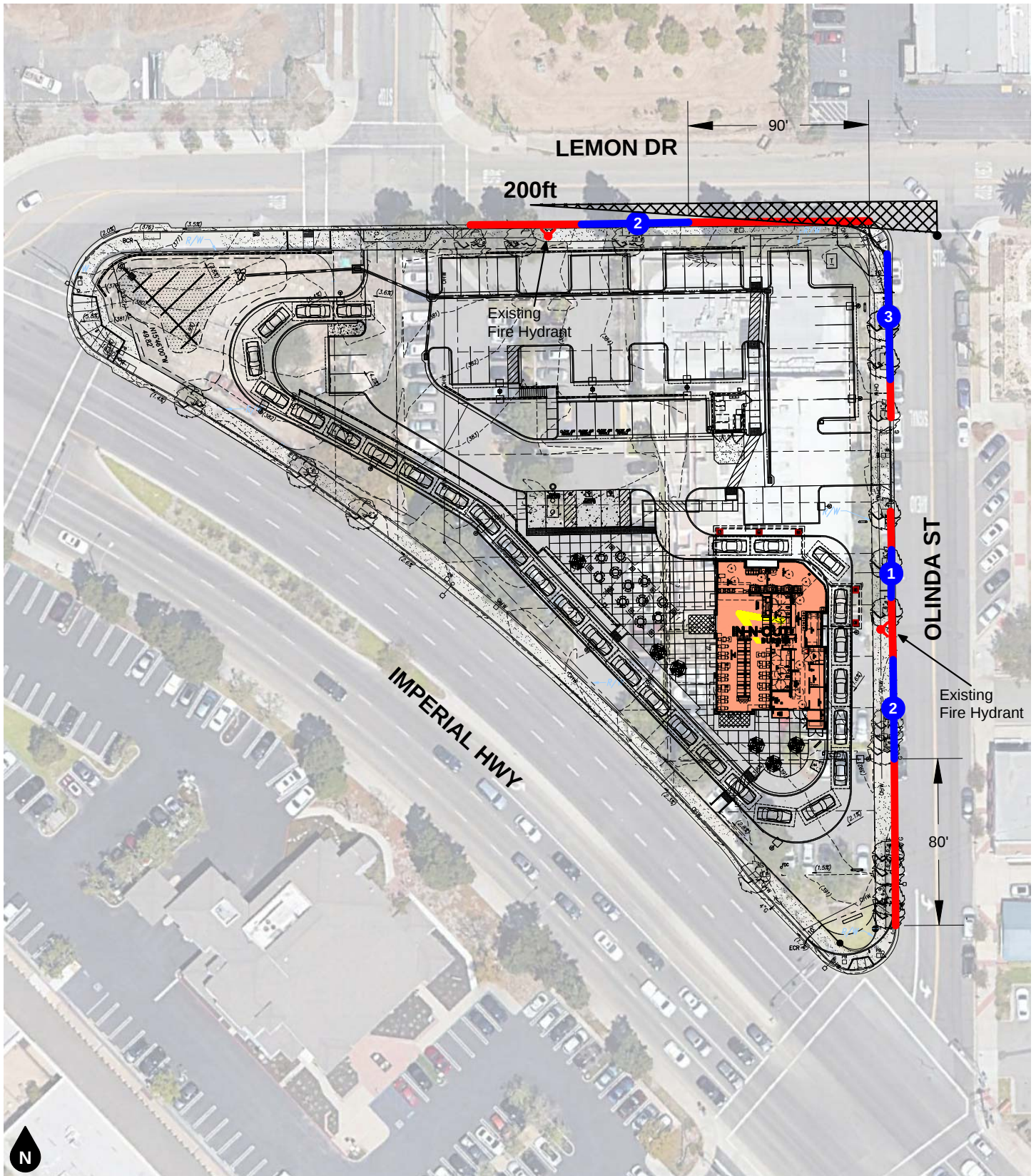


Legend

- Red Curb (No Parking)
- Book Return
- # On-Street Parking (# = Approx. Number of Spaces)

Total Site-Adjacent On-Street Parking =
11 Parking Spaces

Figure 33
Existing On-Street Parking



Legend

- Red Curb (No Parking)
- # On-Street Parking (# = Approx. Number of Spaces)
- Stopping Sight Distance
- Restricted Use Area

Total Site-Adjacent On-Street Parking =
8 Parking Spaces

Figure 34
Proposed On-Street Parking

9. CONCLUSIONS

MITIGATION MEASURES

Mitigation Measure #1:

Extend the storage length of the southbound left turn lane at the intersection of Imperial Highway and Lemon Drive (east) from 150 to 180 feet. This will require the northbound left turn lane at the intersection of Imperial Highway and Lemon Drive (west) to be reduced to approximately 120 feet.

Mitigation Measure #2:

Widen the south side of Lemon Drive between Imperial Highway and Plumosa Drive to provide two eastbound lanes, including a dedicated left turn lane and a shared through/right turn lane at the Plumosa Drive approach, and two westbound lanes, including a shared left/through lane and a dedicated right turn lane at the Imperial Highway approach.

Mitigation Measure #3:

Prohibit on-street parking on Olinda Street along the project frontage for approximately 80 feet from the curb return at Imperial Highway.

Conceptual plans for the mitigation measure improvements are illustrated on Figure 35 and Figure 36.

GENERAL RECOMMENDATIONS

All roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project should be constructed in accordance with applicable engineering standards and to the satisfaction of the City of Yorba Linda Public Works Department.

Site-adjacent roadways should be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Yorba Linda Public Works Department.

On-site traffic signing and striping plans should be submitted for City of Yorba Linda approval in conjunction with detailed construction plans for the project.

The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met in accordance with applicable City of Yorba Linda/California Department of Transportation sight distance standards.

As is the case for any roadway design, the City of Yorba Linda should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

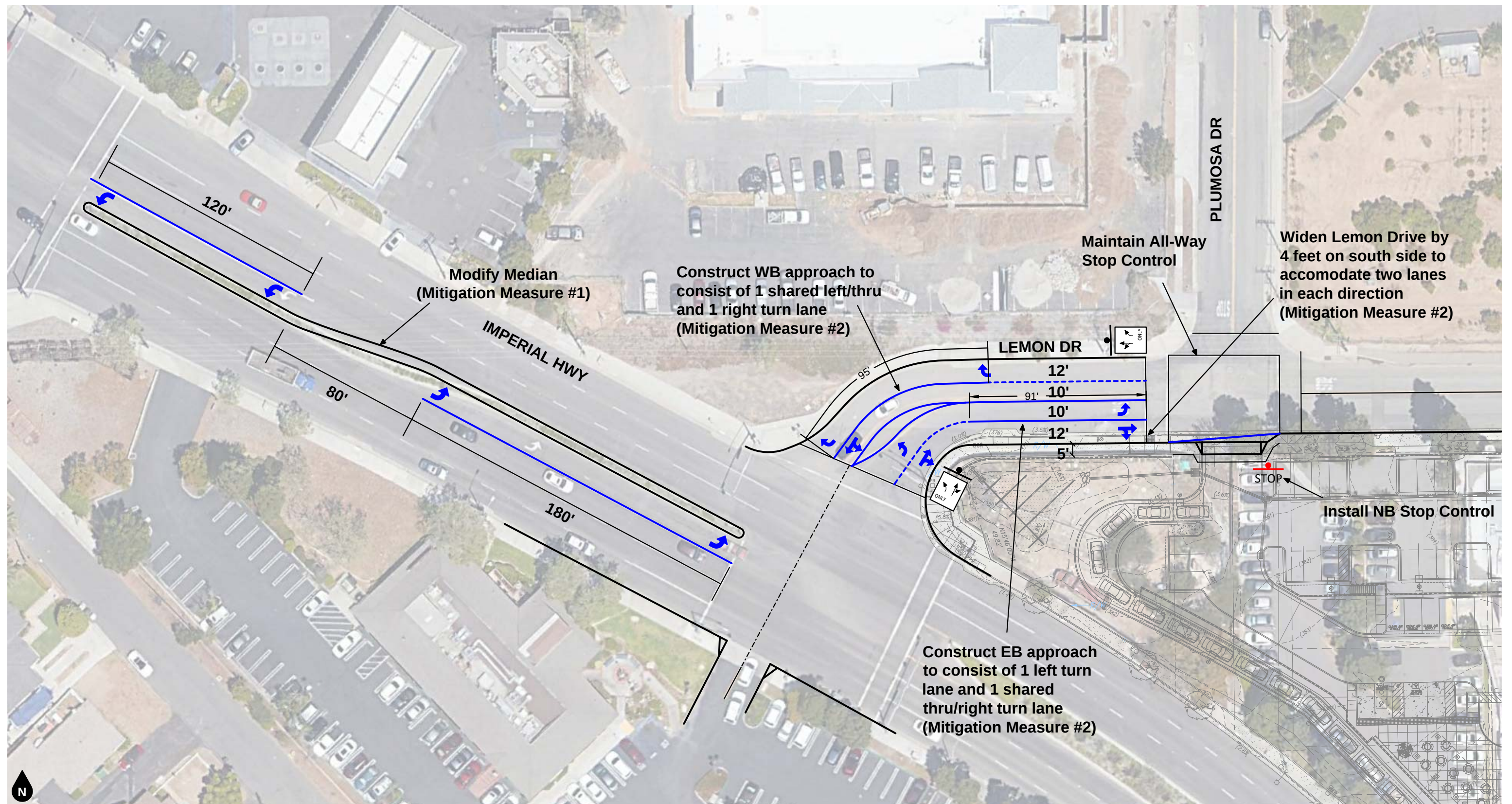


Figure 35
Conceptual Improvements for Mitigation Measures 1 and 2

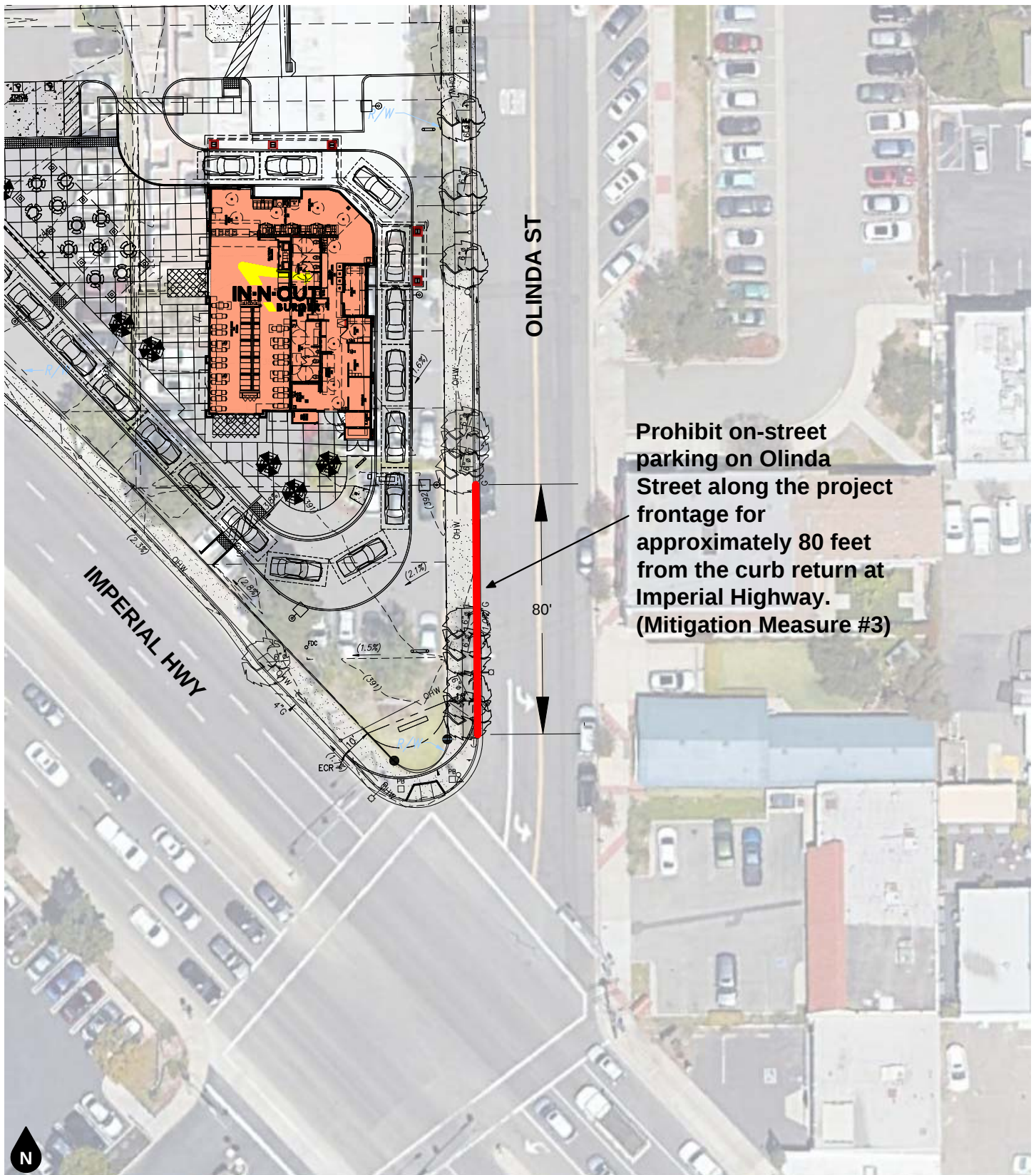


Figure 36
Conceptual Improvements for Mitigation Measure 3

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E Off-Site Queuing Analysis Worksheets
Appendix F Multi-Way Stop Evaluation
Appendix G Drive Through Queue Survey

APPENDIX A

GLOSSARY

GLOSSARY OF TERMS

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
LOS	Level of Service
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CONTROL DELAY: The component of delay, typically expressed in seconds per vehicle, resulting from the type of traffic control at an intersection. Control delay is measured by comparison with the uncontrolled condition; it includes delay incurred by slowing down, stopping/waiting, and speeding up.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.

CYCLE LENGTH: The time period in seconds required for a traffic signal to complete one full cycle of indications.

CUL-DE-SAC: A local street open at one end only and with special provisions for turning around.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENT (PCE): A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SHARED/RECIPROCAL PARKING AGREEMENT: A written binding document executed between property owners to provide a designated number of off-street parking stalls within a designated area to be available for specified businesses or land uses.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queueing to occur.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle on the major roadway travelling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 6 inches above the pavement.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

TURNING RADIUS: The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

SCOPING AGREEMENT

RE: 19-0064 18181 Imperial Highway In-N-Out Traffic Study Revised Scope

Tony Wang <twang@yorbalindaca.gov>

Mon 8/12/2019 2:06 PM

To: Brandon Alvarado <brandon@ganddini.com>

The scope of work is acceptable. The queuing analysis must address that the project traffic would not spill back onto public streets.

TONY L. WANG, PE, TE, PTOE

Traffic Engineering Manager

4845 Casa Loma Avenue | Yorba Linda, CA 92886

P: 714-961-7170, 714-961-7184 (Direct)

W: yorbalindaca.gov

CITY of YORBA LINDA



Please note my email address has changed.

From: Brandon Alvarado <brandon@ganddini.com>

Sent: Monday, August 12, 2019 12:55 PM

To: Tony Wang <twang@yorbalindaca.gov>

Subject: RE: 19-0064 18181 Imperial Highway In-N-Out Traffic Study Revised Scope

Tony,

Since you confirmed the scope was acceptable over our phone call, could you please send an email confirmation as well so we can show that in the report? The scope is dated August 5th and is attached again for your reference.

Thanks,

Brandon Alvarado, EIT

Transportation Planner

**GANDDINI GROUP, INC.**

550 Parkcenter Drive, Suite 202

Santa Ana, CA 92705

714 795 3100 x 106

www.ganddini.com

From: Tony Wang [<mailto:twang@yorbalindaca.gov>]

Sent: Monday, August 05, 2019 1:34 PM

To: Brandon Alvarado <brandon@ganddini.com>

Subject: RE: 19-0064 18181 Imperial Highway In-N-Out Traffic Study Revised Scope



TRAFFIC STUDY SCOPE

TO: Tony Wang | CITY OF YORBA LINDA

FROM: Brandon Alvarado, EIT | GANDDINI GROUP, INC.

DATE: August 5, 2019

SUBJECT: 18181 Imperial Highway In-N-Out Traffic Study Scope
19-0064

INTRODUCTION

The purpose of this scoping document is to outline the proposed traffic analysis parameters and assumptions for the 18181 Imperial Highway In-N-Out project for review/concurrence by City of Yorba Linda staff.

PROJECT DESCRIPTION

Figure 1 shows the project location map. The project site is located at 18181 Imperial Highway in the City of Yorba Linda.

The proposed project involves the construction of a 3,974 square foot In-N-Out Burger restaurant with drive-thru upon the relocation of the Yorba Linda Public Library. All existing driveways currently serving the Yorba Linda Public Library will be closed, and new full access driveways are proposed at Lemon Drive and Olinda Street. The site plan is illustrated on Figure 2.

PROJECT TRIP GENERATION & DISTRIBUTION

Tables 1 and 2 show the In-N-Out trip generation rates and directional distributions during the weekday PM peak hour and Saturday mid-day peak hour based upon historical surveys at the existing Rancho Santa Margarita In-N-Out location (see Attachment A).

Pass-by trip reduction will be applied to the proposed fast-food restaurant during the weekday PM peak hour (25%) and the weekend mid-day peak hour (10%) based on the RBF Consulting, Queen Esther Square Shopping Center Traffic Impact Analysis, March 4, 2013, Table 10.

The project net new trip generation takes into account the existing project site trips to be displaced. Existing project site trips associated with the Yorba Linda Public Library have been determined based on intersection turning movement counts conducted at the three existing project site driveways during a typical weekday PM peak period and typical Saturday mid-day peak period (see Attachment B). Existing site trip generation has been subtracted from the proposed land use trip generation to determine the net project trip generation.

As shown in Table 3, the proposed In-N-Out restaurant is forecast to generate approximately 46 net new trips during the weekday PM peak hour and 34 net new trips during the Saturday mid-day peak hour.

Figure 3 and Figure 4 illustrate the forecast outbound and inbound directional distribution patterns of project-generated trips, respectively.

STUDY AREA

The study area is proposed to consist of the following 9 (nine) study intersections to which the project is forecast to contribute 50 or more trips during either the weekday PM or Saturday mid-day peak hours.

Study Intersections

1. Imperial Highway (SR-90) at Casa Loma Avenue
2. Imperial Highway (SR-90) at Eureka Avenue
3. Imperial Highway (SR-90) at Lemon Drive
4. Imperial Highway (SR-90) at Olinda Street
5. Imperial Highway (SR-90) at Yorba Linda Boulevard
6. Plumosa Drive at Lemon Drive
7. Olinda Street at Lemon Drive
8. Lakeview Avenue at Lemon Drive
9. Lakeview Avenue at Yorba Linda Boulevard

TRAFFIC COUNTS

Weekday and weekend peak hours were determined based on 24-hour counts conducted within the study area (see Attachment C). New intersection turning movement counts have been collected at the study intersections on a typical weekday (Tuesday, Wednesday, or Thursday) during the PM peak period (4:00 PM – 6:00 PM) and the Saturday mid-day peak period (11:00 AM – 1:00 PM).

ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for typical weekday PM peak hour and weekend mid-day peak hour conditions:

- Existing
- Existing Plus Project
- Opening Year (2021) Without Project
- Opening Year (2021) With Project
- Build-Out (Year 2040) Without Project
- Build-Out (Year 2040) With Project

ANALYSIS METHODOLOGY

The signalized study intersections shall be analyzed using the Intersection Capacity Utilization methodology in accordance with the parameters and impact thresholds prescribed in the City of Yorba Linda [Traffic Impact Analysis Guidelines](#) (Department of Public Works, March 2008).

The unsignalized study intersections shall be analyzed using the intersection delay methodology and recommended default factors prescribed in the Transportation Research Board [Highway Capacity Manual](#) (6th Edition).

PERFORMANCE STANDARDS

The City of Yorba Linda has established Level of Service D as the minimum acceptable Level of Service during peak hour conditions. Intersections operating at Level of Service E/F shall be identified as deficient.

THRESHOLDS OF SIGNIFICANCE

For signalized study intersections within City of Yorba Linda jurisdiction, a project traffic impact is considered significant if the addition of project generated trips is forecast to cause an increase in volume-to-capacity of 0.01 or greater when the intersection is operating at unacceptable Level of Service (E or F) in the baseline condition.

Many jurisdictions, including the City of Yorba Linda, have not established significant impact thresholds for unsignalized intersections. For this traffic impact analysis, a project impact at an unsignalized intersection shall be considered significant if the addition of project-generated trips is forecast to cause or worsen Level of Service E or F and a traffic signal is warranted based on the peak hour volume criteria established in the California Manual on Uniform Traffic Control Devices (2014 Edition).

FORECASTING METHODOLOGY

To account for ambient growth, existing roadway volumes shall be increased by an annual growth rate. The annual growth rate will be derived based on the growth in roadway segment volumes in the project vicinity between existing (Year 2015) and build-out (Year 2035) as noted in the City of Yorba Linda Traffic Impact Study for the Circulation Element Update. The calculated growth rate will be applied over a two-year period for Opening Year (2021) conditions and over a 21-year period for Year 2040 conditions.

In addition, a list of pending and approved other development projects shall be requested from the City of Yorba Linda. Trip forecasts for other development projects within the project study area shall be determined based on the Institute of Transportation Engineers (ITE), Trip Generation Manual, 10th Edition, 2017 and will be added to existing roadway volumes for the applicable analysis scenarios.

QUEUING ANALYSIS

Peak hour queuing analysis will be conducted for the project drive through operations and inbound project access points.

CONCLUSION

We appreciate the opportunity to provide this scoping document for your review. Should you have any questions or comments regarding the proposed scope, please contact me at (714) 795-3100 x 106.

Table 1
Trip Generation Survey at Existing Rancho Santa Margarita In-N-Out Burger Location (Weekday Evening)

Location	Source ¹	Quantity	Units ²	Weekday Evening Peak Hour Trips ³			Rate	Directional Distribution	
				Inbound	Outbound	Total		Inbound	Outbound
Rancho Santa Margarita	[a]	3.665	TSF	137	133	270	73.67	51%	49%

Notes:

(1) Source:

[a] Trip survey conducted on Thursday, May 9, 2019.

(2) TSF = Thousand Square Feet

(3) Trip generation surveys were conducted during the weekday evening peak period of adjacent street traffic (4:00 PM - 6:00 PM).

Table 2
Trip Generation Survey at Existing Rancho Santa Margarita In-N-Out Burger Location (Saturday Mid-Day)

Location	Source ¹	Quantity	Units ²	Saturday Mid-Day Peak Hour Trips ³			Rate	Directional Distribution	
				Inbound	Outbound	Total		Inbound	Outbound
Rancho Santa Margarita	[a]	3.665	TSF	145	101	246	67.12	59%	41%

Notes:

(1) Source:

[a] Trip survey conducted on Saturday, May 11, 2019.

(2) TSF = Thousand Square Feet

(3) Trip generation surveys were conducted during the weekend mid-day peak period of adjacent street traffic (11:00 AM - 1:00 PM).

Table 3
Project Trip Generation

Proposed Land Use Trip Generation Rates									
Land Use	Source ¹	Quantity	Units ²	Weekday PM Peak Hour			Saturday MD Peak Hour		
				Rate	Directional Distribution		Rate	Directional Distribution	
					Inbound	Outbound		Inbound	Outbound
<u>Trip Generation Rates</u>									
In-N-Out Burger	[a]	1.000	TSF	73.67	51%	49%	67.12	59%	41%

Trips Generated									
Land Use	Source ¹	Quantity	Units ²	Weekday PM Peak Hour			Saturday MD Peak Hour		
				Total	Directional Distribution		Total	Directional Distribution	
					Inbound	Outbound		Inbound	Outbound
<u>Proposed Use</u>									
Proposed In-N-Out Burger	[a]	3.842	TSF	283	144	139	258	152	106
- Pass-By Trip Reduction (25%/10%)	[b]			-71	-36	-35	-26	-15	-11
Gross New Trips Generated				212	108	104	232	137	95
<u>Existing Use</u>									
Yorba Linda Public Library	[c]	-	-	166	70	96	198	87	111
Net New Trips Generated				46	38	8	34	50	-16

Notes:

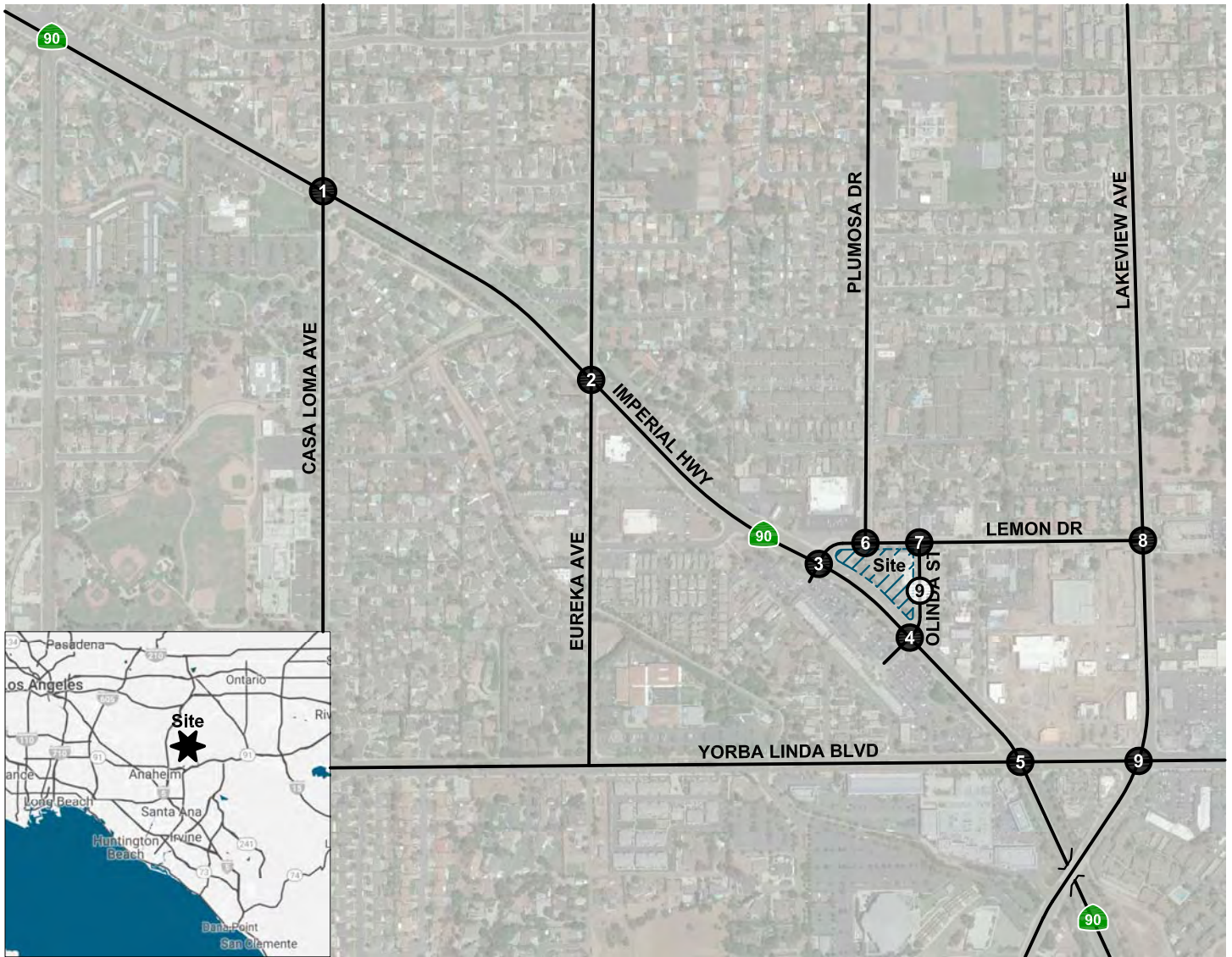
(1) Sources:

[a] See Table 1 and Table 2.

[b] RBF Consulting, [Queen Esther Square Shopping Center Traffic Impact Analysis](#), March 4, 2013, Table 10.

[c] Trip generation surveys were conducted on Thursday, May 9, 2019 and Saturday, May 11, 2019.

(2) TSF = Thousand Square Feet



Legend

-  Study Intersection
-  Project Driveway

Figure 1
Project Location Map

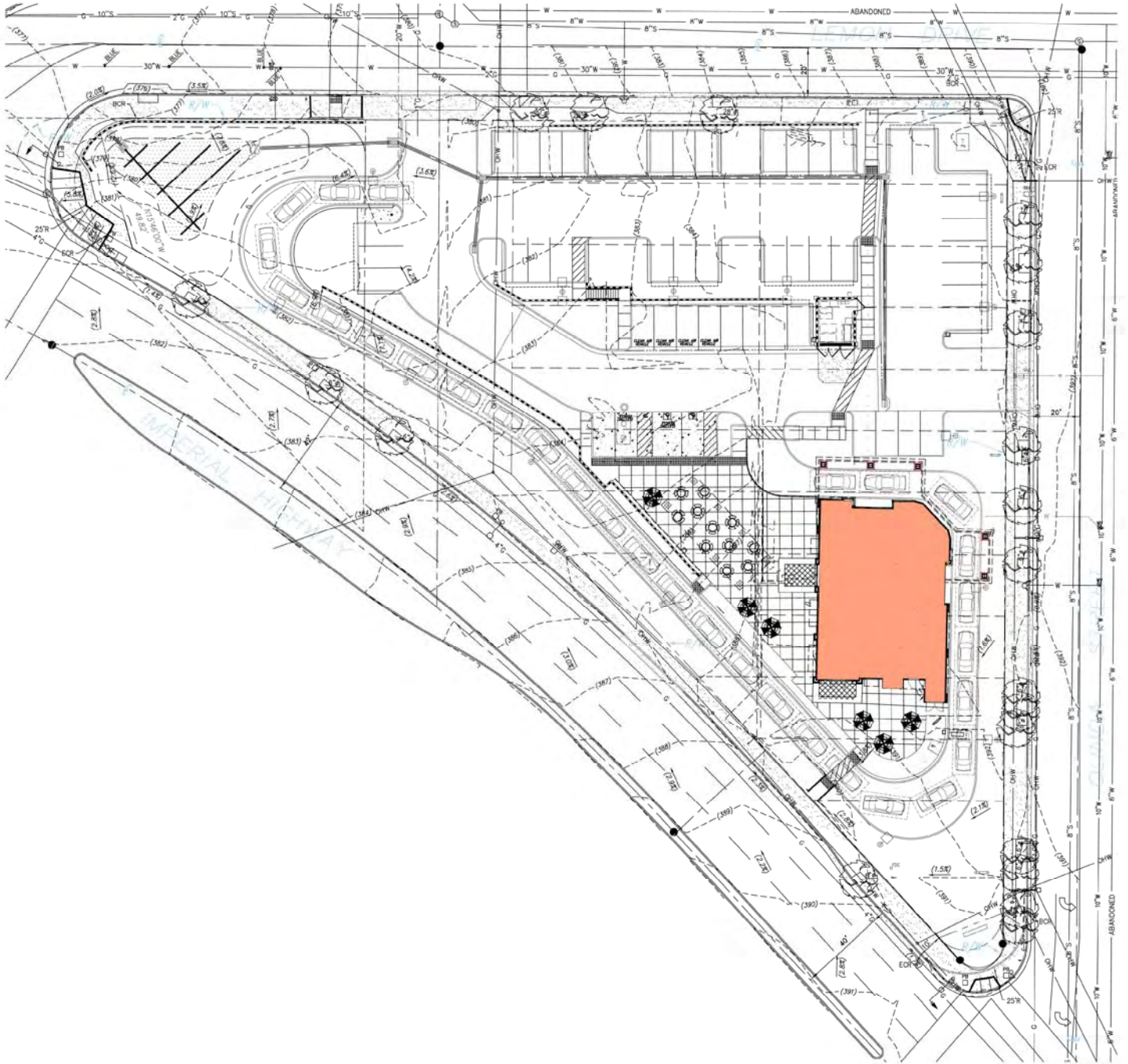
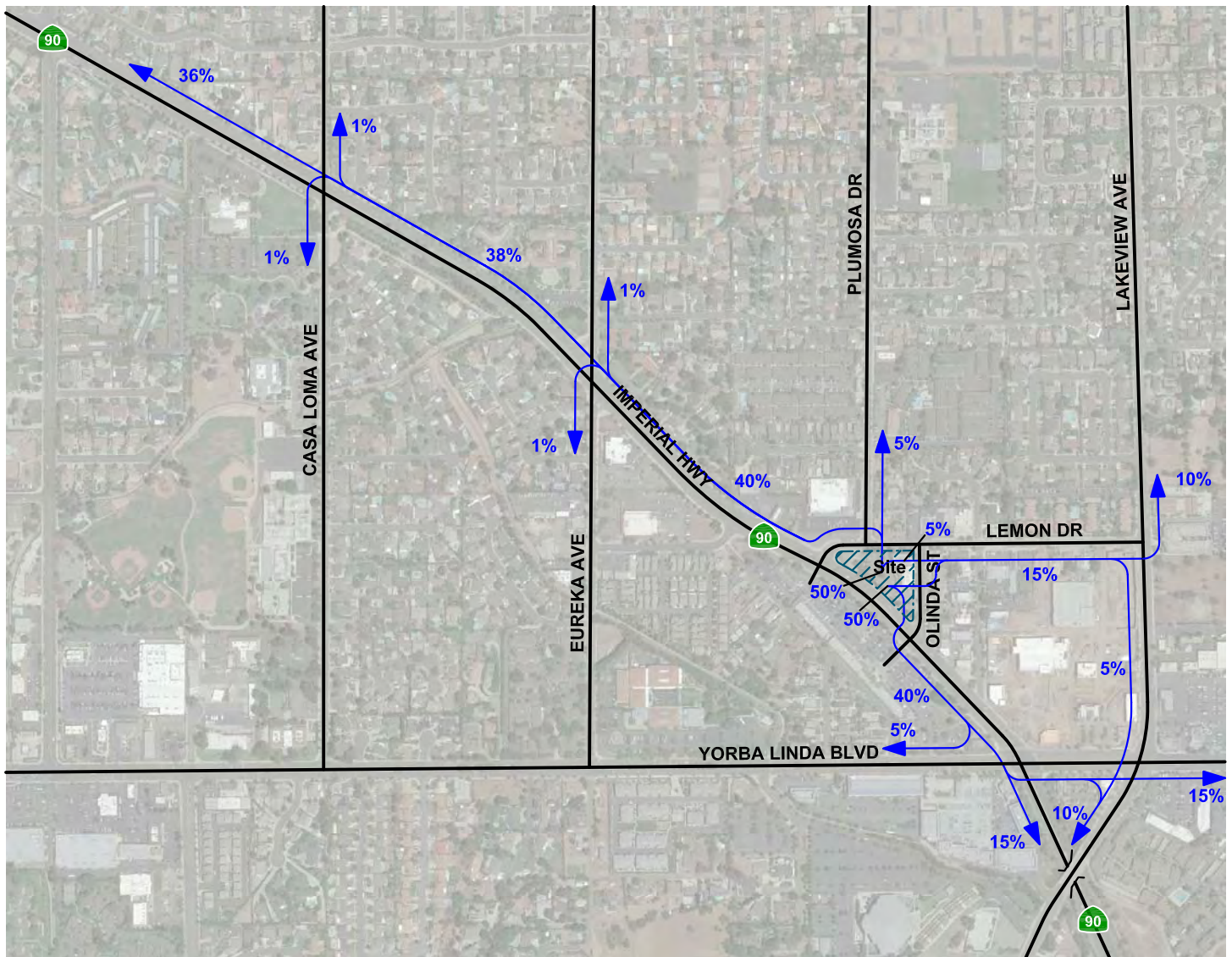


Figure 2
Site Plan



Legend
 N
 10% Percent From Project

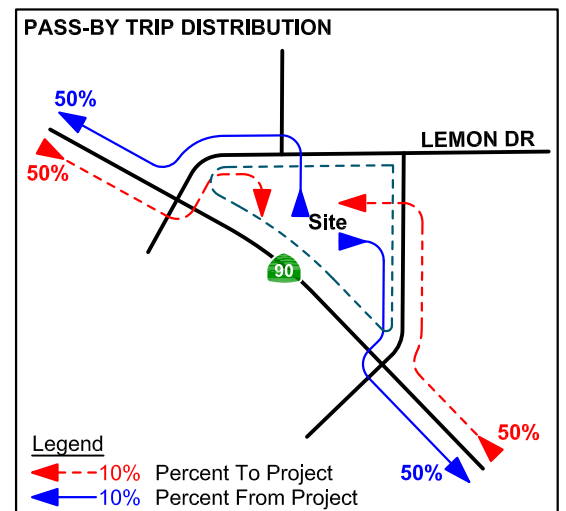
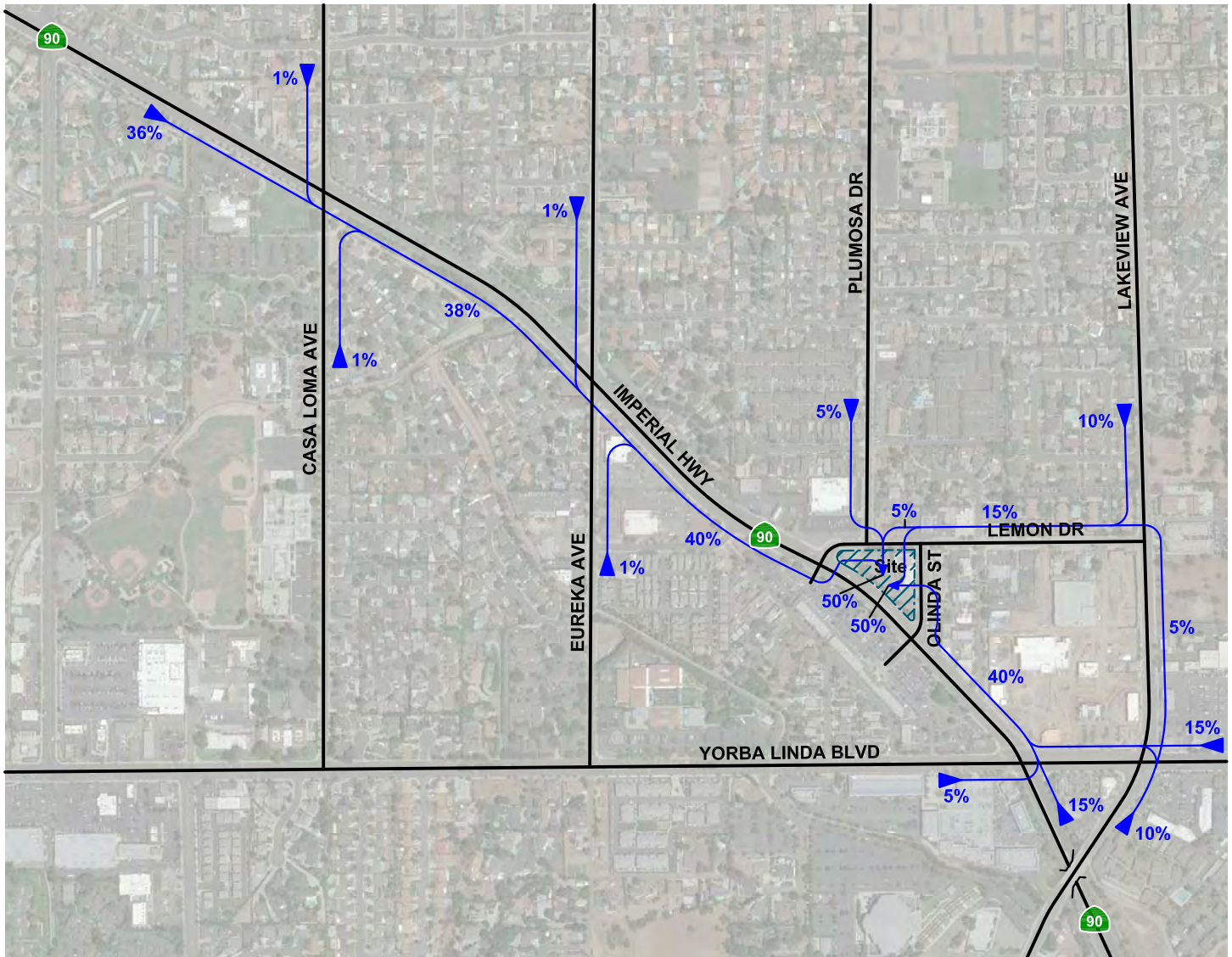


Figure 3
Project Outbound Trip Distribution



Legend
 10% Percent To Project

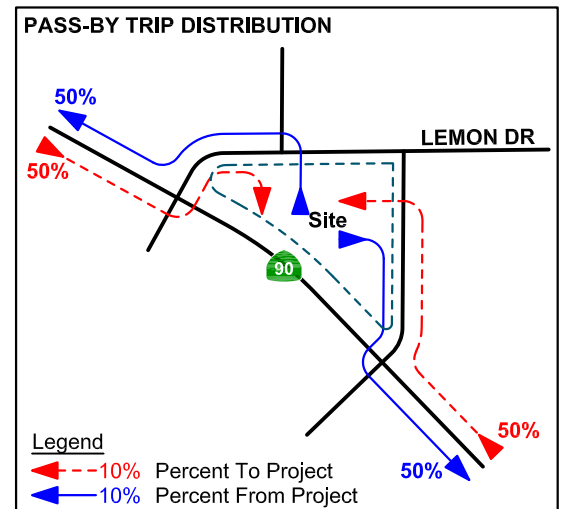


Figure 4
Project Inbound Trip Distribution

ATTACHMENT A

RANCHO SANTA MARGARITA IN-N-OUT TRIP SURVEYS

ADT1 Driveway 1 north of Santa Margarita.**Prepared by AimTD LLC tel. 714 253 7888**

AM Period	IN	OUT	EB	WB	PM Period	IN	OUT	EB	WB
0:00	1	2	0	0	12:00	21	24	0	0
0:15	2	4	0	0	12:15	15	18	0	0
0:30	4	6	0	0	12:30	20	33	0	0
0:45	1 8	4 16	0 0	0 0	12:45	24 80	22 97	0 0	0 0
1:00	0	1	0	0	13:00	20	25	0	0
1:15	0	0	0	0	13:15	20	29	0	0
1:30	0	1	0	0	13:30	7	21	0	0
1:45	0 0	2 4	0 0	0 0	13:45	17 64	26 101	0 0	0 0
2:00	0	0	0	0	14:00	15	15	0	0
2:15	0	0	0	0	14:15	11	20	0	0
2:30	0	0	0	0	14:30	17	21	0	0
2:45	0 0	0 0	0 0	0 0	14:45	12 55	20 76	0 0	0 0
3:00	0	0	0	0	15:00	10	18	0	0
3:15	0	0	0	0	15:15	14	16	0	0
3:30	0	0	0	0	15:30	13	30	0	0
3:45	0 0	0 0	0 0	0 0	15:45	11 48	23 87	0 0	0 0
4:00	0	0	0	0	16:00	24	16	0	0
4:15	0	0	0	0	16:15	18	14	0	0
4:30	0	0	0	0	16:30	21	11	0	0
4:45	3 3	0 0	0 0	0 0	16:45	14 77	28 69	0 0	0 0
5:00	0	0	0	0	17:00	15	33	0	0
5:15	0	0	0	0	17:15	25	15	0	0
5:30	0	0	0	0	17:30	23	34	0	0
5:45	0 0	0 0	0 0	0 0	17:45	23 86	32 114	0 0	0 0
6:00	0	0	0	0	18:00	25	29	0	0
6:15	1	0	0	0	18:15	33	31	0	0
6:30	0	0	0	0	18:30	19	26	0	0
6:45	1 2	2 2	0 0	0 0	18:45	21 98	30 116	0 0	0 0
7:00	0	0	0	0	19:00	23	24	0	0
7:15	0	0	0	0	19:15	19	28	0	0
7:30	2	2	0	0	19:30	21	25	0	0
7:45	0 2	1 3	0 0	0 0	19:45	15 78	14 91	0 0	0 0
8:00	0	0	0	0	20:00	18	25	0	0
8:15	0	0	0	0	20:15	12	23	0	0
8:30	2	0	0	0	20:30	9	18	0	0
8:45	1 3	0 0	0 0	0 0	20:45	9 48	34 100	0 0	0 0
9:00	0	0	0	0	21:00	15	21	0	0
9:15	1	0	0	0	21:15	12	14	0	0
9:30	0	0	0	0	21:30	11	23	0	0
9:45	2 3	0 0	0 0	0 0	21:45	8 46	18 76	0 0	0 0
10:00	5	1	0	0	22:00	4	14	0	0
10:15	3	9	0	0	22:15	9	14	0	0
10:30	9	4	0	0	22:30	10	11	0	0
10:45	12 29	7 21	0 0	0 0	22:45	6 29	15 54	0 0	0 0
11:00	18	12	0	0	23:00	4	12	0	0
11:15	12	20	0	0	23:15	4	11	0	0
11:30	24	27	0	0	23:30	1	6	0	0
11:45	23 77	25 84	0 0	0 0	23:45	5 14	10 39	0 0	0 0
Total Vol.	127	130			257	723	1020		1743

Daily Totals

NB	SB	EB	WB	Combined
850	1150			2000

AM**PM**

Split %	49.4%	50.6%	12.9%	41.5%	58.5%	87.2%
Peak Hour	11:30	11:45	11:45	17:30	17:30	17:30
Volume	83	100	179	104	126	230
P.H.F.	0.86	0.76	0.84	0.96	0.93	0.90

ADT2 Driveway 2 north of Santa Margarita.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN	OUT	EB	WB	PM Period	IN	OUT	EB	WB
0:00	7	4	0	0	12:00	16	2	0	0
0:15	5	2	0	0	12:15	15	7	0	0
0:30	1	2	0	0	12:30	8	5	0	0
0:45	1 14	4 12	0 0	0 0	12:45	20 59	10 24	0 0	0 0
1:00	0	0	0	0	13:00	12	7	0	0
1:15	0	1	0	0	13:15	7	5	0	0
1:30	0	0	0	0	13:30	9	6	0	0
1:45	0 0	0 1	0 0	0 0	13:45	7 35	2 20	0 0	0 0
2:00	0	0	0	0	14:00	8	8	0	0
2:15	0	0	0	0	14:15	12	4	0	0
2:30	0	0	0	0	14:30	9	9	0	0
2:45	0 0	0 0	0 0	0 0	14:45	7 36	6 27	0 0	0 0
3:00	0	0	0	0	15:00	23	4	0	0
3:15	0	0	0	0	15:15	18	7	0	0
3:30	0	0	0	0	15:30	12	7	0	0
3:45	0 0	0 0	0 0	0 0	15:45	4 57	5 23	0 0	0 0
4:00	0	0	0	0	16:00	13	4	0	0
4:15	0	0	0	0	16:15	8	4	0	0
4:30	0	0	0	0	16:30	16	5	0	0
4:45	0 0	0 0	0 0	0 0	16:45	13 50	4 17	0 0	0 0
5:00	0	0	0	0	17:00	20	7	0	0
5:15	0	0	0	0	17:15	7	6	0	0
5:30	0	0	0	0	17:30	11	5	0	0
5:45	0 0	0 0	0 0	0 0	17:45	13 51	1 19	0 0	0 0
6:00	0	0	0	0	18:00	12	9	0	0
6:15	0	0	0	0	18:15	15	3	0	0
6:30	0	1	0	0	18:30	5	4	0	0
6:45	0 0	0 1	0 0	0 0	18:45	15 47	5 21	0 0	0 0
7:00	0	0	0	0	19:00	14	7	0	0
7:15	0	0	0	0	19:15	7	1	0	0
7:30	0	0	0	0	19:30	6	3	0	0
7:45	1 1	0 0	0 0	0 0	19:45	7 34	9 20	0 0	0 0
8:00	0	0	0	0	20:00	17	5	0	0
8:15	0	0	0	0	20:15	11	3	0	0
8:30	0	0	0	0	20:30	7	7	0	0
8:45	0 0	0 0	0 0	0 0	20:45	13 48	4 19	0 0	0 0
9:00	0	0	0	0	21:00	36	6	0	0
9:15	0	0	0	0	21:15	10	5	0	0
9:30	0	0	0	0	21:30	4	4	0	0
9:45	1 1	0 0	0 0	0 0	21:45	11 61	11 26	0 0	0 0
10:00	4	1	0	0	22:00	3	4	0	0
10:15	3	1	0	0	22:15	6	9	0	0
10:30	2	2	0	0	22:30	4	3	0	0
10:45	6 15	3 7	0 0	0 0	22:45	4 17	0 16	0 0	0 0
11:00	6	3	0	0	23:00	10	5	0	0
11:15	12	2	0	0	23:15	5	5	0	0
11:30	8	3	0	0	23:30	1	1	0	0
11:45	14 40	6 14	0 0	0 0	23:45	1 17	3 14	0 0	0 0
Total Vol.	71	35			106	512	246		758
					Daily Totals				
					NB	SB	EB	WB	Combined
					583	281			864
AM					PM				
Split %	67.0%	33.0%	12.3%		67.5%	32.5%			87.7%
Peak Hour	11:30	11:45	11:45		20:15	12:15			20:30
Volume	53	20	73		67	29			88
P.H.F.	0.83	0.71	0.83		0.85	0.73			0.52

ADT1 Driveway 1 north of Santa Margarita SAT.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN	OUT	EB	WB	PM Period	IN	OUT	EB	WB
0:00	5	9	0	0	12:00	24	14	0	0
0:15	13	5	0	0	12:15	14	30	0	0
0:30	3	12	0	0	12:30	12	15	0	0
0:45	6	27	8	34	12:45	21	71	22	81
1:00	6	17	0	0	13:00	11	37	0	0
1:15	3	5	0	0	13:15	32	30	0	0
1:30	0	4	0	0	13:30	13	20	0	0
1:45	0	9	2	28	13:45	21	77	26	113
2:00	0	0	0	0	14:00	14	28	0	0
2:15	0	5	0	0	14:15	13	22	0	0
2:30	0	0	0	0	14:30	6	13	0	0
2:45	0	0	0	5	14:45	15	48	17	80
3:00	0	0	0	0	15:00	9	17	0	0
3:15	0	0	0	0	15:15	22	19	0	0
3:30	0	0	0	0	15:30	14	21	0	0
3:45	0	0	0	0	15:45	16	61	19	76
4:00	2	0	0	0	16:00	9	23	0	0
4:15	2	0	0	0	16:15	7	18	0	0
4:30	0	0	0	0	16:30	12	11	0	0
4:45	0	4	0	0	16:45	18	46	8	60
5:00	0	0	0	0	17:00	11	20	0	0
5:15	0	0	0	0	17:15	16	16	0	0
5:30	0	0	0	0	17:30	8	19	0	0
5:45	0	0	0	0	17:45	30	65	12	67
6:00	0	0	0	0	18:00	14	26	0	0
6:15	0	0	0	0	18:15	19	14	0	0
6:30	0	0	0	0	18:30	12	27	0	0
6:45	1	1	0	0	18:45	14	59	22	89
7:00	1	0	0	0	19:00	16	28	0	0
7:15	0	0	0	0	19:15	19	17	0	0
7:30	5	0	0	0	19:30	18	19	0	0
7:45	3	9	0	0	19:45	14	67	29	93
8:00	1	1	0	0	20:00	8	19	0	0
8:15	10	1	0	0	20:15	18	20	0	0
8:30	3	0	0	0	20:30	17	20	0	0
8:45	0	14	0	2	20:45	9	52	26	85
9:00	1	1	0	0	21:00	6	30	0	0
9:15	0	0	0	0	21:15	13	20	0	0
9:30	2	15	0	0	21:30	7	17	0	0
9:45	0	3	0	16	21:45	8	34	16	83
10:00	0	2	0	0	22:00	9	9	0	0
10:15	13	4	0	0	22:15	8	11	0	0
10:30	11	12	0	0	22:30	20	13	0	0
10:45	7	31	9	27	22:45	6	43	17	50
11:00	15	12	0	0	23:00	9	19	0	0
11:15	6	20	0	0	23:15	8	12	0	0
11:30	16	23	0	0	23:30	9	14	0	0
11:45	21	58	17	72	23:45	6	32	19	64
Total Vol.	156	184			340	655	941		1596

Daily Totals

NB	SB	EB	WB	Combined
811	1125			1936

AM

PM

Split %	45.9%	54.1%	17.6%	41.0%	59.0%	82.4%
Peak Hour	11:30	11:30	11:30	13:15	13:00	13:00
Volume	75	84	159	80	113	190
P.H.F.	0.78	0.70	0.90	0.68	0.76	0.77

ADT2 Driveway 2 north of Santa Margarita SAT.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN	OUT	EB	WB	PM Period	IN	OUT	EB	WB
0:00	3	1	0	0	12:00	17	6	0	0
0:15	7	0	0	0	12:15	12	6	0	0
0:30	3	2	0	0	12:30	25	6	0	0
0:45	3	16	0	3	12:45	12	66	9	27
1:00	0	2	0	0	13:00	16	10	0	0
1:15	3	2	0	0	13:15	14	7	0	0
1:30	0	1	0	0	13:30	17	10	0	0
1:45	1	4	0	5	13:45	33	80	12	39
2:00	0	0	0	0	14:00	8	16	0	0
2:15	0	0	0	0	14:15	16	10	0	0
2:30	0	1	0	0	14:30	9	13	0	0
2:45	0	0	0	1	14:45	14	47	9	48
3:00	0	0	0	0	15:00	7	4	0	0
3:15	0	0	0	0	15:15	11	4	0	0
3:30	0	0	0	0	15:30	13	2	0	0
3:45	0	0	0	0	15:45	11	42	4	14
4:00	0	0	0	0	16:00	6	1	0	0
4:15	0	0	0	0	16:15	9	4	0	0
4:30	0	0	0	0	16:30	14	2	0	0
4:45	0	0	0	0	16:45	9	38	10	17
5:00	0	0	0	0	17:00	10	3	0	0
5:15	0	0	0	0	17:15	10	5	0	0
5:30	0	0	0	0	17:30	11	7	0	0
5:45	1	1	0	0	17:45	10	41	2	17
6:00	0	0	0	0	18:00	12	7	0	0
6:15	0	0	0	0	18:15	17	11	0	0
6:30	0	0	0	0	18:30	17	4	0	0
6:45	0	0	0	0	18:45	9	55	10	32
7:00	0	0	0	0	19:00	15	4	0	0
7:15	0	0	0	0	19:15	11	2	0	0
7:30	0	0	0	0	19:30	9	4	0	0
7:45	1	1	0	0	19:45	8	43	8	18
8:00	1	0	0	0	20:00	13	5	0	0
8:15	5	2	0	0	20:15	7	2	0	0
8:30	2	0	0	0	20:30	13	6	0	0
8:45	0	8	0	2	20:45	13	46	2	15
9:00	0	0	0	0	21:00	11	7	0	0
9:15	0	0	0	0	21:15	14	4	0	0
9:30	3	4	0	0	21:30	10	4	0	0
9:45	2	5	0	4	21:45	6	41	5	20
10:00	2	0	0	0	22:00	4	5	0	0
10:15	4	1	0	0	22:15	11	3	0	0
10:30	6	1	0	0	22:30	5	3	0	0
10:45	7	19	1	3	22:45	7	27	3	14
11:00	9	5	0	0	23:00	7	5	0	0
11:15	14	4	0	0	23:15	9	2	0	0
11:30	11	7	0	0	23:30	11	5	0	0
11:45	20	54	7	23	23:45	4	31	9	21
Total Vol.	108	41			149	557	282		839

Daily Totals				
NB	SB	EB	WB	Combined
665	323			988

AM				PM			
Split %	72.5%	27.5%	15.1%	66.4%	33.6%	84.9%	
Peak Hour	11:45	11:30	11:45	13:00	13:45	13:30	
Volume	74	26	99	80	51	122	
P.H.F.	0.74	0.93	0.80	0.94	0.80	0.68	

ATTACHMENT B

YORBA LINDA PUBLIC LIBRARY TRIP SURVEYS

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, Apr 25, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Imperial Driveway	PROJECT #: LOCATION #: CONTROL:	SC2159 2 STOP W
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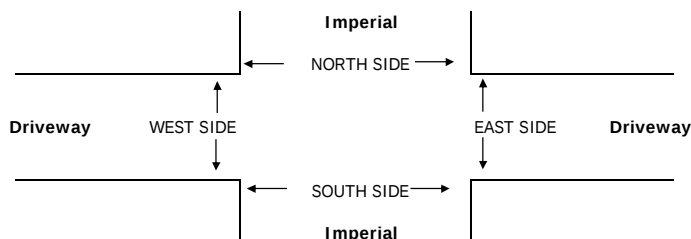
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☐ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

PM	4:00 PM	0	355	0	0	383	0	0	0	0	0	4	742
	4:15 PM	0	368	5	0	432	0	0	0	0	0	0	805
	4:30 PM	0	379	4	0	426	0	0	0	0	0	7	816
	4:45 PM	0	339	4	0	493	0	0	0	0	0	1	837
	5:00 PM	0	346	4	0	432	0	0	0	0	0	6	788
	5:15 PM	0	335	3	0	473	0	0	0	0	0	4	815
	5:30 PM	0	368	2	0	497	0	0	0	0	0	3	870
	5:45 PM	0	349	4	0	493	0	0	0	0	0	2	848
	VOLUMES	0	2,839	26	0	3,629	0	0	0	0	0	27	6,521
	APPROACH %	0%	99%	1%	0%	100%	0%	0%	0%	0%	0%	100%	
APP/DEPART	2,865	/	2,866	3,629	/	3,629	0	/	26	27	/	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	1,398	13	0	1,895	0	0	0	0	0	15	3,321	
APPROACH %	0%	99%	1%	0%	100%	0%	0%	0%	0%	0%	100%		
PEAK HR FACTOR	0.953			0.953			0.000			0.625			0.954
APP/DEPART	1,411	/	1,413	1,895	/	1,895	0	/	13	15	/	0	0

[illegible]

PM		4:00 PM
		4:15 PM
		4:30 PM
		4:45 PM
		5:00 PM
		5:15 PM
		5:30 PM
		5:45 PM
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
5:00 PM				

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

<u>DATE:</u> Thu, Apr 25, 19	LOCATION: Yorba Linda	PROJECT #: SC2159
	NORTH & SOUTH: Driveway	LOCATION #: 3
	EAST & WEST: Lemon	CONTROL: STOP N

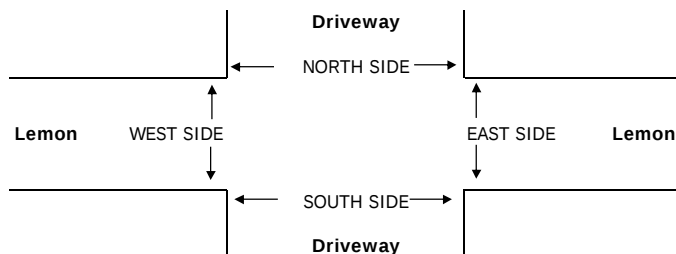
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

PM	4:00 PM	1	0	5	0	0	0	0	30	3	2	32	0	73
	4:15 PM	1	0	4	0	0	0	0	27	2	1	40	0	75
	4:30 PM	3	0	7	0	0	0	0	26	5	0	41	0	82
	4:45 PM	5	0	5	0	0	0	0	48	5	0	39	0	102
	5:00 PM	7	0	7	0	0	0	0	35	5	2	37	0	93
	5:15 PM	3	0	4	0	0	0	0	34	4	0	45	0	90
	5:30 PM	5	0	3	0	0	0	0	36	2	0	46	0	92
	5:45 PM	0	0	2	0	0	0	0	41	4	2	38	0	87
	VOLUMES	25	0	37	0	0	0	0	277	30	7	318	0	694
	APPROACH %	40%	0%	60%	0%	0%	0%	0%	90%	10%	2%	98%	0%	
APP/DEPART	62	/	0	0	/	37	307	/	314	325	/	343	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	20	0	19	0	0	0	0	153	16	2	167	0	377	
APPROACH %	51%	0%	49%	0%	0%	0%	0%	91%	9%	1%	99%	0%		
PEAK HR FACTOR	0.696		0.000		0.797		0.918		0.924					
APP/DEPART	39	/	0	0	/	18	169	/	172	169	/	187	0	



PM		4:00 PM
		4:15 PM
		4:30 PM
		4:45 PM
		5:00 PM
		5:15 PM
		5:30 PM
		5:45 PM
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

4:45 PM

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

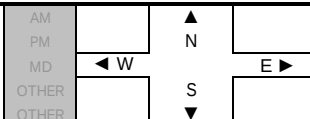
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Apr 25, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Olinda
EAST & WEST: Driveway

PROJECT #: SC2159
LOCATION #: 4
CONTROL: STOP E/W

NOTES:



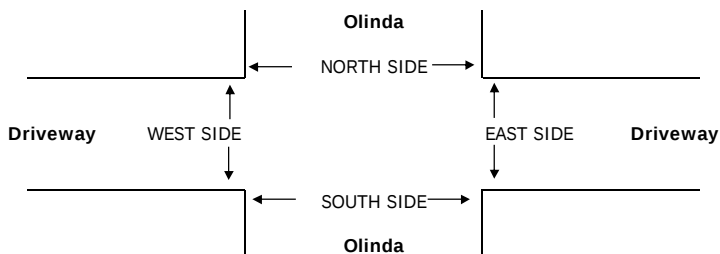
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

PM	4:00 PM	4	23	2	0	10	2	3	0	11	2	0	2	59
	4:15 PM	8	27	1	2	3	4	0	0	6	1	0	1	53
	4:30 PM	2	26	2	0	9	5	7	0	7	2	0	4	64
	4:45 PM	8	23	5	1	8	5	4	0	5	1	0	0	60
	5:00 PM	5	23	2	0	13	5	3	0	7	1	0	4	63
	5:15 PM	5	38	3	0	7	3	3	0	6	3	1	0	69
	5:30 PM	5	28	1	2	5	1	1	0	8	2	0	0	53
	5:45 PM	1	42	7	2	3	1	1	0	6	2	0	1	66
	VOLUMES	38	230	23	7	58	26	22	0	56	14	1	12	487
	APPROACH %	13%	79%	8%	8%	64%	29%	28%	0%	72%	52%	4%	44%	
APP/DEPART														0
BEGIN PEAK HR														
VOLUMES														256
APPROACH %														
PEAK HR FACTOR														0.928
APP/DEPART														0

0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
3	0	0	0	3



PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
TOTAL		
AM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:30 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

T218

DATE: Sat, Apr 27, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Imperial Driveway	PROJECT #: LOCATION #: CONTROL:	SC2159 2 STOP W
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NOTES:

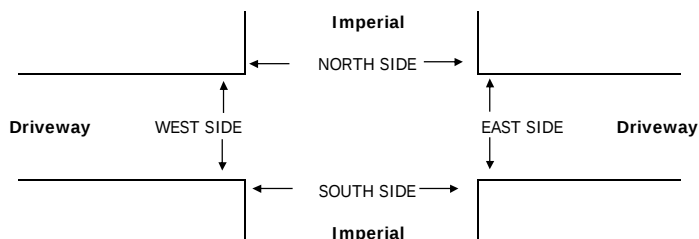
AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
		▼	

☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

MD	11:00 AM	0	236	5	0	255	0	0	0	0	0	5	501
	11:15 AM	0	253	4	0	299	0	0	0	0	0	9	565
	11:30 AM	0	278	8	0	290	0	0	0	0	0	3	579
	11:45 AM	0	279	12	0	291	0	0	0	0	0	8	590
	12:00 PM	0	304	5	0	286	0	0	0	0	0	8	603
	12:15 PM	0	250	7	0	295	0	0	0	0	0	4	556
	12:30 PM	0	256	7	0	318	0	0	0	0	0	10	591
	12:45 PM	0	277	6	0	331	0	0	0	0	0	8	622
	VOLUMES	0	2,133	54	0	2,365	0	0	0	0	0	55	4,607
	APPROACH %	0%	98%	2%	0%	100%	0%	0%	0%	0%	0%	100%	
APP/DEPART		2,187	/	2,188	2,365	/	2,365	0	/	54	55	/	0
BEGIN PEAK HR		12:00 PM											
MD	VOLUMES	0	1,087	25	0	1,230	0	0	0	0	0	30	2,372
	APPROACH %	0%	98%	2%	0%	100%	0%	0%	0%	0%	0%	100%	
	PEAK HR FACTOR	0.900											
	APP/DEPART	1,112	/	1,117	1,230	/	1,230	0	/	25	30	/	0



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
TOTAL		
AM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

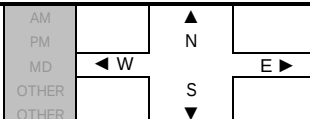
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 27, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Driveway
EAST & WEST: Lemon

PROJECT #: SC2159
LOCATION #: 3
CONTROL: STOP N

NOTES:



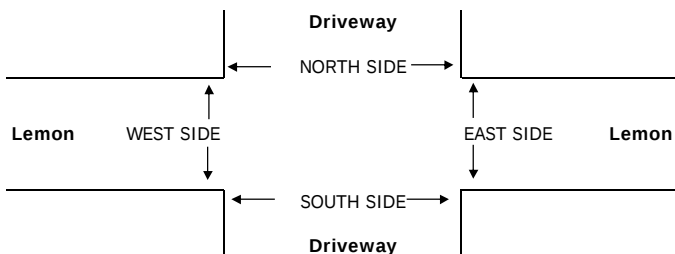
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

MD	11:00 AM	12	0	21	0	0	0	0	34	3	7	17	0	94
	11:15 AM	2	0	4	0	0	0	0	23	4	1	43	0	77
	11:30 AM	2	0	7	0	0	0	0	35	3	6	35	0	88
	11:45 AM	6	0	7	0	0	0	0	35	2	3	40	0	93
	12:00 PM	6	0	6	0	0	0	0	31	3	2	48	0	96
	12:15 PM	5	0	4	0	0	0	0	48	5	6	36	0	104
	12:30 PM	0	0	2	0	0	0	0	28	5	5	41	0	81
	12:45 PM	5	0	0	0	0	0	0	50	2	7	24	0	88
	VOLUMES	38	0	51	0	0	0	0	284	27	37	284	0	721
	APPROACH %	43%	0%	57%	0%	0%	0%	0%	91%	9%	12%	88%	0%	
APP/DEPART		89	/	0	0	/	63	311	/	336	321	/	322	0
BEGIN PEAK HR		11:30 AM												
VOLUMES		19	0	24	0	0	0	0	149	13	17	159	0	381
APPROACH %		44%	0%	56%	0%	0%	0%	0%	92%	8%	10%	90%	0%	
PEAK HR FACTOR		0.827			0.000			0.764			0.880			0.916
APP/DEPART		43	/	0	0	/	30	162	/	173	176	/	178	0

0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
TOTAL		
AM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
11:30 AM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

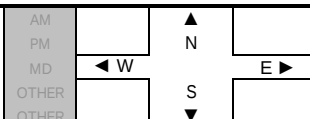
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Sat, Apr 27, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Olinda
EAST & WEST: Driveway

PROJECT #: SC2159
LOCATION #: 4
CONTROL: STOP E/W

NOTES:



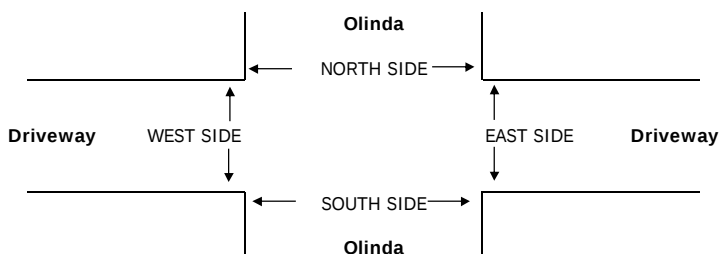
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

MD	11:00 AM	5	8	3	1	7	2	1	0	7	2	0	3	39
	11:15 AM	6	13	0	1	4	1	2	0	8	2	0	0	37
	11:30 AM	6	18	1	0	8	2	2	0	11	2	0	4	54
	11:45 AM	6	7	4	1	10	4	1	0	6	0	0	0	39
	12:00 PM	2	13	0	0	8	2	0	0	6	2	0	0	33
	12:15 PM	8	10	0	1	5	0	1	0	3	1	0	1	30
	12:30 PM	5	15	3	2	2	4	2	0	7	1	0	1	42
	12:45 PM	4	10	1	0	8	1	3	0	3	1	0	1	32
	VOLUMES	42	94	12	6	52	16	12	0	51	11	0	10	306
	APPROACH %	28%	64%	8%	8%	70%	22%	19%	0%	81%	52%	0%	48%	
APP/DEPART														0
BEGIN PEAK HR														
VOLUMES														169
APPROACH %														
PEAK HR FACTOR														0.782
APP/DEPART														0

0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
TOTAL		
AM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
11:00 AM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

ATTACHMENT C

24-HOUR COUNT WORKSHEETS

Thursday, April 25, 2019

Location: Yorba Linda

PROJECT: SC2159

ADT1 Imperial between Garden and Lemon.**Prepared by AimTD tel. 714 253 7888**

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	59	38			12:00	410	377		
0:15	38	32			12:15	370	379		
0:30	36	42			12:30	394	402		
0:45	37	170	12 124	294	12:45	382	1556	364 1522	3078
1:00	11	16			13:00	344	399		
1:15	15	10			13:15	395	391		
1:30	26	11			13:30	376	387		
1:45	20	72	21 58	130	13:45	380	1495	374 1551	3046
2:00	14	12			14:00	347	444		
2:15	13	8			14:15	353	406		
2:30	15	19			14:30	355	377		
2:45	26	68	22 61	129	14:45	360	1415	448 1675	3090
3:00	17	17			15:00	336	382		
3:15	17	17			15:15	323	357		
3:30	19	20			15:30	313	382		
3:45	18	71	14 68	139	15:45	335	1307	368 1489	2796
4:00	11	9			16:00	352	386		
4:15	11	6			16:15	373	419		
4:30	27	23			16:30	372	433		
4:45	28	77	19 57	134	16:45	350	1447	475 1713	3160
5:00	44	34			17:00	340	458		
5:15	45	66			17:15	371	457		
5:30	76	53			17:30	345	529		
5:45	69	234	64 217	451	17:45	368	1424	473 1917	3341
6:00	86	100			18:00	342	370		
6:15	115	116			18:15	300	342		
6:30	121	87			18:30	289	227		
6:45	127	449	130 433	882	18:45	252	1183	285 1224	2407
7:00	138	130			19:00	261	266		
7:15	154	126			19:15	246	237		
7:30	179	201			19:30	287	276		
7:45	216	687	176 633	1320	19:45	227	1021	237 1016	2037
8:00	182	180			20:00	213	279		
8:15	213	224			20:15	233	215		
8:30	235	205			20:30	196	225		
8:45	311	941	224 833	1774	20:45	182	824	198 917	1741
9:00	295	266			21:00	183	165		
9:15	313	263			21:15	171	175		
9:30	295	252			21:30	155	142		
9:45	374	1277	308 1089	2366	21:45	129	638	123 605	1243
10:00	347	313			22:00	97	122		
10:15	362	306			22:15	125	122		
10:30	362	338			22:30	98	114		
10:45	350	1421	332 1289	2710	22:45	82	402	102 460	862
11:00	351	333			23:00	77	91		
11:15	399	330			23:15	67	56		
11:30	373	395			23:30	48	87		
11:45	406	1529	375 1433	2962	23:45	31	223	48 282	505
Total Vol.	6996	6295		13291		12935	14371		27306
					Daily Totals				
					NB	SB	EB	WB	Combined
					19931	20666			40597
AM					PM				
Split %	52.6%	47.4%		32.7 %	47.4%	52.6%			67.3 %
Peak Hour	11:15	11:45		11:45	12:00	16:45			17:00
Volume	1588	1533		3113	1556	1919			3341
P.H.F.	0.97	0.95		0.98	0.96	0.91			0.96

ADT2 Plumosa north of Lemon.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	2	1	0	0	12:00	36	36	0	0
0:15	5	1	0	0	12:15	25	25	0	0
0:30	2	0	0	0	12:30	34	37	0	0
0:45	7 16	1 3	0 0	0 0	12:45	28 123	42 140	0 0	0 0
1:00	1	2	0	0	13:00	30	30	0	0
1:15	1	0	0	0	13:15	34	28	0	0
1:30	0	1	0	0	13:30	28	44	0	0
1:45	2 4	1 4	0 0	0 0	13:45	29 121	37 139	0 0	0 0
2:00	3	0	0	0	14:00	51	41	0	0
2:15	3	2	0	0	14:15	30	62	0	0
2:30	0	3	0	0	14:30	21	44	0	0
2:45	0 6	0 5	0 0	0 0	14:45	41 143	33 180	0 0	0 0
3:00	2	2	0	0	15:00	29	33	0	0
3:15	1	2	0	0	15:15	41	38	0	0
3:30	1	2	0	0	15:30	34	43	0	0
3:45	1 5	1 7	0 0	0 0	15:45	52 156	34 148	0 0	0 0
4:00	0	1	0	0	16:00	33	41	0	0
4:15	1	5	0	0	16:15	31	30	0	0
4:30	1	4	0	0	16:30	34	28	0	0
4:45	1 3	5 15	0 0	0 0	16:45	37 135	51 150	0 0	0 0
5:00	1	5	0	0	17:00	35	37	0	0
5:15	0	6	0	0	17:15	51	35	0	0
5:30	0	14	0	0	17:30	37	41	0	0
5:45	3 4	17 42	0 0	0 0	17:45	43 166	42 155	0 0	0 0
6:00	1	13	0	0	18:00	39	35	0	0
6:15	7	17	0	0	18:15	43	36	0	0
6:30	0	24	0	0	18:30	32	46	0	0
6:45	11 19	30 84	0 0	0 0	18:45	32 146	34 151	0 0	0 0
7:00	10	16	0	0	19:00	43	23	0	0
7:15	19	26	0	0	19:15	25	35	0	0
7:30	31	39	0	0	19:30	29	30	0	0
7:45	19 79	37 118	0 0	0 0	19:45	26 123	22 110	0 0	0 0
8:00	19	20	0	0	20:00	26	22	0	0
8:15	7	29	0	0	20:15	19	16	0	0
8:30	11	23	0	0	20:30	24	25	0	0
8:45	14 51	18 90	0 0	0 0	20:45	21 90	21 84	0 0	0 0
9:00	18	21	0	0	21:00	24	12	0	0
9:15	11	16	0	0	21:15	19	10	0	0
9:30	23	27	0	0	21:30	20	8	0	0
9:45	20 72	24 88	0 0	0 0	21:45	21 84	11 41	0 0	0 0
10:00	15	16	0	0	22:00	15	9	0	0
10:15	14	26	0	0	22:15	10	5	0	0
10:30	18	22	0	0	22:30	9	7	0	0
10:45	27 74	28 92	0 0	0 0	22:45	8 42	0 21	0 0	0 0
11:00	26	31	0	0	23:00	1	3	0	0
11:15	18	42	0	0	23:15	8	1	0	0
11:30	30	28	0	0	23:30	3	2	0	0
11:45	28 102	31 132	0 0	0 0	23:45	7 19	0 6	0 0	0 0
Total Vol.	435	680			1115	1348	1325		2673

Daily Totals

NB	SB	EB	WB	Combined
1783	2005			3788

AM

PM

Split %	39.0%	61.0%	29.4%	50.4%	49.6%	70.6%
Peak Hour	11:45	11:15	11:45	17:15	13:30	16:45
Volume	123	137	252	170	184	324
P.H.F.	0.85	0.82	0.88	0.85	0.74	0.92

Saturday, May 11, 2019

Location: Yorba Linda

PROJECT:

ADT1 Imperial between Garden and Lemon.**Prepared by AimTD tel. 714 253 7888**

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	45	26			12:00	355	318		
0:15	33	41			12:15	331	323		
0:30	25	30			12:30	336	363		
0:45	25	128	20	117	12:45	322	1344	308	1312
1:00	17	15			13:00	288	342		
1:15	20	17			13:15	353	331		
1:30	22	13			13:30	329	345		
1:45	24	83	20	65	13:45	322	1292	329	1347
2:00	19	12			14:00	300	383		
2:15	11	11			14:15	300	346		
2:30	13	8			14:30	316	325		
2:45	13	56	10	41	14:45	300	1216	382	1436
3:00	8	15			15:00	273	337		
3:15	10	9			15:15	276	304		
3:30	13	8			15:30	272	324		
3:45	13	44	12	44	15:45	293	1114	305	1270
4:00	16	12			16:00	283	294		
4:15	11	7			16:15	274	291		
4:30	14	12			16:30	270	314		
4:45	22	63	22	53	16:45	264	1091	297	1196
5:00	24	13			17:00	283	294		
5:15	23	35			17:15	248	301		
5:30	44	28			17:30	260	230		
5:45	52	143	35	111	17:45	225	1016	261	1086
6:00	42	47			18:00	227	255		
6:15	59	52			18:15	263	235		
6:30	64	42			18:30	253	185		
6:45	78	243	83	224	18:45	206	949	226	901
7:00	94	79			19:00	197	215		
7:15	99	75			19:15	206	195		
7:30	115	138			19:30	227	211		
7:45	154	462	124	416	19:45	173	803	192	813
8:00	132	122			20:00	158	216		
8:15	155	163			20:15	168	154		
8:30	191	155			20:30	131	186		
8:45	269	747	178	618	20:45	141	598	158	714
9:00	253	205			21:00	141	174		
9:15	250	205			21:15	159	169		
9:30	247	208			21:30	141	154		
9:45	322	1072	245	863	21:45	120	561	115	612
10:00	303	250			22:00	108	125		
10:15	302	250			22:15	120	129		
10:30	302	289			22:30	91	126		
10:45	308	1215	287	1076	22:45	86	405	99	479
11:00	301	273			23:00	74	97		
11:15	342	277			23:15	52	61		
11:30	316	343			23:30	47	92		
11:45	342	1301	333	1226	23:45	35	208	51	301
Total Vol.	5557	4854			10411	10597	11467		22064
					Daily Totals				
					NB	SB	EB	WB	Combined
					16154	16321			32475
AM					PM				
Split %	53.4%	46.6%		32.1 %	48.0%	52.0%			67.9 %
Peak Hour	11:45	11:45		11:45	12:00	14:00			13:15
Volume	1364	1337		2701	1344	1436			2692
P.H.F.	0.96	0.92		0.97	0.96	0.94			0.98

Saturday, May 11, 2019

Location: Yorba Linda

PROJECT:

ADT2 Imperial between Olinda and Main.**Prepared by AimTD tel. 714 253 7888**

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	43	24			12:00	323	302		
0:15	31	40			12:15	309	313		
0:30	26	23			12:30	311	322		
0:45	27	127	22	109	12:45	299	1242	284	1221
1:00	12	16			13:00	288	307		
1:15	17	13			13:15	324	312		
1:30	17	11			13:30	286	327		
1:45	19	65	15	55	13:45	303	1201	320	1266
2:00	17	12			14:00	305	309		
2:15	10	9			14:15	262	315		
2:30	10	9			14:30	288	307		
2:45	11	48	10	40	14:45	292	1147	371	1302
3:00	5	15			15:00	269	297		
3:15	10	7			15:15	277	280		
3:30	14	10			15:30	264	310		
3:45	13	42	10	42	15:45	253	1063	283	1170
4:00	13	11			16:00	255	271		
4:15	12	10			16:15	253	272		
4:30	10	12			16:30	262	294		
4:45	27	62	21	54	16:45	240	1010	278	1115
5:00	20	12			17:00	268	268		
5:15	22	32			17:15	240	272		
5:30	42	23			17:30	240	210		
5:45	49	133	39	106	17:45	206	954	243	993
6:00	32	46			18:00	215	239		
6:15	54	45			18:15	248	215		
6:30	62	50			18:30	245	182		
6:45	68	216	80	221	18:45	204	912	212	848
7:00	89	79			19:00	171	209		
7:15	88	78			19:15	198	175		
7:30	107	136			19:30	209	197		
7:45	129	413	128	421	19:45	194	772	167	748
8:00	124	128			20:00	147	199		
8:15	130	169			20:15	150	157		
8:30	179	158			20:30	113	178		
8:45	217	650	195	650	20:45	142	552	151	685
9:00	218	190			21:00	144	169		
9:15	231	201			21:15	142	152		
9:30	253	182			21:30	111	127		
9:45	287	989	241	814	21:45	119	516	107	555
10:00	296	221			22:00	101	119		
10:15	263	245			22:15	111	131		
10:30	263	265			22:30	83	117		
10:45	293	1115	272	1003	22:45	88	383	90	457
11:00	278	246			23:00	59	89		
11:15	297	226			23:15	55	64		
11:30	289	283			23:30	45	84		
11:45	298	1162	328	1083	23:45	30	189	46	283
Total Vol.	5022	4598			9620	9941	10643		20584
					Daily Totals				
					NB	SB	EB	WB	Combined
					14963	15241			30204
AM					PM				
Split %	52.2%	47.8%		31.9%	48.3%	51.7%			68.1%
Peak Hour	11:45	11:45		11:45	12:00	14:00			13:15
Volume	1241	1265		2506	1242	1302			2486
P.H.F.	0.96	0.96		0.99	0.97	0.88			0.98

APPENDIX C

VOLUME COUNT WORKSHEETS

T218

DATE:
Thu, May 9, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Casa Loma
EAST & WEST: Imperial

PROJECT #: SC2200
LOCATION #: 10
CONTROL: SIGNAL

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

Add U-Turns to Left Turns

		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM BEGIN PEAK HR		4:30 PM														

T218

INTERSECTION TURNING MOVEMENT COUNTS

DATE: Sat, Jun 15, 19	LOCATION: Yorba Linda NORTH & SOUTH: Casa Loma EAST & WEST: Imperial	PROJECT #: SC2200 LOCATION #: 10 CONTROL: SIGNAL
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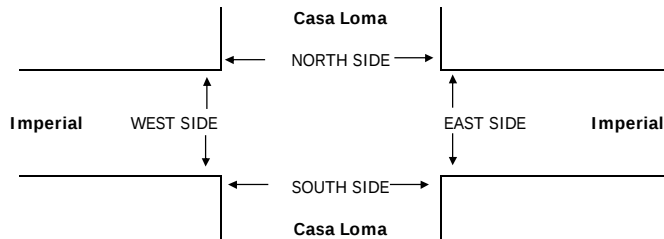
NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				
	Casa Loma			Casa Loma			Imperial			Imperial				
LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	
MD	11:00 AM	8	8	11	0	3	5	2	274	10	4	246	5	576
	11:15 AM	5	1	4	4	8	1	1	285	13	8	305	1	636
	11:30 AM	13	1	7	2	3	4	3	283	17	11	296	2	642
	11:45 AM	16	6	7	2	1	2	3	276	5	7	248	5	578
	12:00 PM	9	1	2	2	4	0	2	295	13	7	317	2	654
	12:15 PM	4	2	3	5	5	5	0	304	10	7	290	2	637
	12:30 PM	3	3	4	0	5	2	1	298	16	9	285	7	633
	12:45 PM	9	7	10	5	2	3	3	289	10	8	302	3	651
	VOLUMES	67	29	48	20	31	22	15	2,304	94	61	2,289	27	5,007
	APPROACH %	47%	20%	33%	27%	42%	30%	1%	95%	4%	3%	96%	1%	
	APP/DEPART	144	/	64	73	/	180	2,413	/	2,378	2,377	/	2,385	0
	BEGIN PEAK HR VOLUMES	12:00 PM												
VOLUMES	25	13	19	12	16	10	6	1,186	49	31	1,194	14	2,575	
APPROACH %	44%	23%	33%	32%	42%	26%	0%	96%	4%	3%	96%	1%		
PEAK HR FACTOR	0.548			0.633			0.985			0.950			0.984	
APP/DEPART	57	/	31	38	/	93	1,241	/	1,220	1,239	/	1,231	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	1	0	1
0	0	0	0	0
0	0	2	0	2
0	0	2	3	5
0	0	0	0	0
0	0	0	1	1
0	0	1	2	3
0	0	1	0	1
0	0	7	6	13



MD		11:00 AM
		11:15 AM
		11:30 AM
		11:45 AM
		12:00 PM
		12:15 PM
		12:30 PM
		12:45 PM
		TOTAL
		AM BEGIN PEAK HR

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T218

INTERSECTION TURNING MOVEMENT COUNTS

DATE: Thu, May 9, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Eureka Imperial	PROJECT #: LOCATION #: CONTROL:	SC2200 1 SIGNAL
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NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

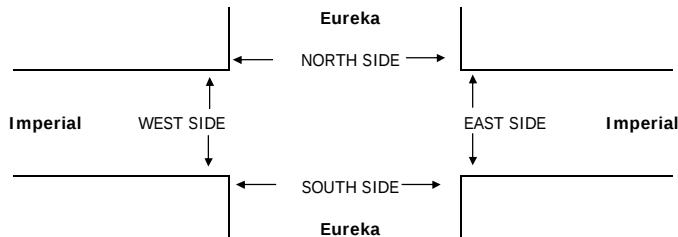
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

PM	4:00 PM	23	5	7	5	6	12	7	342	15	15	328	8	773
	4:15 PM	14	16	3	6	9	3	8	379	26	10	392	8	874
	4:30 PM	17	17	0	5	9	9	4	430	14	13	351	5	874
	4:45 PM	26	15	7	5	10	6	5	458	35	16	332	5	920
	5:00 PM	24	17	8	6	6	6	1	434	22	13	382	7	926
	5:15 PM	17	17	3	4	5	6	9	437	25	14	396	12	945
	5:30 PM	15	9	1	4	1	0	7	406	19	11	380	7	860
	5:45 PM	11	12	3	10	16	4	4	392	9	11	372	10	854
	VOLUMES	147	108	32	45	62	46	45	3,278	165	103	2,933	62	7,026
	APPROACH %	51%	38%	11%	29%	41%	30%	1%	94%	5%	3%	95%	2%	
APP/DEPART	287	/	214	153	/	279	3,488	/	3,406	3,098	/	3,127	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	84	66	18	20	30	27	19	1,759	96	56	1,461	29	3,665	
APPROACH %	50%	39%	11%	26%	39%	35%	1%	94%	5%	4%	95%	2%		
PEAK HR FACTOR	0.857		0.837		0.941		0.970							
APP/DEPART	168	/	113	77	/	156	1,874	/	1,823	1,546	/	1,573	0	

0	0	0	8	8
0	0	0	4	4
0	0	0	4	4
0	0	0	4	4
0	0	0	10	10
0	0	1	8	9
0	0	0	6	6
0	0	0	7	7
0	0	1	51	52



PM		4:00 PM
		4:15 PM
		4:30 PM
		4:45 PM
		5:00 PM
		5:15 PM
		5:30 PM
		5:45 PM
		TOTAL
		AM BEGIN PEAK HR

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

4:30 PM

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INTERSECTION TURNING MOVEMENT COUNTS

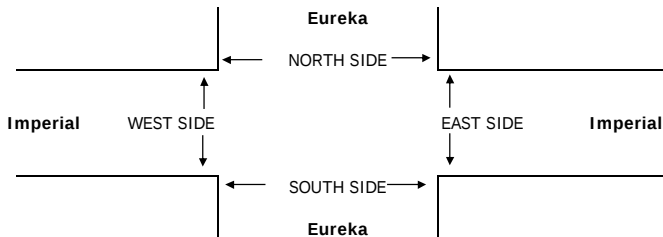
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<u>DATE:</u> Sat, Apr 27, 19	LOCATION: Yorba Linda	PROJECT #:	SC2159
	NORTH & SOUTH: Eureka	LOCATION #:	1
	EAST & WEST: Imperial	CONTROL:	SIGNAL

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

MIDWAY														U-TURNS						
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND									
		Eureka			Eureka			Imperial			Imperial									
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	
		1	1	1	1	1	1	1	3	0	1	3	0		0	0	0	0		
MD	11:00 AM	15	7	3	5	12	7	1	258	17	10	229	11	575	0	0	0	4	4	
	11:15 AM	10	4	5	6	5	2	3	280	24	4	262	11	616	0	0	0	1	1	
	11:30 AM	12	8	3	11	7	7	5	263	16	13	266	7	618	0	0	0	8	8	
	11:45 AM	23	7	1	3	5	3	6	271	21	8	265	6	619	0	0	0	0	0	
	12:00 PM	10	6	4	6	12	4	8	255	20	17	280	6	628	0	0	1	2	3	
	12:15 PM	13	14	3	11	5	4	6	273	22	9	214	12	586	0	0	0	2	2	
	12:30 PM	21	10	10	6	3	3	4	319	17	6	251	4	654	0	0	1	3	4	
	12:45 PM	19	9	2	10	7	4	2	307	13	8	278	12	671	0	0	0	1	1	
	VOLUMES	123	65	31	58	56	34	35	2,226	150	75	2,045	69	4,967	0	0	2	21	23	
	APPROACH %	56%	30%	14%	39%	38%	23%	1%	92%	6%	3%	93%	3%							
	APP/DEPART	219	/	167	148	/	260	2,411	/	2,336	2,189	/	2,204	0						
	BEGIN PEAK HR	12:00 PM																		
VOLUMES	63	39	19	33	27	15	20	1,154	72	40	1,023	34	2,539							
APPROACH %	52%	32%	16%	44%	36%	20%	2%	93%	6%	4%	93%	3%								
PEAK HR FACTOR	0.738			0.852			0.916			0.905			0.946							
APP/DEPART	121	/	91	75	/	131	1,246	/	1,214	1,097	/	1,103	0							



MD	11:00 AM
	11:15 AM
	11:30 AM
	11:45 AM
	12:00 PM
	12:15 PM
	12:30 PM
	12:45 PM
TOTAL	
AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
					12:00 PM

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Thu, May 9, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Imperial
EAST & WEST: Lemon

PROJECT #: SC2200
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

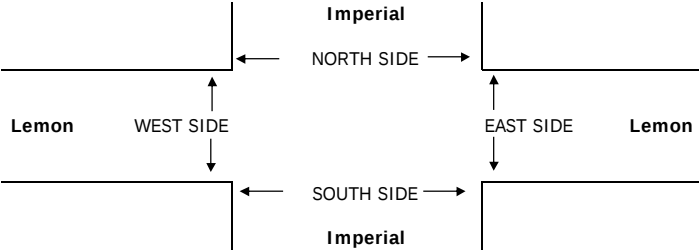
AM
PM
MD
OTHER
OTHER

◀ W
S
▶ E

▲ N
▼

☒ Add U-Turns to Left Turns

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
		Imperial			Imperial			Lemon			Lemon								
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
		X	3	0	1	3	0	0	1	0	0	1	0		0	0	0	0	
PM	4:00 PM	0	340	18	34	330	6	4	1	3	12	0	26	774	0	0	0	0	0
	4:15 PM	0	391	20	22	402	2	2	1	2	13	0	26	881	0	0	0	0	0
	4:30 PM	0	361	11	26	417	5	5	0	2	11	1	28	867	0	0	0	0	0
	4:45 PM	0	328	17	30	472	5	2	0	2	10	1	29	896	0	0	0	0	0
	5:00 PM	0	381	12	29	416	3	4	2	6	16	2	29	900	0	0	0	0	0
	5:15 PM	0	390	19	29	454	8	2	1	5	13	1	34	956	0	0	0	0	0
	5:30 PM	0	354	12	29	382	5	1	2	4	11	0	31	831	0	0	0	0	0
	5:45 PM	0	377	11	21	396	8	2	0	6	15	3	22	861	0	0	0	0	0
	VOLUMES	0	2,922	120	220	3,269	42	22	7	30	101	8	225	6,966	0	0	0	0	0
	APPROACH %	0%	96%	4%	6%	93%	1%	37%	12%	51%	30%	2%	67%						
APP/DEPART		3,042	/	3,169	3,531	/	3,400	59	/	347	334	/	50	0					
BEGIN PEAK HR		4:30 PM																	
VOLUMES		0	1,460	59	114	1,759	21	13	3	15	50	5	120	3,619					
APPROACH %		0%	96%	4%	6%	93%	1%	42%	10%	48%	29%	3%	69%						
PEAK HR FACTOR		0.928			0.934			0.646			0.911			0.946					
APP/DEPART		1,519	/	1,593	1,894	/	1,824	31	/	176	175	/	26	0					



PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	
AM BEGIN PEAK HR		

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:30 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

T218

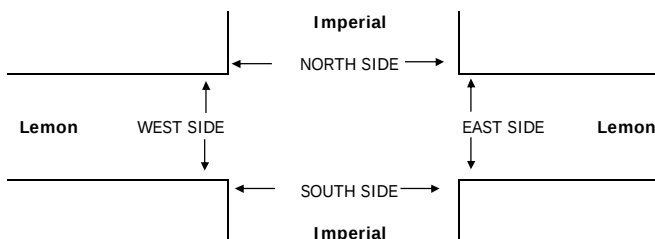
DATE: Sat, Apr 27, 19	LOCATION: Yorba Linda	PROJECT #: SC2159
NORTH & SOUTH: Imperial	LOCATION #: 2	CONTROL: SIGNAL
EAST & WEST: Lemon		

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

														U-TURNS					
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND								
		Imperial			Imperial			Lemon			Lemon								
LANES:		NL X	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
MD	11:00 AM	0	230	11	32	245	8	10	4	3	7	0	26	576	0	2	0	0	2
	11:15 AM	0	248	14	20	277	5	4	2	7	15	1	37	630	0	0	0	0	0
	11:30 AM	0	266	15	26	274	8	1	0	5	11	3	33	642	0	0	0	0	0
	11:45 AM	0	279	8	32	268	14	7	0	8	15	2	36	669	0	1	0	0	1
	12:00 PM	0	297	15	24	268	6	9	1	4	15	2	40	681	0	0	0	1	1
	12:15 PM	0	239	12	35	279	7	5	4	2	14	2	26	625	0	0	0	0	0
	12:30 PM	0	253	13	28	296	2	3	0	4	18	3	22	642	0	1	0	0	1
	12:45 PM	0	268	17	33	317	9	5	2	1	14	4	24	694	0	0	0	1	1
	VOLUMES	0	2,080	105	230	2,224	59	44	13	34	109	17	244	5,159	0	4	0	2	6
	APPROACH %	0%	95%	5%	9%	88%	2%	48%	14%	37%	29%	5%	66%						
APP/DEPART	2,185	/	2,372	2,513	/	2,365	91	/	346	370	/	76	0						
BEGIN PEAK HR	12:00 PM																		
VOLUMES	0	1,057	57	120	1,160	24	22	7	11	61	11	112	2,642						
APPROACH %	0%	95%	5%	9%	89%	2%	55%	18%	28%	33%	6%	61%							
PEAK HR FACTOR	0.893			0.908			0.714			0.807			0.952						
APP/DEPART	1,114	/	1,192	1,304	/	1,230	40	/	185	184	/	35	0						

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	4	0	2	6



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Thu, May 9, 19

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Yorba Linda
Imperial
Olinda

PROJECT #:
LOCATION #:
CONTROL:

SC2200
3
SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

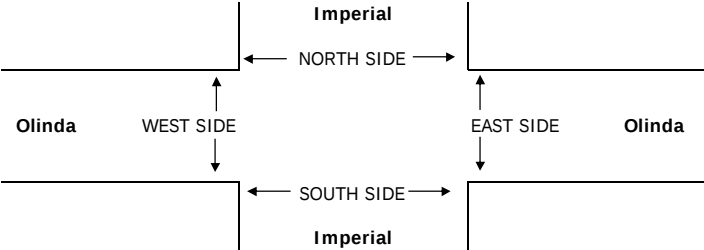
▲
N
◀ W
S
▼

E ▶

☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Imperial			Imperial			Olinda			Olinda			
LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 0	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
4:00 PM	12	363	17	6	341	2	7	2	12	9	0	3	774
4:15 PM	15	386	19	7	403	10	2	3	6	11	1	5	868
4:30 PM	5	385	16	6	426	3	3	0	9	12	0	6	871
4:45 PM	21	321	22	8	424	6	6	1	11	10	0	4	834
5:00 PM	19	394	11	1	482	11	5	2	22	11	1	2	961
5:15 PM	13	391	15	5	419	4	3	3	12	12	0	5	882
5:30 PM	8	396	10	3	436	4	6	2	12	13	4	3	897
5:45 PM	16	353	8	6	383	4	6	5	11	9	1	3	805
VOLUMES	109	2,989	118	42	3,314	44	38	18	95	87	7	31	6,892
APPROACH %	3%	93%	4%	1%	97%	1%	25%	12%	63%	70%	6%	25%	
APP/DEPART	3,216	/	3,061	3,400	/	3,530	151	/	175	125	/	126	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	61	1,502	58	17	1,761	25	20	8	57	46	5	14	3,574
APPROACH %	4%	93%	4%	1%	98%	1%	24%	9%	67%	71%	8%	22%	
PEAK HR FACTOR	0.956			0.912			0.733			0.813			0.930
APP/DEPART	1,621	/	1,537	1,803	/	1,883	85	/	82	65	/	72	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
5	0	0	0	5
5	2	0	0	7
2	0	0	0	2
6	1	0	0	7
7	0	0	0	7
4	0	0	0	4
2	0	0	0	2
3	0	0	0	3
34	3	0	0	37



PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:45 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

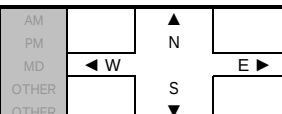
T218

DATE:
Sat, Apr 27, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Imperial
EAST & WEST: Olinda

PROJECT #: SC2159
LOCATION #: 3
CONTROL: SIGNAL

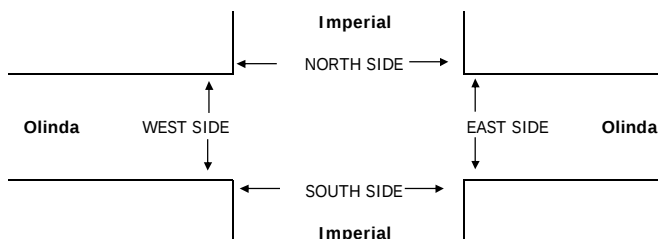
NOTES:



☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Imperial	Imperial	Imperial	Imperial	Imperial	Imperial	Olinda	Olinda	Olinda	Olinda	Olinda	Olinda	
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	0	1	3	0	0	1	0	1	1	0	
11:00 AM	13	232	10	6	242	7	3	0	12	9	1	4	539
11:15 AM	15	249	13	2	291	6	4	2	18	8	0	4	612
11:30 AM	14	275	18	4	281	5	3	3	15	10	0	7	635
11:45 AM	19	278	11	7	280	4	8	0	19	14	4	4	648
12:00 PM	20	296	12	0	280	6	7	0	19	10	0	6	656
12:15 PM	12	244	11	3	284	8	11	3	21	4	1	4	606
12:30 PM	15	250	16	5	312	1	11	1	25	7	1	2	646
12:45 PM	18	277	8	3	327	0	5	3	19	9	1	1	671
VOLUMES	126	2,101	99	30	2,297	37	52	12	148	71	8	32	5,013
APPROACH %	5%	90%	4%	1%	97%	2%	25%	6%	70%	64%	7%	29%	
APP/DEPART	2,326	/	2,189	2,364	/	2,553	212	/	137	111	/	134	0
BEGIN PEAK HR	12:00 PM												
VOLUMES	65	1,067	47	11	1,203	15	34	7	84	30	3	13	2,579
APPROACH %	6%	91%	4%	1%	98%	1%	27%	6%	67%	65%	7%	28%	
PEAK HR FACTOR	0.899			0.931			0.845			0.719			0.961
APP/DEPART	1,179	/	1,114	1,229	/	1,343	125	/	65	46	/	57	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
3	2	0	0	5
2	0	0	0	2
3	1	0	0	4
3	1	0	0	4
8	0	0	0	8
6	0	0	0	6
4	0	0	0	4
8	0	0	0	8
37	4	0	0	41



MD	
	11:00 AM
	11:15 AM
	11:30 AM
	11:45 AM
	12:00 PM
	12:15 PM
	12:30 PM
	12:45 PM
	TOTAL
	AM BEGIN PEAK HR

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

T218

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

<u>DATE:</u> Thu, May 9, 19	LOCATION: Yorba Linda	PROJECT #: SC2200
	NORTH & SOUTH: Imperial	LOCATION #: 4
	EAST & WEST: Yorba Linda	CONTROL: SIGNAL

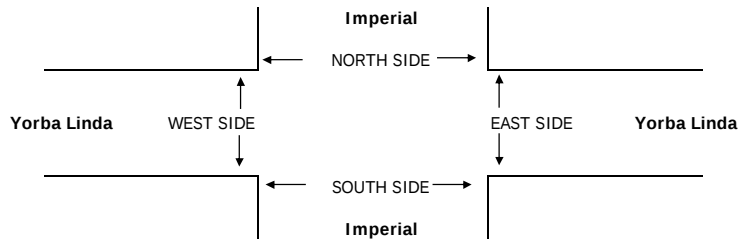
NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

☐ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Imperial			Imperial			Yorba Linda			Yorba Linda			
LANES:	NL 1	NT 2.5	NR 0.5	SL 2	ST 2.5	SR 0.5	EL 1	ET 3	ER 0	WL 1	WT 3	WR 2	TOTAL
4:00 PM	77	247	38	157	226	21	25	148	74	41	124	133	1,311
4:15 PM	61	239	28	140	243	12	19	159	66	33	134	161	1,295
4:30 PM	59	243	49	148	286	15	18	154	67	32	134	127	1,332
4:45 PM	52	200	39	138	246	6	23	152	87	47	140	143	1,273
5:00 PM	72	262	50	178	290	23	25	140	81	42	128	158	1,449
5:15 PM	64	214	34	158	253	18	31	154	96	41	181	163	1,407
5:30 PM	78	261	49	164	295	17	17	127	78	38	140	126	1,390
5:45 PM	79	224	53	125	212	17	25	155	66	41	134	156	1,287
VOLUMES	542	1,890	340	1,208	2,051	129	183	1,189	615	315	1,115	1,167	10,744
APPROACH %	20%	68%	12%	36%	61%	4%	9%	60%	31%	12%	43%	45%	
APP/DEPART	2,772	/	3,233	3,388	/	2,973	1,987	/	2,747	2,597	/	1,791	0
BEGIN PEAK HR VOLUMES	293	5:00 PM 961	186	625	1,050	75	98	576	321	162	583	603	5,533
APPROACH %	20%	67%	13%	36%	60%	4%	10%	58%	32%	12%	43%	45%	
PEAK HR FACTOR		0.928			0.891			0.885			0.875		0.955
APP/DEPART	1,440	/	1,660	1,750	/	1,528	995	/	1,394	1,348	/	951	0

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL
0	0	1	0	1
0	0	1	2	3
0	0	0	1	1
0	0	3	0	3
0	0	1	1	2
1	0	0	2	3
0	0	1	2	3
1	0	0	2	3
2	0	7	10	19



PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	
AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

5:00 PM

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Sat, Jun 15, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Imperial Yorba Linda	PROJECT #: LOCATION #: CONTROL:	SC2159 4 SIGNAL
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NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

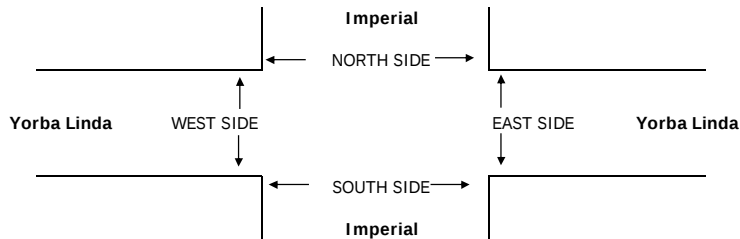
☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Imperial			Imperial			Yorba Linda			Yorba Linda			
LANES:	NL 1	NT 2.5	NR 0.5	SL 2	ST 2.5	SR 0.5	EL 1	ET 3	ER 0	WL 1	WT 3	WR 2	TOTAL

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

MD	11:00 AM	49	162	39	93	156	20	16	107	76	43	131	93	985
	11:15 AM	51	160	39	103	196	25	15	101	57	45	115	123	1,030
	11:30 AM	56	178	32	92	182	15	18	99	35	44	122	96	969
	11:45 AM	58	178	44	106	163	22	30	110	65	46	131	96	1,049
	12:00 PM	74	162	35	128	156	21	26	102	52	54	101	114	1,025
	12:15 PM	64	179	45	111	167	26	26	106	68	42	138	111	1,083
	12:30 PM	67	156	36	112	184	26	23	113	56	47	124	105	1,049
	12:45 PM	58	211	36	95	186	21	19	109	61	51	138	107	1,092
	VOLUMES	477	1,386	306	840	1,390	176	173	847	470	372	1,000	845	8,282
	APPROACH %	22%	64%	14%	35%	58%	7%	12%	57%	32%	17%	45%	38%	
APP/DEPART	2,169	/	2,396	2,406	/	2,226	1,490	/	2,005	2,217	/	1,655	0	
BEGIN PEAK HR	12:00 PM													
VOLUMES	263	708	152	446	693	94	94	430	237	194	501	437	4,249	
APPROACH %	23%	63%	14%	36%	56%	8%	12%	57%	31%	17%	44%	39%		
PEAK HR FACTOR	0.920			0.957			0.951			0.956			0.973	
APP/DEPART	1,123	/	1,234	1,233	/	1,123	761	/	1,034	1,132	/	858	0	

1	0	1	2	4
0	0	0	1	1
0	0	0	0	0
0	0	2	3	5
3	0	2	0	5
2	0	0	1	3
0	0	3	1	4
0	0	0	4	4
6	0	8	12	26



MD	11:00 AM
	11:15 AM
	11:30 AM
	11:45 AM
	12:00 PM
	12:15 PM
	12:30 PM
	12:45 PM
	TOTAL
AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 9, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Plumosa Lemon	PROJECT #: LOCATION #: CONTROL:	SC2200 5 STOP ALL
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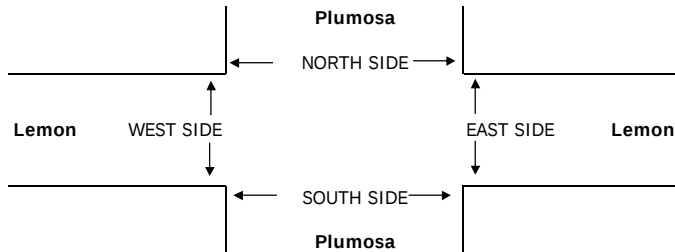
NOTES:

AM		▲	
PM		N	
MD	◀ W		E ▶
OTHER		S	
OTHER		▼	

☒ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	Plumosa			Plumosa			Lemon			Lemon			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	X	X	X	0	X	0	0	1	X	X	1	0	
4:00 PM	0	0	0	36	0	15	24	27	0	0	19	19	140
4:15 PM	0	0	0	17	0	21	26	19	0	0	15	16	114
4:30 PM	0	0	0	7	0	24	20	17	0	0	16	15	99
4:45 PM	0	0	0	21	0	22	24	21	0	0	19	6	113
5:00 PM	0	0	0	23	0	24	24	14	0	0	23	10	118
5:15 PM	0	0	0	18	0	21	30	24	0	0	22	21	136
5:30 PM	0	0	0	25	0	31	18	21	0	0	17	19	131
5:45 PM	0	0	0	18	0	25	27	12	0	0	17	28	127
VOLUMES	0	0	0	165	0	183	193	155	0	0	148	134	978
APPROACH %	0%	0%	0%	47%	0%	53%	55%	45%	0%	0%	52%	48%	
APP/DEPART	0	/	326	348	/	0	348	/	320	282	/	332	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	84	0	101	99	71	0	0	79	78	512
APPROACH %	0%	0%	0%	45%	0%	55%	58%	42%	0%	0%	50%	50%	
PEAK HR FACTOR	0.000			0.826			0.787			0.872			0.941
APP/DEPART	0	/	176	185	/	0	170	/	155	157	/	181	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1



	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
AM	BEGIN PEAK HR

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
5:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Sat, Apr 27, 19	LOCATION: Yorba Linda	PROJECT #:	SC2159
	NORTH & SOUTH: Plumosa	LOCATION #:	5
	EAST & WEST: Lemon	CONTROL:	STOP ALL

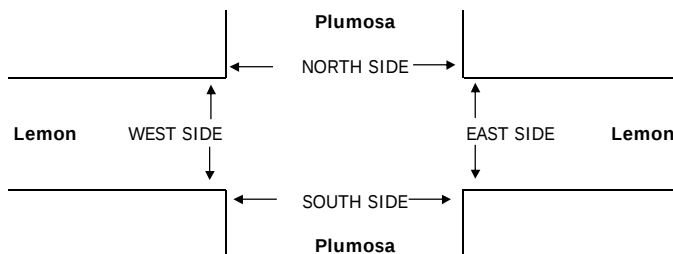
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☐ Add U-Turns to Left Turns

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

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

MD	11:00 AM	0	0	0	20	0	23	30	17	0	0	11	18	119
	11:15 AM	0	0	0	8	0	21	17	19	0	0	32	15	112
	11:30 AM	0	0	0	14	0	21	17	24	0	0	26	11	113
	11:45 AM	0	0	0	15	0	20	17	22	0	0	33	13	120
	12:00 PM	0	0	0	13	0	19	21	20	0	0	38	15	126
	12:15 PM	0	0	0	23	0	18	20	31	0	0	24	17	133
	12:30 PM	0	0	0	18	0	13	25	15	0	0	30	11	112
	12:45 PM	0	0	0	19	0	28	21	32	0	0	14	14	128
	VOLUMES	0	0	0	130	0	163	168	180	0	0	208	114	963
	APPROACH %	0%	0%	0%	44%	0%	56%	48%	52%	0%	0%	65%	35%	
	APP/DEPART	0	/	282	293	/	0	348	/	310	322	/	371	0
	BEGIN PEAK HR	12:00 PM												
	VOLUMES	0	0	0	73	0	78	87	98	0	0	106	57	499
	APPROACH %	0%	0%	0%	48%	0%	52%	47%	53%	0%	0%	65%	35%	
PEAK HR FACTOR	0.000			0.803			0.873			0.769			0.938	
APP/DEPART	0	/	144	151	/	0	185	/	171	163	/	184	0	



MD	11:00 AM
	11:15 AM
	11:30 AM
	11:45 AM
	12:00 PM
	12:15 PM
	12:30 PM
	12:45 PM
TOTAL	
AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

[illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

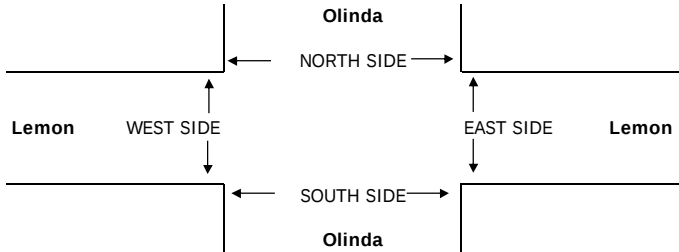
DATE: Thu, May 9, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Olinda Lemon	PROJECT #: LOCATION #: CONTROL:	SC2200 6 STOP N/S
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NOTES:	AM PM MD OTHER OTHER	▲ N ◀ W S ▶ E ▼
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☒ Add U-Turns to Left Turns

	NORTHBOUND Olinda			SOUTHBOUND Olinda			EASTBOUND Lemon			WESTBOUND Lemon			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
4:00 PM	17	0	15	1	0	0	0	51	19	3	26	1	133
4:15 PM	14	2	14	0	0	0	0	20	12	7	20	1	90
4:30 PM	10	1	10	0	0	0	0	21	7	5	14	0	68
4:45 PM	7	0	15	0	0	0	1	39	4	1	13	0	80
5:00 PM	11	2	14	1	0	0	0	39	8	5	19	4	103
5:15 PM	6	0	14	1	1	0	0	39	3	2	42	0	108
5:30 PM	4	0	10	0	0	0	0	42	5	8	23	1	93
5:45 PM	7	0	6	1	0	0	0	24	3	3	34	0	78
VOLUMES	76	5	98	4	1	0	1	275	61	34	191	7	753
APPROACH %	42%	3%	55%	80%	20%	0%	0%	82%	18%	15%	82%	3%	
APP/DEPART	179	/	13	5	/	97	337	/	377	232	/	266	0
BEGIN PEAK HR	4:45 PM												
VOLUMES	28	2	53	2	1	0	1	159	20	16	97	5	384
APPROACH %	34%	2%	64%	67%	33%	0%	1%	88%	11%	14%	82%	4%	
PEAK HR FACTOR	0.769			0.375			0.957			0.670			0.889
APP/DEPART	83	/	8	3	/	38	180	/	214	118	/	124	0

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1



PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL
	AM BEGIN PEAK HR

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:45 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Sat, Apr 27, 19	LOCATION: Yorba Linda	PROJECT #: SC2159
	NORTH & SOUTH: Olinda	LOCATION #: 6
	EAST & WEST: Lemon	CONTROL: STOP N/S

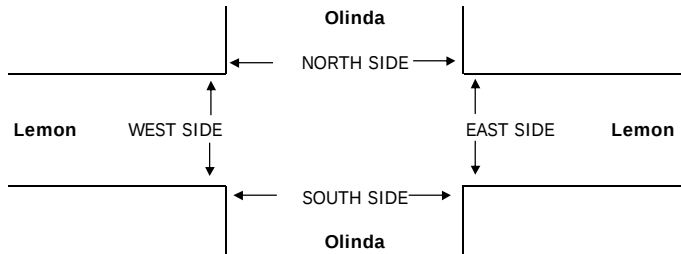
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

MD	11:00 AM	4	0	9	1	0	1	0	48	8	1	19	1	92
	11:15 AM	4	0	11	0	0	2	1	21	5	1	38	1	84
	11:30 AM	4	1	17	1	0	2	1	33	8	2	35	0	104
	11:45 AM	5	0	6	0	0	0	0	36	6	8	38	0	99
	12:00 PM	9	0	3	0	0	0	0	34	3	7	40	1	97
	12:15 PM	2	0	9	0	0	2	1	48	3	3	38	1	107
	12:30 PM	10	0	8	0	0	2	0	27	3	4	34	0	88
	12:45 PM	5	0	9	0	0	0	0	48	2	7	26	0	97
	VOLUMES	43	1	72	2	0	9	3	295	38	33	268	4	768
	APPROACH %	37%	1%	62%	18%	0%	82%	1%	88%	11%	11%	88%	1%	
	APP/DEPART	116	/	8	11	/	71	336	/	369	305	/	320	0
	BEGIN PEAK HR	11:30 AM			1	0	4	2	151	20	20	151	2	407
	VOLUMES	20	1	35	20%	0%	80%	1%	87%	12%	12%	87%	1%	
	APPROACH %	36%	2%	63%										
	PEAK HR FACTOR	0.636			0.417			0.832			0.901			0.951
	APP/DEPART	56	/	5	5	/	40	173	/	187	173	/	175	0



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
11:30 AM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
Thu, Jun 13, 19

LOCATION: Yorba Linda
NORTH & SOUTH: Lakeview
EAST & WEST: Lemon

PROJECT #: SC2200
LOCATION #: 7
CONTROL: SIGNAL

NOTES:

AM

PM

MD

OTHER

OTHER

◀ W

▶ E

▲ N

▼ S

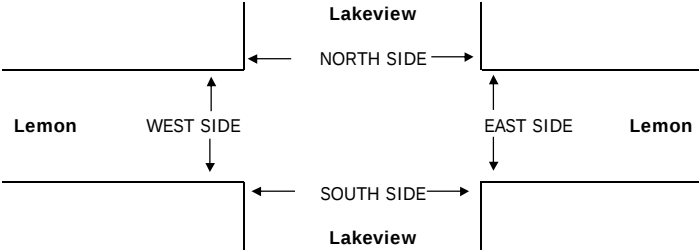
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB 0	SB 0	EB 0	WB 0	TTL

PM	4:00 PM	17	89	1	0	84	9	11	0	29	0	0	0	240
	4:15 PM	24	121	1	0	67	11	15	0	35	0	1	0	275
	4:30 PM	13	113	0	0	72	7	17	1	32	0	0	0	255
	4:45 PM	26	131	0	0	75	9	18	0	28	0	1	0	288
	5:00 PM	21	147	1	0	81	9	16	0	32	0	1	0	308
	5:15 PM	23	118	0	0	74	13	12	0	33	0	0	0	273
	5:30 PM	26	122	0	0	67	5	15	0	31	1	0	1	268
	5:45 PM	13	125	0	0	71	9	18	0	25	0	0	0	261
	VOLUMES	163	966	3	0	591	72	122	1	245	1	3	1	2,168
	APPROACH %	14%	85%	0%	0%	89%	11%	33%	0%	67%	20%	60%	20%	
APP/DEPART		1,132	/	1,089	663	/	838	368	/	4	5	/	237	0
BEGIN PEAK HR		4:45 PM												
VOLUMES		96	518	1	0	297	36	61	0	124	1	2	1	1,137
APPROACH %		16%	84%	0%	0%	89%	11%	33%	0%	67%	25%	50%	25%	
PEAK HR FACTOR		0.910			0.925			0.964			0.500			0.923
APP/DEPART		615	/	580	333	/	422	185	/	1	4	/	134	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1



PM	4:00 PM	
	4:15 PM	
	4:30 PM	
	4:45 PM	
	5:00 PM	
	5:15 PM	
	5:30 PM	
	5:45 PM	
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
4:45 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

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

<u>DATE:</u> Sat, Apr 27, 19	LOCATION: NORTH & SOUTH: EAST & WEST:	Yorba Linda Lakeview Lemon	PROJECT #: LOCATION #: CONTROL:	SC2159 7 SIGNAL
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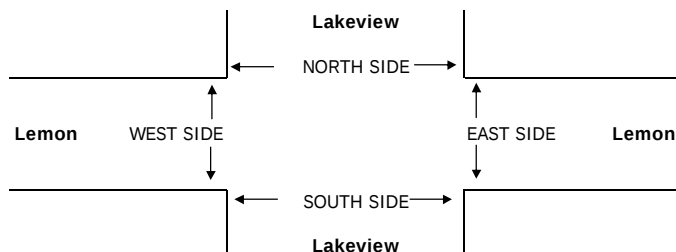
NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

MD	11:00 AM	20	89	0	1	86	8	14	0	23	0	0	1	242
	11:15 AM	20	66	0	1	76	10	14	1	30	0	1	0	219
	11:30 AM	13	91	1	1	81	15	14	0	42	0	0	0	258
	11:45 AM	24	80	0	0	80	11	8	0	24	1	1	0	229
	12:00 PM	25	98	1	0	98	16	15	0	27	1	0	0	281
	12:15 PM	18	97	1	0	84	10	23	0	27	1	0	0	261
	12:30 PM	14	67	1	0	97	9	15	0	37	0	0	0	240
	12:45 PM	23	84	1	0	63	10	12	0	35	0	0	0	228
	VOLUMES	157	672	5	3	665	89	115	1	245	3	2	1	1,958
	APPROACH %	19%	81%	1%	0%	88%	12%	32%	0%	68%	50%	33%	17%	
	APP/DEPART	834	/	788	757	/	914	361	/	9	6	/	247	0
	BEGIN PEAK HR	11:30 AM												
VOLUMES	80	366	3	1	343	52	60	0	120	3	1	0	1,029	
APPROACH %	18%	82%	1%	0%	87%	13%	33%	0%	67%	75%	25%	0%		
PEAK HR FACTOR	0.905 0.868 0.804 0.500													
APP/DEPART	449	/	426	396	/	466	180	/	4	4	/	133	0	



MD	11:00 AM
	11:15 AM
	11:30 AM
	11:45 AM
	12:00 PM
	12:15 PM
	12:30 PM
	12:45 PM
TOTAL	
AM BEGIN PEAK HR	

[illegible][illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 9, 19	LOCATION: Yorba Linda	PROJECT #: SC2200
	NORTH & SOUTH: Lakeview	LOCATION #: 8
	EAST & WEST: Yorba Linda	CONTROL: SIGNAL

NOTES:	AM		▲	
	PM		N	
	MD	◀ W		E ▶
	OTHER		S	
	OTHER		▼	

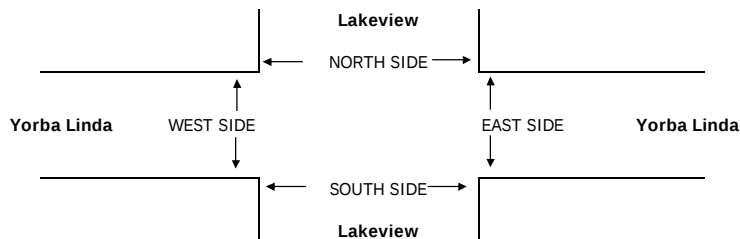
☐ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

PM	4:00 PM	44	61	52	46	52	36	42	284	30	44	262	21	974
	4:15 PM	64	62	57	49	61	29	31	267	22	42	214	13	911
	4:30 PM	36	67	64	40	55	31	48	279	24	38	226	22	930
	4:45 PM	41	71	72	56	45	42	33	266	20	54	235	16	951
	5:00 PM	58	65	83	60	65	43	58	291	13	41	221	20	1,018
	5:15 PM	40	74	65	60	62	34	33	279	19	62	290	24	1,042
	5:30 PM	44	75	59	33	37	30	46	292	17	52	259	18	962
	5:45 PM	38	72	79	44	48	34	43	254	25	45	247	27	956
	VOLUMES	365	547	531	388	425	279	334	2,212	170	378	1,954	161	7,759
	APPROACH %	25%	38%	37%	35%	39%	26%	12%	81%	6%	15%	78%	6%	
APP/DEPART	1.444	/	1.043	1.093	/	974	2.729	/	3.131	2.493	/	2.611	0	
BEGIN PEAK HR	5:00 PM													
VOLUMES	180	286	286	197	212	141	180	1,116	74	200	1,017	89	3,984	
APPROACH %	24%	38%	38%	36%	38%	26%	13%	81%	5%	15%	78%	7%		
PEAK HR FACTOR	0.913			0.820			0.944			0.868			0.953	
APP/DEPART	752	/	556	551	/	486	1,375	/	1,599	1,306	/	1,343	0	

0	0	2	0	2
0	0	2	0	2
1	0	1	0	2
0	0	3	0	3
0	0	2	0	2
0	0	3	0	3
0	1	0	0	1
0	0	0	0	0
1	1	13	0	15



PM	4:00 PM
	4:15 PM
	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
TOTAL	
	AM BEGIN PEAK HR

[illegible][illegible][illegible]

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Sat, Apr 27, 19	LOCATION: NORTH & SOUTH: Yorba Linda EAST & WEST: Lakeview	PROJECT #: SC2159 LOCATION #: 8 CONTROL: SIGNAL
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NOTES:

AM		▲	
PM		▲	N
MD	◀ W		E ▶
OTHER		S	▼

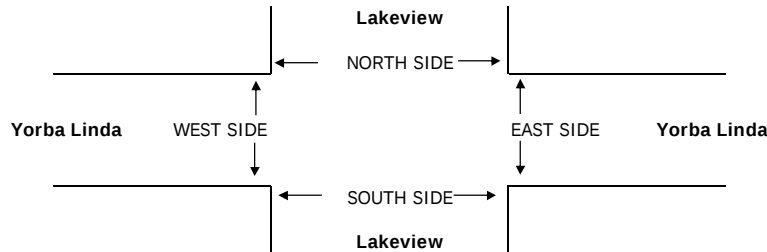
☒ Add U-Turns to Left Turns

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

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

MD	11:00 AM	37	47	31	33	42	30	46	212	22	60	210	25	795
	11:15 AM	26	45	32	35	65	33	43	180	22	49	208	13	751
	11:30 AM	44	59	36	47	56	26	45	180	27	44	206	17	787
	11:45 AM	37	57	41	48	47	33	49	197	30	48	219	18	824
	12:00 PM	35	61	32	34	53	29	46	215	30	54	235	20	844
	12:15 PM	58	50	41	45	49	48	57	232	22	54	210	19	885
	12:30 PM	37	44	36	52	70	38	38	243	26	44	212	10	850
	12:45 PM	33	54	31	56	59	40	48	208	30	38	237	19	853
	VOLUMES	307	417	280	350	441	277	372	1,667	209	391	1,737	141	6,589
	APPROACH %	31%	42%	28%	33%	41%	26%	17%	74%	9%	17%	77%	6%	
	APP/DEPART	1,004	/	908	1,068	/	1,040	2,248	/	2,298	2,269	/	2,343	0
MD	BEGIN PEAK HR	12:00 PM												
	VOLUMES	163	209	140	187	231	155	189	898	108	190	894	68	3,432
	APPROACH %	32%	41%	27%	33%	40%	27%	16%	75%	9%	16%	78%	6%	
	PEAK HR FACTOR	0.859			0.895			0.961			0.932			0.969
	APP/DEPART	512	/	456	573	/	529	1,195	/	1,225	1,152	/	1,222	0

0	0	4	1	5
0	0	4	0	4
0	0	2	0	2
0	0	2	0	2
0	0	2	0	2
0	0	1	0	1
0	0	4	0	4
0	0	3	0	3
0	0	22	1	23



MD	11:00 AM	
	11:15 AM	
	11:30 AM	
	11:45 AM	
	12:00 PM	
	12:15 PM	
	12:30 PM	
	12:45 PM	
	TOTAL	
	AM BEGIN PEAK HR	

PEDESTRIAN + BIKE CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
12:00 PM				

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

APPENDIX D

LEVEL OF SERVICE WORKSHEETS

EXISTING

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro
Report File: G:\...\E PM.pdf

Scenario 1 Existing
9/23/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Right	0.512	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.528	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Right	0.519	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.530	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.762	-	C
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Left	0.245	8.9	A
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.004	12.0	B
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.337	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.583	-	A
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.000	9.2	A

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1595	15	10	1880	48	55	24	18	10	19	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	420	4	3	495	13	14	6	5	3	5	1
Total Analysis Volume [veh/h]	25	1679	16	11	1979	51	58	25	19	11	20	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.33	0.33	0.01	0.40	0.40	0.03	0.03	0.03	0.01	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.512											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	377	7	5	453	25	22	17	5	5	8	7
Total Analysis Volume [veh/h]	58	1506	30	20	1813	99	87	68	19	21	31	28
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.30	0.30	0.01	0.37	0.37	0.05	0.04	0.01	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.528											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1460	59	114	1759	21	13	3	15	50	5	120
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	386	16	30	465	6	3	1	4	13	1	32
Total Analysis Volume [veh/h]	0	1543	62	121	1859	22	14	3	16	53	5	127
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.31	0.31	0.07	0.37	0.37	0.01	0.02	0.02	0.03	0.03	0.07
Intersection LOS	A											
Intersection V/C	0.519											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	404	16	5	473	7	5	2	15	12	1	4
Total Analysis Volume [veh/h]	66	1615	62	18	1894	27	22	9	61	49	5	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.33	0.33	0.01	0.38	0.38	0.01	0.02	0.04	0.03	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.530											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

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	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	961	186	625	1050	75	98	576	321	162	583	603
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	252	49	164	275	20	26	151	84	42	153	158
Total Analysis Volume [veh/h]	307	1006	195	654	1099	79	103	603	336	170	610	631
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.24	0.24	0.19	0.23	0.23	0.06	0.18	0.18	0.10	0.12	0.00
Intersection LOS	C											
Intersection V/C	0.762											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.245

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	84	0	101	99	71	0	0	79	78
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	22	0	27	26	19	0	0	21	21
Total Analysis Volume [veh/h]	0	0	0	89	0	107	105	75	0	0	84	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	720	800	764	831
Degree of Utilization, x	0.00	0.25	0.24	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.96	0.91	0.75
95th-Percentile Queue Length [ft]	0.00	24.03	22.86	18.69
Approach Delay [s/veh]	0.00	8.95	9.17	8.42
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.86			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	15	1	0	0	0	45	6	4	27	1
Total Analysis Volume [veh/h]	31	2	60	2	1	0	1	179	22	18	109	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.63	12.00	9.92	11.74	11.41	8.86	7.44	0.00	0.00	7.66	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.43	0.43	0.43	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	10.67	10.67	10.67	0.41	0.41	0.41	0.05	0.05	0.05	0.89	0.89	0.89
d_A, Approach Delay [s/veh]	10.53			11.63			0.04			1.04		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.69											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	518	1	0	297	36	61	0	124	1	2	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	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	140	0	0	80	10	17	0	34	0	1	0
Total Analysis Volume [veh/h]	104	561	1	0	322	39	66	0	134	1	2	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.17	0.17	0.00	0.11	0.11	0.04	0.00	0.12	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.337											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	286	286	197	212	141	180	1116	74	200	1017	89
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	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	75	75	52	56	37	47	293	19	52	267	23
Total Analysis Volume [veh/h]	189	300	300	207	222	148	189	1171	78	210	1067	93
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.05	0.06	0.11	0.11	0.11	0.24	0.24	0.12	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.583											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	83	37	0	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	83	37	0	0	0
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	22	10	0	0	0
Total Analysis Volume [veh/h]	0	89	40	0	0	0
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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	0.00	9.16	8.49
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

18181 Imperial Highway In-N-Out

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Report File: G:\...\E SAT.pdf

Scenario 1 Existing
9/16/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Right	0.345	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.385	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.436	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.408	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.619	-	B
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.253	8.8	A
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.002	12.0	B
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.346	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.535	-	A
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.000	9.2	A

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	303	4	2	301	12	6	3	5	3	4	3
Total Analysis Volume [veh/h]	32	1213	14	6	1205	50	25	13	19	12	16	10
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.24	0.24	0.00	0.25	0.25	0.01	0.02	0.02	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.345											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	270	9	5	305	19	17	10	5	9	7	4
Total Analysis Volume [veh/h]	42	1081	36	21	1220	76	67	41	20	35	29	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.22	0.01	0.25	0.25	0.04	0.02	0.01	0.02	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.385											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1057	57	120	1160	24	22	7	11	61	11	112
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	278	15	32	305	6	6	2	3	16	3	29
Total Analysis Volume [veh/h]	0	1110	60	126	1218	25	23	7	12	64	12	118
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.23	0.23	0.07	0.24	0.24	0.01	0.02	0.02	0.04	0.04	0.07
Intersection LOS	A											
Intersection V/C	0.436											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	278	12	3	313	4	9	2	22	8	1	3
Total Analysis Volume [veh/h]	68	1110	49	11	1252	16	35	7	87	31	3	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.23	0.23	0.01	0.25	0.25	0.02	0.02	0.05	0.02	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.408											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	182	39	115	178	24	24	110	61	50	129	112
Total Analysis Volume [veh/h]	270	728	156	458	712	97	97	442	244	199	515	449
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.17	0.17	0.13	0.16	0.16	0.06	0.13	0.13	0.12	0.10	0.00
Intersection LOS	B											
Intersection V/C	0.619											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	73	0	78	87	98	0	0	106	57
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	19	0	21	23	26	0	0	28	15
Total Analysis Volume [veh/h]	0	0	0	78	0	83	93	104	0	0	113	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	718	788	779	828
Degree of Utilization, x	0.00	0.20	0.25	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	0.76	1.00	0.79
95th-Percentile Queue Length [ft]	0.00	19.09	25.03	19.79
Approach Delay [s/veh]	0.00	8.74	9.18	8.51
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.83			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	9	0	0	1	1	40	5	5	40	1
Total Analysis Volume [veh/h]	21	1	37	1	0	4	2	159	21	21	159	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	11.76	12.04	9.55	11.78	11.72	9.10	7.54	0.00	0.00	7.62	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	6.59	6.59	6.59	0.48	0.48	0.48	0.11	0.11	0.11	1.09	1.09	1.09
d_A, Approach Delay [s/veh]	10.38			9.63			0.08			0.88		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	1.95											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	366	3	1	343	52	60	0	120	3	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	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	100	1	0	94	14	16	0	33	1	0	0
Total Analysis Volume [veh/h]	87	400	3	1	375	57	66	0	131	3	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.12	0.12	0.00	0.13	0.13	0.04	0.00	0.12	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.346											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	209	140	187	231	155	189	898	108	190	894	68
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	54	36	48	60	40	49	232	28	49	231	18
Total Analysis Volume [veh/h]	168	216	144	193	238	160	195	927	111	196	923	70
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.00	0.06	0.12	0.12	0.11	0.20	0.20	0.12	0.19	0.19
Intersection LOS	A											
Intersection V/C	0.535											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	65	46	0	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
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	65	46	0	0	0
Peak Hour Factor	0.7820	0.7820	0.7820	0.7820	0.7820	0.7820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	15	0	0	0
Total Analysis Volume [veh/h]	0	83	59	0	0	0
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	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.23	8.58
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

EXISTING PLUS PROJECT

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro
Report File: G:\...\IEP PM.pdf

Scenario 2 Existing Plus Project
2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.514	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Right	0.531	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.552	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.543	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.764	-	C
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Left	0.324	9.6	A
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.004	12.1	B
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.341	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.584	-	A
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.018	10.6	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	1600	15	10	1892	48	55	24	18	10	19	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	421	4	3	498	13	14	6	5	3	5	1
Total Analysis Volume [veh/h]	25	1684	16	11	1992	51	58	25	19	11	20	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.33	0.33	0.01	0.40	0.40	0.03	0.03	0.03	0.01	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.514											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	0	0	12	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1466	29	19	1771	96	84	66	20	20	30	27
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	378	7	5	456	25	22	17	5	5	8	7
Total Analysis Volume [veh/h]	58	1511	30	20	1826	99	87	68	21	21	31	28
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.30	0.30	0.01	0.38	0.38	0.05	0.04	0.01	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.531											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	0	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	-18	0	0	0	0	0	0	18
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1460	59	146	1741	21	13	3	15	50	5	143
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	386	16	39	460	6	3	1	4	13	1	38
Total Analysis Volume [veh/h]	0	1543	62	154	1840	22	14	3	16	53	5	151
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.31	0.31	0.09	0.37	0.37	0.01	0.02	0.02	0.03	0.03	0.09
Intersection LOS	A											
Intersection V/C	0.552											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	16	0	0	0	0	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-18	18	0	0	0	0	0	0	17	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	1484	92	17	1761	25	20	8	57	66	5	14
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	399	25	5	473	7	5	2	15	18	1	4
Total Analysis Volume [veh/h]	66	1596	99	18	1894	27	22	9	61	71	5	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.33	0.33	0.01	0.38	0.38	0.01	0.02	0.04	0.04	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.543											

Intersection Level Of Service Report**Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	2	1	0	2	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	967	186	627	1051	75	100	576	321	162	583	611
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	253	49	164	275	20	26	151	84	42	153	160
Total Analysis Volume [veh/h]	307	1013	195	657	1101	79	105	603	336	170	610	640
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.24	0.24	0.19	0.23	0.23	0.06	0.18	0.18	0.10	0.12	0.00
Intersection LOS	C											
Intersection V/C	0.764											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	1	0	2	0	0	0	14	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	0	0	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	38	5	5	0	3	0	0	0	27	4	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	5	6	84	5	101	99	71	59	6	79	78
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	2	22	1	27	26	19	16	2	21	21
Total Analysis Volume [veh/h]	65	5	6	89	5	107	105	75	63	6	84	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	671	745	750	768
Degree of Utilization, x	0.11	0.27	0.32	0.23

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.38	1.09	1.41	0.86
95th-Percentile Queue Length [ft]	9.53	27.27	35.21	21.58
Approach Delay [s/veh]	9.05	9.61	10.09	9.05
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	9.58			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	0	0	1	0	4	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	2	54	2	1	0	1	160	20	20	99	5
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	15	1	0	0	0	45	6	6	28	1
Total Analysis Volume [veh/h]	31	2	61	2	1	0	1	180	22	22	111	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	11.77	12.13	9.94	11.89	11.52	8.87	7.45	0.00	0.00	7.67	0.00	0.00	
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.04	0.04	
95th-Percentile Queue Length [ft/ln]	10.89	10.89	10.89	0.42	0.42	0.42	0.05	0.05	0.05	1.11	1.11	1.11	
d_A, Approach Delay [s/veh]	10.59			11.77			0.04			1.21			
Approach LOS	B			B			A			A			
d_I, Intersection Delay [s/veh]	2.75												
Intersection LOS	B												

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	4	1	0	1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	518	1	0	297	40	62	0	125	1	2	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	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	140	0	0	80	11	17	0	34	0	1	0
Total Analysis Volume [veh/h]	106	561	1	0	322	43	67	0	135	1	2	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.17	0.17	0.00	0.11	0.11	0.04	0.00	0.12	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.341											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	0	0	1	0	0	1	1	0	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	288	286	197	213	141	180	1117	75	200	1023	89
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	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	76	75	52	56	37	47	293	20	52	268	23
Total Analysis Volume [veh/h]	191	302	300	207	224	148	189	1172	79	210	1073	93
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.05	0.06	0.11	0.11	0.11	0.25	0.25	0.12	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.584											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	83	37	0	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	0	0	4	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	17
Existing Site Adjustment Volume [veh/h]	29	0	0	7	10	38
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	83	37	11	11	58
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	22	10	3	3	16
Total Analysis Volume [veh/h]	68	89	40	12	12	63
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	0.04	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.42	0.00	0.00	0.00	10.58	8.84
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	3.17	3.17	0.00	0.00	6.42	6.42
d_A, Approach Delay [s/veh]	3.21		0.00		9.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.19					
Intersection LOS	B					

18181 Imperial Highway In-N-Out

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Scenario 2 Existing Plus Project
2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.347	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.388	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.453	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.407	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.618	-	B
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.339	9.5	A
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.002	12.2	B
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.348	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.535	-	A
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.019	11.0	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-4	0	0	12	0	0	0	1	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	1190	14	6	1198	49	25	13	20	13	16	10
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	302	4	2	304	12	6	3	5	3	4	3
Total Analysis Volume [veh/h]	32	1209	14	6	1217	50	25	13	20	13	16	10
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.24	0.24	0.00	0.25	0.25	0.01	0.02	0.02	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.347											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-1	-4	0	0	14	0	0	0	3	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	1019	34	20	1168	72	63	39	22	34	27	15
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	269	9	5	309	19	17	10	6	9	7	4
Total Analysis Volume [veh/h]	41	1077	36	21	1235	76	67	41	23	36	29	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.22	0.22	0.01	0.26	0.26	0.04	0.02	0.01	0.02	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.388											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	18	0	0	0	0	0	0	0	-5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	8	-8	0	0	0	0	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1057	57	146	1152	24	22	7	11	61	11	113
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	278	15	38	303	6	6	2	3	16	3	30
Total Analysis Volume [veh/h]	0	1110	60	153	1210	25	23	7	12	64	12	119
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.23	0.23	0.09	0.24	0.24	0.01	0.02	0.02	0.04	0.04	0.07
Intersection LOS	A											
Intersection V/C	0.453											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	22	0	0	0	0	0	0	-6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-7	7	0	0	0	0	0	0	5	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	1060	76	11	1203	15	34	7	84	29	3	13
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	276	20	3	313	4	9	2	22	8	1	3
Total Analysis Volume [veh/h]	68	1103	79	11	1252	16	35	7	87	30	3	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.23	0.23	0.01	0.25	0.25	0.02	0.02	0.05	0.02	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.407											

Intersection Level Of Service Report**Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.618

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	-3	-2	-1	3	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	716	152	443	691	93	97	430	237	194	501	448
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	184	39	114	178	24	25	110	61	50	129	115
Total Analysis Volume [veh/h]	270	736	156	455	710	96	100	442	244	199	515	460
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.17	0.17	0.13	0.16	0.16	0.06	0.13	0.13	0.12	0.10	0.00
Intersection LOS	B											
Intersection V/C	0.618											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-5	-1	-1	0	3	0	0	0	18	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	6	0	0	0	0	0	0	0	8	0	0	0
Existing Site Adjustment Volume [veh/h]	42	6	6	0	4	0	0	0	34	5	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	5	5	73	7	78	87	98	60	8	106	57
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	1	19	2	21	23	26	16	2	28	15
Total Analysis Volume [veh/h]	46	5	5	78	7	83	93	104	64	9	113	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	673	739	771	774
Degree of Utilization, x	0.08	0.23	0.34	0.24

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.87	1.50	0.92
95th-Percentile Queue Length [ft]	6.79	21.81	37.50	22.95
Approach Delay [s/veh]	8.84	9.30	10.04	9.09
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	9.49			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-2	0	0	0	0	-1	0	5	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	33	1	0	4	2	150	20	25	154	2
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	9	0	0	1	1	39	5	7	40	1
Total Analysis Volume [veh/h]	21	1	35	1	0	4	2	158	21	26	162	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	11.89	12.17	9.55	11.90	11.85	9.11	7.55	0.00	0.00	7.63	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.02	0.02	0.02	0.00	0.00	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	6.46	6.46	6.46	0.49	0.49	0.49	0.11	0.11	0.11	1.37	1.37	1.37
d_A, Approach Delay [s/veh]	10.46			9.67			0.08			1.04		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.348

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	5	-2	0	-1	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	366	3	1	343	57	58	0	119	3	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	100	1	0	94	16	16	0	33	1	0	0
Total Analysis Volume [veh/h]	91	400	3	1	375	62	63	0	130	3	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.12	0.12	0.00	0.13	0.13	0.04	0.00	0.11	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.348											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	0	0	-1	0	0	-2	-1	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	166	212	140	187	230	155	189	896	107	190	902	68
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	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	55	36	48	59	40	49	231	28	49	233	18
Total Analysis Volume [veh/h]	171	219	144	193	237	160	195	925	110	196	931	70
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.06	0.00	0.06	0.12	0.12	0.11	0.20	0.20	0.12	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.535											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	65	46	0	0	0
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 Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	0	0	5	-2	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	7	0	0	0	0	5
Existing Site Adjustment Volume [veh/h]	35	0	0	9	11	46
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	65	46	14	9	45
Peak Hour Factor	0.7820	0.7820	0.7820	0.7820	0.7820	0.7820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	21	15	4	3	14
Total Analysis Volume [veh/h]	82	83	59	18	12	58
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	0.05	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.50	0.00	0.00	0.00	10.96	8.95
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft/ln]	3.29	3.29	0.00	0.00	6.25	6.25
d_A, Approach Delay [s/veh]	3.73		0.00		9.29	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.06					
Intersection LOS	B					

OPENING YEAR (2021) WITHOUT PROJECT

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro

Scenario 3 Opening Year (2021) Without Project

Report File: G:\...\IOY PM.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.543	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Right	0.563	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.658	-	B
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.546	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.857	-	D
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.371	10.4	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.006	15.1	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.509	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.718	-	C

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	90	4	0	99	0	0	0	3	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	1717	19	10	2017	49	56	24	21	13	19	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	452	5	3	531	13	15	6	6	3	5	1
Total Analysis Volume [veh/h]	29	1807	20	11	2123	52	59	25	22	14	20	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.36	0.36	0.01	0.43	0.43	0.03	0.03	0.03	0.01	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.543											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	97	4	0	104	1	1	1	3	3	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	1587	34	19	1898	99	87	68	21	23	32	28
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	409	9	5	489	26	22	18	5	6	8	7
Total Analysis Volume [veh/h]	63	1636	35	20	1957	102	90	70	22	24	33	29
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.33	0.33	0.01	0.40	0.40	0.05	0.04	0.01	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.563											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	82	28	0	0	0	0	0	0	87
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	-18	0	0	0	0	0	0	18
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1507	60	216	1804	21	13	3	15	51	5	227
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	398	16	57	477	6	3	1	4	13	1	60
Total Analysis Volume [veh/h]	0	1593	63	228	1907	22	14	3	16	54	5	240
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.32	0.32	0.13	0.38	0.38	0.01	0.02	0.02	0.03	0.03	0.14
Intersection LOS	B											
Intersection V/C	0.658											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	0	28	0	0	7	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1550	59	17	1824	26	20	15	58	47	12	14
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	417	16	5	490	7	5	4	16	13	3	4
Total Analysis Volume [veh/h]	67	1667	63	18	1961	28	22	16	62	51	13	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.34	0.34	0.01	0.39	0.39	0.01	0.02	0.04	0.03	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.546											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

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	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	70	28	0	0	0	71	1	71	70	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	301	980	260	666	1071	77	100	659	328	236	665	633
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	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	257	68	174	280	20	26	173	86	62	174	166
Total Analysis Volume [veh/h]	315	1026	272	697	1121	81	105	690	343	247	696	663
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.25	0.25	0.21	0.24	0.24	0.06	0.20	0.20	0.15	0.14	0.00
Intersection LOS	D											
Intersection V/C	0.857											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.371

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0	0	82	0	0	87	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	96	0	103	101	154	0	0	168	91
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	26	0	27	27	41	0	0	45	24
Total Analysis Volume [veh/h]	0	0	0	102	0	109	107	164	0	0	179	97
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	639	716	730	774
Degree of Utilization, x	0.00	0.29	0.37	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	1.23	1.72	1.62
95th-Percentile Queue Length [ft]	0.00	30.77	43.00	40.54
Approach Delay [s/veh]	0.00	10.12	10.82	10.21
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	10.40			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	0	0	0	0	92	0	7	98	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	2	61	2	1	0	1	254	20	23	197	5
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	17	1	0	0	0	71	6	6	55	1
Total Analysis Volume [veh/h]	33	2	69	2	1	0	1	286	22	26	222	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	14.89	14.96	11.15	15.09	13.83	9.50	7.69	0.00	0.00	7.93	0.00	0.00
Movement LOS	B	B	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.64	0.64	0.64	0.02	0.02	0.02	0.00	0.00	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	15.91	15.91	15.91	0.60	0.60	0.60	0.06	0.06	0.06	1.40	1.40	1.40
d_A, Approach Delay [s/veh]	12.41			14.67			0.02			0.81		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.31											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	98	143	0	0	109	11	18	0	84	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	671	1	0	412	48	80	0	210	1	2	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	182	0	0	112	13	22	0	57	0	1	0
Total Analysis Volume [veh/h]	212	727	1	0	446	52	87	0	228	1	2	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.21	0.21	0.00	0.15	0.15	0.05	0.00	0.19	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.509											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.718

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	45	23	69	41	128	125	36	8	15	23	68
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	337	315	270	257	272	309	1174	83	219	1060	159
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	88	83	71	67	71	81	308	22	57	278	42
Total Analysis Volume [veh/h]	201	354	331	283	270	285	324	1232	87	230	1112	167
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.10	0.06	0.08	0.16	0.16	0.19	0.26	0.26	0.14	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.718											

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Saturday E.vistro

Scenario 3 Opening Year (2021) Without Project

Report File: G:\...\IOY SAT.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.378	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Right	0.422	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.580	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.421	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.712	-	C
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.417	10.7	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.003	15.4	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	EB Right	0.549	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	WB Thru	0.715	-	C

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.378

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	110	4	1	116	1	1	0	4	4	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	1328	18	7	1326	51	27	13	23	16	16	11
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	337	5	2	337	13	7	3	6	4	4	3
Total Analysis Volume [veh/h]	37	1350	18	7	1348	52	27	13	23	16	16	11
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.27	0.27	0.00	0.27	0.27	0.02	0.02	0.02	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.378											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	115	4	1	121	2	2	1	4	4	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1158	39	21	1298	75	66	41	23	38	29	16
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	306	10	6	343	20	17	11	6	10	8	4
Total Analysis Volume [veh/h]	48	1224	41	22	1372	79	70	43	24	40	31	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.01	0.28	0.28	0.04	0.03	0.01	0.02	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.422											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	101	28	0	0	0	0	0	0	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	8	-8	0	0	0	0	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1103	58	231	1203	24	22	7	11	62	11	218
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	290	15	61	316	6	6	2	3	16	3	57
Total Analysis Volume [veh/h]	0	1159	61	243	1264	25	23	7	12	65	12	229
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.24	0.24	0.14	0.25	0.25	0.01	0.02	0.02	0.04	0.05	0.13
Intersection LOS	A											
Intersection V/C	0.580											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	0	28	0	0	8	0	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	1113	48	11	1255	15	35	15	86	31	11	13
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	290	12	3	326	4	9	4	22	8	3	3
Total Analysis Volume [veh/h]	69	1158	50	11	1306	16	36	16	89	32	11	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.24	0.24	0.01	0.26	0.26	0.02	0.03	0.05	0.02	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.421											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	3	83	26	2	0	0	82	1	80	78	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	269	725	238	481	709	96	96	521	243	278	589	468
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	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	186	61	124	182	25	25	134	62	71	151	120
Total Analysis Volume [veh/h]	276	745	245	494	729	99	99	535	250	286	605	481
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.19	0.19	0.15	0.16	0.16	0.06	0.15	0.15	0.17	0.12	0.00
Intersection LOS	C											
Intersection V/C	0.712											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	12	0	1	1	100	0	0	97	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	86	0	81	90	200	0	0	205	70
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	23	0	22	24	53	0	0	55	19
Total Analysis Volume [veh/h]	0	0	0	92	0	86	96	213	0	0	219	75
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	630	696	741	771
Degree of Utilization, x	0.00	0.26	0.42	0.38

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	1.02	2.06	1.80
95th-Percentile Queue Length [ft]	0.00	25.40	51.62	44.91
Approach Delay [s/veh]	0.00	9.95	11.28	10.52
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.69			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	112	0	8	109	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	44	1	0	4	2	266	20	28	263	2
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	12	0	0	1	1	70	5	7	69	1
Total Analysis Volume [veh/h]	21	1	46	1	0	4	2	280	21	29	277	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	15.27	15.17	10.66	15.39	14.49	9.78	7.81	0.00	0.00	7.92	0.00	0.00
Movement LOS	C	C	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.40	0.02	0.02	0.02	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	10.07	10.07	10.07	0.61	0.61	0.61	0.12	0.12	0.12	1.70	1.70	1.70
d_A, Approach Delay [s/veh]	12.15			10.90			0.05			0.75		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.65											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	106	147	0	0	139	15	17	0	107	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	520	3	1	489	68	78	0	229	3	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	142	1	0	134	19	21	0	63	1	0	0
Total Analysis Volume [veh/h]	205	568	3	1	534	74	85	0	250	3	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.17	0.17	0.00	0.18	0.18	0.05	0.00	0.20	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.549											

Intersection Level Of Service Report
Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	49	19	78	48	145	149	31	11	18	26	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	262	162	269	284	303	342	947	121	212	938	149
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	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	68	42	69	73	78	88	244	31	55	242	38
Total Analysis Volume [veh/h]	181	270	167	278	293	313	353	977	125	219	968	154
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.08	0.00	0.08	0.18	0.18	0.21	0.22	0.22	0.13	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.715											

OPENING YEAR (2021) WITH PROJECT

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro

Scenario 4 Opening Year (2021) With Project

Report File: G:\...\IOYP PM.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.545	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.565	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.670	-	B
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.558	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.859	-	D
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.479	11.7	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.006	15.3	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.513	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.716	-	C
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.018	10.7	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	95	4	0	111	0	0	0	3	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	1722	19	10	2029	49	56	24	21	13	19	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	453	5	3	534	13	15	6	6	3	5	1
Total Analysis Volume [veh/h]	29	1813	20	11	2136	52	59	25	22	14	20	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.36	0.36	0.01	0.43	0.43	0.03	0.03	0.03	0.01	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.545											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.565

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	102	4	0	116	1	1	1	5	3	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	1592	34	19	1910	99	87	68	23	23	32	28
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	410	9	5	492	26	22	18	6	6	8	7
Total Analysis Volume [veh/h]	63	1641	35	20	1969	102	90	70	24	24	33	29
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.33	0.33	0.01	0.41	0.41	0.05	0.04	0.01	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.565											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	96	28	0	0	0	0	0	0	92
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	-18	0	0	0	0	0	0	18
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1507	60	230	1804	21	13	3	15	51	5	232
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	398	16	61	477	6	3	1	4	13	1	61
Total Analysis Volume [veh/h]	0	1593	63	243	1907	22	14	3	16	54	5	245
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.32	0.32	0.14	0.38	0.38	0.01	0.02	0.02	0.03	0.03	0.14
Intersection LOS	B											
Intersection V/C	0.670											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	16	0	28	0	0	7	0	3	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-18	18	0	0	0	0	0	0	17	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1532	93	17	1824	26	20	15	58	67	12	14
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	412	25	5	490	7	5	4	16	18	3	4
Total Analysis Volume [veh/h]	67	1647	100	18	1961	28	22	16	62	72	13	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.34	0.34	0.01	0.39	0.39	0.01	0.02	0.04	0.04	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.558											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.859

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	70	30	1	0	2	71	1	71	70	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	301	986	260	668	1072	77	102	659	328	236	665	641
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	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	258	68	175	281	20	27	173	86	62	174	168
Total Analysis Volume [veh/h]	315	1032	272	699	1123	81	107	690	343	247	696	671
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.26	0.26	0.21	0.24	0.24	0.06	0.20	0.20	0.15	0.14	0.00
Intersection LOS	D											
Intersection V/C	0.859											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	1	10	2	0	0	82	14	2	87	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	0	0	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	38	5	5	0	3	0	0	0	27	4	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	5	6	96	5	103	101	154	59	6	168	91
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	2	26	1	27	27	41	16	2	45	24
Total Analysis Volume [veh/h]	65	5	6	102	5	109	107	164	63	6	179	97
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	592	659	698	707
Degree of Utilization, x	0.13	0.33	0.48	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.44	1.43	2.60	1.92
95th-Percentile Queue Length [ft]	10.97	35.68	65.11	47.98
Approach Delay [s/veh]	9.97	11.11	12.80	11.42
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	11.73			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	93	0	11	100	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	2	62	2	1	0	1	255	20	27	199	5
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	1	17	1	0	0	0	72	6	8	56	1
Total Analysis Volume [veh/h]	33	2	70	2	1	0	1	287	22	30	224	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	15.10	15.16	11.20	15.32	13.99	9.51	7.69	0.00	0.00	7.95	0.00	0.00
Movement LOS	C	C	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.65	0.65	0.65	0.02	0.02	0.02	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	16.24	16.24	16.24	0.62	0.62	0.62	0.06	0.06	0.06	1.65	1.65	1.65
d_A, Approach Delay [s/veh]	12.50			14.87			0.02			0.92		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.36											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

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	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	143	0	0	109	15	19	0	85	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	198	671	1	0	412	52	81	0	211	1	2	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	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	182	0	0	112	14	22	0	57	0	1	0
Total Analysis Volume [veh/h]	215	727	1	0	446	56	88	0	229	1	2	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.21	0.21	0.00	0.15	0.15	0.05	0.00	0.19	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.513											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

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	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	47	23	69	42	128	125	37	9	15	29	68
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	194	339	315	270	258	272	309	1175	84	219	1066	159
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	89	83	71	68	71	81	308	22	57	280	42
Total Analysis Volume [veh/h]	204	356	331	283	271	285	324	1233	88	230	1119	167
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.10	0.06	0.08	0.16	0.16	0.19	0.26	0.26	0.14	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.716											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	83	37	0	0	0
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 Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	7	7	4	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	17
Existing Site Adjustment Volume [veh/h]	29	0	0	7	10	38
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	92	45	11	11	58
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	25	12	3	3	16
Total Analysis Volume [veh/h]	68	99	48	12	12	63
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	0.04	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	10.72	8.89
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	3.19	3.19	0.00	0.00	6.52	6.52
d_A, Approach Delay [s/veh]	3.03		0.00		9.18	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.96					
Intersection LOS	B					

18181 Imperial Highway In-N-Out

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Scenario 4 Opening Year (2021) With Project

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2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.380	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Right	0.425	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.589	-	A
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Thru	0.420	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Right	0.712	-	C
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.521	12.1	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.003	15.6	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	EB Right	0.551	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	WB Thru	0.711	-	C
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.019	11.2	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	106	4	1	128	1	1	0	5	5	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	1324	18	7	1338	51	27	13	24	17	16	11
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	336	5	2	340	13	7	3	6	4	4	3
Total Analysis Volume [veh/h]	37	1346	18	7	1360	52	27	13	24	17	16	11
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.27	0.27	0.00	0.28	0.28	0.02	0.02	0.02	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.380											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	111	4	1	135	2	2	1	7	5	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	1154	39	21	1312	75	66	41	26	39	29	16
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	305	10	6	347	20	17	11	7	10	8	4
Total Analysis Volume [veh/h]	47	1220	41	22	1387	79	70	43	27	41	31	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.25	0.25	0.01	0.29	0.29	0.04	0.03	0.02	0.02	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.425											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	119	28	0	0	0	0	0	0	93
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	8	-8	0	0	0	0	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1103	58	249	1203	24	22	7	11	62	11	213
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	290	15	65	316	6	6	2	3	16	3	56
Total Analysis Volume [veh/h]	0	1159	61	262	1264	25	23	7	12	65	12	224
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.24	0.24	0.15	0.25	0.25	0.01	0.02	0.02	0.04	0.05	0.13
Intersection LOS	A											
Intersection V/C	0.589											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	22	0	28	0	0	8	0	-6	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-7	7	0	0	0	0	0	0	5	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	1106	77	11	1255	15	35	15	86	30	11	13
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	288	20	3	326	4	9	4	22	8	3	3
Total Analysis Volume [veh/h]	69	1151	80	11	1306	16	36	16	89	31	11	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.24	0.24	0.01	0.26	0.26	0.02	0.03	0.05	0.02	0.01	0.01
Intersection LOS	A											
Intersection V/C	0.420											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	11	83	23	0	-1	3	82	1	80	78	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	269	733	238	478	707	95	99	521	243	278	589	479
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	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	188	61	123	182	24	25	134	62	71	151	123
Total Analysis Volume [veh/h]	276	753	245	491	727	98	102	535	250	286	605	492
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.20	0.20	0.14	0.16	0.16	0.06	0.15	0.15	0.17	0.12	0.00
Intersection LOS	C											
Intersection V/C	0.712											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-5	-1	-1	12	3	1	1	100	18	3	97	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	6	0	0	0	0	0	0	0	8	0	0	0
Existing Site Adjustment Volume [veh/h]	42	6	6	0	4	0	0	0	34	5	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	5	5	86	7	81	90	200	60	8	205	70
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	1	23	2	22	24	53	16	2	55	19
Total Analysis Volume [veh/h]	46	5	5	92	7	86	96	213	64	9	219	75
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	586	646	716	715
Degree of Utilization, x	0.10	0.29	0.52	0.42

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	1.18	3.05	2.12
95th-Percentile Queue Length [ft]	7.88	29.46	76.20	53.01
Approach Delay [s/veh]	9.79	10.78	13.37	11.69
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	12.08			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	0	0	0	0	111	0	13	112	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	1	42	1	0	4	2	265	20	33	266	2
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	11	0	0	1	1	70	5	9	70	1
Total Analysis Volume [veh/h]	21	1	44	1	0	4	2	279	21	35	280	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	15.53	15.41	10.66	15.62	14.72	9.80	7.82	0.00	0.00	7.94	0.00	0.00
Movement LOS	C	C	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.40	0.02	0.02	0.02	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	9.95	9.95	9.95	0.62	0.62	0.62	0.12	0.12	0.12	2.01	2.01	2.01
d_A, Approach Delay [s/veh]	12.28			10.96			0.05			0.88		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.68											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	109	147	0	0	139	20	15	0	106	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	520	3	1	489	73	76	0	228	3	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	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	142	1	0	134	20	21	0	62	1	0	0
Total Analysis Volume [veh/h]	209	568	3	1	534	80	83	0	249	3	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.17	0.17	0.00	0.18	0.18	0.05	0.00	0.20	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.551											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	52	19	78	47	145	149	29	10	18	34	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	265	162	269	283	303	342	945	120	212	946	149
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	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	68	42	69	73	78	88	244	31	55	244	38
Total Analysis Volume [veh/h]	184	273	167	278	292	313	353	975	124	219	976	154
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.08	0.00	0.08	0.18	0.18	0.21	0.22	0.22	0.13	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.711											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	65	46	0	0	0
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 Rate	1.02	1.02	1.02	1.02	1.02	1.02
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	8	8	5	-2	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	7	0	0	0	0	5
Existing Site Adjustment Volume [veh/h]	35	0	0	9	11	46
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	74	55	14	9	45
Peak Hour Factor	0.7820	0.7820	0.7820	0.7820	0.7820	0.7820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	24	18	4	3	14
Total Analysis Volume [veh/h]	82	95	70	18	12	58
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	0.05	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	0.00	11.15	9.01
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft/ln]	3.32	3.32	0.00	0.00	6.37	6.37
d_A, Approach Delay [s/veh]	3.49		0.00		9.38	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.80					
Intersection LOS	B					

BUILD-OUT (YEAR 2040) WITHOUT PROJECT

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro

Scenario 5 Build-Out (Year 2040) Without Project

Report File: G:\...\BO PM.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.650	-	B
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.672	-	B
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.767	-	C
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.656	-	B
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	1.022	-	F
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.451	11.8	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.010	16.9	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.575	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Thru	0.829	-	D

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.650

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	90	4	0	99	0	0	0	3	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	2084	23	13	2449	60	69	30	26	16	24	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	548	6	3	644	16	18	8	7	4	6	2
Total Analysis Volume [veh/h]	36	2194	24	14	2578	63	73	32	27	17	25	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.43	0.43	0.01	0.52	0.52	0.04	0.03	0.03	0.01	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	97	4	0	104	1	1	1	3	3	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1923	40	24	2303	121	106	84	26	28	39	34
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	496	10	6	594	31	27	22	7	7	10	9
Total Analysis Volume [veh/h]	76	1982	41	25	2374	125	109	87	27	29	40	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.40	0.40	0.01	0.49	0.49	0.06	0.05	0.02	0.02	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.672											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	82	28	0	0	0	0	0	0	87
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	-18	0	0	0	0	0	0	18
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1843	74	243	2209	26	16	4	19	63	6	255
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	487	20	64	584	7	4	1	5	17	2	67
Total Analysis Volume [veh/h]	0	1948	78	257	2335	27	17	4	20	67	6	270
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.40	0.40	0.15	0.46	0.46	0.01	0.02	0.02	0.04	0.04	0.16
Intersection LOS	C											
Intersection V/C	0.767											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	0	28	0	0	7	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1896	73	21	2229	31	25	17	71	58	13	18
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	510	20	6	599	8	7	5	19	16	3	5
Total Analysis Volume [veh/h]	82	2039	78	23	2397	33	27	18	76	62	14	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.42	0.42	0.01	0.48	0.48	0.02	0.03	0.04	0.04	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.656											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.022

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	70	28	0	0	0	71	1	71	70	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	368	1201	303	809	1313	94	123	791	402	274	799	772
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	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	314	79	212	344	25	32	207	105	72	209	202
Total Analysis Volume [veh/h]	385	1258	317	847	1375	98	129	828	421	287	837	808
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.31	0.31	0.25	0.29	0.29	0.08	0.24	0.24	0.17	0.16	0.00
Intersection LOS	F											
Intersection V/C	1.022											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0	0	82	0	0	87	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	115	0	126	124	171	0	0	186	109
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	31	0	33	33	45	0	0	49	29
Total Analysis Volume [veh/h]	0	0	0	122	0	134	132	182	0	0	198	116
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	597	683	696	737
Degree of Utilization, x	0.00	0.37	0.45	0.43

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	1.74	2.35	2.14
95th-Percentile Queue Length [ft]	0.00	43.56	58.78	53.59
Approach Delay [s/veh]	0.00	11.40	12.36	11.47
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	11.77			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	7	0	0	0	0	92	0	7	98	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	3	73	3	1	0	1	291	25	27	219	6
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	1	21	1	0	0	0	82	7	8	62	2
Total Analysis Volume [veh/h]	39	3	82	3	1	0	1	327	28	30	246	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	16.69	16.62	12.12	16.91	14.91	9.70	7.75	0.00	0.00	8.07	0.00	0.00
Movement LOS	C	C	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.88	0.88	0.88	0.04	0.04	0.04	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	22.03	22.03	22.03	0.95	0.95	0.95	0.06	0.06	0.06	1.72	1.72	1.72
d_A, Approach Delay [s/veh]	13.66			16.41			0.02			0.86		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.62											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.575

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	98	143	0	0	109	11	18	0	84	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	791	1	0	480	56	94	0	239	1	3	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	214	0	0	130	15	25	0	65	0	1	0
Total Analysis Volume [veh/h]	236	857	1	0	520	61	102	0	259	1	3	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.25	0.25	0.00	0.17	0.17	0.06	0.00	0.21	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.575											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	45	23	69	41	128	125	36	8	15	23	68
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	233	403	381	315	306	304	350	1431	101	265	1294	179
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	106	100	83	80	80	92	375	26	70	339	47
Total Analysis Volume [veh/h]	244	423	400	331	321	319	367	1502	106	278	1358	188
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.12	0.07	0.10	0.19	0.19	0.22	0.32	0.32	0.16	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.829											

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Saturday E.vistro

Scenario 5 Build-Out (Year 2040) Without Project

Report File: G:\...\BO SAT.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.446	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.499	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Right	0.670	-	B
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.504	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.841	-	D
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.500	12.1	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.003	17.3	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	EB Right	0.618	-	B
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	WB Thru	0.818	-	D

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	110	4	1	116	1	1	0	4	4	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	1603	22	9	1599	62	32	16	28	19	20	14
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	407	6	2	406	16	8	4	7	5	5	4
Total Analysis Volume [veh/h]	44	1629	22	9	1625	63	33	16	28	19	20	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.32	0.32	0.01	0.33	0.33	0.02	0.03	0.03	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.446											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	115	4	1	121	2	2	1	4	4	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1394	47	26	1564	92	81	50	28	45	35	20
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	368	12	7	413	24	21	13	7	12	9	5
Total Analysis Volume [veh/h]	57	1474	50	27	1653	97	86	53	30	48	37	21
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.30	0.30	0.02	0.34	0.34	0.05	0.03	0.02	0.03	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.499											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	101	28	0	0	0	0	0	0	98
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	8	-8	0	0	0	0	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1346	71	259	1470	30	28	9	14	76	14	244
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	353	19	68	386	8	7	2	4	20	4	64
Total Analysis Volume [veh/h]	0	1414	75	272	1544	32	29	9	15	80	15	256
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.29	0.29	0.16	0.31	0.31	0.02	0.03	0.03	0.05	0.06	0.15
Intersection LOS	B											
Intersection V/C	0.670											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	0	28	0	0	8	0	0	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	1359	59	14	1532	19	43	17	105	38	12	16
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	354	15	4	399	5	11	4	27	10	3	4
Total Analysis Volume [veh/h]	84	1414	61	15	1594	20	45	18	109	40	12	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.29	0.29	0.01	0.32	0.32	0.03	0.04	0.06	0.02	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.504											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	3	83	26	2	0	0	82	1	80	78	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	888	273	584	868	118	118	620	297	323	704	568
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	228	70	150	223	30	30	159	76	83	181	146
Total Analysis Volume [veh/h]	339	913	281	600	892	121	121	637	305	332	724	584
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.23	0.23	0.18	0.20	0.20	0.07	0.18	0.18	0.20	0.14	0.00
Intersection LOS	D											
Intersection V/C	0.841											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	12	0	1	1	100	0	0	97	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	103	0	99	110	223	0	0	230	83
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	27	0	26	29	59	0	0	61	22
Total Analysis Volume [veh/h]	0	0	0	110	0	106	117	238	0	0	245	88
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	590	664	710	735
Degree of Utilization, x	0.00	0.33	0.50	0.45

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.00	1.41	2.82	2.37
95th-Percentile Queue Length [ft]	0.00	35.28	70.61	59.24
Approach Delay [s/veh]	0.00	11.02	13.05	11.88
Approach LOS	A	B	B	B
Intersection Delay [s/veh]	12.13			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	112	0	8	109	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1	52	1	0	5	3	301	25	33	298	3
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	14	0	0	1	1	79	7	9	78	1
Total Analysis Volume [veh/h]	26	1	55	1	0	5	3	317	26	35	313	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	17.25	16.92	11.38	17.33	15.83	10.02	7.90	0.00	0.00	8.05	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.56	0.56	0.56	0.03	0.03	0.03	0.01	0.01	0.01	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	14.05	14.05	14.05	0.78	0.78	0.78	0.18	0.18	0.18	2.09	2.09	2.09
d_A, Approach Delay [s/veh]	13.31			11.24			0.07			0.80		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.86											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.618

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	106	147	0	0	139	15	17	0	107	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	605	4	1	568	80	92	0	257	4	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	165	1	0	155	22	25	0	70	1	0	0
Total Analysis Volume [veh/h]	225	661	4	1	621	87	101	0	281	4	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.20	0.20	0.00	0.21	0.21	0.06	0.00	0.22	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.618											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

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	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	49	19	78	48	145	149	31	11	18	26	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	213	310	194	312	337	339	385	1154	146	256	1144	165
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	80	50	80	87	87	99	298	38	66	295	43
Total Analysis Volume [veh/h]	220	320	200	322	348	350	397	1191	151	264	1181	170
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.00	0.09	0.21	0.21	0.23	0.26	0.26	0.16	0.26	0.26
Intersection LOS	D											
Intersection V/C	0.818											

BUILD-OUT (YEAR 2040) WITH PROJECT

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Weekday E.vistro

Scenario 6 Build-Out (Year 2040) With Project

Report File: G:\...\BOP PM.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.653	-	B
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.675	-	B
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Thru	0.779	-	C
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.669	-	B
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	1.023	-	F
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.572	13.8	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.010	17.3	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	NB Thru	0.579	-	A
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	EB Right	0.831	-	D
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.019	11.0	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

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	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	24	1595	15	10	1880	48	55	24	18	10	19	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	95	4	0	111	0	0	0	3	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	2089	23	13	2461	60	69	30	26	16	24	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	550	6	3	648	16	18	8	7	4	6	2
Total Analysis Volume [veh/h]	36	2199	24	14	2591	63	73	32	27	17	25	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.44	0.44	0.01	0.52	0.52	0.04	0.03	0.03	0.01	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.653											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.675

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	56	1461	29	19	1759	96	84	66	18	20	30	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	102	4	0	116	1	1	1	5	3	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1928	40	24	2315	121	106	84	28	28	39	34
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	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	497	10	6	597	31	27	22	7	7	10	9
Total Analysis Volume [veh/h]	76	1988	41	25	2387	125	109	87	29	29	40	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.40	0.40	0.01	0.49	0.49	0.06	0.05	0.02	0.02	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.675											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1460	59	114	1759	21	13	3	15	50	5	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	96	28	0	0	0	0	0	0	92
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	18	-18	0	0	0	0	0	0	18
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1843	74	257	2209	26	16	4	19	63	6	260
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	487	20	68	584	7	4	1	5	17	2	69
Total Analysis Volume [veh/h]	0	1948	78	272	2335	27	17	4	20	67	6	275
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.40	0.40	0.16	0.46	0.46	0.01	0.02	0.02	0.04	0.04	0.16
Intersection LOS	C											
Intersection V/C	0.779											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.669

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	61	1502	58	17	1761	25	20	8	57	46	5	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	16	0	28	0	0	7	0	3	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-18	18	0	0	0	0	0	0	17	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1878	107	21	2229	31	25	17	71	78	13	18
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	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	505	29	6	599	8	7	5	19	21	3	5
Total Analysis Volume [veh/h]	82	2019	115	23	2397	33	27	18	76	84	14	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.42	0.42	0.01	0.48	0.48	0.02	0.03	0.04	0.05	0.02	0.02
Intersection LOS	B											
Intersection V/C	0.669											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.023

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	293	961	186	625	1050	75	98	576	321	162	583	603
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	70	30	1	0	2	71	1	71	70	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	368	1207	303	811	1314	94	125	791	402	274	799	780
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	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	316	79	212	344	25	33	207	105	72	209	204
Total Analysis Volume [veh/h]	385	1264	317	849	1376	98	131	828	421	287	837	817
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.31	0.31	0.25	0.29	0.29	0.08	0.24	0.24	0.17	0.16	0.00
Intersection LOS	F											
Intersection V/C	1.023											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	84	0	101	99	71	0	0	79	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	1	10	2	0	0	82	14	2	87	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	0	0	0	18	0	0	0
Existing Site Adjustment Volume [veh/h]	38	5	5	0	3	0	0	0	27	4	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	5	6	115	5	126	124	171	59	6	186	109
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	2	31	1	33	33	45	16	2	49	29
Total Analysis Volume [veh/h]	65	5	6	122	5	134	132	182	63	6	198	116
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	550	625	659	668
Degree of Utilization, x	0.14	0.42	0.57	0.48

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.48	2.06	3.64	2.60
95th-Percentile Queue Length [ft]	11.92	51.53	90.98	64.98
Approach Delay [s/veh]	10.59	12.84	15.52	13.23
Approach LOS	B	B	C	B
Intersection Delay [s/veh]	13.77			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	28	2	53	2	1	0	1	159	20	16	97	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	93	0	11	100	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	3	74	3	1	0	1	292	25	31	221	6
Peak Hour Factor	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890	0.8890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	1	21	1	0	0	0	82	7	9	62	2
Total Analysis Volume [veh/h]	39	3	83	3	1	0	1	328	28	35	249	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	17.01	16.92	12.20	17.26	15.15	9.73	7.75	0.00	0.00	8.08	0.00	0.00
Movement LOS	C	C	B	C	C	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.90	0.90	0.90	0.04	0.04	0.04	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	22.58	22.58	22.58	0.98	0.98	0.98	0.06	0.06	0.06	1.98	1.98	1.98
d_A, Approach Delay [s/veh]	13.81			16.73			0.02			0.97		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.68											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	96	518	1	0	297	36	61	0	124	1	2	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	100	143	0	0	109	15	19	0	85	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	791	1	0	480	60	95	0	240	1	3	1
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	214	0	0	130	16	26	0	65	0	1	0
Total Analysis Volume [veh/h]	238	857	1	0	520	65	103	0	260	1	3	1
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.25	0.25	0.00	0.17	0.17	0.06	0.00	0.21	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.579											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	180	286	286	197	212	141	180	1116	74	200	1017	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	47	23	69	42	128	125	37	9	15	29	68
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	405	381	315	307	304	350	1432	102	265	1300	179
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	106	100	83	81	80	92	376	27	70	341	47
Total Analysis Volume [veh/h]	247	425	400	331	322	319	367	1503	107	278	1364	188
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.13	0.07	0.10	0.19	0.19	0.22	0.32	0.32	0.16	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.831											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	83	37	0	0	0
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 Rate	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	7	7	4	1	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	18	0	0	0	0	17
Existing Site Adjustment Volume [veh/h]	29	0	0	7	10	38
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	111	53	11	11	58
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	30	14	3	3	16
Total Analysis Volume [veh/h]	68	120	57	12	12	63
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	0.04	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	10.95	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft/ln]	3.21	3.21	0.00	0.00	6.65	6.65
d_A, Approach Delay [s/veh]	2.70		0.00		9.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.62					
Intersection LOS	B					

18181 Imperial Highway In-N-Out

Vistro File: G:\...\Saturday E.vistro

Scenario 6 Build-Out (Year 2040) With Project

Report File: G:\...\BOP SAT.pdf

2/13/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Imperial Hwy (NS) at Casa Loma Ave (EW)	Signalized	ICU 1	SB Thru	0.449	-	A
2	Imperial Hwy (NS) at Eureka Ave (EW)	Signalized	ICU 1	SB Thru	0.501	-	A
3	Imperial Hwy (NS) at Lemon Dr (EW)	Signalized	ICU 1	SB Right	0.678	-	B
4	Imperial Hwy (NS) at Olinda St (EW)	Signalized	ICU 1	SB Right	0.503	-	A
5	Imperial Hwy (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	NB Thru	0.841	-	D
6	Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)	All-way stop	HCM 6th Edition	EB Thru	0.617	14.3	B
7	Olinda St (NS) at Lemon Dr (EW)	Two-way stop	HCM 6th Edition	SB Left	0.003	17.6	C
8	Lakeview Ave (NS) at Lemon Dr (EW)	Signalized	ICU 1	EB Right	0.619	-	B
9	Lakeview Ave (NS) at Yorba Linda Blvd (EW)	Signalized	ICU 1	WB Right	0.821	-	D
10	Olinda St (NS) at Project Dwy (EW)	Two-way stop	HCM 6th Edition	EB Left	0.020	11.4	B

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

Intersection Level Of Service Report
Intersection 1: Imperial Hwy (NS) at Casa Loma Ave (EW)

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	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	222.00	100.00	100.00	150.00	100.00	100.00	124.00	100.00	100.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Casa Loma Ave			Casa Loma Ave		
Base Volume Input [veh/h]	31	1194	14	6	1186	49	25	13	19	12	16	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	106	4	1	128	1	1	0	5	5	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	1599	22	9	1611	62	32	16	29	20	20	14
Peak Hour Factor	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840	0.9840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	406	6	2	409	16	8	4	7	5	5	4
Total Analysis Volume [veh/h]	44	1625	22	9	1637	63	33	16	29	20	20	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.32	0.32	0.01	0.33	0.33	0.02	0.03	0.03	0.01	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.449											

Intersection Level Of Service Report
Intersection 2: Imperial Hwy (NS) at Eureka Ave (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	216.00	100.00	100.00	220.00	100.00	100.00	40.00	100.00	100.00	46.00	100.00	100.00
Speed [mph]	45.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Eureka Ave			Eureka Ave		
Base Volume Input [veh/h]	40	1023	34	20	1154	72	63	39	19	33	27	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	111	4	1	135	2	2	1	7	5	1	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	1390	47	26	1578	92	81	50	31	46	35	20
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	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	367	12	7	417	24	21	13	8	12	9	5
Total Analysis Volume [veh/h]	56	1469	50	27	1668	97	86	53	33	49	37	21
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.30	0.30	0.02	0.35	0.35	0.05	0.03	0.02	0.03	0.02	0.01
Intersection LOS	A											
Intersection V/C	0.501											

Intersection Level Of Service Report
Intersection 3: Imperial Hwy (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	1057	57	120	1160	24	22	7	11	61	11	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	119	28	0	0	0	0	0	0	93
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	8	-8	0	0	0	0	0	0	6
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1346	71	277	1470	30	28	9	14	76	14	239
Peak Hour Factor	1.0000	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	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	353	19	73	386	8	7	2	4	20	4	63
Total Analysis Volume [veh/h]	0	1414	75	291	1544	32	29	9	15	80	15	251
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.29	0.29	0.17	0.31	0.31	0.02	0.03	0.03	0.05	0.06	0.15
Intersection LOS	B											
Intersection V/C	0.678											

Intersection Level Of Service Report
Intersection 4: Imperial Hwy (NS) at Olinda St (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
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 Pocket	1	0	0	1	0	0	0	0	0	1	0	0
Pocket Length [ft]	152.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	54.00	100.00	100.00
Speed [mph]	45.00			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Olinda St			Olinda St		
Base Volume Input [veh/h]	65	1067	47	11	1203	15	34	7	84	30	3	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	22	0	28	0	0	8	0	-6	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	-7	7	0	0	0	0	0	0	5	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	1352	88	14	1532	19	43	17	105	37	12	16
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	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	352	23	4	399	5	11	4	27	10	3	4
Total Analysis Volume [veh/h]	84	1407	92	15	1594	20	45	18	109	39	12	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.29	0.29	0.01	0.32	0.32	0.03	0.04	0.06	0.02	0.02	0.02
Intersection LOS	A											
Intersection V/C	0.503											

Intersection Level Of Service Report
Intersection 5: Imperial Hwy (NS) at Yorba Linda Blvd (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

Intersection Setup

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	1	0	0	1	0	0	1	0	0	1	0	2
Pocket Length [ft]	276.00	100.00	100.00	168.00	100.00	100.00	130.00	100.00	100.00	100.00	100.00	307.00
Speed [mph]	60.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Hwy			Imperial Hwy			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	263	708	152	446	693	94	94	430	237	194	501	437
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	11	83	23	0	-1	3	82	1	80	78	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	896	273	581	866	117	121	620	297	323	704	579
Peak Hour Factor	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	230	70	149	223	30	31	159	76	83	181	149
Total Analysis Volume [veh/h]	339	921	281	597	890	120	124	637	305	332	724	595
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.24	0.24	0.18	0.20	0.20	0.07	0.18	0.18	0.20	0.14	0.00
Intersection LOS	D											
Intersection V/C	0.841											

Intersection Level Of Service Report**Intersection 6: Project Dwy/Plumosa Dr (NS) at Lemon Dr (EW)**

Control Type:	All-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Project Dwy			Plumosa Dr			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	0	0	0	73	0	78	87	98	0	0	106	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-5	-1	-1	12	3	1	1	100	18	3	97	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	6	0	0	0	0	0	0	0	8	0	0	0
Existing Site Adjustment Volume [veh/h]	42	6	6	0	4	0	0	0	34	5	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	5	5	103	7	99	110	223	60	8	230	83
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	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	1	1	27	2	26	29	59	16	2	61	22
Total Analysis Volume [veh/h]	46	5	5	110	7	106	117	238	64	9	245	88
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	547	615	680	678
Degree of Utilization, x	0.10	0.36	0.62	0.50

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.34	1.65	4.27	2.85
95th-Percentile Queue Length [ft]	8.51	41.34	106.74	71.37
Approach Delay [s/veh]	10.33	12.16	16.45	13.57
Approach LOS	B	B	C	B
Intersection Delay [s/veh]	14.25			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Olinda St (NS) at Lemon Dr (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
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 Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Olinda St			Dwy			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	20	1	35	1	0	4	2	151	20	20	151	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	6	0	0	0	0	111	0	13	112	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	1	50	1	0	5	3	300	25	38	301	3
Peak Hour Factor	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510	0.9510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	13	0	0	1	1	79	7	10	79	1
Total Analysis Volume [veh/h]	26	1	53	1	0	5	3	315	26	40	317	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	17.51	17.16	11.38	17.55	16.06	10.05	7.91	0.00	0.00	8.06	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.56	0.56	0.56	0.03	0.03	0.03	0.01	0.01	0.01	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	13.93	13.93	13.93	0.79	0.79	0.79	0.18	0.18	0.18	2.41	2.41	2.41
d_A, Approach Delay [s/veh]	13.44			11.30			0.07			0.90		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.88											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 8: Lakeview Ave (NS) at Lemon Dr (EW)

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
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 Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	90.00	100.00	100.00	81.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Lemon Dr			Lemon Dr		
Base Volume Input [veh/h]	80	366	3	1	343	52	60	0	120	3	1	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 Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	109	147	0	0	139	20	15	0	106	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	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	605	4	1	568	85	90	0	256	4	1	0
Peak Hour Factor	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	165	1	0	155	23	25	0	70	1	0	0
Total Analysis Volume [veh/h]	228	661	4	1	621	93	98	0	280	4	1	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.20	0.20	0.00	0.21	0.21	0.06	0.00	0.22	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.619											

Intersection Level Of Service Report**Intersection 9: Lakeview Ave (NS) at Yorba Linda Blvd (EW)**

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	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
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 Pocket	2	0	1	2	0	0	1	0	0	1	0	0
Pocket Length [ft]	78.00	100.00	78.00	100.00	100.00	100.00	103.00	100.00	100.00	192.00	100.00	100.00
Speed [mph]	35.00			35.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Lakeview Ave			Lakeview Ave			Yorba Linda Blvd			Yorba Linda Blvd		
Base Volume Input [veh/h]	163	209	140	187	231	155	189	898	108	190	894	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	52	19	78	47	145	149	29	10	18	34	80
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	216	313	194	312	336	339	385	1152	145	256	1152	165
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	81	50	80	87	87	99	297	37	66	297	43
Total Analysis Volume [veh/h]	223	323	200	322	347	350	397	1189	150	264	1189	170
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.10	0.00	0.09	0.21	0.21	0.23	0.26	0.26	0.16	0.27	0.27
Intersection LOS	D											
Intersection V/C	0.821											

Intersection Level Of Service Report
Intersection 10: Olinda St (NS) at Project Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Olinda St		Olinda St		Project Dwy	
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 Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Olinda St		Olinda St		Project Dwy	
Base Volume Input [veh/h]	0	65	46	0	0	0
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 Rate	1.25	1.25	1.25	1.25	1.25	1.25
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	8	8	5	-2	-6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	7	0	0	0	0	5
Existing Site Adjustment Volume [veh/h]	35	0	0	9	11	46
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	89	66	14	9	45
Peak Hour Factor	0.7820	0.7820	0.7820	0.7820	0.7820	0.7820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	28	21	4	3	14
Total Analysis Volume [veh/h]	82	114	84	18	12	58
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	0.06	0.00	0.00	0.00	0.02	0.06
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	0.00	11.44	9.10
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	3.36	3.36	0.00	0.00	6.54	6.54
d_A, Approach Delay [s/veh]	3.16		0.00		9.50	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.49					
Intersection LOS	B					

APPENDIX E

OFF-SITE QUEUING ANALYSIS WORKSHEETS

ALTERNATIVE A

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	75	133	154	347	332	232	268	333	342	135
Average Queue (ft)	24	56	72	150	126	93	179	78	30	18
95th Queue (ft)	60	112	128	318	283	207	260	262	160	72
Link Distance (ft)	121	162	162	494	494	494		410	410	410
Upstream Blk Time (%)		0	0						0	
Queuing Penalty (veh)		1	1						0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							15	0		
Queuing Penalty (veh)							91	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	87	66	167	79	139	158	159	161	54	176	166	168
Average Queue (ft)	36	33	69	26	55	124	83	53	13	59	59	44
95th Queue (ft)	74	60	136	70	104	181	172	135	34	117	120	117
Link Distance (ft)	123	123	201			134	134	134		494	494	494
Upstream Blk Time (%)	0		0		1	9	3	2				
Queuing Penalty (veh)	0		0		0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			17	4	1	9				0		
Queuing Penalty (veh)			5	2	7	5				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	152	74	67	115
Average Queue (ft)	50	5	35	56
95th Queue (ft)	127	33	55	90
Link Distance (ft)	162	205	97	142
Upstream Blk Time (%)	0		0	0
Queuing Penalty (veh)	0		0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Opening Year (2021) With Project Weekday PM

Alt A
03/07/2020

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	7	78	94	30
Average Queue (ft)	0	10	37	2
95th Queue (ft)	4	45	61	15
Link Distance (ft)	205	158	121	114
Upstream Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	56	31	20
Average Queue (ft)	29	4	1
95th Queue (ft)	50	22	8
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	L	T	T	T	R
Maximum Queue (ft)	129	88	92	108	88	109	134	329	308	274	11
Average Queue (ft)	47	47	44	42	30	43	43	221	133	69	1
95th Queue (ft)	99	89	86	90	74	92	99	372	273	178	6
Link Distance (ft)	335	72		410	410	410		293	293	293	293
Upstream Blk Time (%)		7						6	1	1	
Queuing Penalty (veh)		0						0	0	0	
Storage Bay Dist (ft)			130				110				
Storage Blk Time (%)				0			0	14			
Queuing Penalty (veh)				0			2	6			

Network Summary

Network wide Queuing Penalty: 121

Queuing and Blocking Report
Opening Year (2021) With Project Saturday MD

Alt A
03/07/2020

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	87	145	120	296	258	176	268	341	283	167
Average Queue (ft)	30	52	55	146	116	78	172	105	62	29
95th Queue (ft)	69	108	95	275	220	159	268	250	171	95
Link Distance (ft)	121	162	162	494	494	494		410	410	410
Upstream Blk Time (%)		0	0					0		
Queuing Penalty (veh)		1	0					0		
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							7	1		
Queuing Penalty (veh)							28	2		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	119	84	104	75	112	149	117	108	42	143	134	143
Average Queue (ft)	52	38	28	19	49	99	39	27	8	73	70	49
95th Queue (ft)	101	68	73	55	101	170	97	74	28	125	126	114
Link Distance (ft)	123	123	201			134	134	134		494	494	494
Upstream Blk Time (%)	1				0	4	0	0				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			3	2	0	4						
Queuing Penalty (veh)			1	1	1	2						

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	154	52	75	114
Average Queue (ft)	45	4	29	52
95th Queue (ft)	118	23	61	93
Link Distance (ft)	162	205	97	142
Upstream Blk Time (%)	0		0	0
Queuing Penalty (veh)	1		0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Opening Year (2021) With Project Saturday MD

Alt A
03/07/2020

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	68	53	37
Average Queue (ft)	13	30	5
95th Queue (ft)	48	45	24
Link Distance (ft)	158	121	114
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	55	31
Average Queue (ft)	26	4
95th Queue (ft)	48	21
Link Distance (ft)	136	201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	186	88	132	279	290	264	20	134	285	190	54	7
Average Queue (ft)	61	41	44	75	71	70	1	49	138	67	14	0
95th Queue (ft)	127	80	93	220	207	185	12	107	255	155	39	4
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		7							0			
Queuing Penalty (veh)		0							0			
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)				4		1		1	9			
Queuing Penalty (veh)				2		0		3	5			

Network Summary

Network wide Queuing Penalty: 46

Queuing and Blocking Report
Build-out Year (2040) With Project Weekday PM

Alt A
03/07/2020

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	94	132	173	436	418	363	270	411	327	194
Average Queue (ft)	29	56	94	228	211	176	207	142	55	28
95th Queue (ft)	70	110	162	446	418	348	291	385	238	106
Link Distance (ft)	121	162	162	494	494	494		410	410	410
Upstream Blk Time (%)			2	0				0	0	
Queuing Penalty (veh)			4	0				2	1	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							27	0		
Queuing Penalty (veh)							202	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	104	88	168	79	139	161	163	155	84	190	203	197
Average Queue (ft)	35	41	76	39	68	144	112	93	16	86	86	77
95th Queue (ft)	78	80	138	87	125	170	190	176	50	152	161	158
Link Distance (ft)	123	123	201				134	134	134		494	494
Upstream Blk Time (%)	0				1	14	6	4				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			23	2	1	14				0		
Queuing Penalty (veh)			7	1	7	11				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	170	52	79	157
Average Queue (ft)	65	5	34	80
95th Queue (ft)	163	28	63	145
Link Distance (ft)	162	205	97	142
Upstream Blk Time (%)	0		0	2
Queuing Penalty (veh)	1		0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Build-out Year (2040) With Project Weekday PM

Alt A
03/07/2020

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	65	79	30
Average Queue (ft)	12	39	6
95th Queue (ft)	42	67	24
Link Distance (ft)	158	121	114
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	54	39
Average Queue (ft)	31	5
95th Queue (ft)	50	24
Link Distance (ft)	136	201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	152	94	122	156	157	257	20	134	322	308	313	11
Average Queue (ft)	71	59	57	67	68	83	1	54	280	215	145	1
95th Queue (ft)	138	96	107	132	137	178	10	115	371	337	282	7
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		12				0			12	2	0	
Queuing Penalty (veh)		0				0			0	0	0	
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	1		1			21			
Queuing Penalty (veh)			4	0		0			11			

Network Summary

Network wide Queuing Penalty: 254

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	96	138	145	399	349	249	265	374	358	238
Average Queue (ft)	37	65	68	220	191	133	181	168	127	71
95th Queue (ft)	76	116	123	373	331	230	267	334	286	163
Link Distance (ft)	121	162	162	494	494	494		410	410	410
Upstream Blk Time (%)		0	0					0	0	
Queuing Penalty (veh)		0	0					1	0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							10	1		
Queuing Penalty (veh)							48	3		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	116	89	89	77	142	167	145	157	41	206	204	187
Average Queue (ft)	48	44	30	26	65	124	62	47	10	100	102	91
95th Queue (ft)	92	78	70	66	121	184	137	123	30	168	174	166
Link Distance (ft)	123	123	201			134	134	134		494	494	494
Upstream Blk Time (%)	1				1	7	1	1				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			2	4	1	7				0		
Queuing Penalty (veh)			1	1	5	5				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	168	30	71	137
Average Queue (ft)	70	3	28	61
95th Queue (ft)	155	16	56	111
Link Distance (ft)	162	205	97	142
Upstream Blk Time (%)	0		0	1
Queuing Penalty (veh)	1		0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	17	66	62	30
Average Queue (ft)	1	9	32	5
95th Queue (ft)	10	37	55	24
Link Distance (ft)	205	158	121	114
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	48	38	9
Average Queue (ft)	27	4	0
95th Queue (ft)	48	23	5
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	208	88	209	352	324	315	10	135	313	278	172	12
Average Queue (ft)	83	47	67	89	92	94	1	59	202	115	39	1
95th Queue (ft)	169	83	149	263	261	231	8	116	341	227	112	6
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		8		0	0	0			3	0		
Queuing Penalty (veh)		0		2	2	2			0	0		
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	4		3		1	15			
Queuing Penalty (veh)			0	3		0		5	10			

Network Summary

Network wide Queuing Penalty: 89

ALTERNATIVE B

Queuing and Blocking Report
Opening Year (2021) With Project Weekday PM

Alt B
03/07/2020

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	65	132	139	306	302	256	267	321	271	110
Average Queue (ft)	24	51	62	114	106	79	169	55	33	14
95th Queue (ft)	54	98	107	272	258	201	249	219	161	63
Link Distance (ft)	121	163	163	483	483	483		410	410	410
Upstream Blk Time (%)			0					0	0	
Queuing Penalty (veh)			0					1	0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							9	0		
Queuing Penalty (veh)							54	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	96	91	153	79	124	164	150	149	48	125	149	142
Average Queue (ft)	32	37	70	31	50	129	75	53	11	59	60	41
95th Queue (ft)	76	67	133	77	99	187	154	127	33	110	113	104
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)		0	0		1	8	2	2				
Queuing Penalty (veh)		0	0		0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			18	4	1	8						
Queuing Penalty (veh)			5	3	5	5						

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	160	76	105	49	80
Average Queue (ft)	90	26	52	22	45
95th Queue (ft)	149	54	82	42	72
Link Distance (ft)	163	163	205	84	142
Upstream Blk Time (%)	0			0	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
Opening Year (2021) With Project Weekday PM

Alt B
03/07/2020

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	70	76	20
Average Queue (ft)	13	40	2
95th Queue (ft)	48	64	13
Link Distance (ft)	158	121	114
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	62	46	10
Average Queue (ft)	30	5	0
95th Queue (ft)	53	25	6
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	116	94	91	112	115	111	20	97	308	293	263	14
Average Queue (ft)	49	42	39	40	34	39	1	41	223	145	73	1
95th Queue (ft)	96	83	77	90	85	87	10	90	367	284	194	7
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		7							6	2	0	
Queuing Penalty (veh)		0							0	0	0	
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	0		0		0	15			
Queuing Penalty (veh)			0	0		0		3	7			

Network Summary

Network wide Queuing Penalty: 84

Queuing and Blocking Report
Opening Year (2021) With Project Saturday MD

Alt B
03/07/2020

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	87	139	115	296	281	190	256	357	282	120
Average Queue (ft)	34	52	54	149	125	76	161	109	60	25
95th Queue (ft)	74	107	85	270	238	157	251	267	166	72
Link Distance (ft)	121	163	163	483	483	483		410	410	410
Upstream Blk Time (%)		1						0	0	
Queuing Penalty (veh)		1						0	0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							7	0		
Queuing Penalty (veh)							30	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	110	78	89	68	113	159	129	108	50	142	148	128
Average Queue (ft)	44	39	27	21	50	95	41	25	7	71	69	56
95th Queue (ft)	91	66	65	51	97	170	102	72	29	126	127	122
Link Distance (ft)	123	123	201				134	134	134		483	483
Upstream Blk Time (%)	0					3	0	0				
Queuing Penalty (veh)	0					0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			4	1		3						
Queuing Penalty (veh)			1	0		2						

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	165	90	100	48	78
Average Queue (ft)	105	28	50	20	41
95th Queue (ft)	163	61	80	35	69
Link Distance (ft)	163	163	205	84	142
Upstream Blk Time (%)	0	0			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	38	60	30
Average Queue (ft)	7	28	3
95th Queue (ft)	30	50	18
Link Distance (ft)	158	121	114
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	54	46
Average Queue (ft)	27	6
95th Queue (ft)	49	26
Link Distance (ft)	136	201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	159	88	169	304	286	286	20	134	292	200	88	12
Average Queue (ft)	64	41	46	74	75	77	1	50	128	62	19	1
95th Queue (ft)	132	80	100	218	212	191	12	102	256	152	58	6
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		8		0	0	0			1			
Queuing Penalty (veh)		0		2	0	0			0			
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			1	4		2		3	8			
Queuing Penalty (veh)			3	3		0		10	4			

Network Summary

Network wide Queuing Penalty: 58

Queuing and Blocking Report
Build-out Year (2040) With Project Weekday PM

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Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	87	145	168	424	405	350	270	413	411	214
Average Queue (ft)	28	62	102	215	198	162	203	123	56	28
95th Queue (ft)	66	121	172	418	380	316	278	350	242	115
Link Distance (ft)	121	163	163	483	483	483		410	410	410
Upstream Blk Time (%)		0	3	0	0			0	0	
Queuing Penalty (veh)		0	5	0	0			3	1	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							24	1		
Queuing Penalty (veh)							182	2		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	109	107	162	79	140	183	173	149	68	184	207	204
Average Queue (ft)	40	44	64	30	65	140	106	80	15	81	86	74
95th Queue (ft)	93	80	128	78	116	190	186	168	45	145	153	157
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	0	0			1	12	5	4				
Queuing Penalty (veh)	0	0			0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			17	4	1	12				0		
Queuing Penalty (veh)			5	3	7	10				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	159	60	151	49	143
Average Queue (ft)	118	27	66	23	63
95th Queue (ft)	167	52	115	41	116
Link Distance (ft)	163	163	205	84	142
Upstream Blk Time (%)	0		0		1
Queuing Penalty (veh)	1		0		0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

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Build-out Year (2040) With Project Weekday PM

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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	6	70	68	30
Average Queue (ft)	0	11	38	4
95th Queue (ft)	0	41	60	20
Link Distance (ft)	205	158	121	114
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	56	39
Average Queue (ft)	30	4
95th Queue (ft)	51	23
Link Distance (ft)	136	201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	L	T	T	T	R
Maximum Queue (ft)	144	88	124	141	160	180	135	338	318	308	14
Average Queue (ft)	71	54	53	70	75	77	59	284	203	131	2
95th Queue (ft)	131	93	103	134	140	149	122	395	341	261	8
Link Distance (ft)	335	72		410	410	410		293	293	293	293
Upstream Blk Time (%)		9						13	2	1	
Queuing Penalty (veh)		0						0	0	0	
Storage Bay Dist (ft)			130				110				
Storage Blk Time (%)			0	1		1	1	21			
Queuing Penalty (veh)			2	1		0	7	11			

Network Summary

Network wide Queuing Penalty: 239

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	101	147	158	374	331	227	267	381	386	301
Average Queue (ft)	38	73	69	188	167	113	190	192	160	95
95th Queue (ft)	84	131	117	341	302	214	293	391	352	231
Link Distance (ft)	121	163	163	483	483	483		410	410	410
Upstream Blk Time (%)	0	0	0					1	0	0
Queuing Penalty (veh)	0	0	0					6	2	0
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							15	2		
Queuing Penalty (veh)							73	6		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	123	117	125	75	133	162	149	149	42	212	236	202
Average Queue (ft)	47	46	38	24	57	120	69	48	11	93	94	85
95th Queue (ft)	93	83	93	60	109	189	146	117	32	165	177	171
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	0	0			1	7	1	1				
Queuing Penalty (veh)	0	0			0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			5	2	1	7				0		
Queuing Penalty (veh)			2	1	3	6				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	164	68	117	56	80
Average Queue (ft)	114	27	59	22	48
95th Queue (ft)	171	54	95	42	76
Link Distance (ft)	163	163	205	84	142
Upstream Blk Time (%)	0			0	
Queuing Penalty (veh)	1			0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	16	81	73	30
Average Queue (ft)	1	17	34	5
95th Queue (ft)	7	54	59	23
Link Distance (ft)	205	158	121	114
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	55	47	9
Average Queue (ft)	24	4	0
95th Queue (ft)	47	24	5
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	209	88	165	357	319	287	20	135	308	298	219	12
Average Queue (ft)	85	45	70	102	101	105	1	62	219	128	55	1
95th Queue (ft)	168	85	149	275	259	233	10	123	361	268	145	5
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		7							5	0		
Queuing Penalty (veh)		0							0	0		
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			1	4		3		1	18			
Queuing Penalty (veh)			4	3		0		6	12			

Network Summary

Network wide Queuing Penalty: 124

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Opening Year (2021) With Project Weekday PM

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Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	58	103	155	339	328	256	268	358	243	78
Average Queue (ft)	28	46	84	130	115	90	178	76	27	13
95th Queue (ft)	54	93	148	307	270	213	264	264	135	42
Link Distance (ft)	121	162	162	483	483	483		410	410	410
Upstream Blk Time (%)			1					0	0	
Queuing Penalty (veh)			2					0	0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							14	0		
Queuing Penalty (veh)							84	0		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	109	95	124	79	128	168	157	149	50	168	142	124
Average Queue (ft)	37	34	54	28	56	130	92	56	13	54	53	41
95th Queue (ft)	84	71	103	74	106	186	179	135	35	118	111	100
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	0				0	9	4	2				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			12	2	0	9				0		
Queuing Penalty (veh)			3	1	2	6				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	95	156	131	64	83
Average Queue (ft)	46	78	57	31	49
95th Queue (ft)	81	141	94	56	79
Link Distance (ft)	162	162	205	91	136
Upstream Blk Time (%)		0		0	
Queuing Penalty (veh)		0		0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	10	84	68	30
Average Queue (ft)	0	11	34	5
95th Queue (ft)	6	49	57	22
Link Distance (ft)	205	158	121	113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	70	31	9
Average Queue (ft)	29	5	0
95th Queue (ft)	54	24	5
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	114	88	96	118	111	117	10	134	308	281	246	13
Average Queue (ft)	51	43	43	43	34	47	0	50	201	132	68	1
95th Queue (ft)	100	80	92	94	83	99	6	112	355	281	195	6
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		7							7	2	0	
Queuing Penalty (veh)		0							0	0	0	
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	0		0		1	14			
Queuing Penalty (veh)			0	0		0		5	6			

Network Summary

Network wide Queuing Penalty: 110

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	84	125	120	276	236	186	253	368	280	121
Average Queue (ft)	30	64	57	154	127	85	165	112	69	36
95th Queue (ft)	71	112	95	265	227	160	251	274	181	88
Link Distance (ft)	121	162	162	483	483	483		410	410	410
Upstream Blk Time (%)		0	0					0	0	
Queuing Penalty (veh)		0	0					2	0	
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							7	1		
Queuing Penalty (veh)							28	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	114	84	111	79	132	150	148	111	76	157	163	154
Average Queue (ft)	47	38	29	21	54	94	38	25	8	69	66	48
95th Queue (ft)	91	68	73	58	111	168	95	69	42	131	136	122
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	1	0			1	3	0	0				
Queuing Penalty (veh)	0	0			0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			2	3	1	3				0		
Queuing Penalty (veh)			1	1	3	2				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	86	153	99	60	87
Average Queue (ft)	39	83	52	26	42
95th Queue (ft)	71	141	79	52	70
Link Distance (ft)	162	162	205	91	136
Upstream Blk Time (%)		0			0
Queuing Penalty (veh)		0			0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	7	71	69	30
Average Queue (ft)	0	12	30	5
95th Queue (ft)	4	50	53	23
Link Distance (ft)	205	158	121	113
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	55	54	15
Average Queue (ft)	28	6	1
95th Queue (ft)	48	29	8
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	170	89	158	287	272	238	22	130	302	223	130	9
Average Queue (ft)	59	44	51	79	78	72	1	51	141	67	20	1
95th Queue (ft)	123	84	124	222	214	180	10	106	280	169	70	4
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		7							1			
Queuing Penalty (veh)		0							0			
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	3		1		1	8			
Queuing Penalty (veh)			1	2		0		5	4			

Network Summary

Network wide Queuing Penalty: 50

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Build-out Year (2040) With Project Weekday PM

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Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	99	132	167	385	354	322	270	427	432	318
Average Queue (ft)	36	60	94	182	173	144	206	144	91	37
95th Queue (ft)	78	110	161	374	351	296	290	397	323	148
Link Distance (ft)	121	162	162	483	483	483		410	410	410
Upstream Blk Time (%)	0		2					1	0	0
Queuing Penalty (veh)	0		3					6	1	0
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							25	0		
Queuing Penalty (veh)							186	1		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	107	81	136	79	125	164	169	169	64	173	245	187
Average Queue (ft)	42	37	67	35	64	141	115	92	22	84	91	78
95th Queue (ft)	90	73	122	85	114	176	189	177	53	147	176	151
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	0				0	13	8	5				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			18	2	0	13				0		
Queuing Penalty (veh)			6	2	2	10				0		

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	129	152	106	64	112
Average Queue (ft)	53	87	60	31	54
95th Queue (ft)	101	144	92	58	91
Link Distance (ft)	162	162	205	91	136
Upstream Blk Time (%)	0	0		0	1
Queuing Penalty (veh)	0	0		0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
Build-out Year (2040) With Project Weekday PM

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Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	90	75	30
Average Queue (ft)	18	38	3
95th Queue (ft)	60	62	18
Link Distance (ft)	158	121	113
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	55	54
Average Queue (ft)	30	10
95th Queue (ft)	47	37
Link Distance (ft)	136	201
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	218	88	121	154	157	171	25	134	335	323	287	21
Average Queue (ft)	80	56	43	66	70	74	1	56	276	207	121	2
95th Queue (ft)	156	94	93	130	144	151	9	122	386	342	241	12
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		14							13	1	0	
Queuing Penalty (veh)		0							0	0	0	
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			1	1		1		2	20			
Queuing Penalty (veh)			4	1		0		20	11			

Network Summary

Network wide Queuing Penalty: 253

Intersection: 3: Imperial Highway & Lemon Dr

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LT	R	T	T	TR	L	T	T	TR
Maximum Queue (ft)	95	139	163	443	386	344	270	425	412	311
Average Queue (ft)	33	67	83	218	184	130	208	205	161	94
95th Queue (ft)	75	120	156	405	351	260	300	401	349	233
Link Distance (ft)	121	162	162	483	483	483		410	410	410
Upstream Blk Time (%)	0		2	0	0			1	0	0
Queuing Penalty (veh)	0		4	2	0			5	1	0
Storage Bay Dist (ft)							190			
Storage Blk Time (%)							18	2		
Queuing Penalty (veh)							90	6		

Intersection: 4: Imperial Highway & Olinda St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	L	TR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	101	77	91	75	122	163	142	144	63	189	178	163
Average Queue (ft)	45	40	32	25	58	118	62	42	12	84	97	77
95th Queue (ft)	91	73	72	65	104	183	134	104	40	149	162	151
Link Distance (ft)	123	123	201			134	134	134		483	483	483
Upstream Blk Time (%)	0				0	7	1	0				
Queuing Penalty (veh)	0				0	0	0	0				
Storage Bay Dist (ft)				54	152				190			
Storage Blk Time (%)			4	4	0	7						
Queuing Penalty (veh)			1	1	0	5						

Intersection: 6: Project Dwy/Plumosa Dr & Lemon Dr

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	127	154	179	62	115
Average Queue (ft)	47	93	73	30	55
95th Queue (ft)	86	150	136	47	96
Link Distance (ft)	162	162	205	91	136
Upstream Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	2	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Olinda St/Dwy & Lemon Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	121	54	30
Average Queue (ft)	2	21	34	6
95th Queue (ft)	20	73	50	26
Link Distance (ft)	205	158	121	113
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Olinda St & Project Dwy

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	55	39	9
Average Queue (ft)	29	4	0
95th Queue (ft)	45	21	5
Link Distance (ft)	136	201	121
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Imperial Highway & Lemon

Movement	EB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	T	R	L	T	T	T	R
Maximum Queue (ft)	217	88	141	376	379	372	19	134	308	255	164	12
Average Queue (ft)	86	48	65	102	108	112	2	54	207	119	39	1
95th Queue (ft)	170	88	120	296	301	275	13	119	346	242	111	7
Link Distance (ft)	335	72		410	410	410			293	293	293	293
Upstream Blk Time (%)		8		2	1	2			3	0		
Queuing Penalty (veh)		0		9	5	9			0	0		
Storage Bay Dist (ft)			130				150	110				
Storage Blk Time (%)			0	6		4		1	15			
Queuing Penalty (veh)			0	4		0		6	10			

Network Summary

Network wide Queuing Penalty: 162

APPENDIX F

MULTI-WAY STOP EVALUATION

Multi-Way Stop Evaluation

Jurisdiction: City of Yorba Linda
 Intersection: Plumosa Drive at Lemon Drive
 Major Street: Lemon Drive
 Minor Street: Plumosa Drive

Date: 12/18/2019
 By: _____
 Critical Speed: 25 mph
 Critical Speed: 25 mph

Highest 8-Hour Volumes by Major Street

Rank	Hour	Major Street (Both Approaches)	Minor Street (Both Approaches)		
		Vehicles	Vehicles	Bike + Ped	Total
1	5:00 PM	364	136	3	139
2	4:00 PM	357	155	16	171
3	2:00 PM	353	190	4	194
4	3:00 PM	332	167	6	173
5	12:00 PM	322	164	7	171
6	6:00 PM	308	113	2	115
7	1:00 PM	301	127	2	129
8	11:00 AM	254	122	6	128
Average		324			153

Highest 8-Hour Volumes by Minor Street

Rank	Hour	Major Street (Both Approaches)	Minor Street (Both Approaches)		
		Vehicles	Vehicles	Bike + Ped	Total
1	2:00 PM	353	190	4	194
2	3:00 PM	332	167	6	173
3	12:00 PM	322	164	7	171
4	4:00 PM	357	155	16	171
5	7:00 AM	166	141	0	141
6	5:00 PM	364	136	3	139
7	1:00 PM	301	127	2	129
8	11:00 AM	254	122	6	128
Average		306			156

Number of crashes in 12-month period susceptible to correction by installation of a multi-way stop control:

0

Minor street peak hour delay (seconds/vehicle):

8.9

Criteria (Source: CA MUTCD, Section 2B.07)

Satisfied?

Yes No

CONDITION A

Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

X

CONDITION B

Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

X

CONDITION C

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

X

X

X

X

CONDITION D

Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

X

Multi-Way Stop Evaluation

Jurisdiction: City of Yorba Linda
 Intersection: Plumosa Drive at Lemon Drive
 Major Street: Lemon Drive
 Minor Street: Plumosa Drive

Date: 12/18/2019
 By: _____
 Critical Speed: 25 mph
 Critical Speed: 25 mph

Highest 8-Hour Volumes by Major Street

Rank	Hour	Major Street (Both Approaches)	Minor Street (Both Approaches)		
		Vehicles	Vehicles	Bike + Ped	Total
1	5:00 PM	364	255	3	258
2	4:00 PM	357	274	16	290
3	2:00 PM	353	309	4	313
4	3:00 PM	332	286	6	292
5	12:00 PM	322	283	7	290
6	6:00 PM	308	232	2	234
7	1:00 PM	301	246	2	248
8	11:00 AM	254	241	6	247
Average		324			272

Highest 8-Hour Volumes by Minor Street

Rank	Hour	Major Street (Both Approaches)	Minor Street (Both Approaches)		
		Vehicles	Vehicles	Bike + Ped	Total
1	2:00 PM	353	309	4	313
2	3:00 PM	332	286	6	292
3	12:00 PM	322	283	7	290
4	4:00 PM	357	274	16	290
5	5:00 PM	364	255	3	258
6	1:00 PM	301	246	2	248
7	11:00 AM	254	241	6	247
8	6:00 PM	308	232	2	234
Average		324			272

Number of crashes in 12-month period susceptible to correction by installation of a multi-way stop control:

0

Minor street peak hour delay (seconds/vehicle):

9.6

Criteria (Source: CA MUTCD, Section 2B.07)

Satisfied?
 Yes No

CONDITION A

Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

X

CONDITION B

Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

X

CONDITION C

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

X

X

X

X

CONDITION D

Where no single criterion is satisfied, but where Criteria B, C.1 and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

X

Notes:

(1) Additional In-N-Out trips were projected at 119 additional trips per hour based on 2,864 daily trips over 12 hours and 50% utilizing the NB approach at the Plumosa/Lemon driveway.

ADT Plumosa north of Lemon.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	0	3	0	0	12:00	0	38	0	0
0:15	0	1	0	0	12:15	0	45	0	0
0:30	0	0	0	0	12:30	0	32	0	0
0:45	0	0	2	6	0	0	49	164	0
1:00	0	1	0	0	12:45	0	0	0	0
1:15	0	0	0	0	13:00	0	45	0	0
1:30	0	0	0	0	13:15	0	26	0	0
1:45	0	0	0	0	13:30	0	34	0	0
2:00	0	0	0	0	13:45	0	22	127	0
2:15	0	0	0	0	14:00	0	31	0	0
2:30	0	1	0	0	14:15	0	74	0	0
2:45	0	0	0	0	14:30	0	39	0	0
3:00	0	0	0	0	14:45	0	46	190	0
3:15	0	0	0	0	15:00	0	37	0	0
3:30	0	2	0	0	15:15	0	42	0	0
3:45	0	0	0	0	15:30	0	42	0	0
4:00	0	0	0	0	15:45	0	46	167	0
4:15	0	2	0	0	16:00	0	29	0	0
4:30	0	2	0	0	16:15	0	43	0	0
4:45	0	8	0	0	16:30	0	45	0	0
5:00	0	7	19	0	16:45	0	38	155	0
5:15	0	0	0	0	17:00	0	40	0	0
5:30	0	0	0	0	17:15	0	29	0	0
5:45	0	14	0	0	17:30	0	40	0	0
6:00	0	14	41	0	17:45	0	27	136	0
6:15	0	11	0	0	18:00	0	23	0	0
6:30	0	10	0	0	18:15	0	35	0	0
6:45	0	21	0	0	18:30	0	28	0	0
7:00	0	20	62	0	18:45	0	27	113	0
7:15	0	34	0	0	19:00	0	27	0	0
7:30	0	27	0	0	19:15	0	30	0	0
7:45	0	47	0	0	19:30	0	24	0	0
8:00	0	33	141	0	19:45	0	25	106	0
8:15	0	20	0	0	20:00	0	33	0	0
8:30	0	25	0	0	20:15	0	18	0	0
8:45	0	25	0	0	20:30	0	19	0	0
9:00	0	27	97	0	20:45	0	18	88	0
9:15	0	25	0	0	21:00	0	16	0	0
9:30	0	25	0	0	21:15	0	7	0	0
9:45	0	32	0	0	21:30	0	8	0	0
10:00	0	24	106	0	21:45	0	13	44	0
10:15	0	31	0	0	22:00	0	8	0	0
10:30	0	24	0	0	22:15	0	2	0	0
10:45	0	19	0	0	22:30	0	3	0	0
11:00	0	17	91	0	22:45	0	4	17	0
11:15	0	31	0	0	23:00	0	3	0	0
11:30	0	27	0	0	23:15	0	4	0	0
11:45	0	30	0	0	23:30	0	0	0	0
	0	34	122	0	23:45	0	0	7	0
Total Vol.		691		691		1314		1314	

Daily Totals				
NB	SB	EB	WB	Combined
2005				
2005				
AM		PM		
Split %	100.0%	34.5%	100.0%	65.5%
Peak Hour	11:45	11:45	14:15	14:15
Volume	149	149	196	196
P.H.F.	0.83	0.83	0.66	0.66

ADT Lemon west of Plumosa.**Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
0:00	0	0	2	0	12:00	0	0	40	0
0:15	0	0	0	0	12:15	0	0	32	0
0:30	0	0	1	0	12:30	0	0	44	0
0:45	0	0	1	4	12:45	0	0	41	157
1:00	0	0	1	0	13:00	0	0	33	0
1:15	0	0	0	0	13:15	0	0	32	0
1:30	0	0	0	0	13:30	0	0	36	0
1:45	0	0	5	6	13:45	0	0	47	148
2:00	0	0	0	0	14:00	0	0	41	0
2:15	0	0	0	0	14:15	0	0	50	0
2:30	0	0	0	0	14:30	0	0	55	0
2:45	0	0	1	1	14:45	0	0	33	179
3:00	0	0	0	0	15:00	0	0	46	0
3:15	0	0	0	0	15:15	0	0	43	0
3:30	0	0	0	0	15:30	0	0	33	0
3:45	0	0	0	0	15:45	0	0	58	180
4:00	0	0	0	0	16:00	0	0	43	0
4:15	0	0	1	0	16:15	0	0	40	0
4:30	0	0	0	0	16:30	0	0	44	0
4:45	0	0	1	2	16:45	0	0	45	172
5:00	0	0	0	0	17:00	0	0	58	0
5:15	0	0	3	0	17:15	0	0	44	0
5:30	0	0	3	0	17:30	0	0	37	0
5:45	0	0	5	11	17:45	0	0	37	176
6:00	0	0	1	0	18:00	0	0	32	0
6:15	0	0	12	0	18:15	0	0	42	0
6:30	0	0	11	0	18:30	0	0	37	0
6:45	0	0	7	31	18:45	0	0	41	152
7:00	0	0	13	0	19:00	0	0	31	0
7:15	0	0	20	0	19:15	0	0	26	0
7:30	0	0	23	0	19:30	0	0	17	0
7:45	0	0	26	82	19:45	0	0	20	94
8:00	0	0	29	0	20:00	0	0	20	0
8:15	0	0	18	0	20:15	0	0	21	0
8:30	0	0	20	0	20:30	0	0	18	0
8:45	0	0	25	92	20:45	0	0	10	69
9:00	0	0	17	0	21:00	0	0	18	0
9:15	0	0	29	0	21:15	0	0	14	0
9:30	0	0	31	0	21:30	0	0	15	0
9:45	0	0	41	118	21:45	0	0	11	58
10:00	0	0	28	0	22:00	0	0	5	0
10:15	0	0	38	0	22:15	0	0	6	0
10:30	0	0	19	0	22:30	0	0	3	0
10:45	0	0	41	126	22:45	0	0	5	19
11:00	0	0	34	0	23:00	0	0	7	0
11:15	0	0	23	0	23:15	0	0	2	0
11:30	0	0	40	0	23:30	0	0	2	0
11:45	0	0	30	127	23:45	0	0	2	13
Total Vol.			600		600			1417	1417

Daily Totals

NB	SB	EB	WB	Combined
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2017

2017

AM**PM**

Split %	100.0%	29.7%	100.0%	70.3%
Peak Hour	11:45	11:45	13:45	13:45
Volume	146	146	193	193
P.H.F.	0.83	0.83	0.88	0.88

ADT Lemon east of Plumosa.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB		EB		WB		PM Period		NB		SB		EB		WB		
0:00	0		0		0		3			12:00	0		0		0		42		
0:15	0		0		0		1			12:15	0		0		0		39		
0:30	0		0		0		3			12:30	0		0		0		39		
0:45	0	0	0	0	0	0	4	11	11	12:45	0	0	0	0	0	0	45	165	
1:00	0		0		0		3			13:00	0		0		0		32		
1:15	0		0		0		0			13:15	0		0		0		40		
1:30	0		0		0		0			13:30	0		0		0		38		
1:45	0	0	0	0	0	0	0	3	3	13:45	0	0	0	0	0	0	43	153	
2:00	0		0		0		0			14:00	0		0		0		49		
2:15	0		0		0		0			14:15	0		0		0		43		
2:30	0		0		0		0			14:30	0		0		0		40		
2:45	0	0	0	0	0	0	1	1	1	14:45	0	0	0	0	0	0	42	174	
3:00	0		0		0		0			15:00	0		0		0		42		
3:15	0		0		0		0			15:15	0		0		0		46		
3:30	0		0		0		0			15:30	0		0		0		23		
3:45	0	0	0	0	0	0	0	0		15:45	0	0	0	0	0	0	41	152	
4:00	0		0		0		0			16:00	0		0		0		44		
4:15	0		0		0		5			16:15	0		0		0		44		
4:30	0		0		0		3			16:30	0		0		0		52		
4:45	0	0	0	0	0	0	0	8	8	16:45	0	0	0	0	0	0	45	185	
5:00	0		0		0		0			17:00	0		0		0		50		
5:15	0		0		0		2			17:15	0		0		0		43		
5:30	0		0		0		2			17:30	0		0		0		50		
5:45	0	0	0	0	0	0	1	5	5	17:45	0	0	0	0	0	0	45	188	
6:00	0		0		0		0			18:00	0		0		0		53		
6:15	0		0		0		3			18:15	0		0		0		38		
6:30	0		0		0		9			18:30	0		0		0		31		
6:45	0	0	0	0	0	0	11	23	23	18:45	0	0	0	0	0	0	34	156	
7:00	0		0		0		11			19:00	0		0		0		34		
7:15	0		0		0		25			19:15	0		0		0		22		
7:30	0		0		0		16			19:30	0		0		0		28		
7:45	0	0	0	0	0	0	32	84	84	19:45	0	0	0	0	0	0	27	111	
8:00	0		0		0		26			20:00	0		0		0		25		
8:15	0		0		0		24			20:15	0		0		0		21		
8:30	0		0		0		18			20:30	0		0		0		23		
8:45	0	0	0	0	0	0	24	92	92	20:45	0	0	0	0	0	0	13	82	
9:00	0		0		0		19			21:00	0		0		0		24		
9:15	0		0		0		35			21:15	0		0		0		26		
9:30	0		0		0		28			21:30	0		0		0		11		
9:45	0	0	0	0	0	0	22	104	104	21:45	0	0	0	0	0	0	12	73	
10:00	0		0		0		34			22:00	0		0		0		8		
10:15	0		0		0		31			22:15	0		0		0		13		
10:30	0		0		0		22			22:30	0		0		0		7		
10:45	0	0	0	0	0	0	40	127	127	22:45	0	0	0	0	0	0	8	36	
11:00	0		0		0		27			23:00	0		0		0		5		
11:15	0		0		0		30			23:15	0		0		0		4		
11:30	0		0		0		38			23:30	0		0		0		4		
11:45	0	0	0	0	0	0	32	127	127	23:45	0	0	0	0	0	0	3	16	
Total Vol.								585	585									1491	1491

Daily Totals				
NB	SB	EB	WB	Combined
			2076	2076

AM				PM			
Split %	100.0%	28.2%		100.0%	71.8%		
Peak Hour	11:45	11:45		16:15	16:15		
Volume	152	152		191	191		
P.H.F.	0.90	0.90		0.92	0.92		

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

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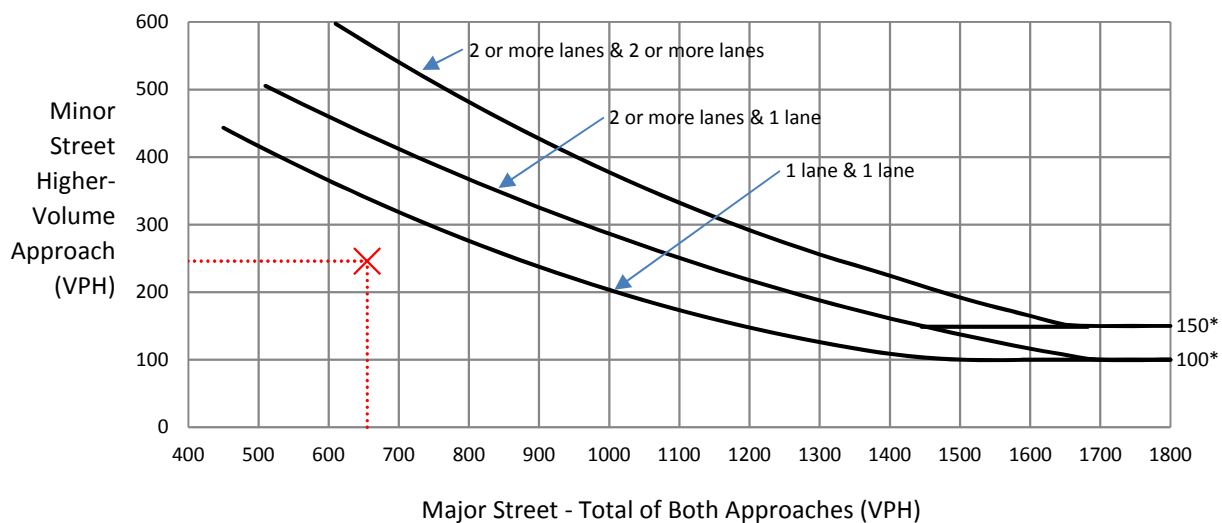
[illegible]

Figure F-1

**Plumosa Drive (NS) / Lemon Drive (EW) - #6
Build-Out (2040) With Project
Weekday PM Peak Hour**

Major Street: <u>Lemon Drive</u>	Volume: <u>655</u>
Minor Street: <u>Plumosa Drive</u>	Volume: <u>246</u>

Warrant 3, Peak Hour Vehicular Volume (100% Factor)



Traffic Signal Warrant Is NOT Satisfied

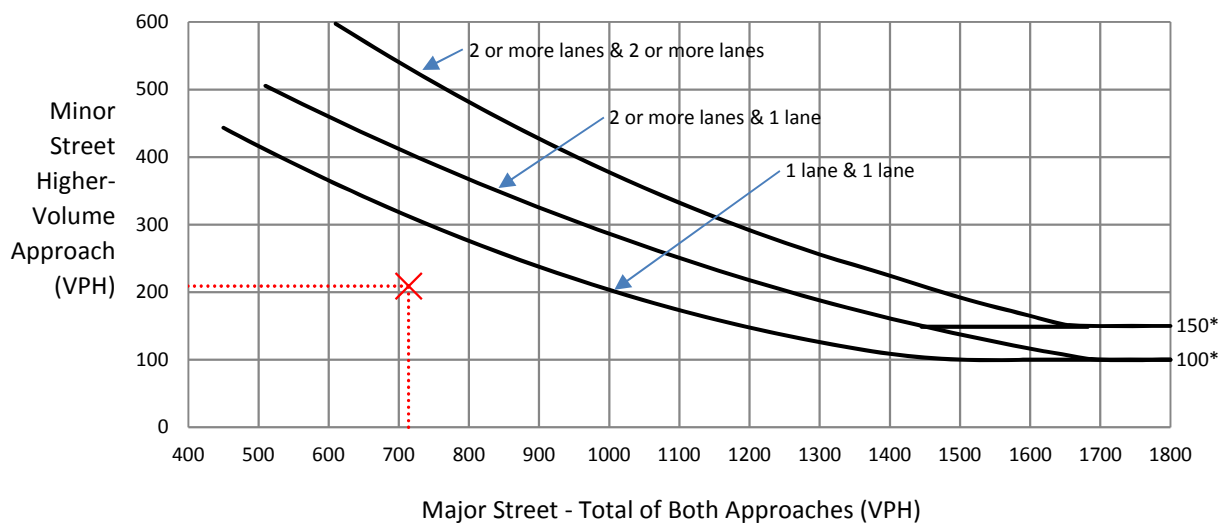
*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

Figure F-2

**Plumosa Drive (NS) / Lemon Drive (EW) - #6
Build-Out (2040) With Project
Saturday MD Peak Hour**

Major Street: <u>Lemon Drive</u>	Volume: <u>714</u>
Minor Street: <u>Plumosa Drive</u>	Volume: <u>209</u>

Warrant 3, Peak Hour Vehicular Volume (100% Factor)



Traffic Signal Warrant Is NOT Satisfied

*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

APPENDIX G

DRIVE THROUGH QUEUE SURVEY

For reference purpose, Table 12 shows the historic drive-through queue survey data at the following eight (8) existing In-N-Out sites in Los Angeles County and Northern California where the weekday PM data is readily available:

1. Millbrae – 11 Rollins Road, Millbrae, CA
2. Redwood City – 949 Veterans Boulevard, Redwood City, CA
3. San Carlos – 445 Industrial Road, San Carlos, CA
4. Rocklin – 5490 Crossings Drive, Rocklin, CA
5. Vacaville – 170 Nut Tree Parkway, Vacaville, CA
6. Fairfield – 1364 Holiday Lane, Fairfield, CA
7. Long Beach – 6391 East Pacific Coast Highway, Long Beach, CA
8. Los Angeles – 9149 South Sepulveda Boulevard, Los Angeles, CA

As shown in Table 12, the historic drive-through queue data from other 8 In-N-Out sites are consistent to the three Orange County sites. Please note that only the weekday PM data is available for these other 8 locations. These other survey sites also have the newer design configuration similar to the proposed project which has larger indoor dining room in comparison to the older design of In-N-Out restaurants that may only have outdoor dining tables.

Table 12 – Other Comparable In-N-Out Drive-Through Lane Queue Observations

Day	Time	Observed ¹ Drive-Through Queue											Average Queue
		Santa Ana	Costa Mesa	Orange	Millbrae	Redwood City	San Carlos	Rocklin	Vacaville	Fairfield	Long Beach	Los Angeles	
Weekday PM	4:00 - 4:15 PM	17	9	8	13	14	17	5	11	5	6	17	11
	4:15 - 4:30 PM	14	8	9	14	16	16	8	14	8	5	15	12
	4:30 - 4:45 PM	12	11	13	15	16	16	7	16	9	3	12	12
	4:45 - 5:00 PM	15	9	12	14	15	16	6	17	16	6	10	12
	5:00 - 5:15 PM	11	8	15	13	14	16	8	13	17	5	9	12
	5:15 - 5:30 PM	5	10	10	15	14	16	9	11	16	7	14	12
	5:30 - 5:45 PM	12	13	9	16	15	17	11	13	8	7	17	13
	5:45 - 6:00 PM	8	15	8	15	15	17	12	18	17	5	19	14
	Peak Queue	17	15	15	16	16	17	12	18	17	7	19	15 ²

Note:

¹ See Appendix K for survey data sheets.

² The average peak observed drive-through queue is longer than the proposed drive-through lane has a storage of 14 vehicles. Additional vehicles may queue on-site along the parking lot access aisles.

During the peak periods when the drive-through lane queue exceeds the 14-vehicle storage capacity, In-N-Out will provide personnel to take food orders at the end of the drive-thru queue to facilitate circulation and minimize the drive-thru queue. The standard operational procedure for In-N-Out is to deploy associates with handheld wireless order tablets as soon as the queue exceeds 8 vehicles at the menu board, which will help facilitate efficient movements through the queue and direct traffic as needed. The staging for the overflow drive-thru queue could be addressed by the store associates implementing traffic control measures to align the traffic to line up along the parking aisle to avoid spilling onto the street. Appendix L shows the recommended traffic control measures. "Right Turn Only" signage should be placed at the westbound exit approaches of the northerly project driveway (Intersection #13) and the southerly project driveway (Intersection #14) at Tustin Avenue, as shown in Appendix L.

The Chick-fil-A restaurant will have two drive-through lanes with a storage for 30 vehicles. The

Drive-Thru Queue Count
Saturday, June 4, 2016
In N Out 815 N Birstol St, Santa Ana
Prepared by AimTD LLC

Time	Queue
12:00-12:15	12
12:15-12:30	15
12:30-12:45	17
12:45-13:00	17
13:00-13:15	16
13:15-13:30	17
13:30-13:45	17
13:45-14:00	17

Drive-Thru Queue Count
 Tuesday, June 7, 2016
 In N Out 815 N Birstol St, Santa Ana
 Prepared by AimTD LLC

Time	Queue
11:00-11:15	8
11:15-11:30	11
11:30-11:45	13
11:45-12:00	15
12:00-12:15	17
12:15-12:30	17
12:30-12:45	12
12:45-13:00	10
16:00-16:15	17
16:15-16:30	14
16:30-16:45	12
16:45-17:00	15
17:00-17:15	11
17:15-17:30	5
17:30-17:45	12
17:45-18:00	8

Drive-Thru Queue Count
Saturday, October 22, 2016
In N Out 3211 Harbor Blvd, Costa Mesa
Prepared by AimTD LLC

Time	Queue
12:00-12:15	16
12:15-12:30	18
12:30-12:45	19
12:45-13:00	21
13:00-13:15	18
13:15-13:30	20
13:30-13:45	21
13:45-14:00	20

Drive-Thru Queue Count
 Tuesday, October 25, 2016
 In N Out 3211 Harbor Blvd, Costa Mesa
 Prepared by AimTD LLC

Time	Queue
11:00-11:15	17
11:15-11:30	18
11:30-11:45	16
11:45-12:00	20
12:00-12:15	21
12:15-12:30	19
12:30-12:45	22
12:45-13:00	21
16:00-16:15	9
16:15-16:30	8
16:30-16:45	11
16:45-17:00	9
17:00-17:15	8
17:15-17:30	10
17:30-17:45	13
17:45-18:00	15

Drive-Thru Queue Count
Saturday, October 22, 2016
In N Out 2585 N Tustin St, Orange
Prepared by AimTD LLC

Time	Queue
12:00-12:15	18
12:15-12:30	20
12:30-12:45	23
12:45-13:00	22
13:00-13:15	21
13:15-13:30	23
13:30-13:45	18
13:45-14:00	16

Drive-Thru Queue Count
Tuesday, October 25, 2016
In N Out 2585 N Tustin St, Orange
Prepared by AimTD LLC

Time	Queue
11:00-11:15	10
11:15-11:30	9
11:30-11:45	12
11:45-12:00	13
12:00-12:15	12
12:15-12:30	15
12:30-12:45	14
12:45-13:00	15
16:00-16:15	8
16:15-16:30	9
16:30-16:45	13
16:45-17:00	12
17:00-17:15	15
17:15-17:30	10
17:30-17:45	9
17:45-18:00	8



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