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MONTEREY PARK ORANGE ONTARIO SAN DIEGO

TECHNICAL MEMORANDUM

000023274

Date: March 19, 2025

To: K.C. Chang, Architect

From: Jonathan Louie, P.E. – Senior Engineer/Project Manager

Subject: Traffic Study for Proposed Church Development at Northeast Corner of Imperial Highway and Los Angeles Street in City of Yorba Linda

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KOA Corporation (A Lochner Company) prepared this technical memorandum that includes a traffic study for the proposed church project located on the northeast corner of Imperial Highway and Los Angeles Street in the City of Yorba Linda, California. The traffic study includes the items listed below, which addresses recent comments from the City of Yorba Linda related to the project.

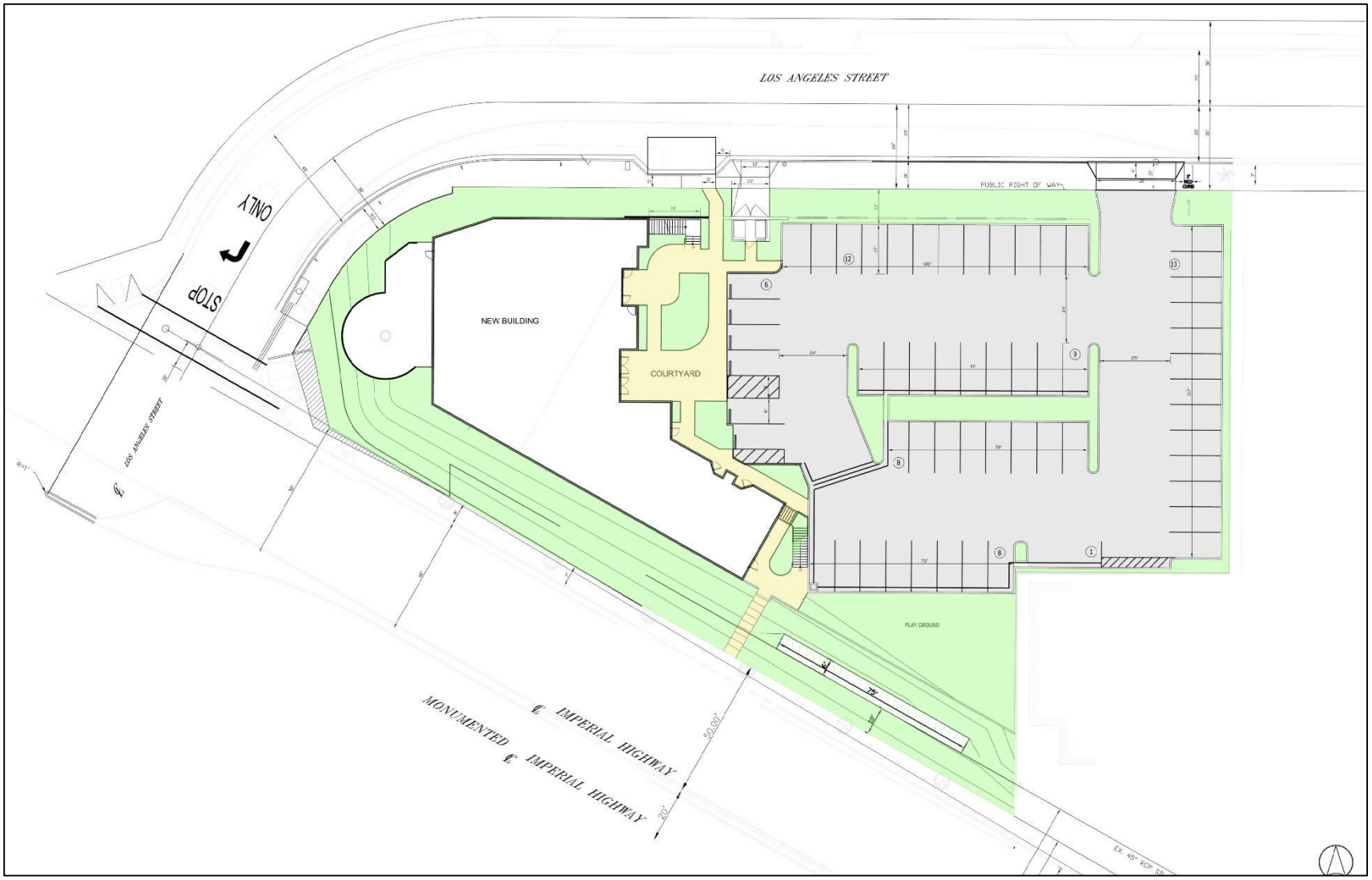
- Project trip generation analysis
- Line-of-Sight analysis at new project driveway
- Parking utilization study in area near the project site
- Traffic Management Plan (TMP)

PROJECT BACKGROUND

The City had approved a proposed 291-seat (11,107 sq. ft.) church project at the subject site in 2021. The church would like to re-apply for a Conditional Use Permit (CUP) based on a revised site plan as shown in **Figure 1**. The currently proposed project will consist of a reduced 171-seat (11,034 sq. ft.) church. The church building will have two stories and will be located on the west portion of the site. One site driveway will be located at the northeast portion of the site along Los Angeles Street. A total of 57 on-site parking stalls will be provided. The project site is currently vacant.

The church's main services will occur on Sundays. There would typically be small group gatherings (e.g., Prayer Meeting, Bible Study) of approximately 20 to 30 people on other days of the week. No special events exceeding allowable occupancy will be held on the premises at any time. Any event beyond local congregation shall be conducted at Living Stream Ministry Conference Center located at 1212 N. Hubell Way in the City of Anaheim with which the church is affiliated.

Figure 1 – Project Site Plan



TRIP GENERATION ANALYSIS

The trip generation for the currently proposed project was estimated based on trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The ITE trip rates for land use category 560 – Church were used. As peak activity for the proposed church is anticipated to occur on Sundays, the trip rates for Sunday are applicable. The Sunday trip rates based on both the number of seats and square footage are shown in **Tables 1** and **2**, respectively.

Table 1 - Sunday Project Trip Generation based on Seating Capacity

ITE Code	ITE Trip Rate [1]		Daily (2-Way)	Peak Hour [2]		
				In	Out	Total
560	Church	Trips/Seat	2.21	49%	51%	0.51
Trip Generation						
Church		171 Seats	378	43	44	87

[1] *Source: Institute of Transportation Engineers Trip Generation, 11th Edition*

[2] *The trip rates are based on peak hour of generator.*

Table 2 - Sunday Project Trip Generation based on Gross Floor Area

ITE Code	ITE Trip Rate [1]		Daily (2-Way)	Peak Hour [2]		
				In	Out	Total
560	Church	Trips/1,000 sq. ft.	31.46	48%	52%	10.36
Trip Generation						
Church		11,034 sq. ft.	347	55	59	114

[1] *Source: Institute of Transportation Engineers Trip Generation, 11th Edition*

[2] *The trip rates are based on peak hour of generator.*

As shown in **Table 1**, the trip generation based on the number of seats of the proposed church is approximately 378 Sunday daily trips including 87 Sunday peak hour trips (43 inbound and 44 outbound). As shown in **Table 2**, the trip generation based on square footage of the proposed church is approximately 347 Sunday daily trips including 114 Sunday peak hour trips (55 inbound and 59 outbound). In order to be conservative, the higher of the daily trips and peak hour trips from **Tables 1** and **2** were assumed. Therefore, the currently proposed project is anticipated to generate approximately 378 Sunday daily trips including 114 Sunday peak hour trips (55 inbound and 59 outbound).

It should be noted that a Traffic Impact Analysis (TIA) dated November 15, 2017, for a previously proposed 291-seat (11,107 sq. ft.) church project at the subject site was approved by the City. The 2017 TIA report is provided in **Attachment B**. Subsequently, the previously proposed project was approved by the City in 2021. According to that approved TIA, the previously approved church project would generate approximately 538 Sunday daily trips including 178 Sunday peak hour trips (89 inbound and 89 outbound). **Table 3** displays the comparison between trips generated by the previously approved project and the currently proposed project.

Table 3 – Sunday Trip Generation Comparison of Previously Approved Project and Currently Proposed Project

Project Comparison	Daily (2-Way)	Peak Hour		
		In	Out	Total
Previously Approved 291-seat (11,107 sq. ft.) Church Project	538	89	89	178
Currently Proposed 171-seat (11,034 sq. ft.) Church Project	378	55	59	114
Percent Decrease	**-30%**	**-38%**	**-34%**	**-36%**

As shown in **Table 3**, the currently proposed project would result in a decrease in daily trip generation of approximately 30% on a Sunday including a decrease of 36% during the Sunday peak hour (decrease of 38% for inbound and a decrease of 34% for outbound) as compared to the previously approved project. In addition, page 36 of the approved TIA dated November 15, 2017, concluded that the previously approved project would not result in any significant traffic impacts in the surrounding area. It should be noted that all study intersections that were analyzed in the approved TIA were projected to operate at a good level of service (i.e., LOS C or better) for the future (2035) With-Project conditions. Therefore, it is concluded that the currently proposed church project would also not result in any significant traffic impacts in the surrounding area.

In addition, the weekday trip generation for the currently proposed project was also estimated based on trip rates from the ITE *Trip Generation Manual, 11th Edition*. The ITE trip rates based on the number of seats and square footage of the church are shown in **Tables 4** and **5**, respectively. As summarized in **Table 4**, the currently proposed project is estimated to generate 154 daily trips on a weekday including 12 AM peak hour trips (7 inbound and 5 outbound) and 17 PM peak hour trips (8 inbound and 9 outbound) based on number of seats. As summarized in **Table 5**, the currently proposed project is estimated to generate 84 daily trips on a weekday including 4 AM peak hour trips (2 inbound and 2 outbound) and 5 PM peak hour trips (2 inbound and 3 outbound) based on square footage of the church. As the trip generation based on number of seats is greater than the trip generation based on square footage, it is assumed that the proposed project is anticipated to generate 154 daily weekday trips including 12 AM peak hour trips (7 inbound and 5 outbound) and 17 PM peak hour trips (8 inbound and 9 outbound) based on number of seats in order to be conservative.

Table 4 - Weekday Project Trip Generation based on Seating Capacity

ITE Code	ITE Trip Rate [1]		Daily (2-Way)	AM Peak Hour [2]			PM Peak Hour [2]		
				In	Out	Total	In	Out	Total
560	Church	Trips/Seat	0.90	60%	40%	0.07	45%	55%	0.10
Trip Generation									
Church		171 Seats	154	7	5	12	8	9	17

[1] *Source: Institute of Transportation Engineers Trip Generation, 11th Edition*

[2] *The trip rates are based on the Peak Hour of Adjacent Street Traffic.*

Table 5 - Weekday Project Trip Generation based on Gross Floor Area

ITE Code	ITE Trip Rate [1]		Daily (2-Way)	AM Peak Hour [2]			PM Peak Hour [2]		
				In	Out	Total	In	Out	Total
560	Church	Trips/1,000 sq. ft.	7.60	62%	38%	0.32	44%	56%	0.49
Trip Generation									
Church		11,034 sq. ft.	84	2	2	4	2	3	5

[1] *Source: Institute of Transportation Engineers Trip Generation, 11th Edition*

[2] *The trip rates are based on the Peak Hour of Adjacent Street Traffic.*

According to the City's TIA Guidelines, developments which are forecast to generate a minimum of 50 vehicle trips per hour (total two-way) during either the AM or PM peak hours would require a LOS traffic impact analysis. **Since the proposed project would generate fewer than 50 vehicle trips per hour during both the weekday AM and PM peak hours, a traffic impact analysis for the weekday is therefore not required. For the Sunday peak hour period, the previously approved TIA concluded that the previously approved 291-seat Church project would not result in any significant traffic impact in the surrounding area. Since the currently proposed 171-seat Church is smaller than the previously approved Church project, it is concluded that the currently proposed Church project would also not result in any significant traffic impacts in the surrounding area.**

LINE OF SIGHT ANALYSIS

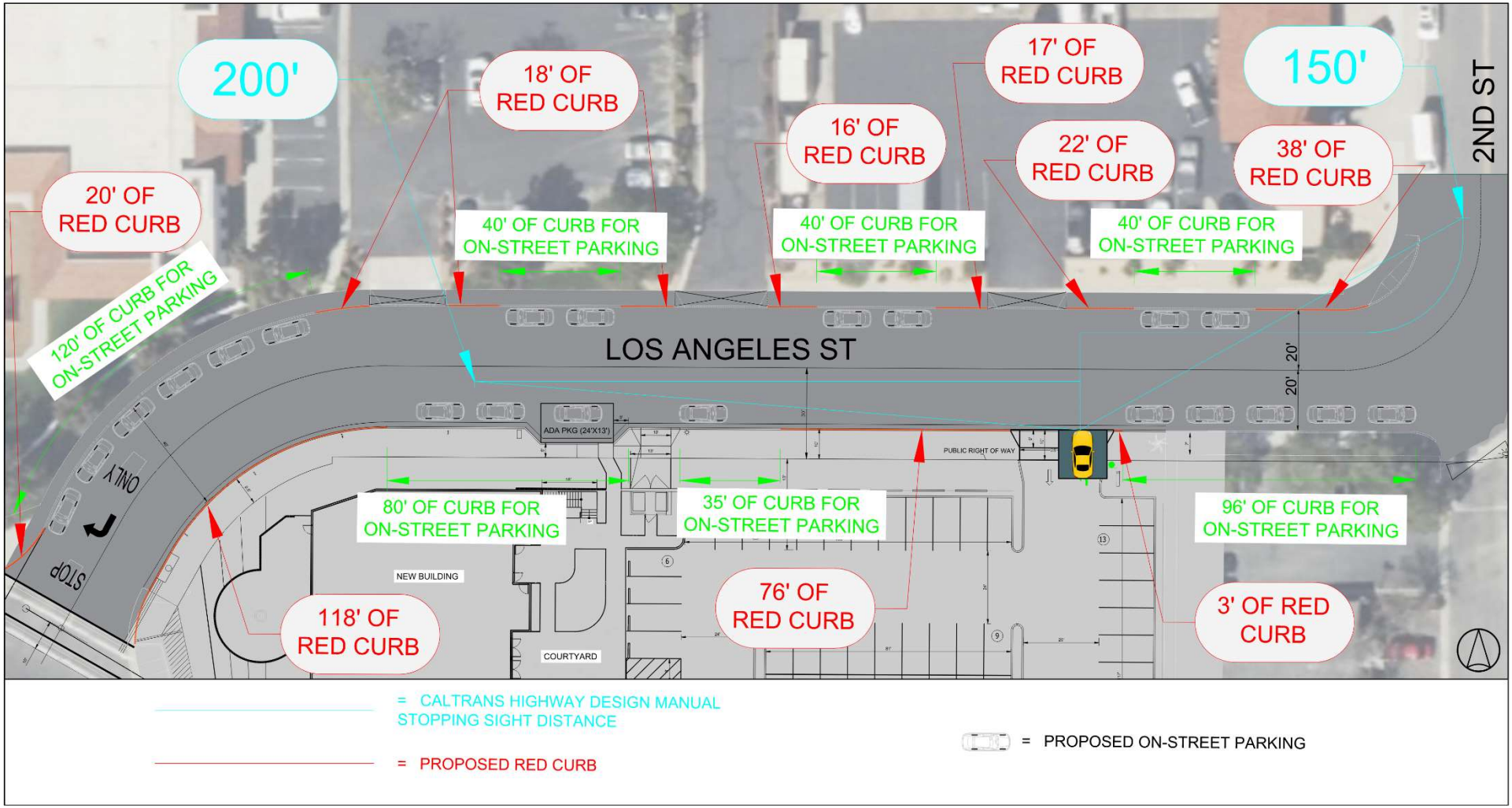
A line-of-sight analysis was conducted to determine the feasibility of vehicles turning left and right out of the project driveway onto Los Angeles Street.

The recommended stopping sight distances to the west and east of an egressing vehicle from the project driveway were determined to identify if a motorist on Los Angeles Street will have adequate visibility and sufficient time to react and stop safely. The sight distances were assessed in accordance with the stopping sight distance (SSD) criteria outlined in the Caltrans Highway Design Manual, 2020, as summarized in **Attachment A**. The recommended SSD from west of the project driveway is 200 feet based on a speed of 30 mph for the eastbound approach on Los Angeles Street, as agreed with City staff. For the westbound approach on Los Angeles Street, a slower speed of 25 mph is assumed as vehicles have to decelerate when making a 90-degree right-turn from southbound 2nd Street onto westbound Los Angeles Street located about 100 feet east of the project driveway. Therefore, the recommended SSD from east of the project driveway is 150 feet, as agreed with City staff.

Figure 2 depicts the line-of-sight analysis at the project driveway. The recommended stopping sight distance is 200 feet for eastbound and 150 feet for westbound on Los Angeles Street. A vehicle traveling westbound on Los Angeles Street will have adequate stopping sight distance assuming 3 feet of red curb is provided immediately east of the project driveway. Similarly, an eastbound vehicle traveling along Los Angeles Street will have adequate stopping sight distance from the project driveway assuming 76 feet of red curb immediately to the west of the driveway is provided. **Based on the above, vehicles traveling eastbound and westbound along Los Angeles Street will have sufficient line-of-sight to stop in time when a vehicle egresses the project driveway.**

It should be noted that there is currently an unpaved area with no curb located on the south side of Los Angeles Street adjacent to the project site. Vehicles were observed to park in this unpaved area, especially on weekdays during typical business hours in the morning and afternoon. With completion of the proposed project, the south side of Los Angeles Street would be improved with a new curb. Based on the line-of-sight analysis and as shown in **Figure 2**, a total curb length of 115 feet (80 feet plus 35 feet) along the south side of Los Angeles Street west of the project driveway can be used for on-street parallel parking, which can accommodate about four parked vehicles. Per the City's request, one ADA-compliant parking space shall be provided on the south side of Los Angeles Street adjacent to the project site. As the line-of-sight analysis shows that on-street parking would be feasible, it is recommended to allow on-street parking along the new curb section on the south side of Los Angeles Street west of the project driveway.

Figure 2 – Line-of-Sight Analysis at Project Driveway



PARKING UTILIZATION STUDY

A parking utilization study was conducted to determine the existing on-street parking conditions near the project site and to identify any parking implications the project may have in the surrounding area.

Near the project site, commercial and institutional uses are located along the north side of Los Angeles Street and the west side of 2nd Street. Residential uses are present on the east side of 2nd Street between Los Angeles Street and Marda Avenue and on both sides of 2nd Street north of Marda Avenue, as well as along both sides of Marda Avenue. On-street parking is not allowed on Imperial Highway.

The following roadway segments were selected for the parking study:

- Los Angeles Street (between Imperial Highway and 2nd Street);
- 2nd Street (between Los Angeles Street and Marda Avenue, as well as between Marda Avenue and Brooklyn Avenue); and
- Marda Avenue (between 3rd and 2nd Streets, as well as between 2nd Street and Valley View Avenue).

It should be noted that vehicles were observed to park in an unpaved dirt area with no curb on the south side of Los Angeles Street adjacent to the project site based on field observations. The unpaved dirt area has capacity for approximately 13 parked vehicles. Additionally, there is currently on-street parking that can accommodate four vehicles on the south side of Los Angeles Street immediately east of the project site. In total, the existing on-street parking capacity on the south side of Los Angeles Street between Imperial Highway and 2nd Street is 17 vehicles.

Upon completion of the project, the south side of Los Angeles Street adjacent to the project site will be reconstructed with a curb. As described previously in the Line-of-Sight Analysis section, it is recommended to provide on-street parking with a capacity of four vehicles on the south side of Los Angeles Street west of the project driveway. Also, the south side of Los Angeles Street between the project driveway and 2nd Street will have capacity for five parked vehicles with the curb improvement. There would be a total on-street parking capacity for 9 vehicles on the south side of Los Angeles Street between Imperial Highway and 2nd Street upon completion of the project, which is a reduction of 8 parked vehicles compared to the existing on-street parking capacity of 17 vehicles.

On the north side of Los Angeles Street across from the unpaved dirt area are two local businesses: Little Scholar Child Care Learning Center and Ray's Auto Care. In order to determine if the on-street parking capacity reduction on the south side of Los Angeles Street would have any parking implications on these two businesses, parking utilization counts were therefore also conducted at the Little Scholar Child Care Learning Center parking lot and the Ray's Auto Care parking lot.

The roadway segments and the two parking lots where parking counts were collected are shown in **Figure 3**. The counts were collected on Sunday, July 28, 2024 (representing a typical Sunday) and Wednesday, July 31, 2024 (representing a typical weekday). The Sunday counts were conducted from 9:00 AM to 4:00 PM to reflect the anticipated peak activity period of the proposed church. The weekday counts were conducted from 8:00 AM to 6:00 PM to reflect peak patron usage hours for the nearby businesses.

Figure 3 – Parking Count Locations

The results of the parking counts are shown in **Table 6**.

For the Little Scholars Child Care Learning Center parking lot, the maximum parking utilization is 2 vehicles on Sunday and 23 vehicles on a weekday. As the parking lot has 37 parking spaces, there is a minimum excess capacity of 14 spaces for both weekday and weekend. It is reasonable to conclude that all parking demand associated with the Learning Center are being accommodated on site.

For the Ray's Auto Care parking lot, the parking utilization is 13 vehicles throughout the Sunday count period. On the weekday, the maximum parking utilization is 23 vehicles, which is slightly below the parking lot's capacity of 26 vehicles.

Table 6 – Parking Utilization (Existing Conditions)

Hour	Off-Street Parking Lot		On-Street Parking											
	Little Scholars Child Care Learning Ctr	Ray's Auto Care	Los Angeles St (betw Imperial Hwy & 2nd St)		2nd St (betw Los Angeles St & Marda Ave)		2nd St (betw Marda Ave & Brooklyn Ave)		Marda Ave (betw 3rd St & 2nd St)		Marda Ave (betw 2nd St & Valley View Ave)		Total Parking Utilization	Total Parking Surplus
	Parking Lot	Parking Lot	South Side	North Side	West Side	East Side	West Side	East Side	North Side	South Side	North Side	South Side		
	Area A	Area B	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b		
Sunday														
9AM TO 10AM	2	13	1	0	3	3	0	5	5	4	4	9	**34**	**106**
10AM TO 11AM	2	13	0	0	3	4	0	5	5	3	5	9	**34**	**106**
11AM TO 12PM	2	13	1	0	3	4	0	6	5	3	3	9	**34**	**106**
12PM TO 1PM	2	13	1	0	3	3	0	6	5	3	6	9	**36**	**104**
1PM TO 2PM	2	13	1	0	3	3	0	6	5	4	7	8	**37**	**103**
2PM TO 3PM	2	13	1	0	2	3	0	6	6	4	5	9	**36**	**104**
3PM TO 4PM	2	13	1	0	2	3	0	5	6	5	7	9	**38**	**102**
Weekday														
8AM TO 9AM	19	23	17	0	17	26	1	4	1	5	5	6	**82**	**58**
9AM TO 10AM	23	21	16	0	14	26	2	5	2	5	4	7	**81**	**59**
10AM TO 11AM	21	19	16	0	15	25	2	4	1	4	3	9	**79**	**61**
11AM TO 12PM	21	16	16	0	15	23	2	5	1	3	3	6	**74**	**66**
12PM TO 1PM	18	21	17	0	13	25	2	4	1	3	3	4	**72**	**68**
1PM TO 2PM	20	19	16	0	15	23	2	4	1	3	4	4	**72**	**68**
2PM TO 3PM	18	17	17	0	16	25	2	5	1	4	3	4	**77**	**63**
3PM TO 4PM	23	15	7	0	15	26	2	5	3	4	3	5	**70**	**70**
4PM TO 5PM	17	11	5	0	15	21	2	4	3	4	4	6	**64**	**76**
5PM TO 6PM	14	17	3	0	7	18	1	4	3	4	4	5	**49**	**91**
Parking Capacity	**37**	**26**	**17**	**0**	**19**	**28**	**12**	**13**	**10**	**17**	**15**	**9**	**140**	

On the south side of Los Angeles Street between Imperial Highway and 2nd Street (i.e., Road Segment 1a), a maximum of one vehicle parked on Sunday. This is likely due to nearby businesses being closed on Sunday. On the weekday, there were a maximum of 17 parked vehicles. The on-street parking capacity is 13 vehicles in an unpaved dirt area located adjacent to the project site and 4 vehicles along the curb to the east of the project site, for a total capacity of 17 parked vehicles. It is important to note that the south portion of the unpaved area is located within the project site while the remaining north portion is located in the public right-of-way. While vehicles should not park in the unpaved area since it is partially in private property, there are no obstructions such as a fence that is preventing the public from parking in this area.

On 2nd Street between Los Angeles Street and Marda Avenue (i.e., Road Segments 2a and 2b), there were a maximum of seven vehicles parked on both sides of the road on Sunday. As the on-street parking capacity is a total of 47 vehicles (19 vehicles on the west side and 28 vehicles on the east side), there are 40 or more spaces available on Sunday along this road segment. On a weekday, the maximum parking utilization, which occurred from 8:00AM to 9:00AM, is 43 vehicles. Therefore, a parking capacity of at least four vehicles is available on a weekday.

For the residential streets including 2nd Street between Marda Avenue and Brooklyn Avenue and Marda Avenue between 3rd Street and Valley View Avenue (i.e., Road Segments 3a, 3b, 4a, 4b, 5a, and 5b), the maximum parking utilization is 32

vehicles, which occurred from 3:00PM to 4:00PM on Sunday. These road segments have a combined on-street parking capacity of 76 vehicles. Therefore, there is a minimum capacity of 44 spaces available.

As noted previously, the existing on-street parking capacity on the south side of Los Angeles Street between Imperial Highway and 2nd Street is 17 vehicles. With the proposed project, the on-street parking capacity at this road segment would be 9 vehicles. As requested by the City, on-street parking on the north side of Los Angeles Street is also proposed in order to re-provide on-street parking supply.

As shown previously in **Figure 2**, it is estimated that the north side of Los Angeles Street can accommodate approximately 12 parked vehicles. It should be noted that at least 10 feet of red curb should be provided on both sides of the three existing driveways located on the north side of Los Angeles Street per the City's Municipal Code, Section 18.26.090, Figure 18.26-6, Vision Triangle – Driveway, as required by City staff. In total, the on-street parking capacity on Los Angeles Street would be 21 vehicles, which is greater than the 13 existing spaces without the proposed project.

Table 7 shows the parking utilization counts compared against the parking capacity with completion of the project including the proposed on-street parking on both sides of Los Angeles Street. As shown in this table, the most critical parking utilization period occurred on a weekday from 8:00AM to 9:00AM. Thus, the parking utilization for this hourly period was compared to the parking capacity with completion of the project, as shown in the last row in **Table 7**.

The parking capacities for the parking lots and street segments are the same 'before' and 'after' the completion of the project, except on the south and north sides of Los Angeles Street. As can be seen in **Figure 2**, the south side of Los Angeles Street would have a total on-street parking capacity of 9 vehicles after completion of the project. There would be a maximum parking deficit of 8 vehicles on the south side of Los Angeles Street. However, this deficit can be absorbed via the 12 proposed on-street parking spaces on the north side of Los Angeles Street.

As described previously, the existing unpaved area on the south side of Los Angeles Street is partially within the project site. Vehicles that park in the unpaved area are parking partially in private property. Therefore, the project is not removing any existing on-street public parking supply. The project is, however, improving the south side of Los Angeles Street west of the project driveway with a new curb that will provide on-street parking for four vehicles. The south curb east of the project driveway would also be improved that would increase the parking capacity to five vehicles. In addition, a parking capacity of 12 vehicles would be provided on the north side of Los Angeles Street between Imperial Highway and 2nd Street.

Therefore, the project is not anticipated to result in any parking impacts to the nearby businesses or the residential neighborhood.

Table 7 – Parking Utilization Compared with Parking Capacity (With Project Including Curb Improvement)

Hour	Off-Street Parking Lot		On-Street Parking											
	Little Scholars Child Care Learning Ctr	Ray's Auto Care	Los Angeles St (betw Imperial Hwy & 2nd St)		2nd St (betw Los Angeles St & Marda Ave)		2nd St (betw Marda Ave & Brooklyn Ave)		Marda Ave (betw 3rd St & 2nd St)		Marda Ave (betw 2nd St & Valley View Ave)		Total Parking Utilization	Total Parking Surplus
	Parking Lot	Parking Lot	South Side	North Side	West Side	East Side	West Side	East Side	North Side	South Side	North Side	South Side		
	Area A	Area B	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b		
Sunday														
9AM TO 10AM	2	13	1	0	3	3	0	5	5	4	4	9	**34**	**110**
10AM TO 11AM	2	13	0	0	3	4	0	5	5	3	5	9	**34**	**110**
11AM TO 12PM	2	13	1	0	3	4	0	6	5	3	3	9	**34**	**110**
12PM TO 1PM	2	13	1	0	3	3	0	6	5	3	6	9	**36**	**108**
1PM TO 2PM	2	13	1	0	3	3	0	6	5	4	7	8	**37**	**107**
2PM TO 3PM	2	13	1	0	2	3	0	6	6	4	5	9	**36**	**108**
3PM TO 4PM	2	13	1	0	2	3	0	5	6	5	7	9	**38**	**106**
Weekday														
8AM TO 9AM	19	23	17	0	17	26	1	4	1	5	5	6	**82**	**62**
9AM TO 10AM	23	21	16	0	14	26	2	5	2	5	4	7	**81**	**63**
10AM TO 11AM	21	19	16	0	15	25	2	4	1	4	3	9	**79**	**65**
11AM TO 12PM	21	16	16	0	15	23	2	5	1	3	3	6	**74**	**70**
12PM TO 1PM	18	21	17	0	13	25	2	4	1	3	3	4	**72**	**72**
1PM TO 2PM	20	19	16	0	15	23	2	4	1	3	4	4	**72**	**72**
2PM TO 3PM	18	17	17	0	16	25	2	5	1	4	3	4	**77**	**67**
3PM TO 4PM	23	15	7	0	15	26	2	5	3	4	3	5	**70**	**74**
4PM TO 5PM	17	11	5	0	15	21	2	4	3	4	4	6	**64**	**80**
5PM TO 6PM	14	17	3	0	7	18	1	4	3	4	4	5	**49**	**95**
Parking Capacity	**37**	**26**	**9**	**12**	**19**	**28**	**12**	**13**	**10**	**17**	**15**	**9**	**144**	
Surplus/(Deficit) from 8AM to 9AM	**-**	**3**	**(8)**	**12**	**2**	**2**	**11**	**9**	**9**	**12**	**10**	**3**	**62**	

TRAFFIC MANAGEMENT PLAN

The church driveway is proposed to provide left-turn and right-turn access for both ingress and egress. As the project site is located adjacent to Imperial Highway, it is envisioned that most of the project traffic would head eastbound on Los Angeles Street from Imperial Highway to turn right into the site and turn left out of the site onto westbound Los Angeles Street to access Imperial Highway. However, as requested by the City, a Traffic Management Plan (TMP) has been prepared to address any concerns associated with potential church traffic through the nearby residential neighborhood.

Figure 4 shows the recommended conceptual TMP. As shown in this figure, the TMP includes a 'Left Turn Only' pavement marking at the egress approach of the project driveway. In addition, a 'No Right Turn' (R3-1) sign at the egress approach of the project driveway is also recommended as a part of the TMP to enforce the outbound left turn only restriction. The TMP will direct church traffic towards Imperial Highway and therefore minimize the impact on the local residents north of the project site.

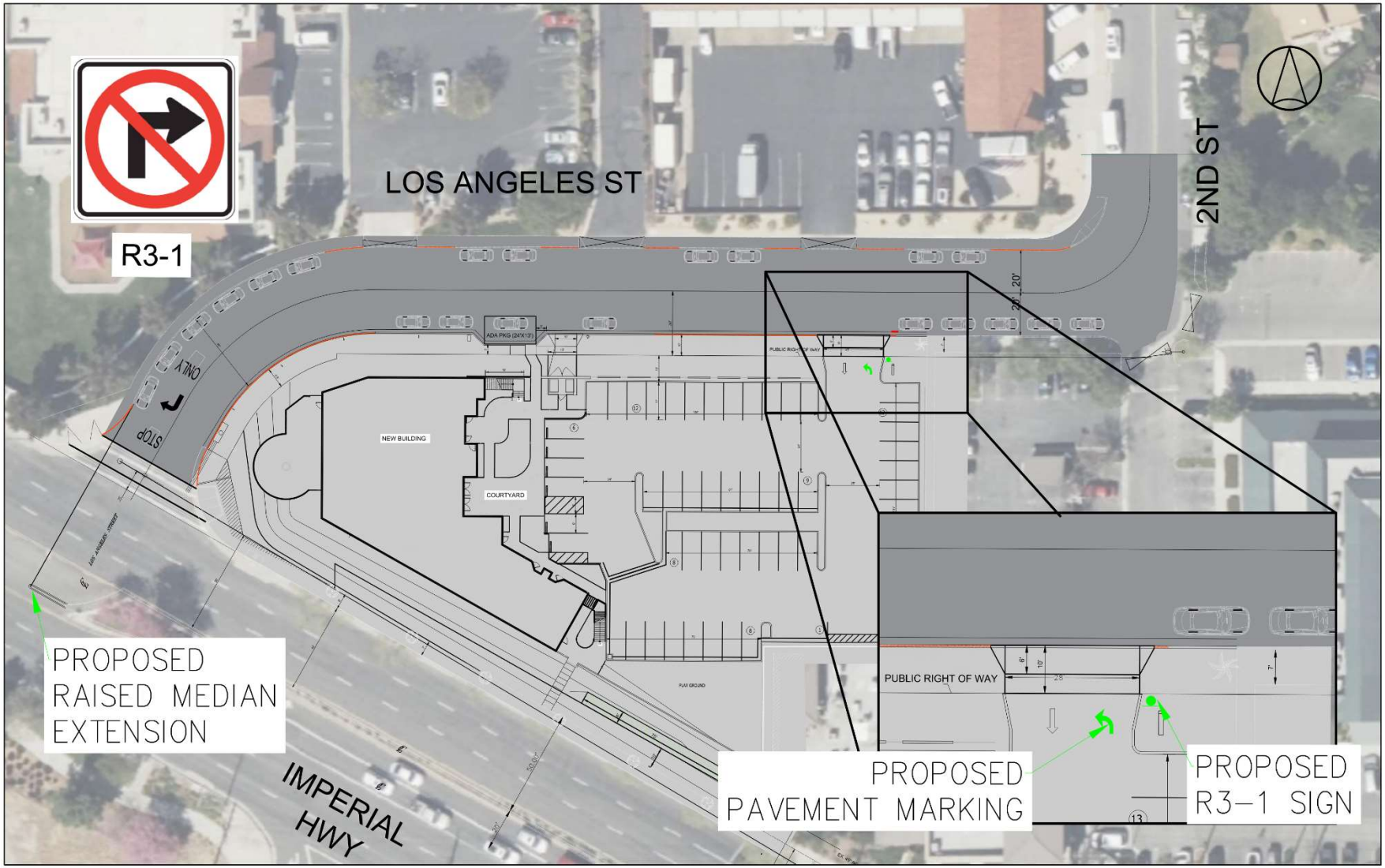
The Church will implement the above TMP in order to eliminate or minimize the traffic impact to the nearby residential neighborhood if <u>BOTH</u> of the following conditions are met:

1. **The City receives concerns from the nearby residential neighborhood regarding significant amounts of cut-through traffic associated with the proposed church.**
2. **A traffic monitoring study concludes that the Church causes an adverse traffic impact to the nearby residential neighborhood to the north (e.g., significant cut-through traffic). The Church will be responsible for all costs related to the traffic monitoring study, which shall be conducted by a professional traffic consultant company. The traffic monitoring study methodology will be discussed with and agreed upon with the City prior to study commencement. The City will determine if the Church traffic results in an adverse traffic impact to the residential neighborhood based on the traffic monitoring study findings. (The Church may also choose to implement the TMP after Condition #1 above has occurred, in which case the traffic monitoring study will no longer be necessary.)**

In addition, the project will implement the traffic improvement listed below in order to enhance roadway safety adjacent to the project site. This improvement shall be implemented before the project opening.

- <u>Intersection of Imperial Highway and Los Angeles Street (Adjacent to Project Site)</u>- Extend the raised median on Imperial Highway at Los Angeles Street to physically restrict the left-turn movement from southbound Los Angeles Street onto eastbound Imperial Highway. (see Figure 5)

Figure 4 – Conceptual Traffic Management Plan at Project Driveway



ATTACHMENT A – CALTRANS HIGHWAY DESIGN MANUAL
Stopping Sight Distance Guidelines

Table 201.1
Sight Distance Standards

Design Speed[1] (mph)	Stopping[2] (ft)	Passing (ft)
10	50	---
15	100	---
20	125	800
25	150	950
30	200	1,100
35	250	1,300
40	300	1,500
45	360	1,650
50	430	1,800
55	500	1,950
60	580	2,100
65	660	2,300
70	750	2,500
75	840	2,600
80	930	2,700

(1) See Topic 101 for selection of design speed.
(2) For sustained downgrades, refer to underlined standard in Index 201.3

ATTACHMENT B – Traffic Impact Analysis for
The Proposed Yorba Linda Church at Imperial Highway and Los Angeles Street
In the City of Yorba Linda, November 15, 2017

Traffic Impact Analysis for
The Proposed Yorba Linda Church at Imperial Highway and Los Angeles Street
in the City of Yorba Linda

November 15, 2017

Prepared for:
Yorba Linda Church
3812 Rose Drive
Yorba Linda, CA 92886

Prepared by:
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November 7, 2017

Mr. Kasey Chang
Yorba Linda Church
3812 Rose Drive
Yorba Linda, CA 92886

Subject: Traffic Impact Analysis for the Proposed Yorba Linda Church at Imperial Highway and Los Angeles Street in the City of Yorba Linda

Dear Mr. Chang:

KOA Corporation is pleased to present the attached Traffic Impact Analysis for proposed Yorba Linda Church at the northeast corner of Imperial Highway and Los Angeles Street in the City of Yorba Linda.

The study has been prepared to meet the traffic impact analysis requirements of the City of Yorba Linda guidelines for the preparation of traffic impact studies. Please contact our office if you have any questions about the report, or if you need additional information regarding the study. If there are any comments that require response or revisions, please notify our office as soon as possible for prompt revision.

It has been a pleasure to prepare this study for you and the City of Yorba Linda.

Sincerely,

Min Zhou, PE
Vice President

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1. Project Description

The proposed Yorba Linda Church (Project) is located at the northeast corner of Imperial Highway and Los Angeles Street. It would provide 11,107 square feet of building area for a church. The assembly area of the Church would have a seating capacity of 291 people. A total of 97 parking spaces is planned to be provided in a parking garage. The project site is currently vacant. A site plan of the proposed project is provided in Figure 1.1. The only project access driveway would be located on Los Angeles Street with a full ingress/egress.

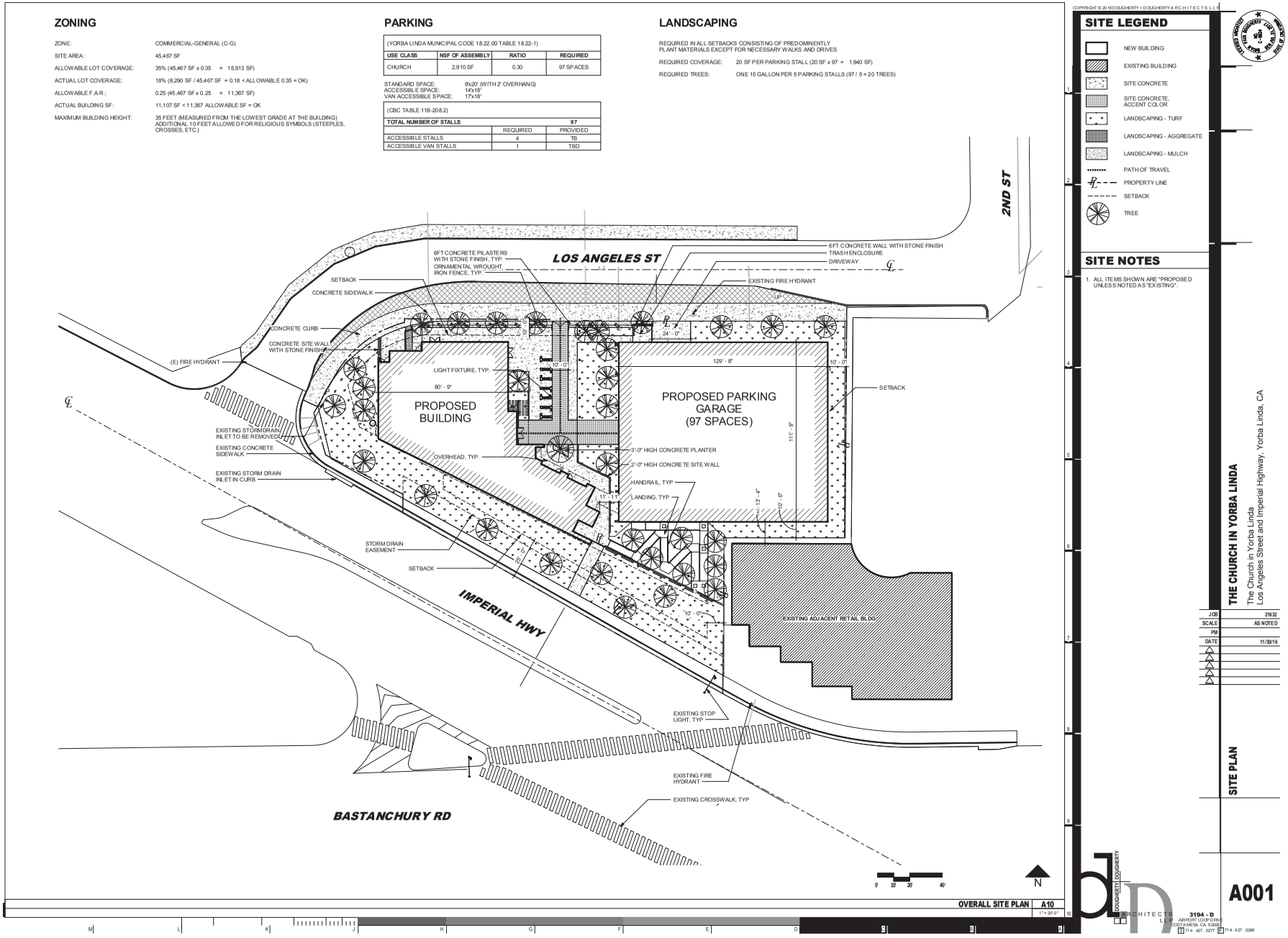
Figure 1.2 shows the project location in relation to the surrounding roadway network.

For the Project traffic impact analysis, four study intersections were defined for the study area:

1. Imperial Highway & Prospect Avenue
2. Imperial Highway & Los Angeles Street*
3. Imperial Highway & Bastanchury Road
4. Imperial Highway & Valley View Avenue

Note: un-signalized intersection

The four study intersections are illustrated in Figure 1.2.



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LEGEND

- Project Site
- # Study Intersection

NOT TO SCALE

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Yorba Linda Church - Traffic Impact Study — Figure 1.2

City of Yorba Linda, CA — Project Location And Study Intersections

1.1 Existing Circulation Network

Local streets in the project vicinity that may be affected by the proposed project include Imperial Highway, Los Angeles Street, Bastanchury Road, Prospect Avenue and Valley View Avenue.

The **Imperial Highway** borders the Project site on the west side and south side. It is signed as State Route 90 with three lanes in each direction separated by a raised median in the adjacency of the Project site. According to the Circulation Element of the City's General Plan, Imperial Highway is defined as a Smart Street 6 Lane. The posted speed limit is 50 miles per hour (mph).

Los Angeles Street borders the Project site on the north side. It is a local collector providing one travel lane in each direction.

Bastanchury Road is primary arterial providing two travel lanes in each direction. It is defined as a Modified Primary 4 Lane, according to the Circulation Element of the City's General Plan. The posted speed limit on Bastanchury Road is 40mph in the adjacency of the Project site.

Prospect Avenue is a local collector providing one travel lane in each direction. The posted speed limit on Prospect Avenue is 35 mph.

Valley View Avenue is a secondary arterial providing two travel lanes in each direction. Raised median is provided north of the Bastanchury Road. The posted speed limit on Valley View Avenue is 35 mph.

1.2 Existing Transit Service

There is currently no public transportation service in the adjacency of the study area.

2. Traffic Analysis Methodology

This chapter documents the methodologies and assumptions used to conduct the traffic impact assessment for the proposed project. This section contains the following background information:

- Study timeframes
- Study area description
- City of Buena Park analysis methodologies

2.1 Study Timeframe

This report presents the results of an analysis of Existing Year (2017) conditions, as well as a forecast of future traffic conditions following completion and occupancy of the project. The following traffic conditions were analyzed in this study:

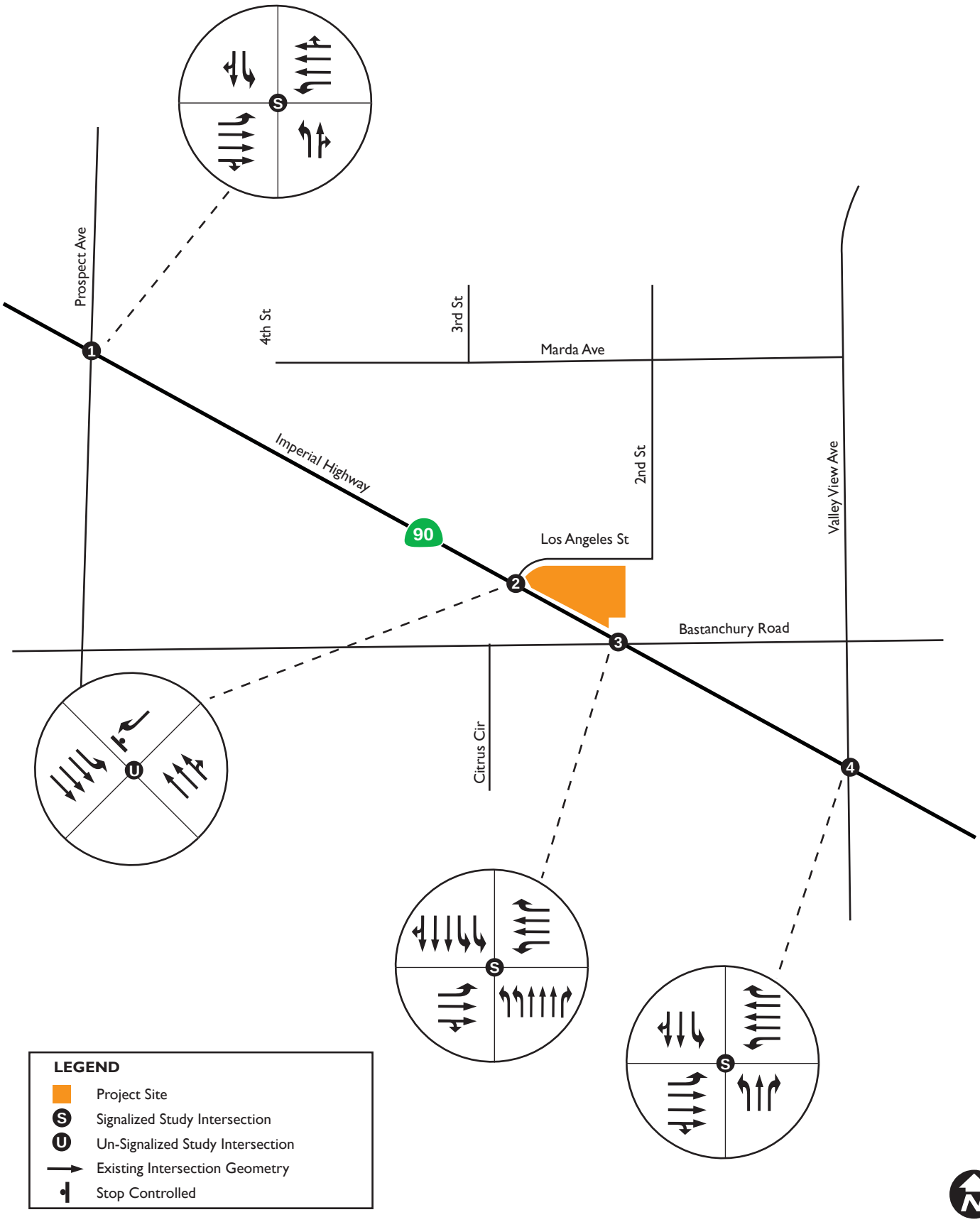
- Existing Year (2017)
- Existing Year with Project
- Opening Year (2019) without Project
- Opening Year (2019) with Project
- Future Year (2035) without Project
- Future Year (2035) with Project

Prior to the start of the study, KOA coordinated with staff from the City to obtain consensus on the traffic scope, methodology and assumptions. A scoping document was prepared and submitted for review and comment by the City. The approved scoping document of this project is provided in Appendix A.

2.2 Project Study Area

Study intersections were identified as those that may potentially be impacted by the proposed project. The intersection capacity analysis of potential project traffic impacts examined Sunday conditions during the midday peak hours for a total of four intersections.

The project site and the four study intersections with lane geometries are shown on Figure 2.1.



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Yorba Linda Church - Traffic Impact Study — Figure 2.1

City of Yorba Linda, CA — Study Intersections And Lane Geometry

2.3 Intersection Capacity Utilization (ICU) Method for Signalized Intersections

City of Yorba Linda requires the signalized intersections in the study area to be evaluated using the Intersection Capacity Utilization (ICU) methodology.

The Intersection Capacity Utilization (ICU) methodology has been used for the analysis and evaluation of traffic capacity at signalized intersections. The ICU method estimates the volume-to-capacity (V/C) relationship to an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical values represent the percent signal green time, and thus capacity, required by traffic. Using the ICU procedures, a determination can be made of the operating characteristics of an intersection in terms of the Level of Service for different levels of traffic volumes and other variables, such as critical signal phases and the number and type of traffic lanes.

The term "Level of Service" (LOS) describes the quality of traffic flow at an intersection. LOS A to C is indicative of excellent to good traffic flow conditions. LOS D corresponds to fair conditions that may experience substantial delay during portions of the peak hours, but without excessive backups. LOS E represents poor conditions, with volumes at or near the capacity of the intersection and long lines of vehicles that may have to wait through several signal cycles. LOS F is characteristic of failure (i.e., the intersection is overloaded, vehicular movements may be restricted or prevented, and delays and queue lengths become increasingly longer).

Per City of Yorba Linda Traffic Impact Analysis Guidelines, the capacity of individual lane types to be used in the ICU calculations shall be 1,700 vehicles per hour.

The TRAFFIX software was used for the analysis. A 10% adjustment to the clearance and loss time factor based on the critical phases of the signalized control were included in the traffic analysis.

Table 2.1 shows the relationship between level of service and ICU volume to capacity (V/C) ratio for signaliz3ed intersections.

Table 2.1 – Levels of Service as a Function of ICU Values for Signalized Intersections

Level of Service	Range of ICU Values
A	0.00 – 0.600
B	0.601 – 0.700
C	0.701 – 0.800
D	0.801 – 0.900
E	0.901 – 1.000

F	1.001 and up

2.4 Highway Capacity Manual (HCM) Method for Un-signalized Intersections

For the LOS analysis at un-signalized intersections, Highway Capacity Manual (HCM) un-signalized methodology was used. LOS is defined in terms of the average vehicle delay of an individual movement(s). Table 2 shows LOS criteria for un-signalized intersections

Table 2.2 – Level of Service Definitions, Un-signalized Intersections

LOS	Average Control Delay (sec/veh)
A	0 - 10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

2.5 Intersection Performance Impact Criteria

According to City of Yorba Linda Traffic Impact Analysis Guidelines, the project traffic volumes resulting in a 1% increase in the V/C ratio of a deficient intersection (LOS E or F) as compared to the No Project condition is considered significantly impacted. The traffic impact should be evaluated based upon the city's requirement and mitigation measures should be provided. The fair share cost for the mitigation measures should be calculated.

3. Project Traffic Forecasting Methodology

The following section describes the methodology and procedures used to determine the trip generation, distribution, and assignment of traffic resulting from the proposed project.

Project-related traffic consists of trips on any portion of the street system that will begin or end on the project site as a result of the development of the proposed project. Project-related traffic is a function of the intensity and type of development proposed for the site. This information is used to establish traffic generation for the site. This process is also used to forecast the future traffic generated by cumulative developments in the study area. The following background information is included:

- Trip generation rates
- Traffic generation
- Trip distribution patterns

3.1 Trip Generation

Trip generation is a measure or forecast of the number of trips that will be made to or from the project. It is generally equal to the traffic volume expected at the project entrances. Trip generation characteristics for projects are normally estimated based on rates published in *Trip Generation Manual*, *9th Edition*, published by the Institute of Transportation Engineers (ITE). The trip generation rates for land use category 560 – Church were used to estimate the trips generated by the project. Table 3.1 shows the Sunday midday peak hour trip generation based on the gross floor area of the Church. Table 3.2 shows the Sunday midday peak hour trip generation based on the seating capacity of the assembly area of the church.

Table 3.1 – Project Trip Generation Based on Gross Floor Area

Land Use	ITE Code	Intensity		Daily	Sunday Midday		
					In	Out	Total
Trip Generation Rates							
Church	560	-	k.s.f.*	36.63	49%	51%	12.04
Proposed Project							
Church	560	11.11	k.s.f.*	407	66	68	134
Proposed Project Total				**407**	**66**	**68**	**134**

Source: ITE, Trip Generation Handbook, 9th Edition

k.s.f. - 1,000 Square feet Gross Floor Area

Table 3.2 – Project Trip Generation Based on Seating Capacity

Land Use	ITE Code	Intensity		Daily	Sunday Midday		
					In	Out	Total
Trip Generation Rates							
Church	560	-	Seats	1.85	50%	50%	0.61
Proposed Project							
Church	560	291	Seats	538	89	89	178
Proposed Project Total				**538**	**89**	**89**	**178**

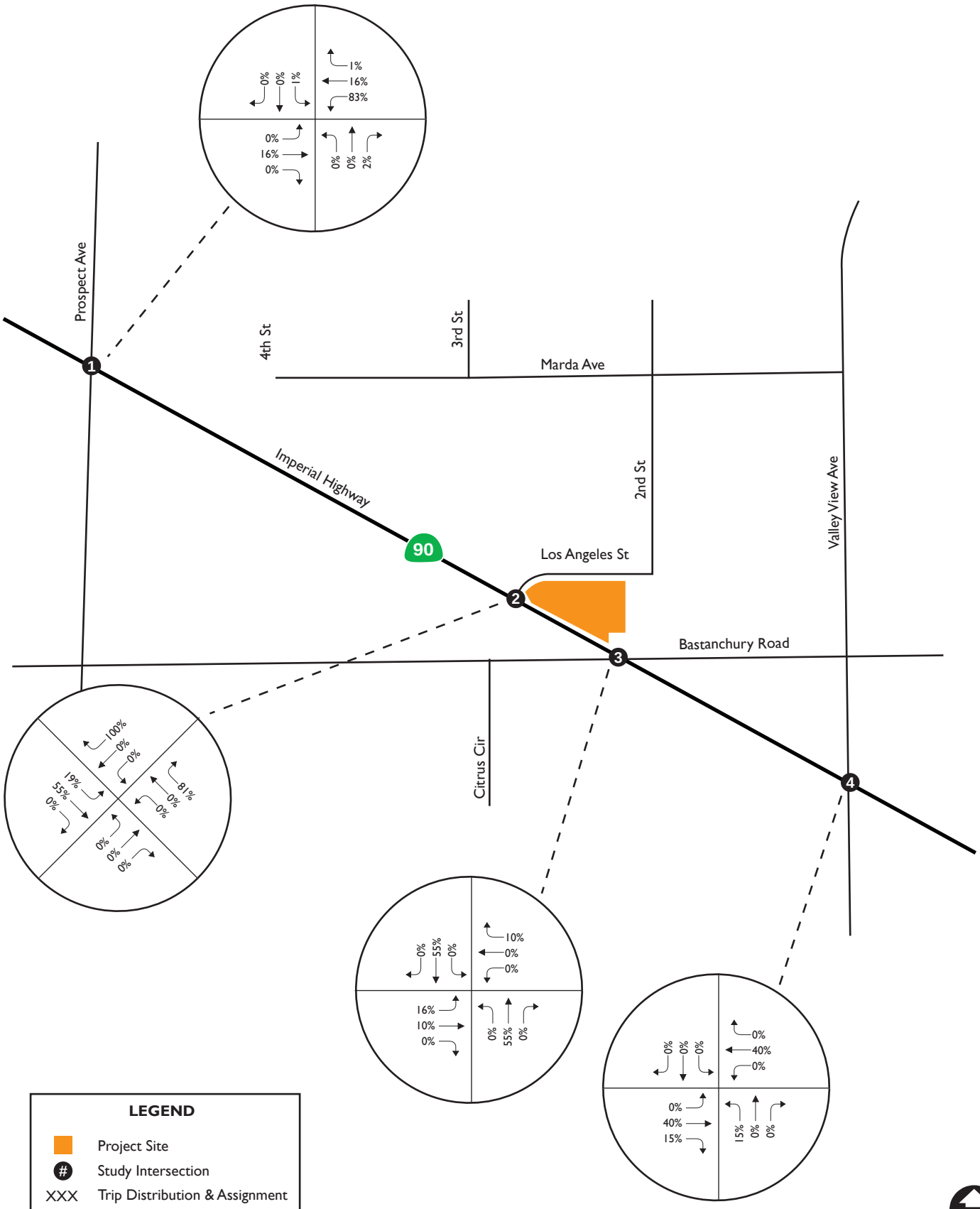
Source: ITE, Trip Generation Handbook, 9th Edition

As shown in Table 3.1 and Table 3.2, trip generation based on seating capacity is bigger than that based on gross floor area. Therefore, the trip generation in Table 3.2 is utilized for the traffic impact analysis for this study. The proposed project would generate 178 Sunday midday peak hour trips, with 89 inbound trips and 89 outbound trips. The total daily Sunday trips generated by the proposed church are 538 trips.

3.3 Project Trip Distribution and Assignment

Estimation of the geographic distribution of trips for the proposed project uses was the next step in the analytical process. The primary factors affecting the trip distribution for the project are the nature of the uses; existing traffic patterns; the geographic location of the site and its proximity to freeways and major travel routes; and the residence distribution of the members of the Yorba Linda Church. Based on these factors, the overall project directional trip distribution was determined for inbound and outbound directions.

Figure 3.1 illustrates the trip distribution percentages that were applied to Project traffic. The Sunday midday peak hour Project trip assignment is illustrated on Figure 3.2.



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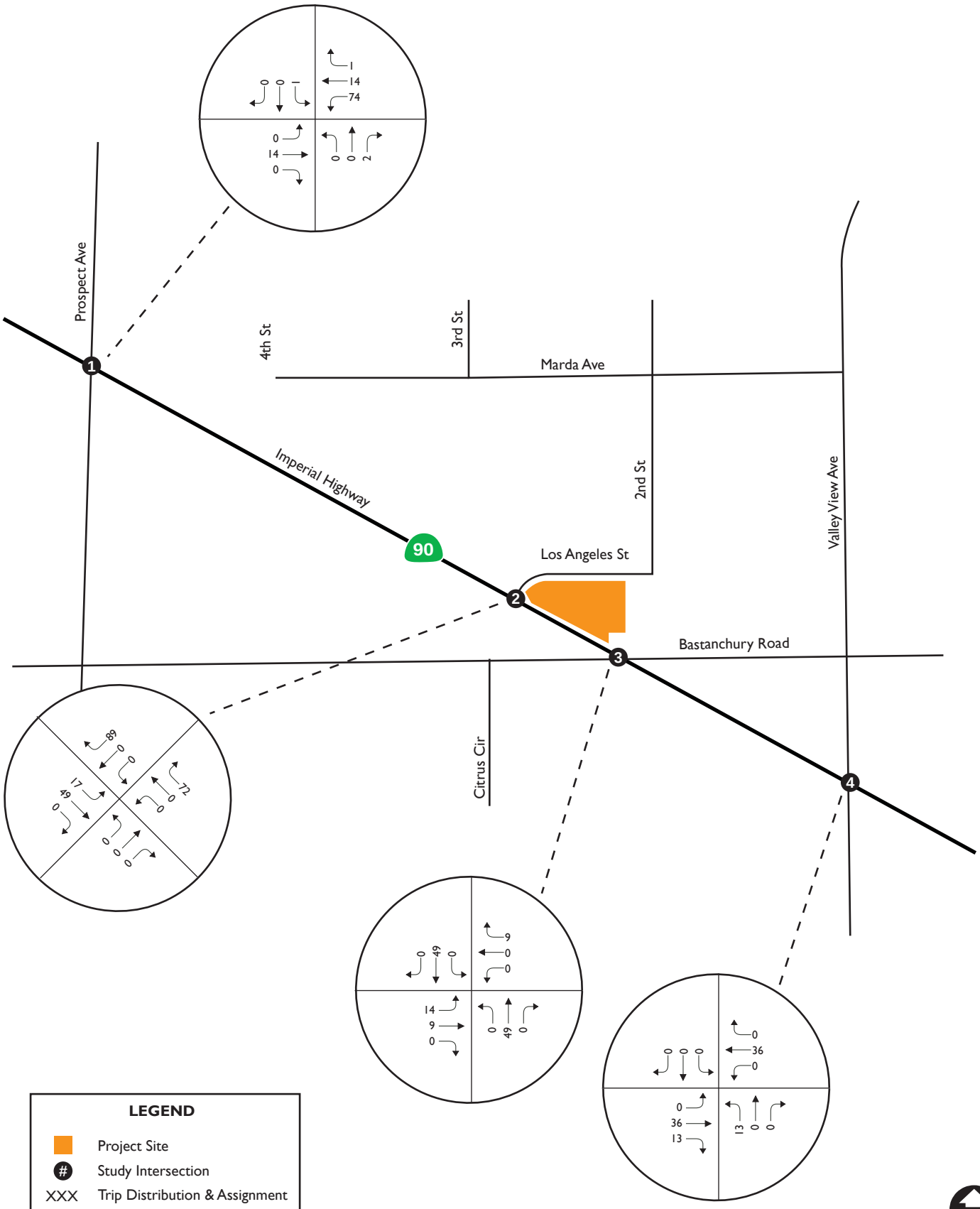
Yorba Linda Church - Traffic Impact Study — Figure 3.1

City of Yorba Linda, CA — Project Trips Percentage Distribution And Assignment



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Yorba Linda Church - Traffic Impact Study — Figure 3.2

City of Yorba Linda, CA — Project Trips Assignment Sunday Midday Peak Hour Intersection Traffic Volumes

3.4 Future Traffic Forecast

3.4.1 Opening Year Traffic Forecast

The year 2019 was selected as the opening/cumulative analysis year. In order to acknowledge regional traffic growth that would affect operations at the study intersections, an ambient/background traffic growth rate was applied. The opening year traffic forecasts include an ambient growth rate of one percent per year for a total of three percent, which was applied to the existing peak hour counts. The rate is consistent with the general traffic growth in the study area and complies with the City traffic study guidelines.

In addition to future ambient growth, traffic from area projects (approved and pending developments) was also included as part of the 2019 analysis. KOA obtained information from planning staff at the City, pertaining to area projects that would add measurable traffic volumes to the study area intersections and roadways and are located within an approximate 2-mile radius from the project site. Peak-hour trips that would be generated from each of the area projects were computed based on *ITE Trip Generation* rates.

The list of cumulative projects provided by the City is included in Appendix B.

3.4.2 Future Year Traffic Forecast

The long range (2035) analysis was based on future traffic forecasts obtained from the Orange County Transportation Authority (OCTA) travel demand forecasting model (OCTAM 3.4). A new model run has been obtained from OCTA to assist the traffic study by providing forecast traffic volumes.

OCTAM 3.4 model data was used as the basis for producing the refined 2035 future intersection turning movement volumes based on the algorithm obtained from the report *Highway Traffic Data for Urbanized Area Project Planning and Design (National Cooperative Highway Research Program Report 255, Transportation Research Board, 1982, pp. 105-109),* commonly referred to as NCHRP-255. Minor manual adjustments have been conducted for traffic flow conservation and reasonableness checks.

To be conservative, the future year 2035 intersection volumes were compared to those of opening year 2019. If the 2035 volumes were lower, the opening year volumes would be used instead.

4. Existing Year (2017) without Project Conditions

New traffic counts were collected at four intersections from 11 a.m. to 3 p.m. on Sunday, October 15, 2017. Traffic count sheets are included in Appendix C. Existing Sunday midday peak hour intersection volumes are shown on Figure 4.1.

The results of the counts were utilized to determine Existing AM and PM peak-hour traffic conditions. The existing LOS values were calculated based on the traffic counts and intersection geometrics. Table 4.1 provides the level of service results at the study intersections under existing conditions by utilizing the ICU methodology for the signalized intersection and HCM methodology for the un-signalized intersection.

Table 4.1 – Intersection LOS Analysis: Existing Year (2017) Conditions

Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.477	A
2	Imperial Highway & Los Angeles Street*	12.1	B
3	Imperial Highway & Bastanchury Road	0.647	B
4	Imperial Highway & Valley View Avenue	0.443	A

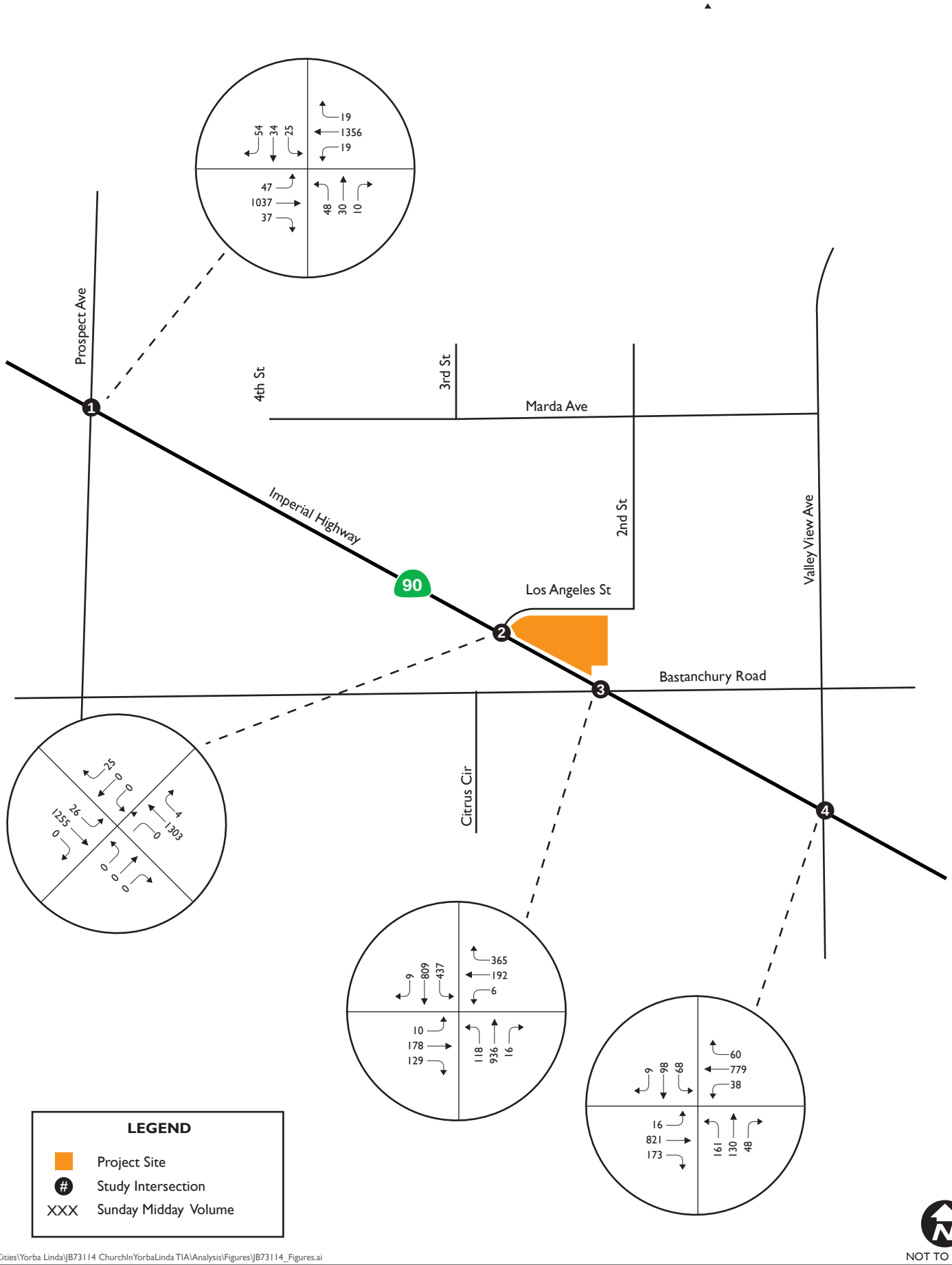
Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

As shown in Table 4.1, all four study intersections are currently operating at LOS values of C or better during the Sunday Midday peak hour.

The LOS worksheets for the existing without project scenarios are provided in Appendix D.



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Yorba Linda Church - Traffic Impact Study — Figure 4.1

City of Yorba Linda, CA — Existing Year (2017) Without Project Sunday Midday Peak Hour Intersection Traffic Volumes

5. Existing Year (2017) with Project Conditions

This section documents the results of the LOS analysis for Existing Year (2017) with Project conditions. The ICU and HCM analysis at the study intersections was performed using the same analysis procedures described previously in Sections 2.3 and 2.4 of this report.

Based on the traffic that is projected for the proposed project and the traffic count totals, the Existing Year (2017) with Project conditions scenario was analyzed per the *Sunnyvale* and *Smart Rail* California Environmental Quality Act (CEQA) court case decisions that determined that project impacts should be analyzed against existing conditions.af

Project volumes for this scenario were derived by adding project-generated traffic to existing volumes. Table 5.1 indicates that all four study intersections would continue to operate at LOS values of C or better during the Sunday midday peak hour.

Table 5.1 – Intersection LOS Analysis: Existing Year (2017) with Project Conditions

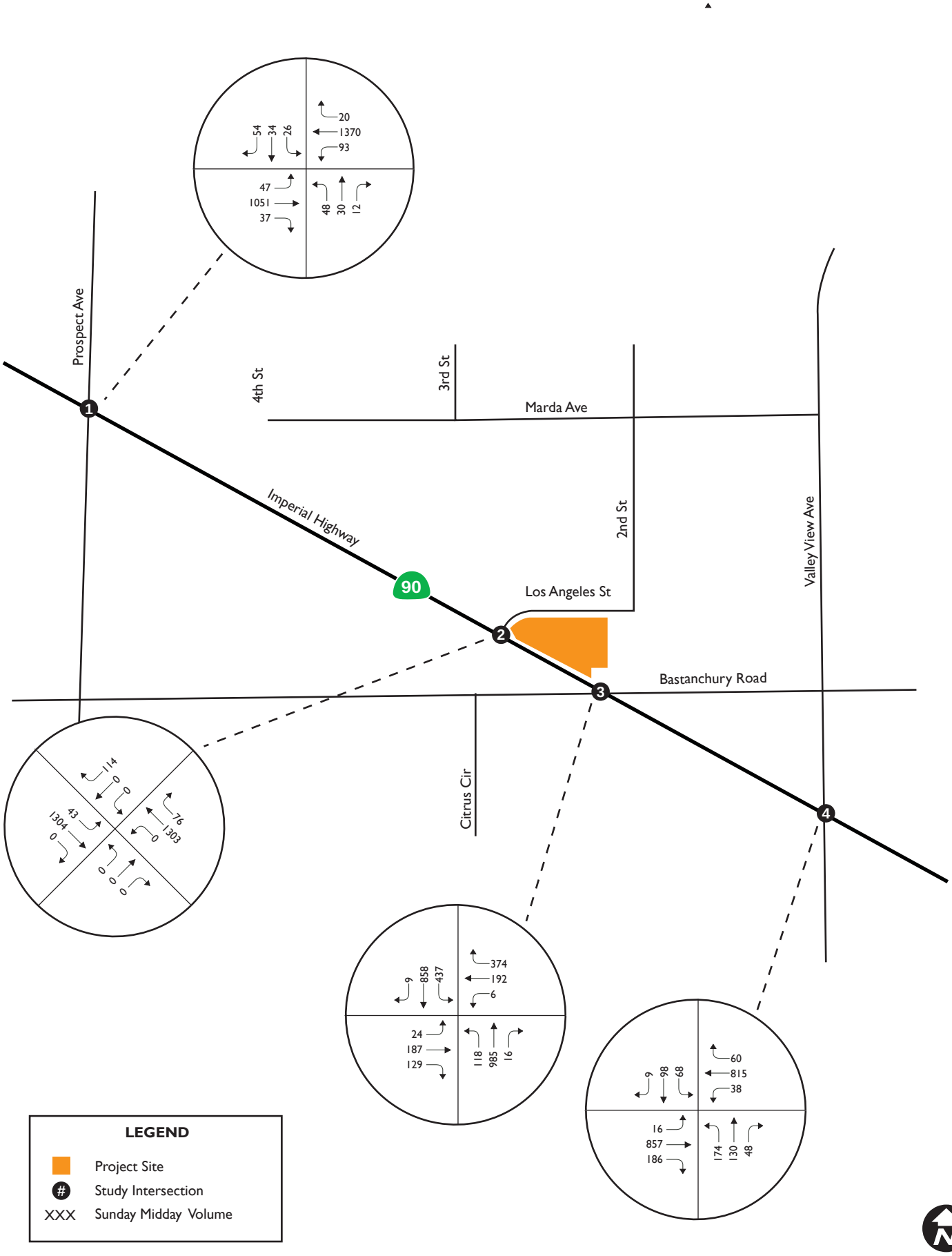
Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.480	A
2	Imperial Highway & Los Angeles Street*	13.4	B
3	Imperial Highway & Bastanchury Road	0.670	B
4	Imperial Highway & Valley View Avenue	0.461	A

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Figure 5.1 illustrate the Sunday midday peak hour turn movement volumes at the study intersections for this scenario. The LOS worksheets for the existing with project scenarios are provided in Appendix E.



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Yorba Linda Church - Traffic Impact Study — Figure 5.1

City of Yorba Linda, CA — Existing Year (2017) With Project Sunday Midday Peak Hour Intersection Traffic Volumes

6. Opening Year (2019) without Project Conditions

This section documents the results of the LOS analysis for Opening Year (2019) without Project conditions. The ICU and HCM analysis at the study intersections was performed using the same analysis procedures described previously in Sections 2.3 and 2.4 of this report.

6.1 Cumulative/Related Projects

The list of cumulative/related projects and their trip generation is provided in Table 6.1. The locations of the cumulative/related projects are provided in Figure 6.1. The intersection traffic volumes generated by the cumulative projects are provided in Figure 6.2.

Table 6.1 – List of Cumulative/Related Projects

Map #	Project Name	Location	Land Use	Intensity	Units	Sunday			
						Daily Total	Peak Hour Total	Peak Hour In	Peak Hour Out
City of Yorba Linda									
1	Tentative Tract Map 16208	19900 Bastanchury Rd	Single Family House	168	Units	1,448	144	76	68
2	Hover/Bastanchury Holding Co.	Northwest Corner of Bastanchury Rd and Lakeview Ave	Single Family House	47	Units	405	40	21	19
3	Oakcrest Heights	22744 Eastpark Dr	Apartment	54	Units	316	28	14	14
4	Loma Vista (VTTM 18020)	18272 and 18278 Bastanchury Rd	Condo/Townhouse	192	Units	929	86	42	44
5	Cantebury Court	3811 Prospect Ave	Single Family House	48	Units	414	41	22	19
6	Postal Annex SE Lemon & Eureka	Southeast Corner of Lemon Dr and Eureka Ave	Single Family House	5	Units	43	4	2	2
7	Yorba Linda Estates (TTM 18061)	5802 and 5842 Lakeview Ave	Single Family House	22	Units	190	19	10	9
8	Yorba Linda Gardens (TTM 17928)	5225 and 5227 Highland Ave	Single Family House	12	Units	103	10	5	5
9	SE Plumosa & Avolinda	4622 Plumosa Drive	Apartment	10	Units	59	5	3	2
10	Lakeview & Mariposa	Southeast Corner of Lakeview Ave and Mariposa Ave	Continuing Care Retirement Community	250	Units+Beds	488	55	29	26
11	Brandywine Provence	East side of Richfield Rd, between Yorba Linda Blvd to the North and Kennon Dr to the South	Single Family House	28	Units	241	24	13	11
12	Brandywine 15 (Highland Avenue)	5216 Highland Ave	Single Family House	15	Units	129	13	7	6
13	Yorba Linda Town Center	Northeast corner of Yorba Linda Blvd and Imperial Hwy, between Main St and Lakeview Ave	Movie Theater with	10	Screens	4,207	445	267	178
			Supermarket	25	k.s.f.	4,161	473	237	236
			Shopping Center	19	k.s.f.	471	58	29	29
			Quality Restaurant	27.586	k.s.f.	1,991	231	146	85
14	Yorba Linda Library & Arts Center	4802 and 4852 Lakeview Ave	Library	45	k.s.f.	1,147	231	123	108
			Recreational Community Center	14	k.s.f.	184	20	11	9

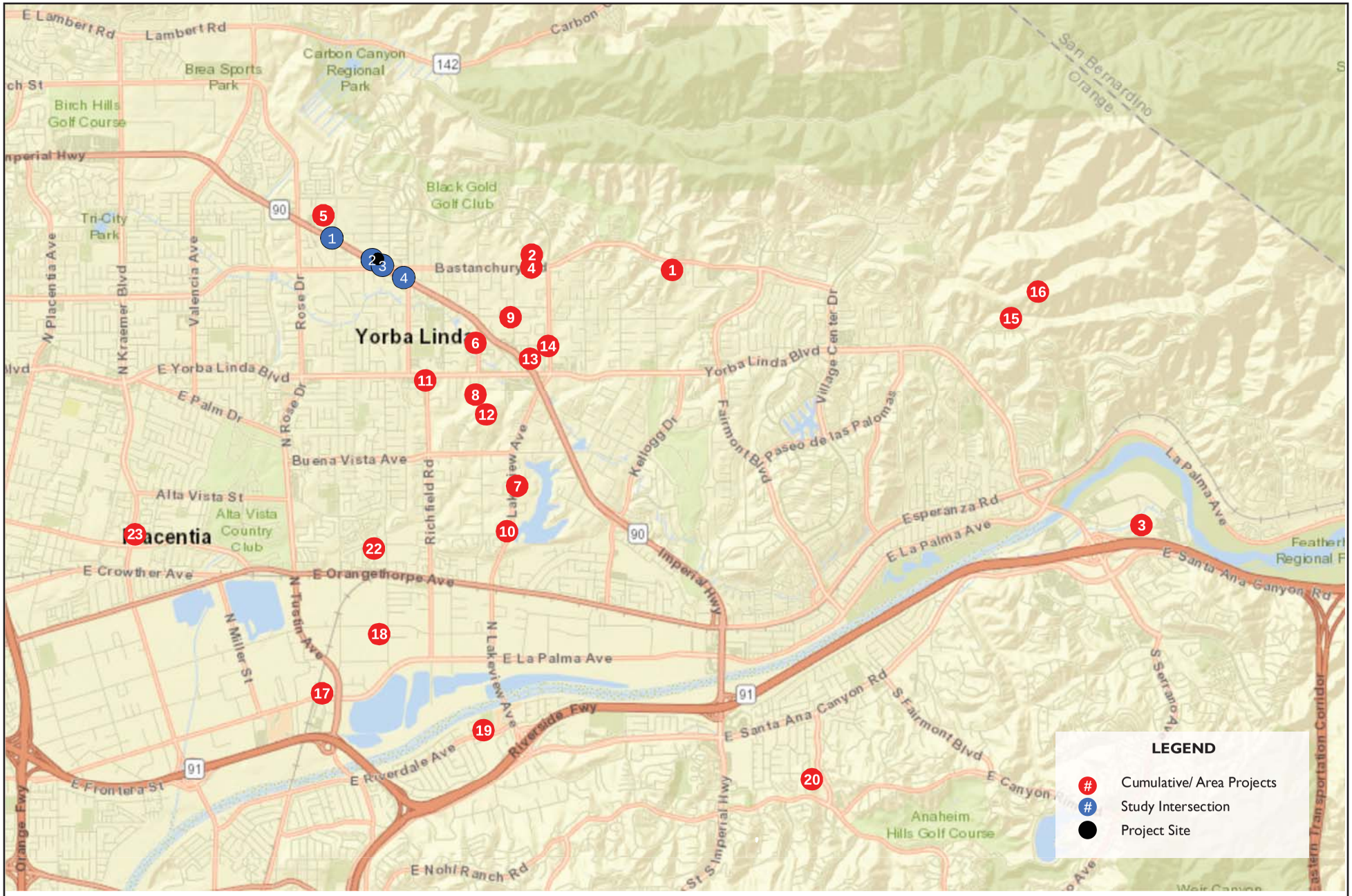
(to be continued on the next page)

Table 6.1 – List of Cumulative/Related Projects (continued)

Map #	Project Name	Location	Land Use	Intensity	Units	Sunday			
						Daily Total	Peak Hour Total	Peak Hour In	Peak Hour Out
County of Orange									
15	Cielo Vista	East of San Antonio Rd and North of Stonehaven (Via Del Agua)	Single Family House	112	Units	965	96	51	45
16	Esperanza Hills	East of San Antonio Rd and North of Stonehaven (Via Del Agua)	Single Family House	374	Units	3,224	322	170	152
City of Anaheim									
17	Link OC (DEVE 2017-00031)	1091 N. Tustin Ave	Condo/Townhouse	406	Units	1,965	183	90	93
			Specialty Retail Center	5	k.s.f.	102	0	0	0
18	Jellco (DEV2016-00072)	1265 N Van Buren St	General Light Industrial	191	k.s.f.	130	19	9	10
19	Tri Pointe Homes	4541 East Gale Dr	Single Family House	75	Units	647	65	34	31
20	Anaheim Hills 60	415 South Anaheim Hills Rd	Single Family House	60	Units	517	52	27	25
21	Mountain Park Specific Plan	Gysum Canyon, South of Riverside Freeway (SR-91)	Single Family House	1675	Units	14,439	1,441	763	678
			Condo/Townhouse	825	Units	3,993	371	182	189
			Convenience Market	3	k.s.f.	2,275	195	92	103
			Elementary School	800	student	0	0	0	0
City of Placentia									
22	HQT Homes	1548 Spruce St	Single Family House	10	Units	86	9	5	4
23	Placentia Veterans Village	401 E. Chapman Ave	Condo/Townhouse	50	Units	242	23	11	12
			Total			**45,511**	**4,703**	**2,491**	**2,212**

Trip Generation Source: Institute of Transportation Engineers (ITE) "Trip Generation - 9th Edition", except where noted.

Source: City of Yorba Linda



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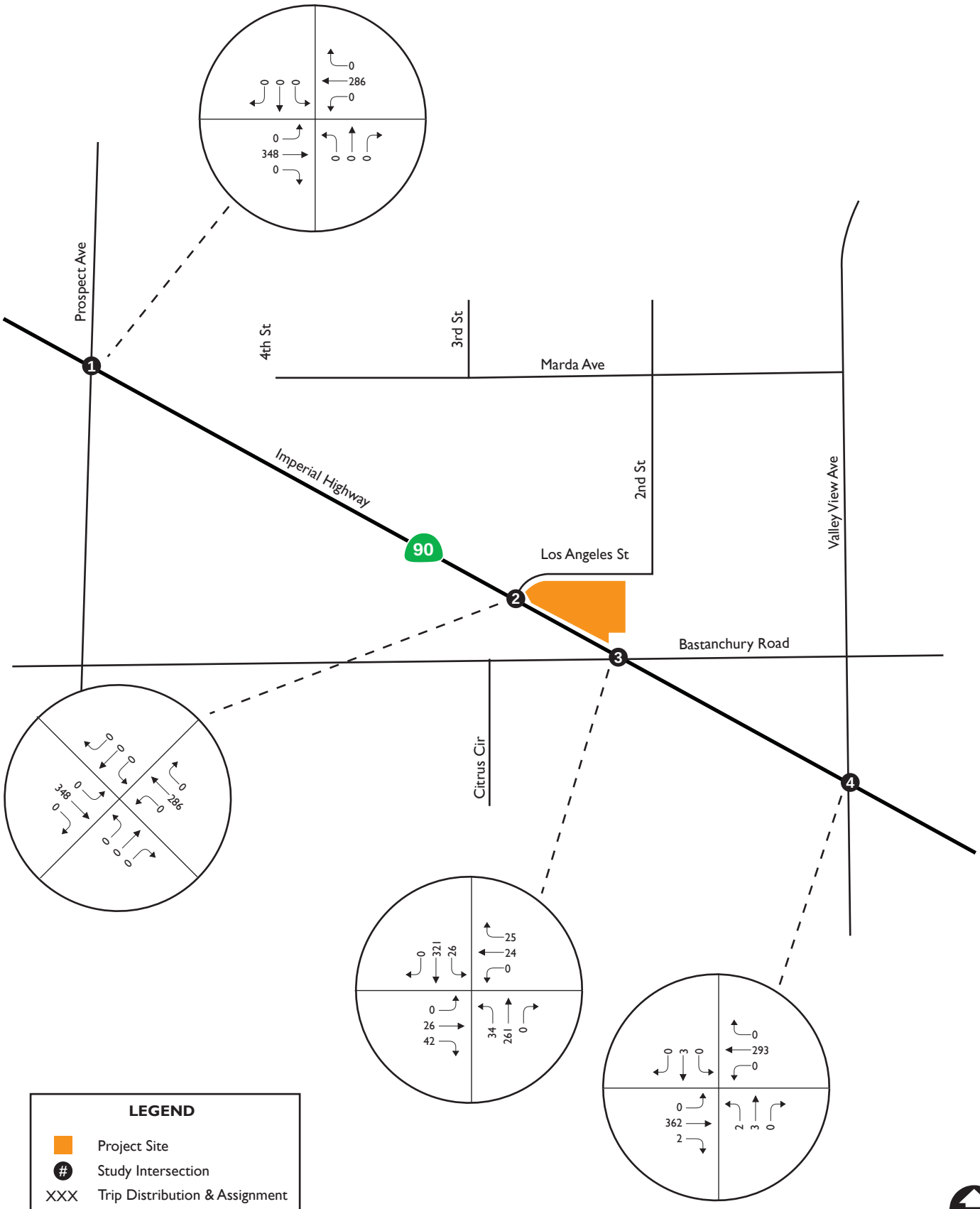
KOA CORPORATION PLANNING & ENGINEERING	Yorba Linda Church - Traffic Impact Study	Figure 6.1
	City of Yorba Linda, CA	Location of Cumulative/ Area Projects



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Yorba Linda Church - Traffic Impact Study — Figure 6.2

City of Yorba Linda, CA — Cumulative/Related Projects Sunday Midday Peak Hour Intersection Traffic Volumes

6.2 Level-of-Service Analysis

Based on the forecast parameters, the cumulative base conditions level-of-service analysis was conducted for the study intersections, as summarized in Table 6.1. All four study intersections would continue to operate at LOS values of C or better during the Sunday midday peak hour.

Table 6.2 – Intersection LOS Analysis: Opening Year (2019) without Project Conditions

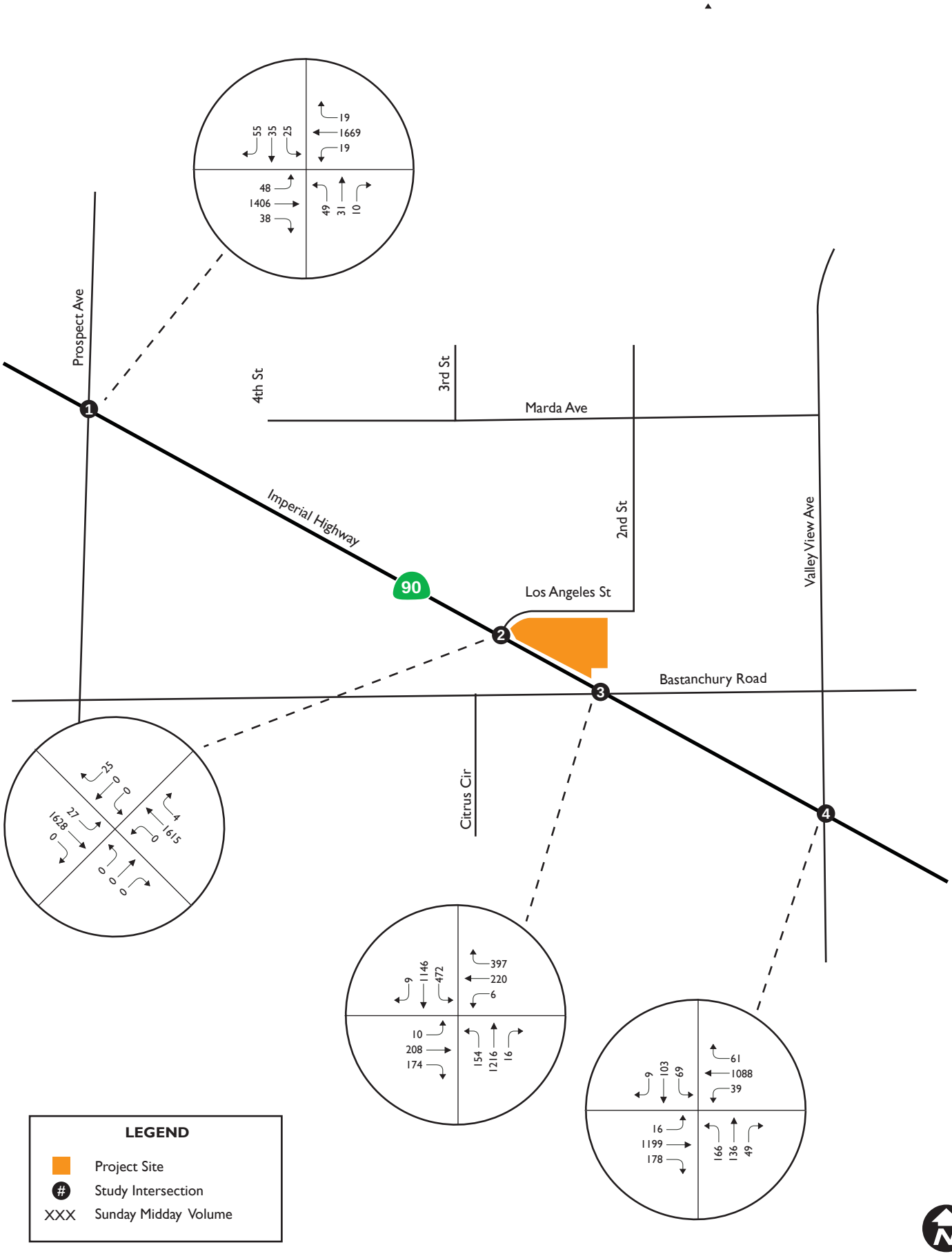
Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.541	A
2	Imperial Highway & Los Angeles Street*	14.4	B
3	Imperial Highway & Bastanchury Road	0.717	C
4	Imperial Highway & Valley View Avenue	0.524	A

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

The Sunday midday peak hour study intersection turn movement volumes for this scenario are provided on Figure 6.3. The LOS worksheets for the opening year without project scenarios are provided in Appendix F.



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Yorba Linda Church - Traffic Impact Study — Figure 6.3

City of Yorba Linda, CA — Opening Year (2019) Without Project Sunday Midday Peak Hour Intersection Traffic Volumes

7. Opening Year (2019) with Project Conditions

This section documents the results of the LOS analysis for Opening Year (2019) with Project conditions. The ICU and HCM analysis at the study intersections was performed using the same analysis procedures described previously in Sections 2.3 and 2.4 of this report.

Traffic volumes for this scenario were derived by adding project-generated traffic to Opening Year (2019) base traffic volumes. Table 7.1 indicates that all four study intersections would continue to operate at LOS values of C or better during the Sunday midday peak hour.

Table 7.1 – Intersection LOS Analysis: Opening Year (2019) with Project Conditions

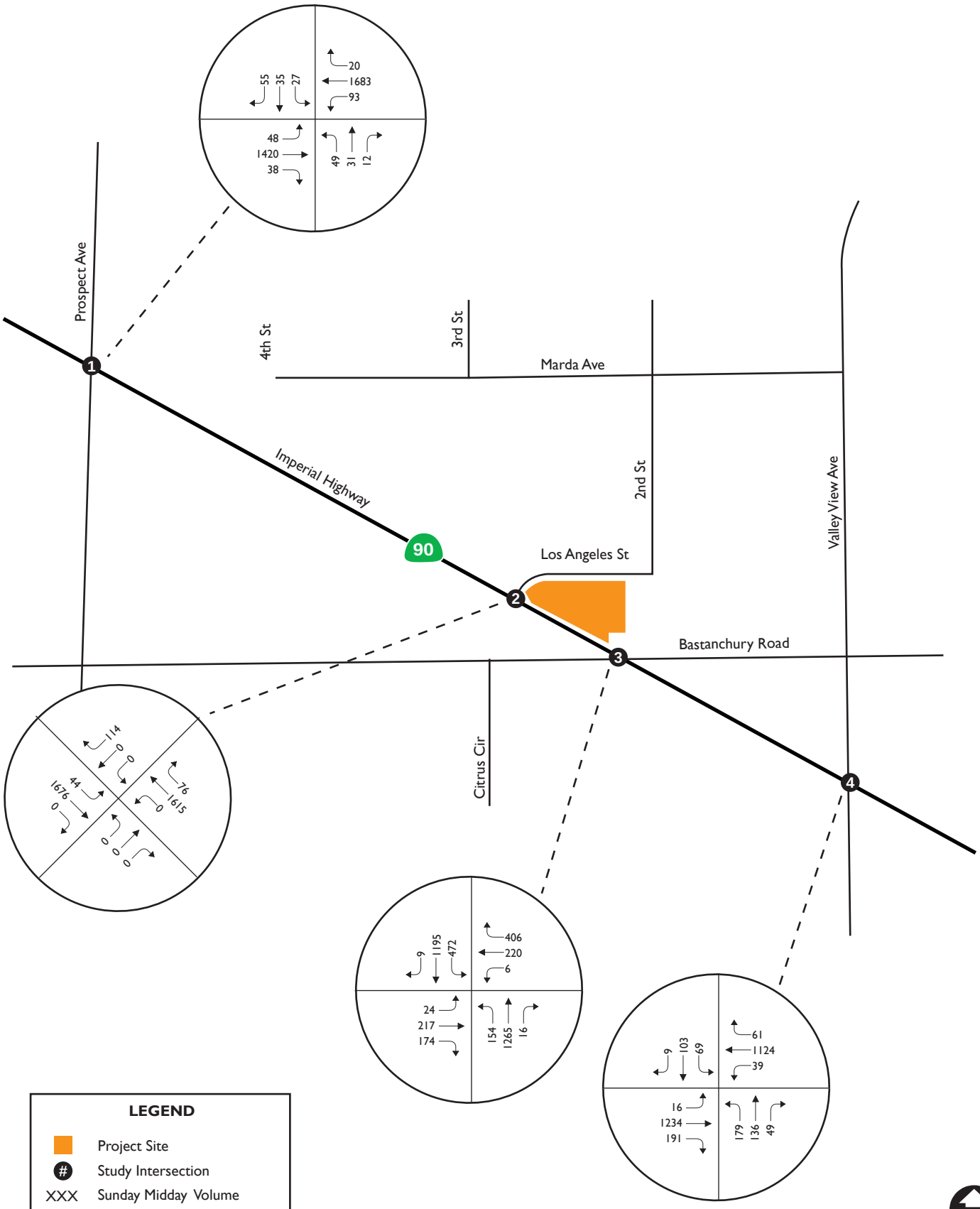
Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.544	A
2	Imperial Highway & Los Angeles Street*	15.6	C
3	Imperial Highway & Bastanchury Road	0.740	C
4	Imperial Highway & Valley View Avenue	0.538	A

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

The Sunday midday peak hour study intersection turn movement volumes for this scenario are provided on Figure 7.1. The LOS worksheets for the opening year with project scenarios are provided in Appendix G.



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Yorba Linda Church - Traffic Impact Study — Figure 7.1

City of Yorba Linda, CA — Opening Year (2019) With Project Sunday Midday Peak Hour Intersection Traffic Volumes

8. Future Year (2035) without Project Conditions

This section documents the results of the Intersection LOS analysis for Future Year (2035) without Project conditions. The ICU and HCM analysis at the study intersections was performed using the same analysis procedures described previously in Sections 2.3 and 2.4 of this report.

The Future Year (2035) Without Project conditions level of service analysis was conducted for the study intersections, as summarized in Table 8.1. All four study intersections would continue to operate at LOS values of C or better during the Sunday midday peak hour.

Table 8.1 – Intersection LOS Analysis: Future Year (2035) without Project Conditions

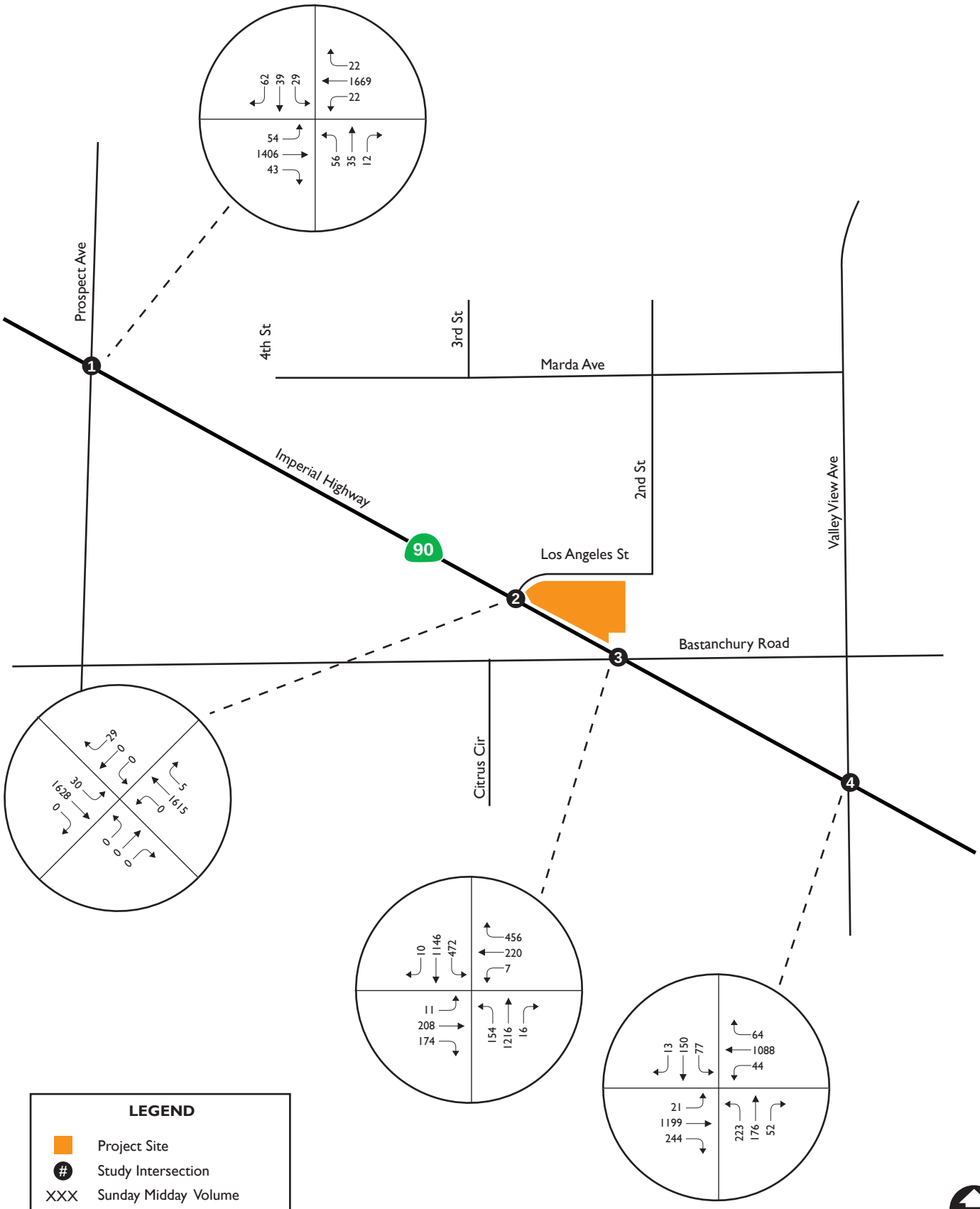
Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.556	A
2	Imperial Highway & Los Angeles Street*	14.5	B
3	Imperial Highway & Bastanchury Road	0.767	C
4	Imperial Highway & Valley View Avenue	0.588	A

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

The Sunday midday peak hour study intersection turn movement volumes for this scenario are provided on Figure 8.1. The LOS worksheets for the future year without project scenarios are provided in Appendix H.



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Yorba Linda Church - Traffic Impact Study — Figure 8.1

City of Yorba Linda, CA — Future Year (2035) Without Project Peak Hour Intersection Traffic Volumes

9. Future Year (2035) with Project Conditions

This section documents the results of the Intersection LOS analysis for Future Year (2035) with Project conditions. The ICU and HCM analysis at the study intersections was performed using the same analysis procedures described previously in Sections 2.3 and 2.4 of this report.

Traffic volumes for this scenario were derived by adding project-generated traffic to future (2035) base traffic volumes. Table 9.1 indicates that all four study intersections would continue to operate at LOS values of C or better during the Sunday midday peak hour.

Table 9.1 – Intersection LOS Analysis: Future Year (2035) With Project Conditions

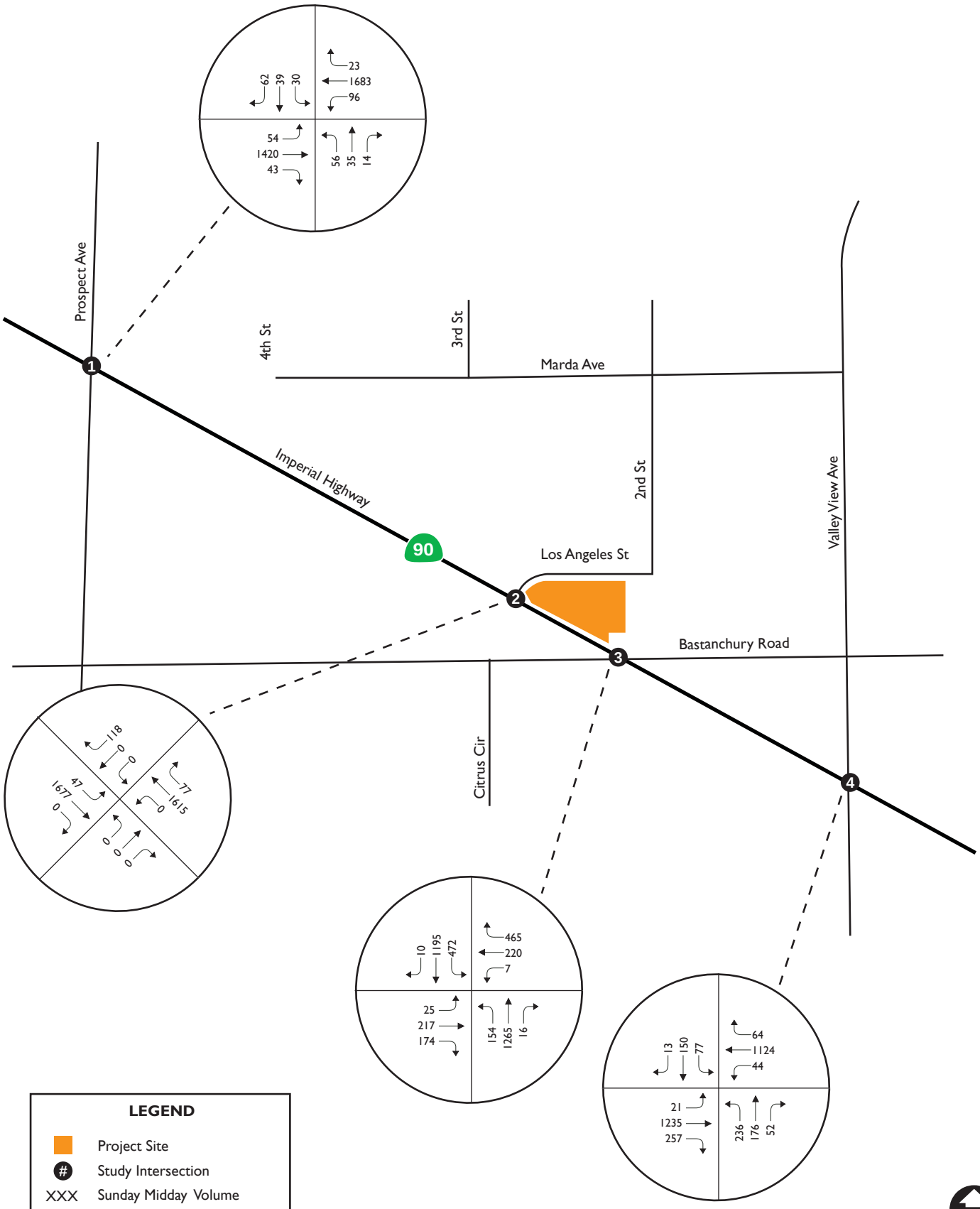
Study Intersections		Sunday Midday	
		V/C or Delay (sec.)	LOS
1	Imperial Highway & Prospect Avenue	0.559	A
2	Imperial Highway & Los Angeles Street*	15.7	C
3	Imperial Highway & Bastanchury Road	0.791	C
4	Imperial Highway & Valley View Avenue	0.605	B

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

The Sunday midday peak hour study intersection turn movement volumes for this scenario are provided on Figure 9.1. The LOS worksheets for the future year with project scenarios are provided in Appendix I.



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Yorba Linda Church - Traffic Impact Study — Figure 9.1

City of Yorba Linda, CA — Future Year (2035) With Project sunday midday Peak Hour Intersection Traffic Volumes

10. Project Traffic Impacts

10.1 Existing Year

A summary of the Existing and Existing with proposed project scenario LOS analysis values are provided in Table 10.1. Traffic impacts created by the proposed project are determined by comparing the existing conditions to the Existing with Project conditions. Significant impact is assessed based on the performance criteria described in previous Section 2.5 of this report.

The proposed project would not create any significant impacts at the study intersections under the Existing with Project conditions.

Table 10.1 – Determination of Project Impacts: Existing with Project Conditions

Study Intersections		Existing (2017) Conditions		Existing (2017) + Project		Change in V/C or Delay (sec.)	Sig Impact?
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS		
1	Imperial Highway & Prospect Avenue	0.477	A	0.480	A	0.003	No
2	Imperial Highway & Los Angeles Street*	12.1	B	13.4	B	1.300	No
3	Imperial Highway & Bastanchury Road	0.647	B	0.670	B	0.023	No
4	Imperial Highway & Valley View Avenue	0.443	A	0.461	A	0.018	No

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

10.2 Opening Year (2019)

A summary of the two future opening year scenarios LOS analysis values are provided in Table 10.2. Traffic impacts created by the proposed project are determined by comparing the Opening Year without Project conditions to the Opening Year with Project conditions.

The proposed project would not create any significant impacts at the study intersections under the Opening Year with Project conditions.

Table 10.2 – Determination of Project Impacts: Opening Year (2019) with Project Conditions

Study Intersections		Build-out (2019) Conditions		Build-out (2019) + Project		Change in V/C or Delay (sec.)	Sig Impact?
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS		
1	Imperial Highway & Prospect Avenue	0.541	A	0.544	A	0.003	No
2	Imperial Highway & Los Angeles Street*	14.4	B	15.6	C	1.200	No
3	Imperial Highway & Bastanchury Road	0.717	C	0.740	C	0.023	No
4	Imperial Highway & Valley View Avenue	0.524	A	0.541	A	0.017	No

Note: un-signalized intersection

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

10.3 Future Year (2035)

A summary of the two future year scenarios LOS analysis values are provided in Table 10.3. Traffic impacts created by the proposed project are determined by comparing the Future Year without Project conditions to the Future Year with Project conditions.

The proposed project would not create any significant impacts at the study intersections under the Future Year with Project conditions.

Table 10.3 – Determination of Project Impacts: Future Year (2035) with Project Conditions

Study Intersections		Future (2035) Conditions		Future (2035) + Project		Change in V/C or Delay (sec.)	Sig Impact?
		V/C or Delay (sec.)	LOS	V/C or Delay (sec.)	LOS		
1	Imperial Highway & Prospect Avenue	0.556	A	0.559	A	0.003	No
2	Imperial Highway & Los Angeles Street*	14.5	B	15.7	C	1.200	No
3	Imperial Highway & Bastanchury Road	0.767	C	0.791	C	0.024	No
4	Imperial Highway & Valley View Avenue	0.588	A	0.605	B	0.017	No

Note: un-signalized intersection

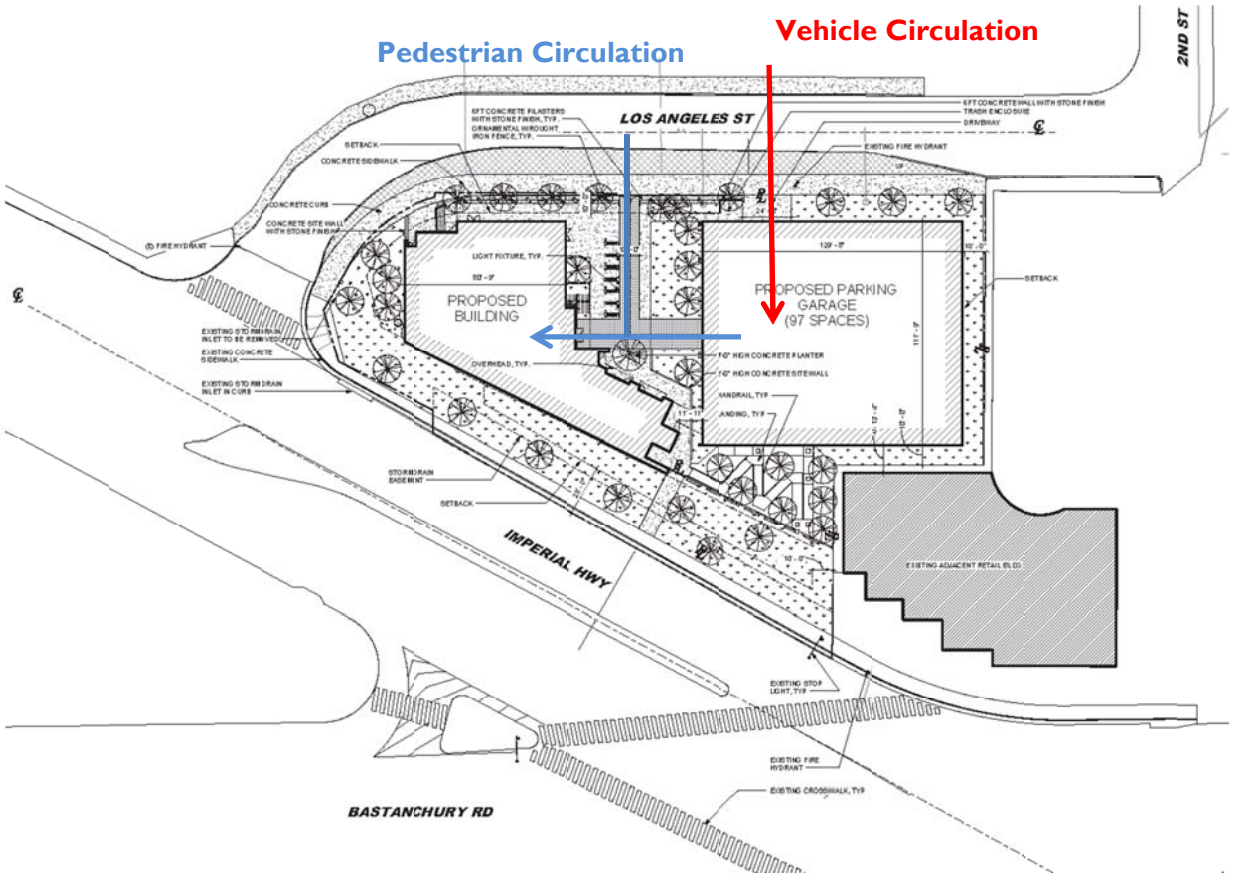
LOS = Level of Service

V/C = Volume-to-Capacity Ratio

11. Parking and Circulation Analysis

The project site would be accessed through the only driveway on Los Angeles Street. The driveway will provide full access and egress. According to the City of Yorba Linda Municipal Code Chapter 18.22.040, Driveways widths shall be twenty-four (24) foot minimum for all off street parking areas. The width of the driveway of the Project Site is 24 feet, which meets the requirement. The vehicle routes and pedestrian routes to access and egress the Church are demonstrated in Figure 10.1.

FIGURE 11.1 – CIRCULATION OF PROJECT SITE



The inbound trips during the Sunday midday peak hour are 89. Assuming all the trips accessing the Project Site during a 30 minutes window as a conservative assessment, there will be approximately 3 cars arriving every minute. It will be unlikely that the inbound traffic entering the parking structure would be spilled back to Los Angeles Street.

To address the potential concerns from the adjacent neighborhoods over the through traffic generated by the project, KOA recommends a 'NO RIGHT TURN' restriction at the project driveway for egress vehicles.

Truck loading and unloading activities are generally not expected to occur at the Project Site. If the rare situation happens, the truck will temporally park along the curb side on Los Angeles Street for loading and unloading activities.

As shown in Table 15, according to the City of Yorba Linda Municipal Code Chapter 18.22.030 – Parking Requirement, 97 off-street parking stalls are required for the Church. A total of 97 parking stalls will be provided in a proposed parking garage on the Project Site, which meets the requirement.

Table 11.1 – Parking Requirement

Land Use	Assembly Room in Square-feet	Parking Requirements	Required Parking Spaces
Church, chapel, or mortuary, clubs or lodges	2,910	1 space for each 3 seats in the main assembly room or one space for each 30 square feet in the main assembly room where no seats are provided, or as otherwise identified by a parking study and approved by the Planning Commission through a conditional use permit	97

12. Summary of Findings and Conclusions

The proposed Yorba Linda Church (Project) is located at the northeast corner of Imperial Highway and Los Angeles Street. It would provide 11,107 square feet of building area for a church. The assembly area of the Church would have a seating capacity of 291 people. A total of 97 parking spaces is planned to be provided in a parking garage. The project site is currently vacant. A site plan of the proposed project is provided in Figure 1.1. The only project access driveway would be located on Los Angeles Street with a full ingress/egress.

The proposed project would generate 178 Sunday midday peak hour trips, with 89 inbound trips and 89 outbound trips. The total daily Sunday trips generated by the proposed church are 538 trips.

The following traffic conditions were analyzed in this study:

- Existing Year (2017)
- Existing Year with Project
- Opening Year (2019) without Project
- Opening Year (2019) with Project
- Future Year (2035) without Project
- Future Year (2035) with Project

The study area includes the following four intersections:

1. Imperial Highway & Prospect Avenue
2. Imperial Highway & Los Angeles Street*
3. Imperial Highway & Bastanchury Road
4. Imperial Highway & Valley View Avenue

Note: un-signalized intersection

Under the City's significant impact criteria, the added project traffic would result in no significant impacts at the four study intersections under all traffic study conditions during the Sunday middday peak hours.

Appendix A – Scoping Document

TRAFFIC STUDY – SCOPING DOCUMENT
October 9, 2017

This Scoping Document acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of Yorba Linda's Traffic Study Policies and Procedures (March, 2008):

Project Name: Traffic Impact Study for the Proposed Church in Yorba Linda

Project Address: Northeast corner of Imperial Highway and Los Angeles Street, Yorba Linda, CA 92886

Project Description: The proposed project would provide 11,107 square feet of building area for a church.

A site plan is provided in Attachment A.

Geographic Distribution: N 10 % S 20 % E 35 % W 35 %

Attach graphic illustrating the overall project trip distribution.

Provided in Attachment B.

Trip Generation Rate(s): ITE 9th Edition – Church (ITE 560).

Trip generation table in Attachment C provides a description of the ITE rates, estimated Sunday midday hour volumes (ins/outs/totals), based on both gross floor area and seating capacity of the proposed Church. The trip generation based on seating capacity is listed below since it is higher than the calculation based on gross floor area.

The trip generation table is provided in Attachment C.

	IN	**OUT**	**TOTAL**
Midday Peak Trips	89	89	178

Opening Year: 2019 Ambient or CMP Growth Rate: 1.00 % Per Yr.
Related Projects: (to be researched by the consultant and approved by City of Yorba Linda).

Project list to be obtained from City of Yorba Linda.

Analysis Scenarios:

- Existing Year
- Existing Year Plus Project
- Opening Year
- Opening Year Plus Project
- Future Year 2035
- Future Year 2035 Plus Project

Analysis Peak Hour: Sunday mid-day peak hour

LOS analysis methodology: ICU for signalized intersection and HCM for un-signalized intersection

Study Intersections
(Subject to City of Yorba Linda revision after initial impact analysis)

1. Imperial Highway & Prospect Ave
2. Imperial Highway & Los Angeles St
3. Imperial Highway & Bastanchury Rd
4. Imperial Highway & Valley View Ave

	Yes	No
Transit Usage		X
Transportation Demand Management		X
Existing Active Land Use		X
Previous Land Use		X
Internal Trip		X
Pass-By Trip		X

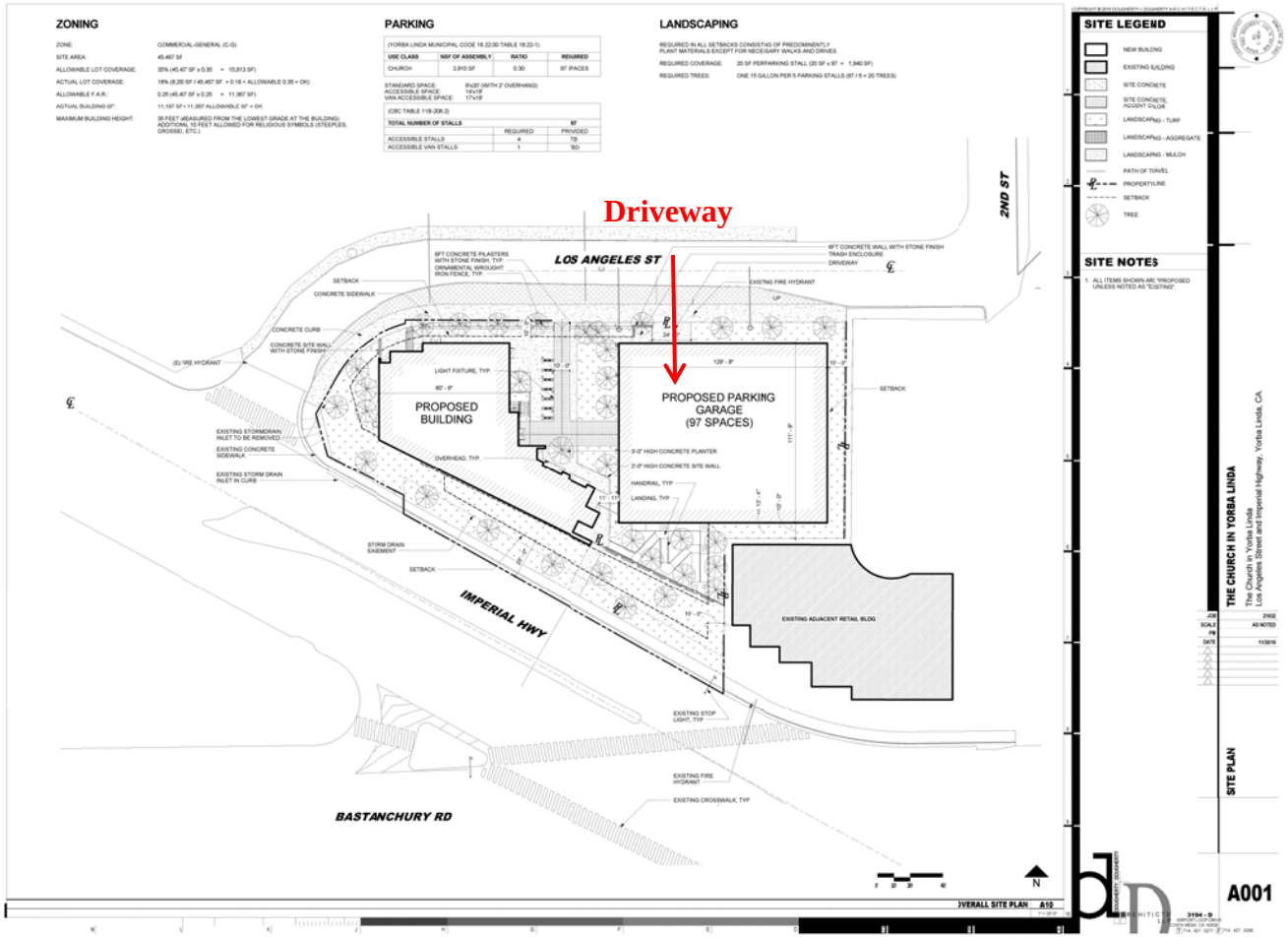
	Consultant	Developer
Name	Mengzhao Hu, KOA Corporation	Kasey Chang
Address	1100 Corporate Ctr. Dr., Ste. 201, Monterey Park, CA 91754	3812 Rose Dr, Yorba Linda, CA 92886
Phone No.	(323) 859-3145	626-780-7417
E-Mail	mhu@koacorp.com	klcc123@gmail.com

Approved by: _____ _____

Consultant's Representative Date City of Yorba Linda Representative Date

ATTACHMENT A

PROJECT SITE DIAGRAM



ATTACHMENT B

PROJECT STUDY AREA AND PROJECT TRIP DISTRIBUTION

ATTACHMENT C

PROJECT TRIP GENERATION TABLE

Trip Generation Based on Gross Floor Area

Land Use	ITE Code	Intensity		Daily	Sunday Midday		
					In	Out	Total
Trip Generation Rates							
Church	560	-	k.s.f.	36.63	49%	51%	12.04
Proposed Project							
Church	560	11.11	k.s.f.	407	66	68	134
Proposed Project Total				**407**	**66**	**68**	**134**

Source: ITE, Trip Generation Handbook, 9th Edition

Note: FP - Feuling Positions

k.s.f. - 1,000 Square feet Gross Floor Area

Trip Generation Based on Seating Capacity

Land Use	ITE Code	Intensity		Daily	Sunday Midday		
					In	Out	Total
Trip Generation Rates							
Church	560	-	Seats	1.85	50%	50%	0.61
Proposed Project							
Church	560	291	Seats	538	89	89	178
Proposed Project Total				**538**	**89**	**89**	**178**

Source: ITE, Trip Generation Handbook, 9th Edition

Note: FP - Feuling Positions

Appendix B – List of Cumulative Projects

#	Project	Location	Land Use	Occupancy Percentage OY	2040
City of Yorba Linda					
1	Tentative Tract Map 16208	South side of Bastanchury Road, east of Kerrigan Ranch Manor House and west of Yorba Linda High School, in the North Yorba Linda Estates PD (Planned Development) zone	168 Single Family Residential Dwelling Units	50%	100%
2	Hover/Bastanchury Holding Co.	Northwest corner of Bastanchury Road and Lakeview Avenue	47 Single Family Residential Dwelling Units	50%	100%
3	Oakcrest Heights	22744 Eastpark Drive, Yorba Linda, CA 92887	54 Apartment Units	0%	100%
4	Loma Vista (VTTM 18020)	18272 and 18278 Bastanchury Road, CA 92886	192 Condo/Townhomes	0%	100%
5	Cantebury Court	3811 Prospect Avenue, Yorba Linda, CA 92886	48 Single Family Residential Dwelling Units	50%	100%
6	Postal Annex SE Lemon & Eureka	SE Lemon & Eureka	5 Single Family Residential Dwelling Units	0%	100%
7	Yorba Linda Estates (TTM 18061)	5802 and 5842 Lakeview Avenue	22 Single Family Residential Dwelling Units	0%	100%
8	Yorba Linda Gardens (TTM 17928)	5225 and 5227 Highland Avenue	12 Single Family Residential Dwelling Units	0%	100%
9	SE Plumosa & Avolinda Drive	4622 Plumosa Drive	10 Multi-Family/Apartment Units	0%	100%
10	Lakeview & Mariposa	SE Mariposa Avenue and Lakeview Avenue	Senior living facility with a mix of 35 independent living units, 160 assisted living beds, and 55 memory care beds	0%	100%
11	Brandywine Provence	East side of Richfield Road, between Yorba Linda Boulevard to the north and Kennon Drive to the south	28 Single Family Residential Dwelling Units	50%	100%
12	Brandywine 15 (Highland Avenue)	5216 Highland Avenue	15 Single Family Residential Dwelling Units	50%	100%
13	Yorba Linda Town Center	Northeast corner of Yorba Linda Boulevard and Imperial Highway, between Main Street and Lakeview Avenue	151,738 Square Feet of Mixed-Use Commercial	50%	100%
14	Yorba Linda Library & Arts Center	4802 and 4852 Lakeview Avenue	45,000 square foot two-story public library and a 13,500 square foot one-story arts center with a 250-seat black box theater	50%	100%
County of Orange					
15	Cielo Vista	East of San Antonio Road and north of Stonehaven (Via Del Agua)	112 Single Family Residential Dwelling Units	0%	100%
16	Esperanza Hills	East of San Antonio Road and north of Stonehaven (Via Del Agua)	374 Singe Family Residential Dwelling Units	0%	100%
City of Anaheim					
17	Link OC (DEVE 2017-00031)	1091 N. Tustin Avenue, CA 92807	406 High Density Residential Dwelling Units	0%	100%
			5,000 Square Feet of Retail	0%	100%
18	Jellco (DEV2016-00072)	1265 N Van Buren, CA 92806	180,162 Square Feet Industrial use with 10,644 Square foot 2nd story Mezzanine	0%	100%
19	Tri Pointe Homes	4541 East Gale Drive, Anaheim, CA 92807	75 Single Family Residential Dwelling Units	50%	100%
20	Anaheim Hills 60	415 South Anaheim Hills Road, CA 92807	60 Single Family Residential Dwelling Units	0%	100%

21	Mountain Park Specific Plan	Gypsum Canyon, south of the Riverside (SR-91) Freeway	1,675 Single Family Residential Dwelling Units	0%	100%
			825 Condo/Townhomes	0%	100%
			3,000 Square Foot Convenience Market	0%	100%
			800 Student Elementrary School	0%	100%
City of Placentia					
22	HQT Homes	1548 Spruce Street, Placentia, CA 92870	10 Single-family Residential Dwelling Units	50%	100%
23	Placentia Veterans Village	401 E. Chapman Avenue, Placentia, CA 92870	50 High Density Residential Dwelling Units	50%	100%

Appendix C – Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

T717

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

DATE:	LOCATION:	Yorba Linda	PROJECT #:	SC
Sun, Oct 15, 17	NORTH & SOUTH:	Prospect	LOCATION #:	2
SUNDAY	EAST & WEST:	Imperial	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

☐ Add Bike Left Turns to Left Turns

INTERSECTION TURNING MOVEMENT COUNTS

	NORTHBOUND (Prospect)			SOUTHBOUND (Prospect)			EASTBOUND (Imperial)			WESTBOUND (Imperial)			
LANES:	NL 1	NT 0.5	NR 0.5	SL 1	ST 0.5	SR 0.5	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
11:00 AM	15	6	3	14	9	21	7	183	12	5	307	7	589
11:15 AM	11	7	2	11	7	17	14	191	11	5	322	9	607
11:30 AM	17	12	6	5	5	20	6	195	8	5	269	6	554
11:45 AM	14	3	9	8	6	10	13	234	10	3	317	7	634
12:00 PM	18	8	0	5	16	18	18	223	9	9	327	6	657
12:15 PM	15	4	0	7	10	6	8	237	8	5	307	3	610
12:30 PM	7	8	5	6	4	19	9	273	10	3	388	6	738
12:45 PM	8	10	5	7	4	11	12	304	10	2	334	4	711
1:00 PM	10	6	4	2	9	6	7	264	7	5	274	8	602
1:15 PM	9	8	2	6	3	17	16	289	10	8	266	3	637
1:30 PM	4	3	1	12	5	16	14	216	6	5	288	7	577
1:45 PM	46	10	10	7	6	15	13	257	5	3	285	5	662
2:00 PM	29	10	7	12	11	16	21	297	9	8	300	7	727
2:15 PM	8	13	3	6	8	15	7	277	10	3	278	7	635
2:30 PM	11	8	2	6	9	16	10	284	6	7	281	2	642
2:45 PM	7	6	1	8	12	12	16	262	6	4	281	2	617
VOLUMES	229	122	60	122	124	235	191	3,986	137	80	4,824	89	10,199
APPROACH %	56%	30%	15%	25%	26%	49%	4%	92%	3%	2%	97%	2%	
APP/DEPART	411	/	390	481	/	316	4,314	/	4,192	4,993	/	5,301	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	48	30	10	25	34	54	47	1,037	37	19	1,356	19	2,716
APPROACH %	55%	34%	11%	22%	30%	48%	4%	93%	3%	1%	97%	1%	
PEAK HR FACTOR		0.846			0.724			0.860			0.878		0.920
APP/DEPART	88	/	93	113	/	86	1,121	/	1,076	1,394	/	1,461	0

VEHICLE U-TURNS

NB	SB	EB	WB	TTL
0	0	2	3	5
0	0	3	2	5
0	0	0	0	0
0	1	1	0	2
0	0	1	2	3
0	0	1	1	2
0	0	1	0	1
0	0	0	1	1
0	0	1	3	4
0	0	0	3	3
0	0	0	2	2
0	0	0	2	2
0	0	0	2	2
0	0	1	1	2
0	0	2	1	3
0	0	0	2	2
0	1	13	25	39

BIKE LEFT TURNS

NL	SL	EL	WL	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	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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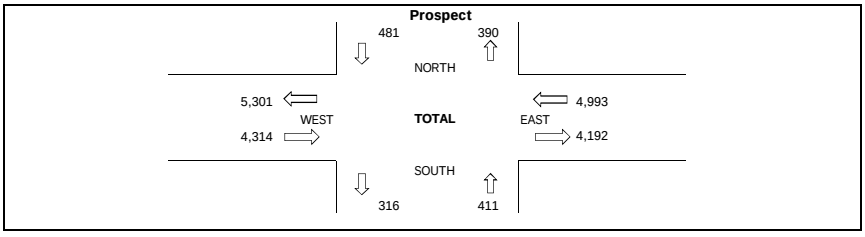
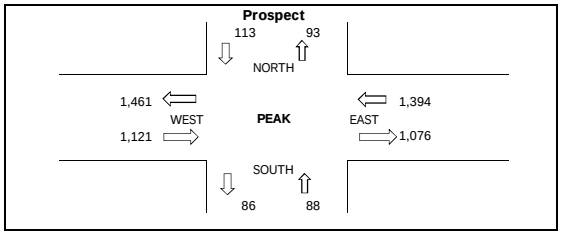
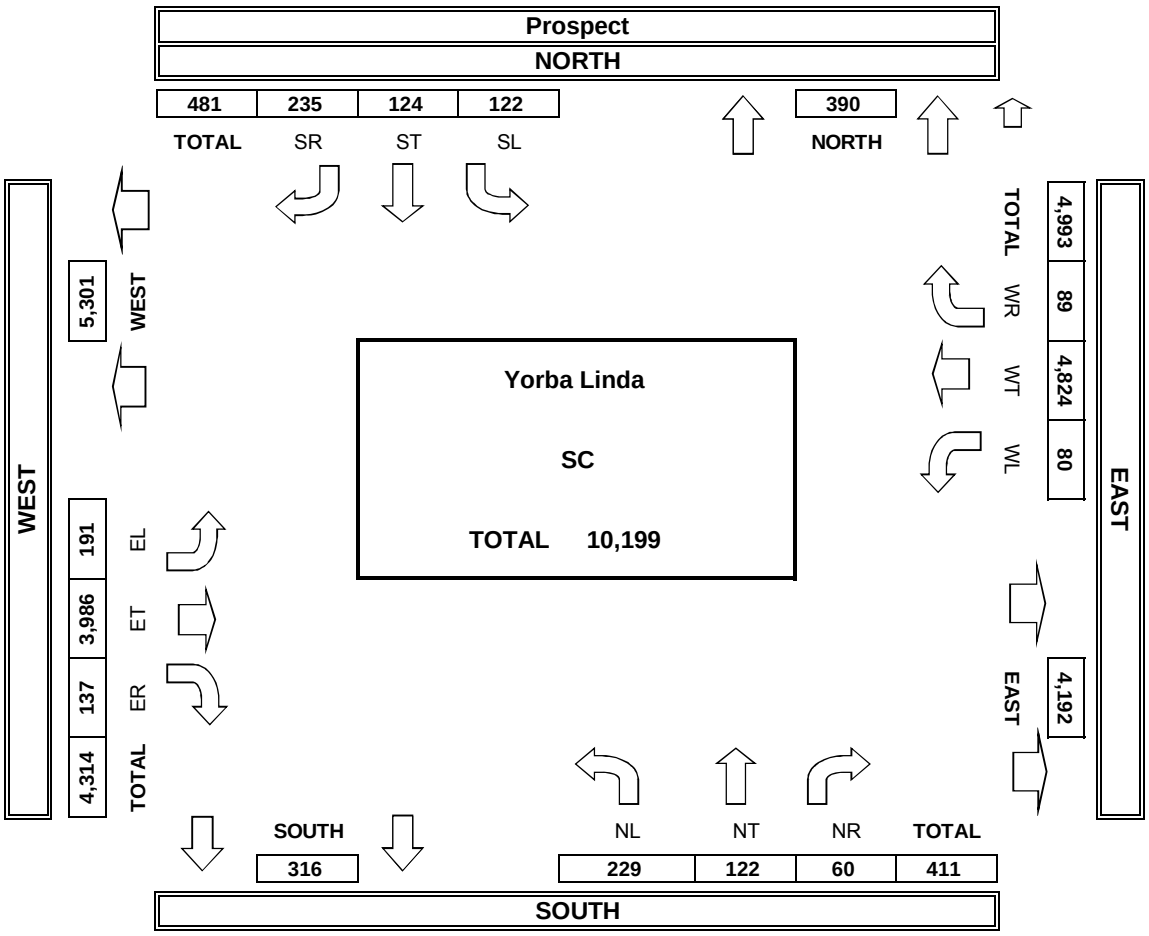
0	0	0	0	0

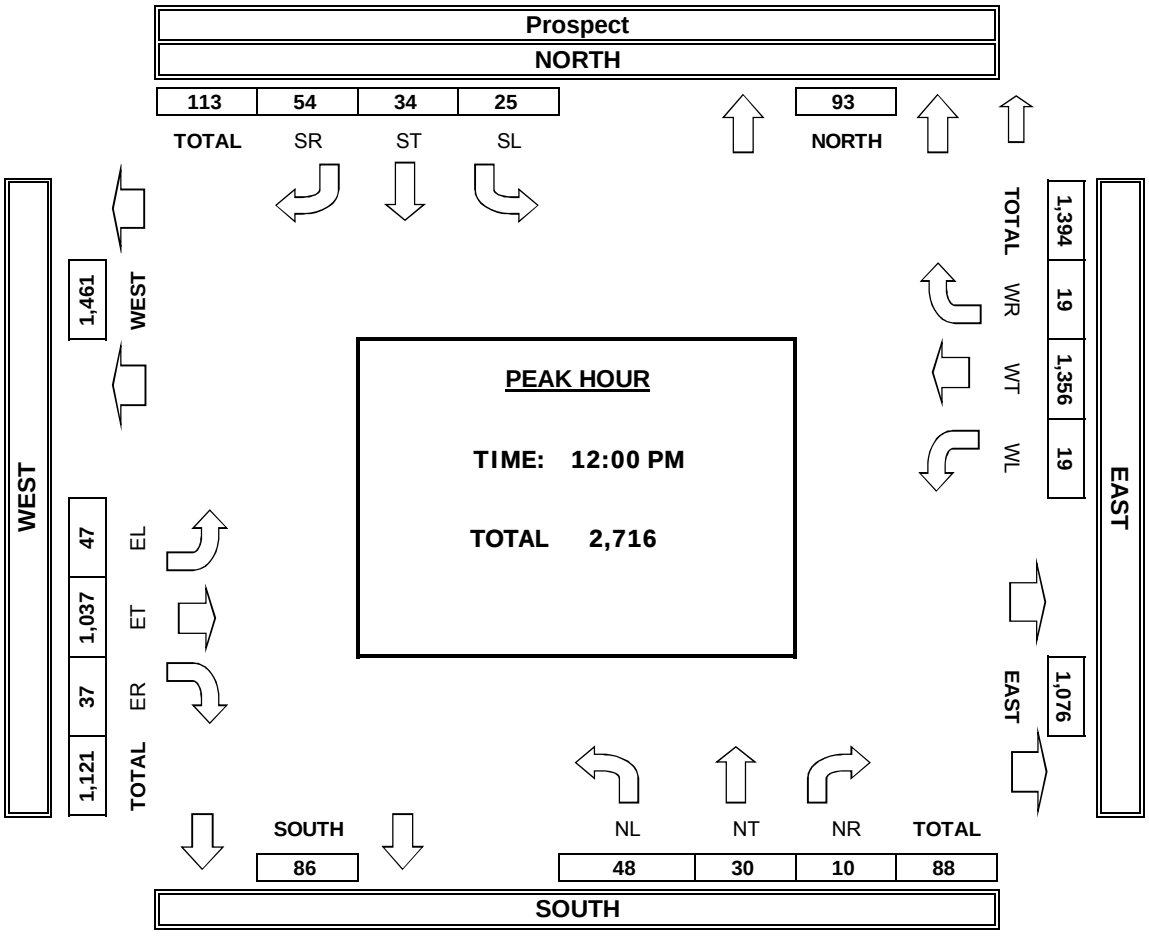




AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T717

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

DATE:	LOCATION:	Yorba Linda	PROJECT #:	SC
Sun, Oct 15, 17	NORTH & SOUTH:	Imperial	LOCATION #:	3
SUNDAY	EAST & WEST:	Los Angeles	CONTROL:	STOP W

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☐ Add U-Turns to Left Turns

☐ Add Bike Left Turns to Left Turns

	NORTHBOUND (Imperial)			SOUTHBOUND (Imperial)			EASTBOUND (Los Angeles)			WESTBOUND (Los Angeles)			
LANES:	NL X	NT 3	NR 0	SL 0	ST 3	SR X	EL X	ET X	ER X	WL X	WT X	WR 1	TOTAL
11:00 AM	0	311	0	7	233	0	0	0	0	0	0	5	556
11:15 AM	0	290	0	4	208	0	0	0	0	0	0	4	506
11:30 AM	0	291	2	4	229	0	0	0	0	0	0	7	533
11:45 AM	0	303	0	3	233	0	0	0	0	0	0	10	549
12:00 PM	0	323	0	10	243	0	0	0	0	0	0	7	583
12:15 PM	0	293	1	5	223	0	0	0	0	0	0	4	526
12:30 PM	0	396	0	5	317	0	0	0	0	0	0	5	723
12:45 PM	0	327	2	7	301	0	0	0	0	0	0	6	643
1:00 PM	0	307	2	7	297	0	0	0	0	0	0	9	622
1:15 PM	0	273	0	7	340	0	0	0	0	0	0	5	625
1:30 PM	0	313	0	6	277	0	0	0	0	0	0	8	604
1:45 PM	0	302	2	5	319	0	0	0	0	0	0	7	635
2:00 PM	0	273	1	11	302	0	0	0	0	0	0	4	591
2:15 PM	0	258	1	8	289	0	0	0	0	0	0	5	561
2:30 PM	0	275	1	5	315	0	0	0	0	0	0	5	601
2:45 PM	0	244	3	8	250	0	0	0	0	0	0	8	513
VOLUMES	0	4,779	15	102	4,376	0	0	0	0	0	0	99	9,373
APPROACH %	0%	100%	0%	2%	98%	0%	0%	0%	0%	0%	0%	100%	
APP/DEPART	4,795	/	4,879	4,479	/	4,377	0	/	117	99	/	0	0
BEGIN PEAK HR		12:30 PM											
VOLUMES	0	1,303	4	26	1,255	0	0	0	0	0	0	25	2,613
APPROACH %	0%	100%	0%	2%	98%	0%	0%	0%	0%	0%	0%	100%	
PEAK HR FACTOR		0.825			0.923			0.000			0.694		0.904
APP/DEPART	1,307	/	1,328	1,281	/	1,255	0	/	30	25	/	0	0

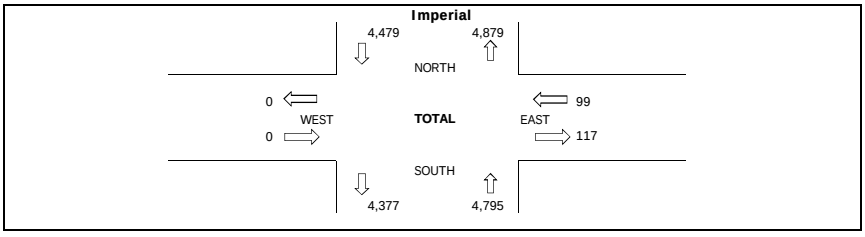
INTERSECTION TURNING MOVEMENT COUNTS

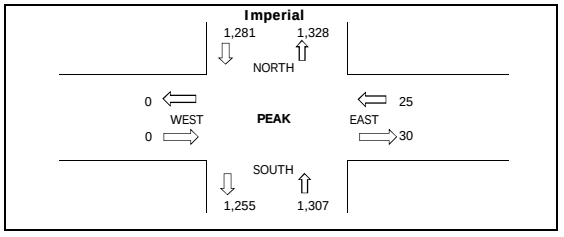
VEHICLE U-TURNS

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	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2

BIKE LEFT TURNS

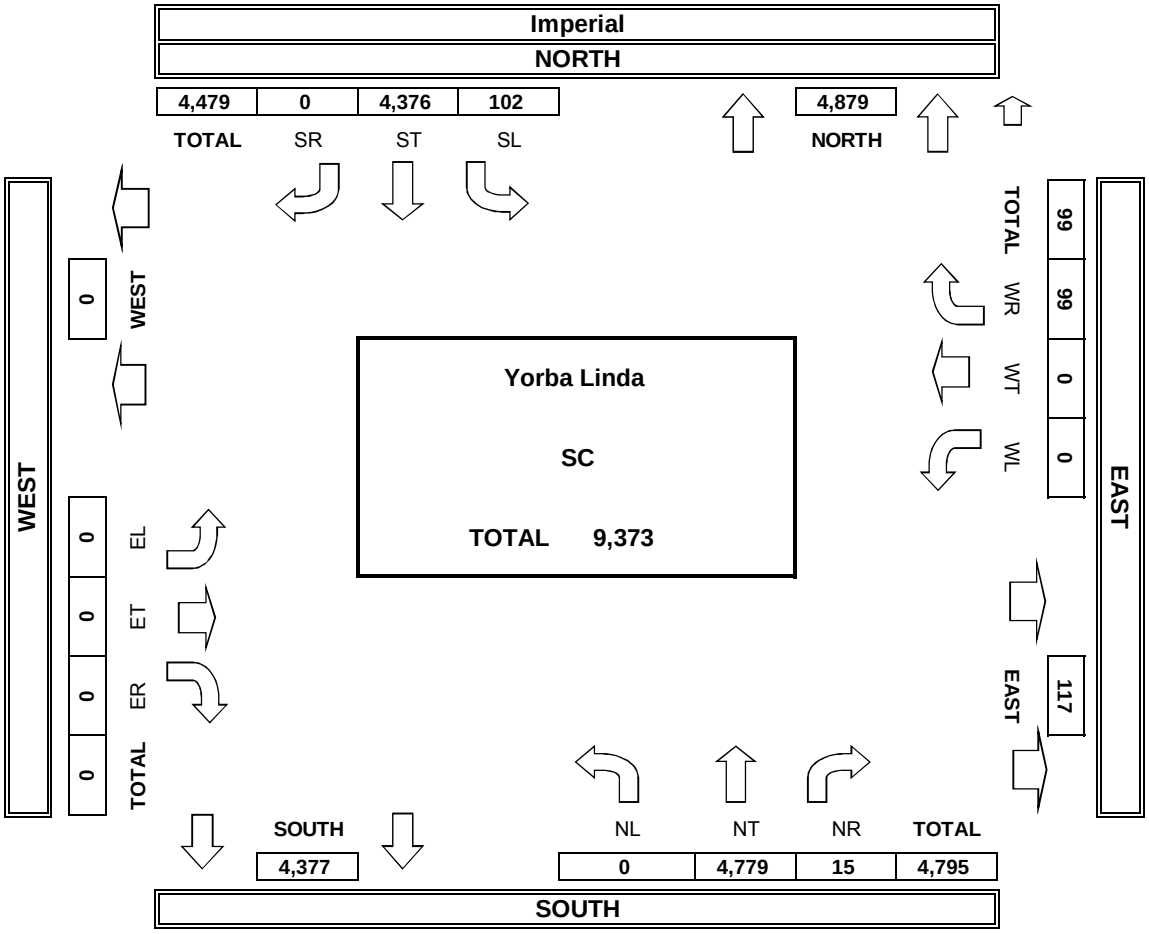
NL	SL	EL	WL	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

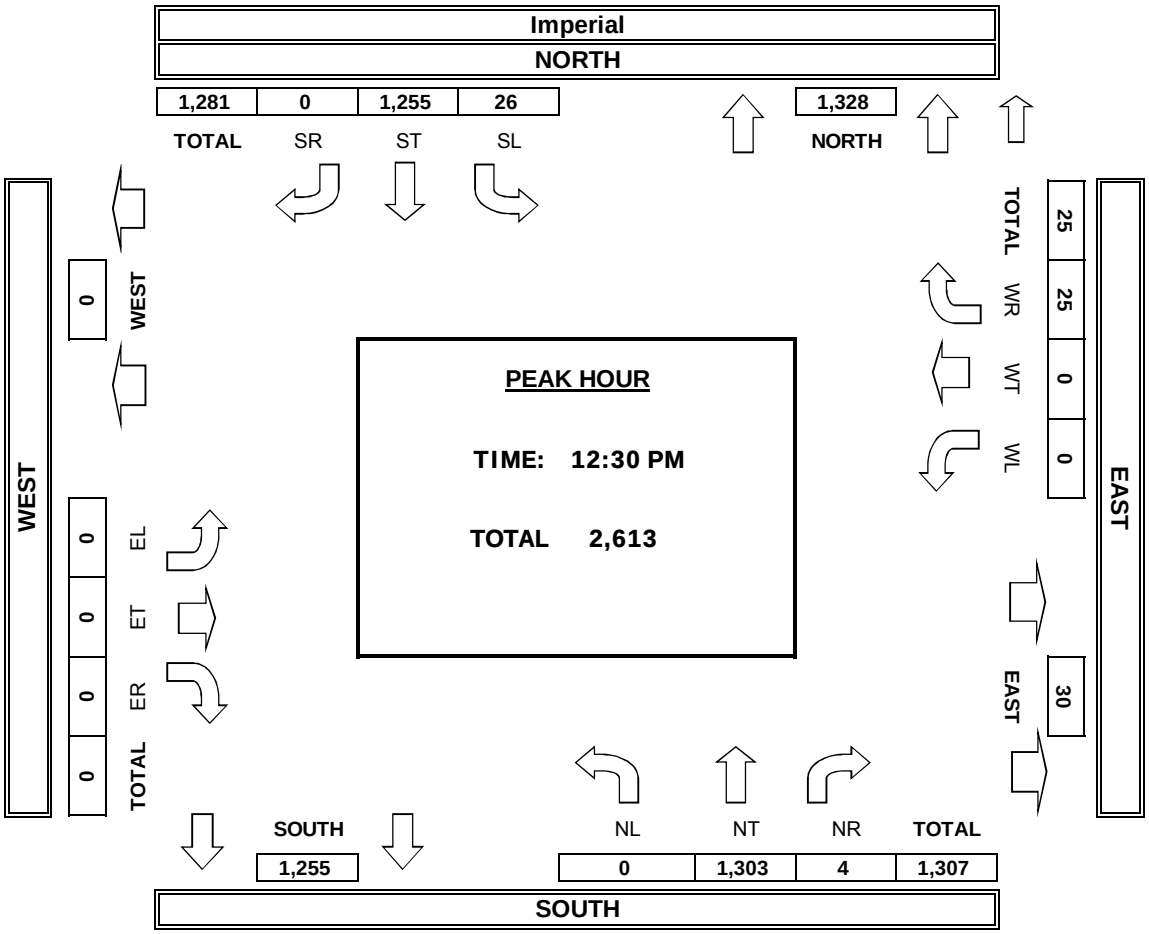




AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T717

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

DATE:	LOCATION:	Yorba Linda	PROJECT #:	SC
Sun, Oct 15, 17	NORTH & SOUTH:	Imperial	LOCATION #:	1
SUNDAY	EAST & WEST:	Bastanchury	CONTROL:	SIGNAL

NOTES:

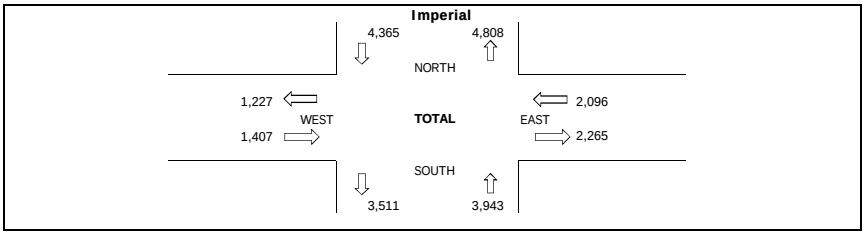
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

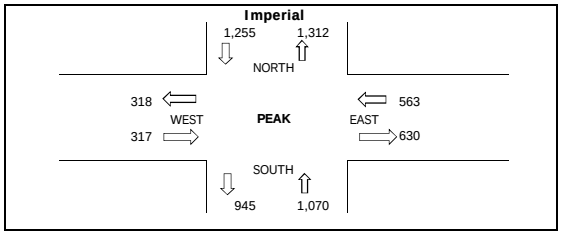
☑ Add U-Turns to Left Turns

☐ Add Bike Left Turns to Left Turns

INTERSECTION TURNING MOVEMENT COUNTS

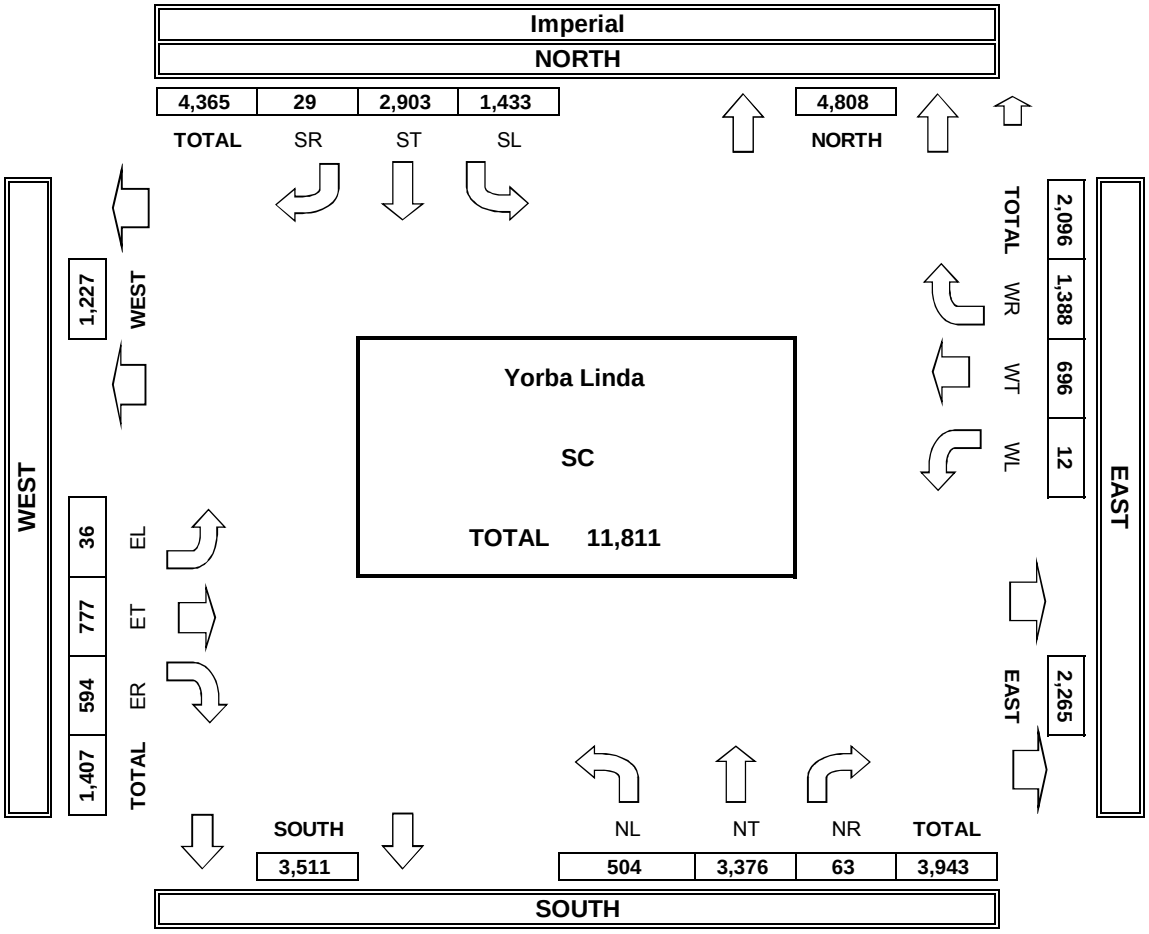
	NORTHBOUND (Imperial)			SOUTHBOUND (Imperial)			EASTBOUND (Bastanchury)			WESTBOUND (Bastanchury)				VEHICLE U-TURNS					BIKE LEFT TURNS				
LANES:	NL 1	NT 3	NR 1	SL 2	ST 3	SR 1	EL 1	ET 2	ER 0	WL 1	WT 1	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL	NL 0	SL 0	EL 0	WL 0	TTL
11:00 AM	49	220	5	56	173	4	3	44	33	0	59	87	733	0	1	0	0	1	0	0	0	0	0
11:15 AM	42	192	4	70	133	5	3	36	26	1	46	94	652	0	1	0	0	1	0	0	0	0	0
11:30 AM	46	202	7	83	143	3	3	39	46	0	50	87	709	0	1	0	0	1	0	0	0	0	0
11:45 AM	30	206	4	69	163	1	0	67	41	1	35	97	714	0	0	0	0	0	0	0	0	0	0
12:00 PM	33	236	3	78	165	0	3	38	33	0	44	83	716	0	1	0	0	1	0	0	0	0	0
12:15 PM	26	206	3	69	140	2	1	58	52	0	33	87	677	1	0	0	0	1	0	0	0	0	0
12:30 PM	25	297	4	110	205	2	4	40	27	2	44	99	859	0	1	0	0	1	0	0	0	0	0
12:45 PM	36	239	5	114	185	2	1	48	38	1	54	89	812	0	0	0	0	0	0	0	0	0	0
1:00 PM	32	214	3	113	182	2	3	42	34	3	51	92	771	0	0	0	0	0	0	0	0	0	0
1:15 PM	25	186	4	100	237	3	2	48	30	0	43	85	763	1	0	0	0	1	0	0	0	0	0
1:30 PM	23	223	3	77	200	0	3	40	41	1	28	87	726	0	0	0	0	0	0	0	0	0	0
1:45 PM	37	208	5	102	217	0	2	57	52	0	64	93	837	0	1	0	0	1	0	0	0	0	0
2:00 PM	23	203	4	86	217	0	3	71	43	0	39	72	761	0	0	0	0	0	0	0	0	0	0
2:15 PM	19	168	4	117	170	2	4	57	42	0	39	86	708	0	1	0	0	1	0	0	0	0	0
2:30 PM	28	200	2	101	212	2	1	45	27	0	35	79	732	0	1	0	0	1	0	0	0	0	0
2:45 PM	30	176	3	88	161	1	0	47	29	3	32	71	641	0	0	0	0	0	0	0	0	0	0
VOLUMES	504	3,376	63	1,433	2,903	29	36	777	594	12	696	1,388	11,811	2	8	0	0	10	0	0	0	0	0
APPROACH %	13%	86%	2%	33%	67%	1%	3%	55%	42%	1%	33%	66%											
APP/DEPART	3,943	/	4,808	4,365	/	3,511	1,407	/	2,265	2,096	/	1,227	0										
BEGIN PEAK HR		12:30 PM																					
VOLUMES	118	936	16	437	809	9	10	178	129	6	192	365	3,205										
APPROACH %	11%	87%	1%	35%	64%	1%	3%	56%	41%	1%	34%	65%											
PEAK HR FACTOR		0.821			0.923			0.911			0.964		0.933										
APP/DEPART	1,070	/	1,312	1,255	/	945	317	/	630	563	/	318	0										

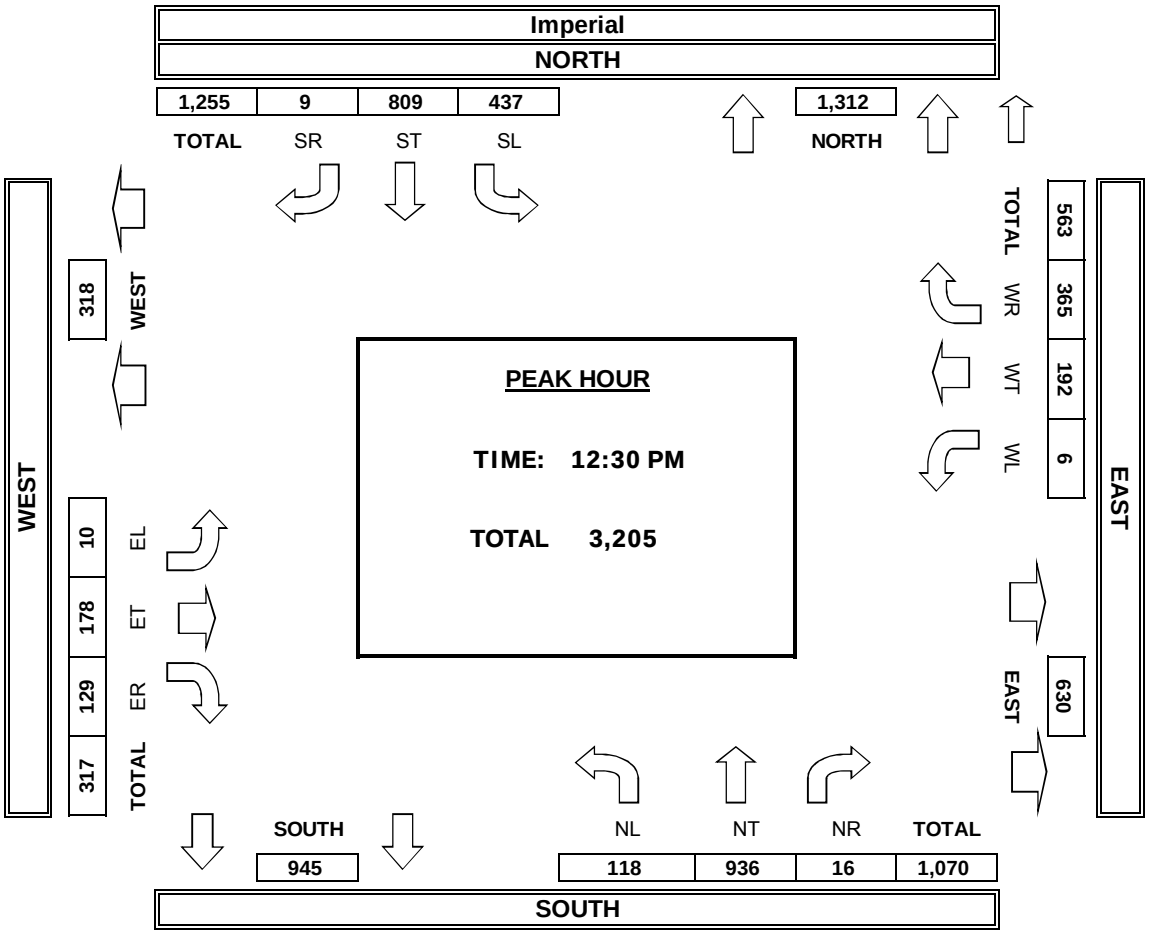




AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T717

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

DATE: Sun, Oct 15, 17 SUNDAY

LOCATION: Yorba Linda
NORTH & SOUTH: Valley View
EAST & WEST: Imperial

PROJECT #: SC
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

☐ Add Bike Left Turns to Left Turns

INTERSECTION TURNING MOVEMENT COUNTS

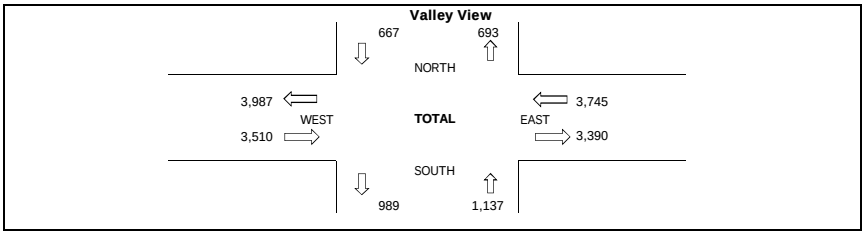
	NORTHBOUND (Valley View)			SOUTHBOUND (Valley View)			EASTBOUND (Imperial)			WESTBOUND (Imperial)			
LANES:	NL 1	NT 1	NR 1	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL
11:00 AM	39	29	8	19	25	2	2	175	38	11	227	14	589
11:15 AM	43	25	7	13	27	1	1	141	26	11	233	15	543
11:30 AM	30	17	9	13	20	1	1	168	20	5	219	11	514
11:45 AM	28	17	15	19	30	0	2	187	25	10	225	15	573
12:00 PM	39	36	3	11	33	1	0	161	28	3	231	11	557
12:15 PM	41	30	9	16	20	1	0	197	20	3	204	23	564
12:30 PM	48	22	8	15	26	2	7	182	30	1	276	14	631
12:45 PM	38	25	9	20	27	2	1	178	31	8	241	17	597
1:00 PM	26	25	3	12	22	1	4	203	28	4	216	15	559
1:15 PM	22	38	10	18	16	2	1	205	48	12	188	10	570
1:30 PM	40	28	15	16	20	3	5	180	42	12	188	19	568
1:45 PM	52	27	13	17	32	4	3	233	49	11	210	15	666
2:00 PM	47	37	10	17	30	0	7	203	34	3	193	16	597
2:15 PM	26	27	3	9	24	4	4	200	23	11	154	12	497
2:30 PM	21	23	9	15	19	0	0	199	25	9	201	20	541
2:45 PM	25	23	12	20	22	0	3	177	13	10	173	15	493
VOLUMES	565	429	143	250	393	24	41	2,989	480	124	3,379	242	9,059
APPROACH %	50%	38%	13%	37%	59%	4%	1%	85%	14%	3%	90%	6%	
APP/DEPART	1,137	/	693	667	/	989	3,510	/	3,390	3,745	/	3,987	0
BEGIN PEAK HR		1:15 PM											
VOLUMES	161	130	48	68	98	9	16	821	173	38	779	60	2,401
APPROACH %	47%	38%	14%	39%	56%	5%	2%	81%	17%	4%	89%	7%	
PEAK HR FACTOR		0.902			0.825			0.886			0.929		0.901
APP/DEPART	339	/	200	175	/	309	1,010	/	937	877	/	955	0

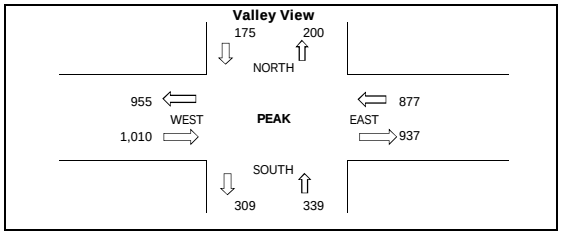
VEHICLE U-TURNS

NB	SB	EB	WB	TTL
0	0	1	0	1
0	0	1	0	1
0	0	1	1	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	2	2
0	0	3	0	3
0	0	0	0	0
0	0	3	0	3
0	0	0	0	0
0	0	3	0	3
0	0	3	1	4
0	0	0	2	2
0	0	1	2	3
0	0	19	8	27

BIKE LEFT TURNS

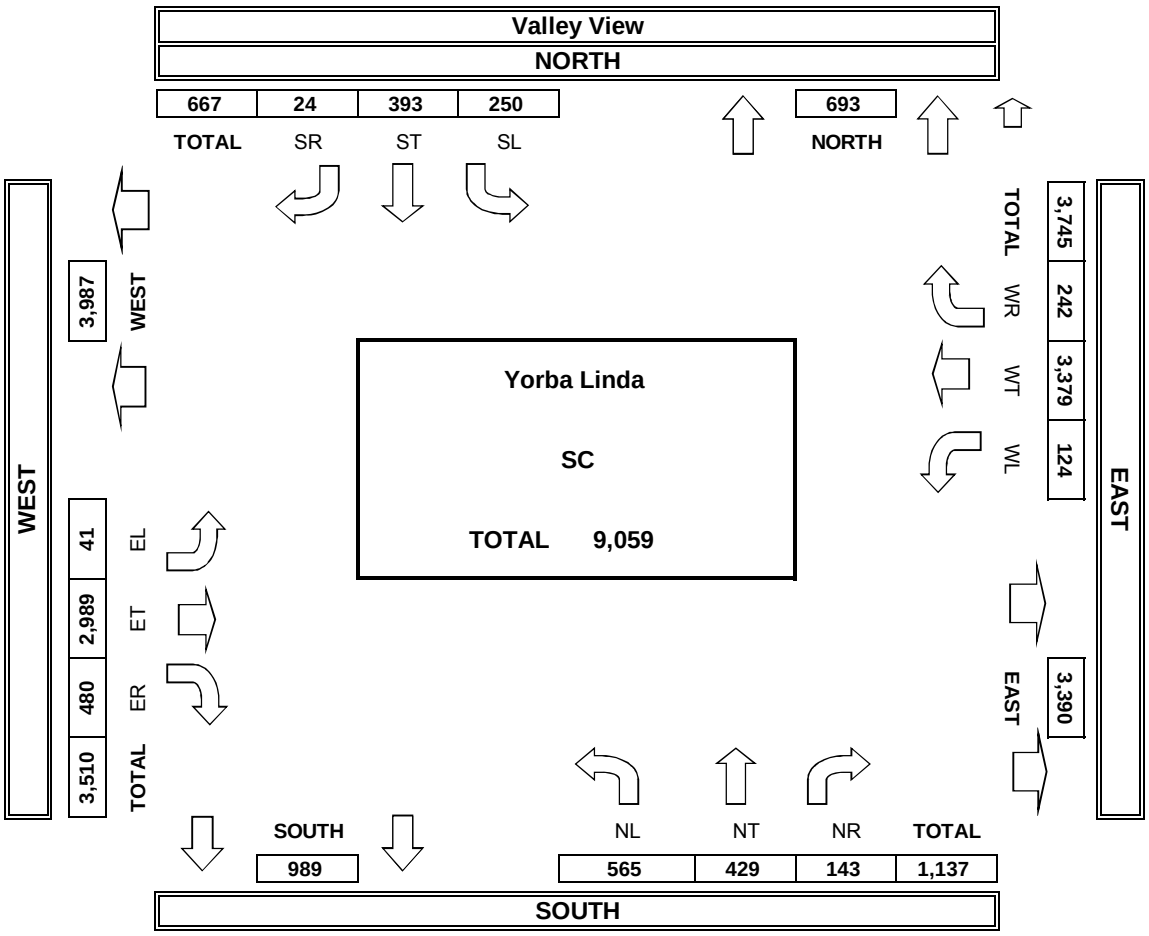
NL	SL	EL	WL	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

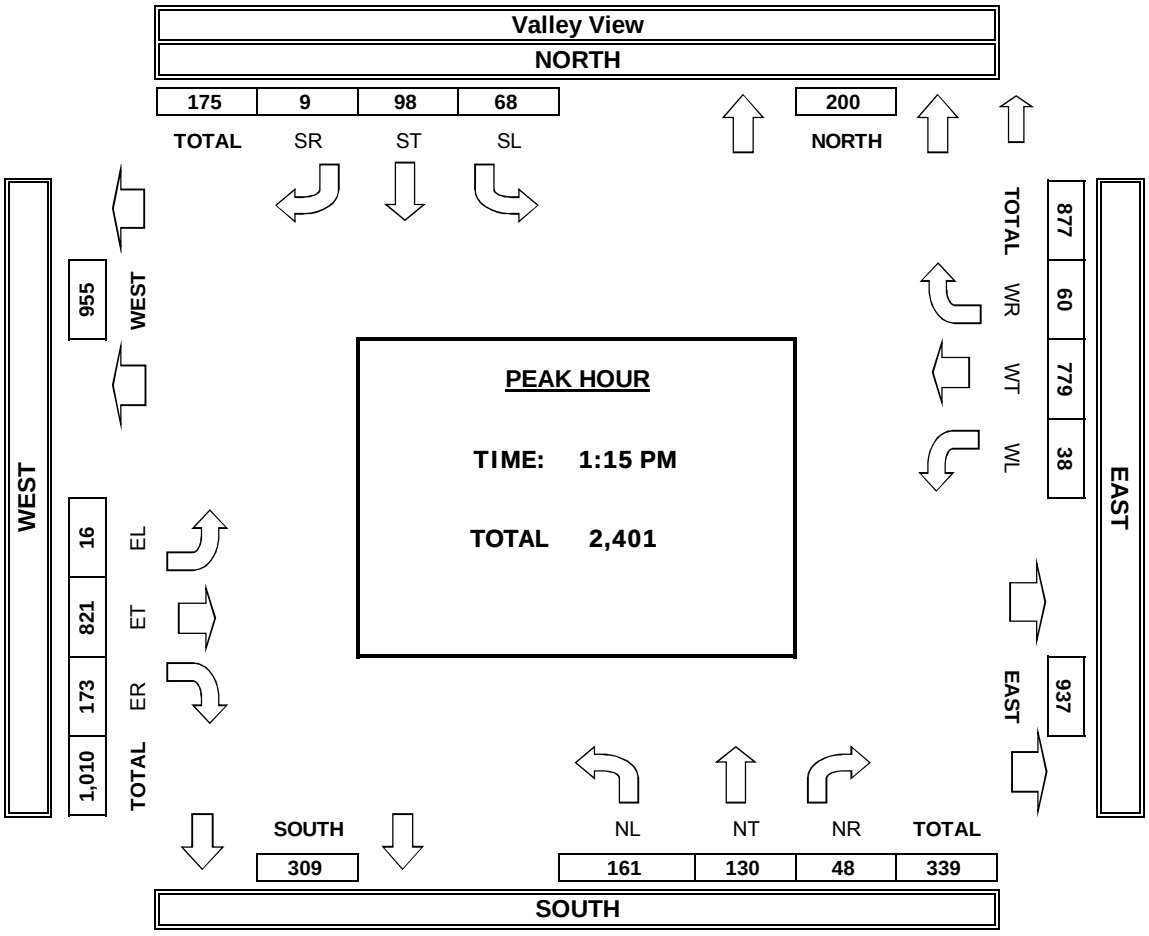




AimTD LLC

TURNING MOVEMENT COUNTS





Appendix D – Existing Year (2017) without Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Study
Existing Conditions
Sunday Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.477
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 1	0	1	0 2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	48	30	10	25	34	54	47	1037	37	19	1356	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	30	10	25	34	54	47	1037	37	19	1356	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	30	10	25	34	54	47	1037	37	19	1356	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	30	10	25	34	54	47	1037	37	19	1356	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	30	10	25	34	54	47	1037	37	19	1356	19
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.75	0.25	1.00	0.39	0.61	1.00	2.90	0.10	1.00	2.96	0.04
Final Sat.:	1700	1275	425	1700	657	1043	1700	4924	176	1700	5030	70
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.02	0.01	0.05	0.05	0.03	0.21	0.21	0.01	0.27	0.27
Crit Moves:	****			****			****				****	

Yorba Linda Church Study
Existing Conditions
Sunday Midday

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[12.1]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	0 0 1	1	0	3 0 0	0	0	2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	0	0	0	0	0	25	26	1255	0	0	1303	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	25	26	1255	0	0	1303	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	25	26	1255	0	0	1303	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	25	26	1255	0	0	1303	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	436	1307	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	574	536	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	574	536	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.05	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	11.6	12.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			11.6			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Study
Existing Conditions
Sunday Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.647
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	B

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	118	936	16	437	809	9	10	178	129	6	192	365
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	118	936	16	437	809	9	10	178	129	6	192	365
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	118	936	16	437	809	9	10	178	129	6	192	365
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	936	16	437	809	9	10	178	129	6	192	365
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	936	16	437	809	9	10	178	129	6	192	365
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.97	0.03	1.00	1.16	0.84	1.00	2.00	1.00
Final Sat.:	3060	5100	1700	3060	5044	56	1700	1971	1429	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.01	0.14	0.16	0.16	0.01	0.09	0.09	0.00	0.06	0.21
Crit Moves:		****		****			****					****

Yorba Linda Church Study
Existing Conditions
Sunday Midday

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.443
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	1 0	1	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	161	130	48	68	98	9	16	821	173	38	779	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	161	130	48	68	98	9	16	821	173	38	779	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	130	48	68	98	9	16	821	173	38	779	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	130	48	68	98	9	16	821	173	38	779	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	161	130	48	68	98	9	16	821	173	38	779	60
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.83	0.17	1.00	2.48	0.52	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3114	286	1700	4212	888	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.03	0.04	0.03	0.03	0.01	0.19	0.19	0.02	0.15	0.04
Crit Moves:	****				****			****		****		

Appendix E – Existing Year (2017) with Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Traffic Impact Study
Existing with Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.480
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0	0 1	0	1	0	2 1	0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	48	30	10	25	34	54	47	1037	37	19	1356	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	30	10	25	34	54	47	1037	37	19	1356	19
Added Vol:	0	0	2	1	0	0	0	14	0	74	14	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	48	30	12	26	34	54	47	1051	37	93	1370	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	30	12	26	34	54	47	1051	37	93	1370	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	30	12	26	34	54	47	1051	37	93	1370	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	30	12	26	34	54	47	1051	37	93	1370	20
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.39	0.61	1.00	2.90	0.10	1.00	2.96	0.04
Final Sat.:	1700	1214	486	1700	657	1043	1700	4927	173	1700	5027	73
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.02	0.02	0.05	0.05	0.03	0.21	0.21	0.05	0.27	0.27
Crit Moves:	****				****		****				****	

Yorba Linda Church Traffic Impact Study
Existing with Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[13.4]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	0	0	0 0	0 1	1	0 3	0 0	0	0 2	1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	0	0	0	0	0	25	26	1255	0	0	1303	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	25	26	1255	0	0	1303	4
Added Vol:	0	0	0	0	0	89	17	49	0	0	0	72
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	114	43	1304	0	0	1303	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	114	43	1304	0	0	1303	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	114	43	1304	0	0	1303	76
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	472	1379	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	544	504	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	544	504	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.21	0.09	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.8	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.4	12.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			13.4			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Traffic Impact Study
Existing with Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.670
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	118	936	16	437	809	9	10	178	129	6	192	365
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	118	936	16	437	809	9	10	178	129	6	192	365
Added Vol:	0	49	0	0	49	0	14	9	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	118	985	16	437	858	9	24	187	129	6	192	374
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	118	985	16	437	858	9	24	187	129	6	192	374
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	985	16	437	858	9	24	187	129	6	192	374
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	985	16	437	858	9	24	187	129	6	192	374
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.97	0.03	1.00	1.18	0.82	1.00	2.00	1.00
Final Sat.:	3060	5100	1700	3060	5047	53	1700	2012	1388	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.01	0.14	0.17	0.17	0.01	0.09	0.09	0.00	0.06	0.22
Crit Moves:		****		****			****					****

Yorba Linda Church Traffic Impact Study
Existing with Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.461
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	1 0	1	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	161	130	48	68	98	9	16	821	173	38	779	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	161	130	48	68	98	9	16	821	173	38	779	60
Added Vol:	13	0	0	0	0	0	0	36	13	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	174	130	48	68	98	9	16	857	186	38	815	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	130	48	68	98	9	16	857	186	38	815	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	130	48	68	98	9	16	857	186	38	815	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	130	48	68	98	9	16	857	186	38	815	60
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.83	0.17	1.00	2.47	0.53	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3114	286	1700	4191	909	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.03	0.04	0.03	0.03	0.01	0.20	0.20	0.02	0.16	0.04
Crit Moves:	****				****				****		****	

Appendix F – Opening Year (2019) without Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Traffic Impact Study
Opening Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 1	0	1	0 2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	48	30	10	25	34	54	47	1037	37	19	1356	19
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	49	31	10	26	35	55	48	1058	38	19	1383	19
Added Vol:	0	0	0	0	0	0	0	348	0	0	286	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	31	10	26	35	55	48	1406	38	19	1669	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	31	10	26	35	55	48	1406	38	19	1669	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	31	10	26	35	55	48	1406	38	19	1669	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	31	10	26	35	55	48	1406	38	19	1669	19
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.75	0.25	1.00	0.39	0.61	1.00	2.92	0.08	1.00	2.97	0.03
Final Sat.:	1700	1275	425	1700	657	1043	1700	4967	133	1700	5041	59
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.02	0.02	0.05	0.05	0.03	0.28	0.28	0.01	0.33	0.33
Crit Moves:	****				****		****				****	

Yorba Linda Church Traffic Impact Study
Opening Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[14.4]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	0 0 1	1	0	3 0 0	0	0	2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	0	0	0	0	0	25	26	1255	0	0	1303	4
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	0	0	0	0	26	27	1280	0	0	1329	4
Added Vol:	0	0	0	0	0	0	0	348	0	0	286	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	26	27	1628	0	0	1615	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	26	27	1628	0	0	1615	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	26	27	1628	0	0	1615	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	540	1619	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	491	408	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	491	408	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.07	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.7	14.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			12.7			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Traffic Impact Study
Opening Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.717
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	118	936	16	437	809	9	10	178	129	6	192	365
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	120	955	16	446	825	9	10	182	132	6	196	372
Added Vol:	34	261	0	26	321	0	0	26	42	0	24	25
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	1216	16	472	1146	9	10	208	174	6	220	397
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	1216	16	472	1146	9	10	208	174	6	220	397
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	1216	16	472	1146	9	10	208	174	6	220	397
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	1216	16	472	1146	9	10	208	174	6	220	397
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.98	0.02	1.00	1.09	0.91	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	5059	41	1700	1852	1548	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.01	0.14	0.23	0.23	0.01	0.11	0.11	0.00	0.06	0.23
Crit Moves:		****		****			****					****

Yorba Linda Church Traffic Impact Study
Opening Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.524
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	1 0	1	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	161	130	48	68	98	9	16	821	173	38	779	60
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	164	133	49	69	100	9	16	837	176	39	795	61
Added Vol:	2	3	0	0	3	0	0	362	2	0	293	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	166	136	49	69	103	9	16	1199	178	39	1088	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	166	136	49	69	103	9	16	1199	178	39	1088	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	166	136	49	69	103	9	16	1199	178	39	1088	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	166	136	49	69	103	9	16	1199	178	39	1088	61
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.84	0.16	1.00	2.61	0.39	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3122	278	1700	4439	661	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.03	0.04	0.03	0.03	0.01	0.27	0.27	0.02	0.21	0.04
Crit Moves:	****				****			****			****	

Appendix G – Opening Year (2019) with Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Traffic Impact Study
Opening Year w/ Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.544
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 1	0	1	0 2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	48	30	10	25	34	54	47	1037	37	19	1356	19
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	49	31	10	26	35	55	48	1058	38	19	1383	19
Added Vol:	0	0	2	1	0	0	0	362	0	74	300	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	31	12	27	35	55	48	1420	38	93	1683	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	31	12	27	35	55	48	1420	38	93	1683	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	31	12	27	35	55	48	1420	38	93	1683	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	31	12	27	35	55	48	1420	38	93	1683	20
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.39	0.61	1.00	2.92	0.08	1.00	2.96	0.04
Final Sat.:	1700	1215	485	1700	657	1043	1700	4968	132	1700	5039	61
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.02	0.05	0.05	0.03	0.29	0.29	0.05	0.33	0.33
Crit Moves:	****			****			****				****	

Yorba Linda Church Traffic Impact Study
Opening Year w/ Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[15.6]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	0 0 1	1	0	3 0 0	0	0	2 1 0
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	0	0	0	0	0	25	26	1255	0	0	1303	4
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	0	0	0	0	0	26	27	1280	0	0	1329	4
Added Vol:	0	0	0	0	0	89	17	396	0	0	286	72
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	115	44	1676	0	0	1615	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	115	44	1676	0	0	1615	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	115	44	1676	0	0	1615	76
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	576	1691	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	465	383	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	465	383	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.25	0.11	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	1.0	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	15.2	15.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	C	C	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			15.2			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Traffic Impact Study
Opening Year w/ Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.740
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	118	936	16	437	809	9	10	178	129	6	192	365
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	120	955	16	446	825	9	10	182	132	6	196	372
Added Vol:	34	310	0	26	370	0	14	35	42	0	24	34
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	1265	16	472	1195	9	24	217	174	6	220	406
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	1265	16	472	1195	9	24	217	174	6	220	406
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	1265	16	472	1195	9	24	217	174	6	220	406
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	1265	16	472	1195	9	24	217	174	6	220	406
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.98	0.02	1.00	1.11	0.89	1.00	2.00	1.00
Final Sat.:	3400	5100	1700	3400	5061	39	1700	1887	1513	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.01	0.14	0.24	0.24	0.01	0.11	0.11	0.00	0.06	0.24
Crit Moves:		****		****			****					****

Yorba Linda Church Traffic Impact Study
Opening Year w/ Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.541
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	1 0	1	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 15 Oct 2017 <<												
Base Vol:	161	130	48	68	98	9	16	821	173	38	779	60
Growth Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Initial Bse:	164	133	49	69	100	9	16	837	176	39	795	61
Added Vol:	15	3	0	0	3	0	0	397	15	0	329	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	136	49	69	103	9	16	1234	191	39	1124	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	136	49	69	103	9	16	1234	191	39	1124	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	136	49	69	103	9	16	1234	191	39	1124	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	136	49	69	103	9	16	1234	191	39	1124	61
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.84	0.16	1.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3122	278	1700	4415	685	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.03	0.04	0.03	0.03	0.01	0.28	0.28	0.02	0.22	0.04
Crit Moves:	****				****			****			****	

Appendix H – Future Year (2035) without Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Traffic Impact Study
Future Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 1	0	1	0 2 1 0
Volume Module:												
Base Vol:	56	35	12	29	39	62	54	1406	43	22	1669	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	35	12	29	39	62	54	1406	43	22	1669	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	35	12	29	39	62	54	1406	43	22	1669	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	35	12	29	39	62	54	1406	43	22	1669	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	35	12	29	39	62	54	1406	43	22	1669	22
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.74	0.26	1.00	0.39	0.61	1.00	2.91	0.09	1.00	2.96	0.04
Final Sat.:	1700	1266	434	1700	656	1044	1700	4949	151	1700	5034	66
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.02	0.06	0.06	0.03	0.28	0.28	0.01	0.33	0.33
Crit Moves:	****			****			****				****	

Yorba Linda Church Traffic Impact Study
Future Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[14.5]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	0 0 1	1	0	3 0 0	0	0	2 1 0
Volume Module:												
Base Vol:	0	0	0	0	0	29	30	1628	0	0	1615	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	29	30	1628	0	0	1615	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	29	30	1628	0	0	1615	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	29	30	1628	0	0	1615	5
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	541	1620	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	491	407	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	491	407	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.07	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.8	14.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	B	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			12.8			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Traffic Impact Study
Future Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 2	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	154	1216	16	472	1146	10	11	208	174	7	220	456
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	1216	16	472	1146	10	11	208	174	7	220	456
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	1216	16	472	1146	10	11	208	174	7	220	456
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	1216	16	472	1146	10	11	208	174	7	220	456
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	1216	16	472	1146	10	11	208	174	7	220	456
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.97	0.03	1.00	1.09	0.91	1.00	2.00	1.00
Final Sat.:	3060	5100	1700	3060	5056	44	1700	1851	1549	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.01	0.15	0.23	0.23	0.01	0.11	0.11	0.00	0.06	0.27
Crit Moves:		****		****			****					****

Yorba Linda Church Traffic Impact Study
Future Year w/o Project Condition
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.588
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	1 0	1	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	223	176	52	77	150	13	21	1199	244	44	1088	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	176	52	77	150	13	21	1199	244	44	1088	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	176	52	77	150	13	21	1199	244	44	1088	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	176	52	77	150	13	21	1199	244	44	1088	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	176	52	77	150	13	21	1199	244	44	1088	64
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.84	0.16	1.00	2.49	0.51	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3129	271	1700	4238	862	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.13	0.10	0.03	0.05	0.05	0.05	0.01	0.28	0.28	0.03	0.21	0.04
Crit Moves:	****				****			****			****	

Appendix I – Future Year (2035) with Project Conditions Intersection Analysis Worksheets

Yorba Linda Church Traffic Impact Study
Future with Project Conditions
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Prospect Avenue & Imperial Highway

Cycle (sec): 100 Critical Vol./Cap.(X): 0.559
Loss Time (sec): 10 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Street Name:	Prospect Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 0 1	0	1	0 2 1	0	1	0 2 1 0
Volume Module:												
Base Vol:	56	35	12	29	39	62	54	1406	43	22	1669	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	35	12	29	39	62	54	1406	43	22	1669	22
Added Vol:	0	0	2	1	0	0	0	14	0	74	14	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	35	14	30	39	62	54	1420	43	96	1683	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	35	14	30	39	62	54	1420	43	96	1683	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	35	14	30	39	62	54	1420	43	96	1683	23
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	35	14	30	39	62	54	1420	43	96	1683	23
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.39	0.61	1.00	2.91	0.09	1.00	2.96	0.04
Final Sat.:	1700	1214	486	1700	656	1044	1700	4950	150	1700	5031	69
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.02	0.06	0.06	0.03	0.29	0.29	0.06	0.33	0.33
Crit Moves:	****				****		****				****	

Yorba Linda Church Traffic Impact Study
Future with Project Conditions
Sunday Midday Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Los Angeles Street & Imperial Highway

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[15.7]

Street Name:	Los Angeles Street						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	0 0 0	0	0	0 0 1	1	0	3 0 0	0	0	2 1 0
Volume Module:												
Base Vol:	0	0	0	0	0	29	30	1628	0	0	1615	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	29	30	1628	0	0	1615	5
Added Vol:	0	0	0	0	0	89	17	49	0	0	0	72
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	118	47	1677	0	0	1615	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	118	47	1677	0	0	1615	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	118	47	1677	0	0	1615	77
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	577	1692	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	465	382	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	465	382	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.25	0.12	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	1.0	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	15.4	15.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	C	C	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			15.4			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Yorba Linda Church Traffic Impact Study
Future with Project Conditions
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Imperial Highway & Bastanchury Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.791
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	C

Street Name:	Imperial Highway						Bastanchury Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	2	0	2	1	0	1	0	1	1	0	1	0	2	0	1
Volume Module:												
Base Vol:	154	1216	16	472	1146	10	11	208	174	7	220	456
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	1216	16	472	1146	10	11	208	174	7	220	456
Added Vol:	0	49	0	0	49	0	14	9	0	0	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	1265	16	472	1195	10	25	217	174	7	220	465
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	154	1265	16	472	1195	10	25	217	174	7	220	465
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	154	1265	16	472	1195	10	25	217	174	7	220	465
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	154	1265	16	472	1195	10	25	217	174	7	220	465
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.98	0.02	1.00	1.11	0.89	1.00	2.00	1.00
Final Sat.:	3060	5100	1700	3060	5058	42	1700	1887	1513	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.01	0.15	0.24	0.24	0.01	0.12	0.11	0.00	0.06	0.27
Crit Moves:		****		****			****					****

Yorba Linda Church Traffic Impact Study
Future with Project Conditions
Sunday Midday Peak Hour

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Valley View Avenue & Imperial Highway

Cycle (sec):	100	Critical Vol./Cap.(X):	0.605
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	B

Street Name:	Valley View Avenue						Imperial Highway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	1	1	0	1	1	0	2	1	0	1	0	3	0	1
Volume Module:												
Base Vol:	223	176	52	77	150	13	21	1199	244	44	1088	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	176	52	77	150	13	21	1199	244	44	1088	64
Added Vol:	13	0	0	0	0	0	0	36	13	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	176	52	77	150	13	21	1235	257	44	1124	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	176	52	77	150	13	21	1235	257	44	1124	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	176	52	77	150	13	21	1235	257	44	1124	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	236	176	52	77	150	13	21	1235	257	44	1124	64
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.84	0.16	1.00	2.48	0.52	1.00	3.00	1.00
Final Sat.:	1700	1700	1700	1700	3129	271	1700	4222	878	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.14	0.10	0.03	0.05	0.05	0.05	0.01	0.29	0.29	0.03	0.22	0.04
Crit Moves:	****				****			****			****	