TRANSPORTATION ANALYSIS

FRIENDS CHRISTIAN SCHOOL

YORBA LINDA, CALIFORNIA

LSA

March 2026

TRANSPORTATION ANALYSIS

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YORBA LINDA, CALIFORNIA

Submitted to:

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LIST OF ABBREVIATIONS AND ACRONYMS

CA-MUTCD	California supplement of the Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Yorba Linda
HCM	Highway Capacity Manual
HDM	Highway Design Manual (Caltrans)
ICU	intersection capacity utilization
ITE	Institute of Transportation Engineers
LOS	level of service
mph	miles per hour
NOCC	North Orange County Cities
OCTAM	Orange County Transportation Analysis Model
project	Friends Christian School
SR	State Route
TAZ	traffic analysis zone
v/c	volume-to-capacity
VMT	vehicle miles traveled

TRANSPORTATION ANALYSIS

INTRODUCTION

Friends Church is a large-congregation church located at 5091 Mountain View Avenue in Yorba Linda. Friends Church holds two services on Sunday at 9:00 a.m. and 11:00 a.m. A second sanctuary for Amigos tu Iglesia is located within the church campus at 5211 Lakeview Avenue. This sanctuary holds Spanish-language services at 11:00 a.m. on Sunday. The church operates a preschool during the week within the main sanctuary building. A separate school building within the campus at 5151 Lakeview Avenue houses Friends Christian School. This school currently provides instruction for kindergarten through fourth grade. The locations of these facilities are illustrated on Figure 1.

Friends Middle School, located at 4231 Rose Drive in Yorba Linda, is affiliated with Friends Church and Friends Christian School and offers instruction for grades 5 through 8.

Friends Christian School is proposing to construct additional school rooms at 5151 Lakeview Avenue and move fifth grade to Friends Christian School. Grades 6 through 8 would continue to be offered at Friends Middle School. Vehicle trips associated with fifth grade already occur within Yorba Linda, as they are currently housed on the campus at 4231 Rose Drive. However, additional vehicle trips would travel to 5151 Lakeview Avenue as a result of the proposed project. This report analyzes the level of service (LOS) at intersections near the Friends Christian School campus and makes recommendations if the LOS would fall below local standards. The report analyzes LOS for existing conditions (based on 2026 traffic volumes), opening year (anticipated traffic volumes in the 2028 opening year, including cumulative projects), and horizon year (with buildout of the General Plan). The report also addresses whether unsignalized intersections warrant signalization, vehicle miles traveled (VMT), and parking availability.

Study Area

LSA coordinated with the City of Yorba Linda (City) and identified eight intersections to include in the study area. Seven of the study intersections are on the public roadway system. One intersection is within the project site. The intersections analyzed in this report are shown below and illustrated on Figure 2.

1. Eureka Avenue/Yorba Linda Boulevard
2. Mountain View Avenue/Yorba Linda Boulevard
3. Highland Avenue/Mountain View Avenue
4. Imperial Highway/Yorba Linda Boulevard
5. Lakeview Avenue/Yorba Linda Boulevard
6. Lakeview Avenue/Buena Vista Avenue (unsignalized)
7. Lakeview Avenue/Private Roadway (unsignalized)
8. Upper Campus Drop-off and Pick-up Zone/Private Roadway (unsignalized)

LSA

Project Location

FIGURE 1

N

0 333 667

FEET

SOURCE: Google Maps

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3/12/2026 7:40 PM

Friend Christian School Project

Project Location

LSA

Project Location

Study Area Intersections

FIGURE 2

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FEET

SOURCE: Google Maps

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Friend Christian School Project

Study Area

Methodology

The *City of Yorba Linda Traffic Impact Analysis Guidelines* (May 2020) specify that intersection analysis be performed by the Intersection Capacity Utilization (ICU) methodology. This methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The ICU methodology was applied to all study intersections using Traffix traffic analysis software. Study intersections that are unsignalized were also analyzed applying Highway Capacity Manual (HCM) methodology using Synchro traffic analysis software. HCM methodology calculates the delay experienced by vehicles passing through the intersection.

The resulting ICU or delay is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. LOS is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. LOS criteria for signalized intersections using the ICU methodology are presented in the tables below.

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

LOS = level of service

The relationship between LOS and the ICU value (i.e., the v/c ratio) is as follows:

Level of Service	Intersection Capacity Utilization
A	≤ 0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	> 1.00

Source: *Yorba Linda Housing Element Update Traffic Analysis* (City of Yorba Linda).

The relationship between LOS and the HCM delay is as follows:

Level of Service	Signalized Intersection Delay per Vehicle (seconds)	Unsignalized Intersection Delay per Vehicle (seconds)
A	< 10.0	< 10.0
B	> 10.0 and < 20.0	> 10.0 and < 15.0
C	> 20.0 and < 35.0	> 15.0 and < 25.0
D	> 35.0 and < 55.0	> 25.0 and < 35.0
E	> 55.0 and < 80.0	> 35.0 and < 50.0
F	> 80.0	> 50.0

The City has established LOS D as the minimum satisfactory LOS that should be maintained during the a.m. and p.m. peak commute hours. A project is determined to have an effect on an intersection if an intersection functioning at a satisfactory LOS would operate at an unsatisfactory LOS with the addition of project traffic. An intersection operating at LOS E or F without project traffic would be affected by a project if project traffic causes a 0.01 increase in the v/c ratio.

School Traffic Operation

Preschool hours of operation are 9:00 a.m. to 1:00 p.m., but parents can pay for extended hours of care between 8:00 a.m. and 9:00 a.m. or from 1:00 p.m. to 6:00 p.m.

Elementary school hours of operation are 8:45 a.m. to 3:00 p.m., but parents can pay for extended hours of care between 7:00 a.m. and 8:45 a.m. or from 3:00 p.m. to 6:00 p.m.

Table A summarizes school operating hours.

Table A: School Hours of Operation

	Preschool	Elementary School
Morning Extended Hours[1]	8:00 a.m. to 9:00 a.m.	7:00 a.m. to 8:45 a.m.
Regular Hours	9:00 a.m. to 1:00 p.m.	8:45 a.m. to 3:00 p.m.
Afternoon Extended Hours[1]	1:00 p.m. to 6:00 p.m.	3:00 p.m. to 6:00 p.m.

[1] Extended hours offered for an additional expense.

Access to the church campus is possible from Yorba Linda Boulevard via the intersection with Mountain View Avenue. South of Yorba Linda Boulevard, Mountain View Avenue intersects with Highland Avenue. The roadbed of Mountain View Avenue continues east of the intersection with Highland Avenue but this is a private roadway. The private roadway continues through the campus and connects to Lakeview Avenue. East of Highland Avenue and west of Lakeview Avenue, the private roadway has gates that can be closed to control access to and through the campus.

Morning

The official school drop-off times are posted as 8:25 a.m. to 8:45 a.m. Because extended care is available as early as 7:00 a.m. and the school gates are open prior to 8:25 a.m., parents have two choices for drop-off zones. Vehicles arriving from Yorba Linda Boulevard proceed south through the

first two aisles of parking to the roadway directly north of the sanctuary. The necessity of using the first two aisles only is enforced by barriers in place within the parking lot (preventing travel east-west through the lot) and at the southern end of most parking aisles. This roadway leads to a drop-off area on the playground side of the school campus. This area is on the lower side of the hill and is referred to in this report as the Lower Campus). Most vehicles using this drop-off zone then turn left and continue along the private extension of Mountain View Avenue back to Yorba Linda Boulevard. Some turn right and exit to Lakeview Avenue at the northern driveway.

Vehicles arriving from Lakeview Avenue proceed along a private drive to the second drop-off zone directly in front of classrooms. This area is on the higher size of the hill and is referred to in this report as the Upper Campus). This roadway has three travel lanes while adjacent to the school building. Each lane is then channelized to a different path through Lot 6 and then merges to two lanes at the southernmost driveway on Lakeview Avenue.

In addition to these two drop-off lanes, some parents may park and walk their children to the classroom.

LSA observed the morning school operation on a typical school day. Vehicles began arriving and dropping off students as early as 8:00 a.m. The pace of drop-offs increased after 8:15 a.m. Observation of the morning school operation confirmed what traffic volume data appeared to show. Approximately half of drop-offs occur on the Lower Campus and approximately half occur on the Upper Campus. Occasional queues of vehicles within the Upper Campus drop-off lane were observed, but the queue did not extend to Lakeview Avenue. No queue of northbound vehicles waiting to turn left was observed beyond a single vehicle waiting for an appropriate gap in southbound traffic.

Afternoon

The official school pick-up time is posted as 3:00 p.m. to 3:20 p.m. Parents picking up from half-day kindergarten are asked to do so between 12:24 p.m. and 1:00 p.m. After half-day kindergarten has departed, gates are closed in front of the school building. Parent vehicles begin arriving before the gates reopen. These vehicles queue on the private roadway eastbound down the hill to the Lower Campus and westbound down the hill to Lakeview Avenue. Gates open to parent vehicles a few minutes before 3:00 p.m. Vehicles then proceed to pick-up zones in either the far-left lane or the far-right lane. The center lane remains open for vehicles proceeding through the zone. Traffic cones channeling vehicles through Lot 6 are still in place, and vehicles proceed to the southern driveway with Lakeview Avenue.

Rather than proceeding through the pick-up line, some parents choose to park and walk to the school building to pick up their children. Pick-ups can also occur on the Lower Campus. Unlike morning drop-off, however, pick-ups are not evenly split. Almost three-quarters of pick-ups occur on in the Upper Campus pick-up zone.

The queue of vehicles waiting for the pick-up zone gates to open extends to southbound Lakeview Avenue by 2:45 p.m. At the time gates opened (minutes before 3:00 p.m.), a total of eight vehicles were observed queued on Lakeview Avenue. These queued vehicles left a gap for the Packing House

shopping center driveway onto Lakeview Avenue. Immediately prior to the gates opening, a northbound vehicle arrived and waited in the two-way left-turn median on Lakeview Avenue. Upon gates opening, vehicles proceeded to the pick-up zone and filled two rows waiting for students. Vehicles began departing and additional vehicles arrived. The queue of vehicles no longer extended onto Lakeview Avenue by 3:08 p.m. By 3:10 p.m., there was no queue of vehicles within the pick-up zone.

EXISTING CONDITIONS

Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **Yorba Linda Boulevard:** In the vicinity of the project site, Yorba Linda Boulevard is an east-west roadway designated as a Modified Major Arterial. The roadway has six lanes. At its western extremity, Yorba Linda Boulevard connects to State Route (SR) 57. At its eastern extremity, it connects to SR-91.

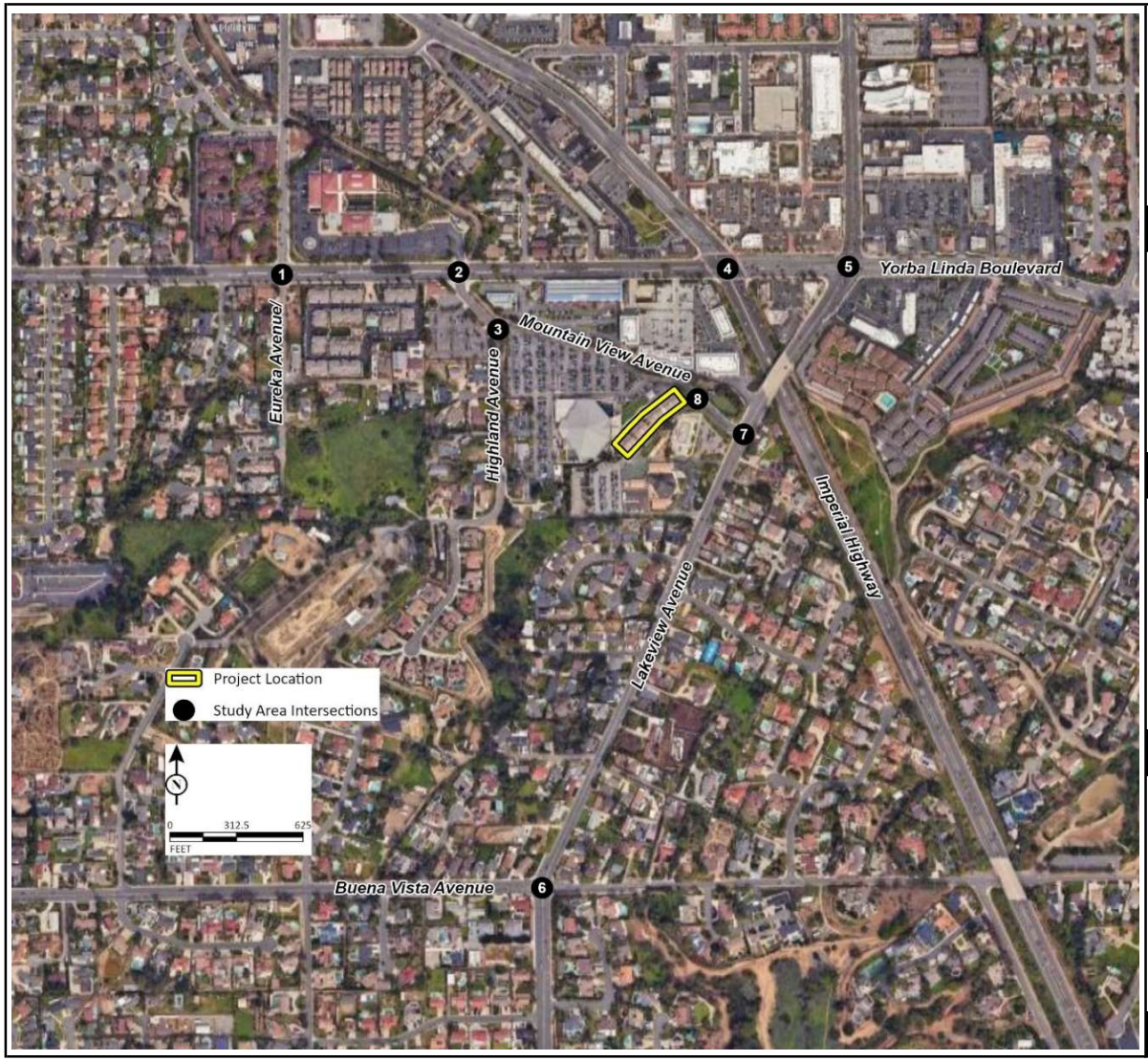
- **Imperial Highway:** Imperial Highway is a designated Smart Street. The roadway transitions from four lanes south of Yorba Linda Boulevard (where it is a grade-separated highway) to six lanes north of Yorba Linda Boulevard (where it proceeds as an arterial). West of Yorba Linda, this roadway connects to SR-57. South of Yorba Linda, this roadway connects to State Route 91.

- **Lakeview Avenue:** This north-south roadway is designated as a Primary Arterial adjacent to the project site. North of Yorba Linda Boulevard, this roadway becomes a Secondary Arterial. Both Primary and Secondary Arterials typically provide four travel lanes. A portion of Lakeview Avenue near Yorba Linda Boulevard has four travel lanes, but many sections of the roadway narrow to two travel lanes. The posted speed limit on Lakeview Avenue is 35 miles per hour (mph), but the presence of several speed feedback signs indicate that travel in excess of the posted speed limit is frequent. South of Yorba Linda, this roadway connects to SR-91.

- **Mountain View Avenue:** Mountain View Avenue is not a continuous roadway. East of Imperial Highway, a section of Mountain View Avenue is designated as a Collector. West of Imperial Highway, a short section of Mountain View Avenue intersects Yorba Linda Boulevard at one of the access points for the Richard Nixon Presidential Library and Museum and connects to Highland Avenue, which provides access to a residential neighborhood.

- **Buena Vista Avenue:** This east-west roadway is designated as a Secondary Arterial. Secondary Arterials typically provide four travel lanes, but the portion of Buena Vista Avenue near the intersection with Lakeview Avenue provides two travel lanes.

Figure 3 provides the existing geometrics at each study intersection.



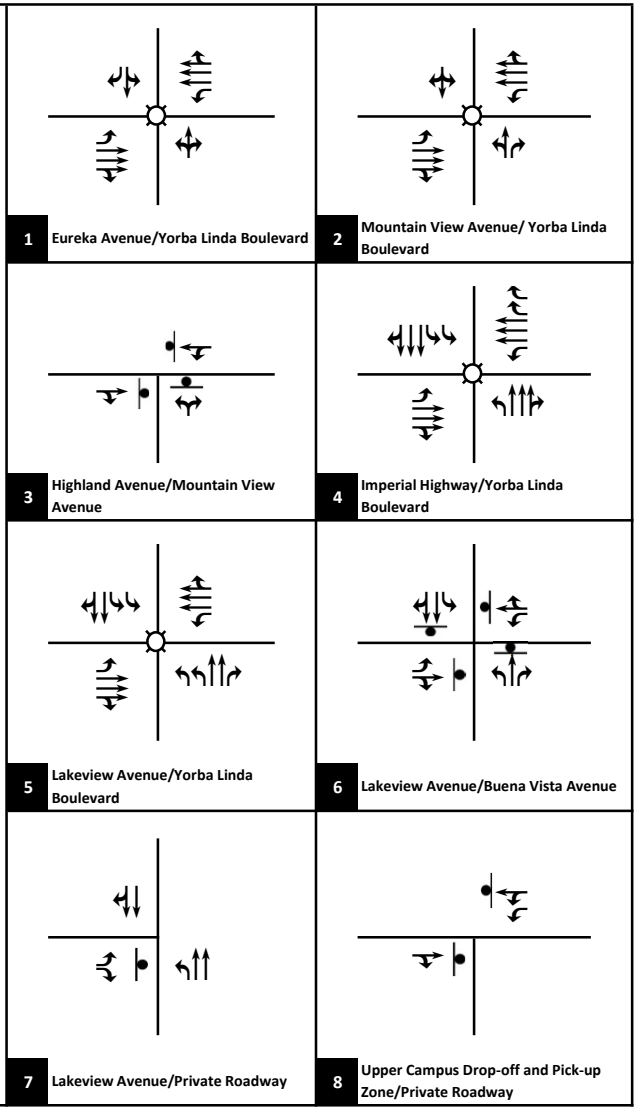


FIGURE 3

LSA

Legend

Signal

Stop Sign

Friend Christian School Project

Existing Intersection Geometrics

P:\2026\20262730\xls\Figure 3 - Existing Intersection Geometrics.xlsx\Figure (3/13/2026)

Existing Level of Service

LSA contracted with an independent data collection company to collect vehicle turning movement volumes at the study intersections on a typical weekday (Wednesday, January 14, 2026). Vehicle turning volumes were collected for the study intersections during the peak morning (7:00 a.m.–9:00 a.m.) and afternoon (4:00 p.m.–6:00 p.m.) commute periods and during the afternoon corresponding with school dismissal (2:00 p.m.–4:00 p.m.).

Figure 4 presents these a.m., afternoon, and p.m. peak-hour turn movement volumes for the study intersections. The traffic volume data sheets are provided in Appendix A.

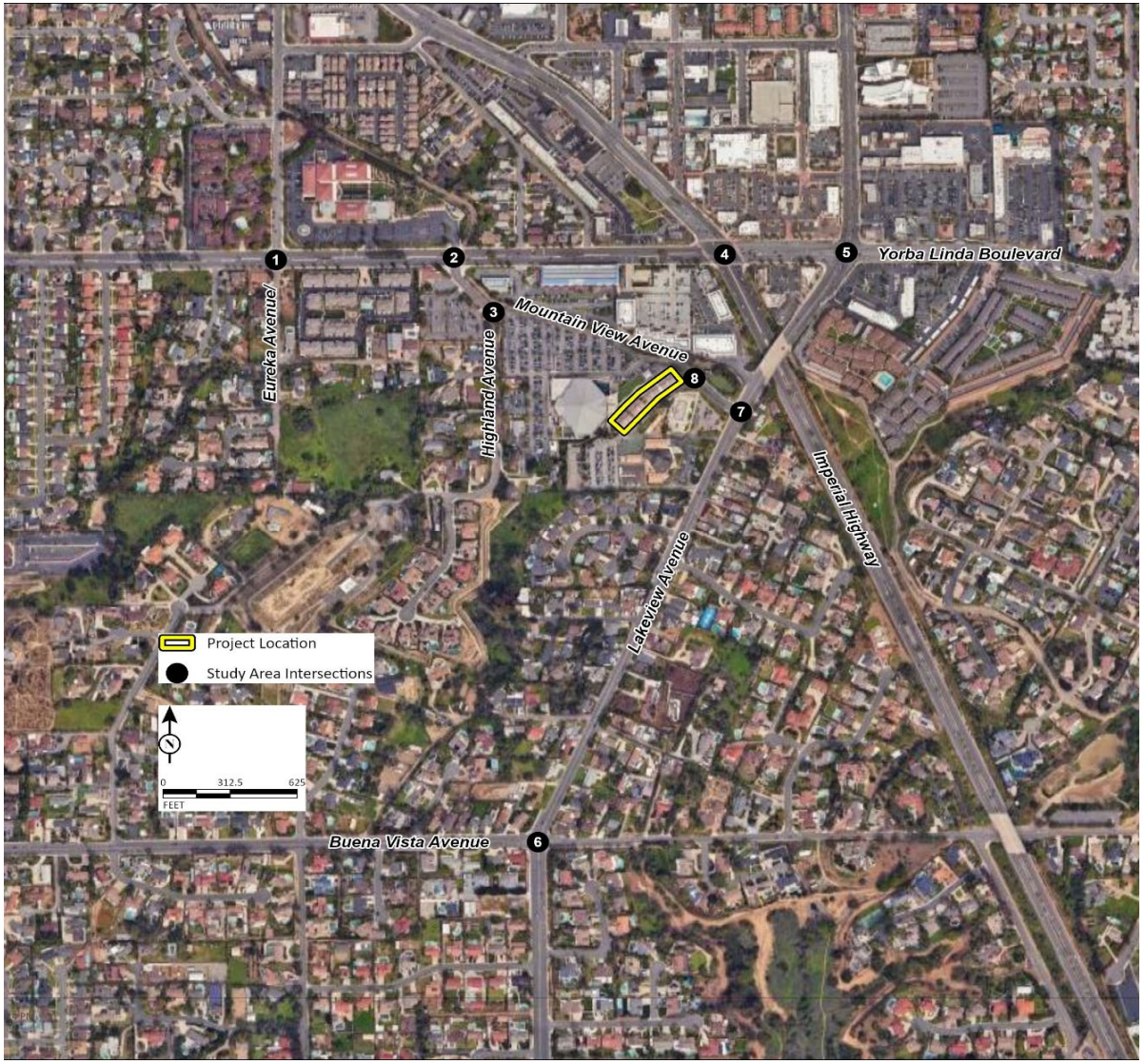
LOS analysis was performed for the study intersections, and the results are summarized in Table B. All ICU and HCM analysis worksheets for the existing scenario are provided in Appendix B. As Table B shows, all study intersections currently operate at satisfactory LOS except for the unsignalized intersection of Lakeview Avenue/Buena Vista Avenue. This intersection operates at LOS E during the a.m. peak hour and in the afternoon. The intersection operates at LOS F during the p.m. peak hour. The current all-way stop control at this intersection results in unsatisfactory delay, leading to long vehicle queues in the directions most vehicles are attempting to travel. The Friends Church northern driveway used by school traffic to access the campus is analyzed as Intersection 7. This is a two-way stop controlled intersection with traffic on Lakeview Avenue free-flowing and stop control for northbound vehicles turning left into the campus and for vehicles exiting the campus. Existing levels of school traffic result in satisfactory levels of delay for the stop-controlled vehicles.

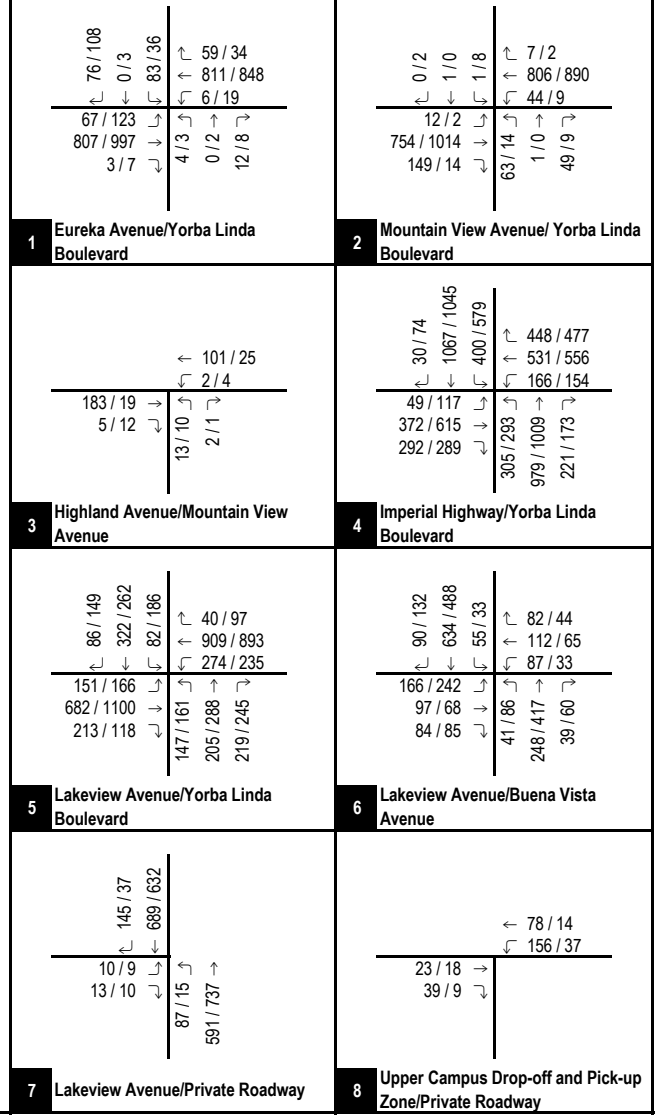
Table B: Existing Level of Service Summary

Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.318	A	0.394	A	0.361	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.291	A	0.324	A	0.271	A
3. Highland Avenue/Mountain View Avenue[1]	8.0 sec	A	7.8 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.714	C	0.701	C	0.720	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.581	A	0.663	B	0.607	B
6. Lakeview Avenue/Buena Vista Avenue[1]	49.4 sec	E	45.5 sec	E	53.8 sec	F
7. Lakeview Avenue/Private Roadway[1]	19.6 sec	C	16.5 sec	C	16.3 sec	C
8. Upper Campus Drop-off and Pick-up Zone/ Private Roadway[1]	7.6 sec	A	7.1 sec	A	6.9 sec	A

Source: Compiled by LSA (2026).
[1] Unsignalized intersection
☐ = Unsatisfactory LOS
LOS = level of service
ICU = intersection capacity utilization
sec = seconds

LSA also examined queueing at the two main access points from arterials onto the campus. The westbound left-turn pocket from Yorba Linda Boulevard to Mountain View Avenue provides approximately 78 feet of storage, which is sufficient for three vehicles to wait without interfering with westbound through traffic. The northbound left-turn from Lakeview Avenue to the northern driveway occurs in a two-way left-turn median on Lakeview Avenue. While no raised median would





LSA

FIGURE 4a

XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

Existing AM and PM Peak Hour Traffic Volume

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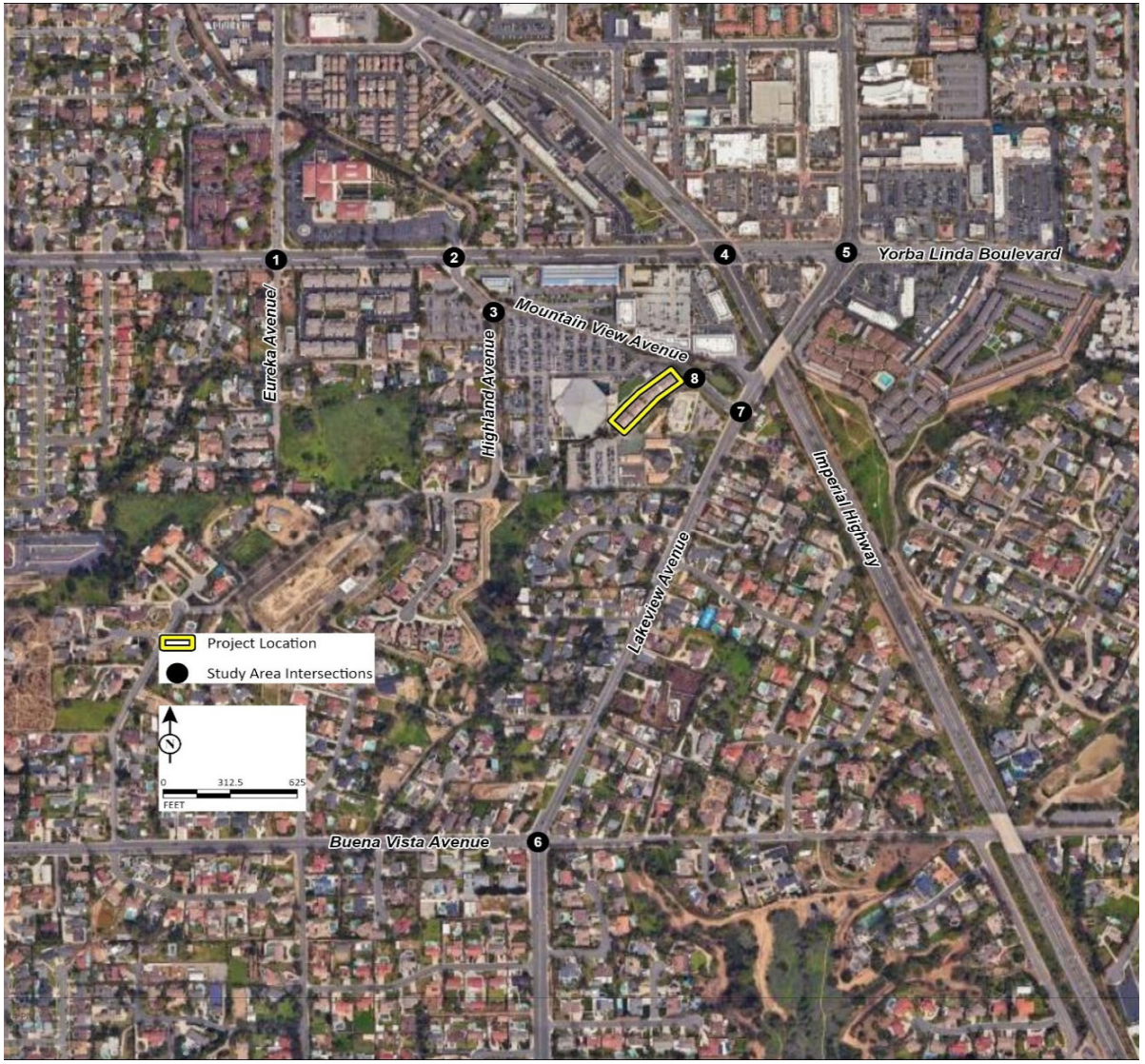
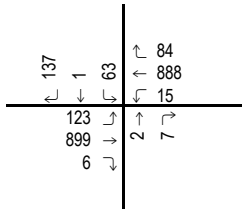
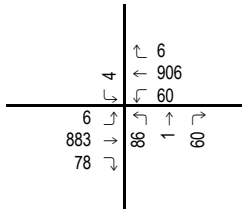
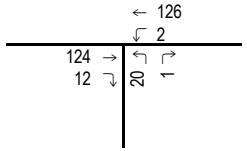




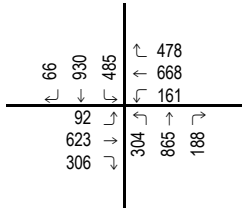
1 Eureka Avenue/Yorba Linda Boulevard



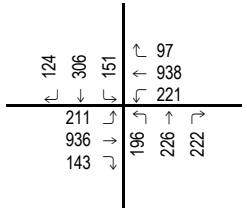
2 Mountain View Avenue/ Yorba Linda Boulevard



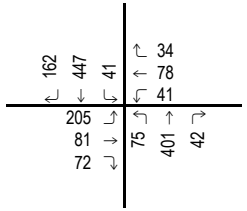
3 Highland Avenue/Mountain View Avenue



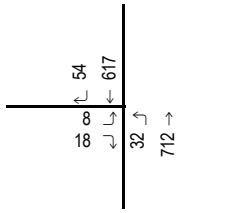
4 Imperial Highway/Yorba Linda Boulevard



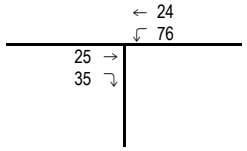
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 4b

Friend Christian School Project

Existing Afternoon Traffic Volume

P:\2026\20262730\xls\Existing NP Volumes_Afternoon.xlsx\Figure (3/12/2026)

prevent additional vehicles from queueing, approximately 75 feet is provided between the northern driveway and a residential driveway. Queues beyond 75 feet have the potential to interfere with movements into or out of that residential driveway. Queueing worksheets for these two locations are included in Appendix B.

During all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket.

During all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.

OPENING YEAR (2028) CONDITION

Construction of the proposed classroom expansion is anticipated to be completed for the beginning of the 2028/2029 school year. LSA applied an ambient growth rate of 1 percent per year (2 percent total) to existing traffic volumes. LSA coordinated with the City staff on identifying a list of approved and pending projects that could reasonably be assumed to be operating by 2028 and would also contribute traffic to the study intersections. Through this process, one cumulative project was identified. The Richard Nixon Presidential Library and Museum, which is located north of Yorba Linda Boulevard, is proposing an expansion. Its project would add storage, exhibit, and event space totaling 41,080 square feet. Trip generation estimates for this cumulative project are identified in the *Draft Parking Analysis for Richard Nixon Presidential Library and Museum* (GTS, December 2025), which applied trip rates for museums published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 12th Edition (2025) for the a.m. and p.m. peak hours. LSA queried the ITE *Trip Generation Manual* and found that trip rates for p.m. peak hour of the land use was higher than the p.m. peak hour rate and applied this higher trip generation rate for the afternoon peak hour studied. Table C provides the trip generation calculation for the cumulative project.

Table C: Cumulative Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			Afternoon Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Trip Rates (Land Use)												
Museum (580)		TSF		0.24	0.04	0.28	0.11	0.30	0.41	0.03	0.15	0.18
Project Trip Generation												
Nixon Library	41.080	TSF	91[1]	10	2	12	2	15	17	1	6	7
Total Trip Generation			**91**	**10**	**2**	**12**	**2**	**15**	**17**	**1**	**6**	**7**

Sources: ITE *Trip Generation Manual*, 12th Edition (2025).
Compiled by LSA (2026).

[1] *Draft Parking Analysis for Richard Nixon Presidential Library and Museum* (2025)

ADT = average daily traffic
ITE = Institute of Transportation Engineers
TSF = thousand square feet

LSA distributed cumulative project trips to the study intersections and added that traffic volume to the ambient traffic growth. Figures 5a and 5b illustrate the resulting opening-year baseline traffic volumes. The City does not anticipate that any planned roadway improvements will be completed by 2028, and no changes to existing intersection geometry were applied for the project opening year. Table D presents the Opening Year (2028) No Project LOS performance at the study intersections. LOS worksheets for the Opening Year (2028) condition are provided in Appendix B.

Table D: Opening Year (2028) Level of Service Summary

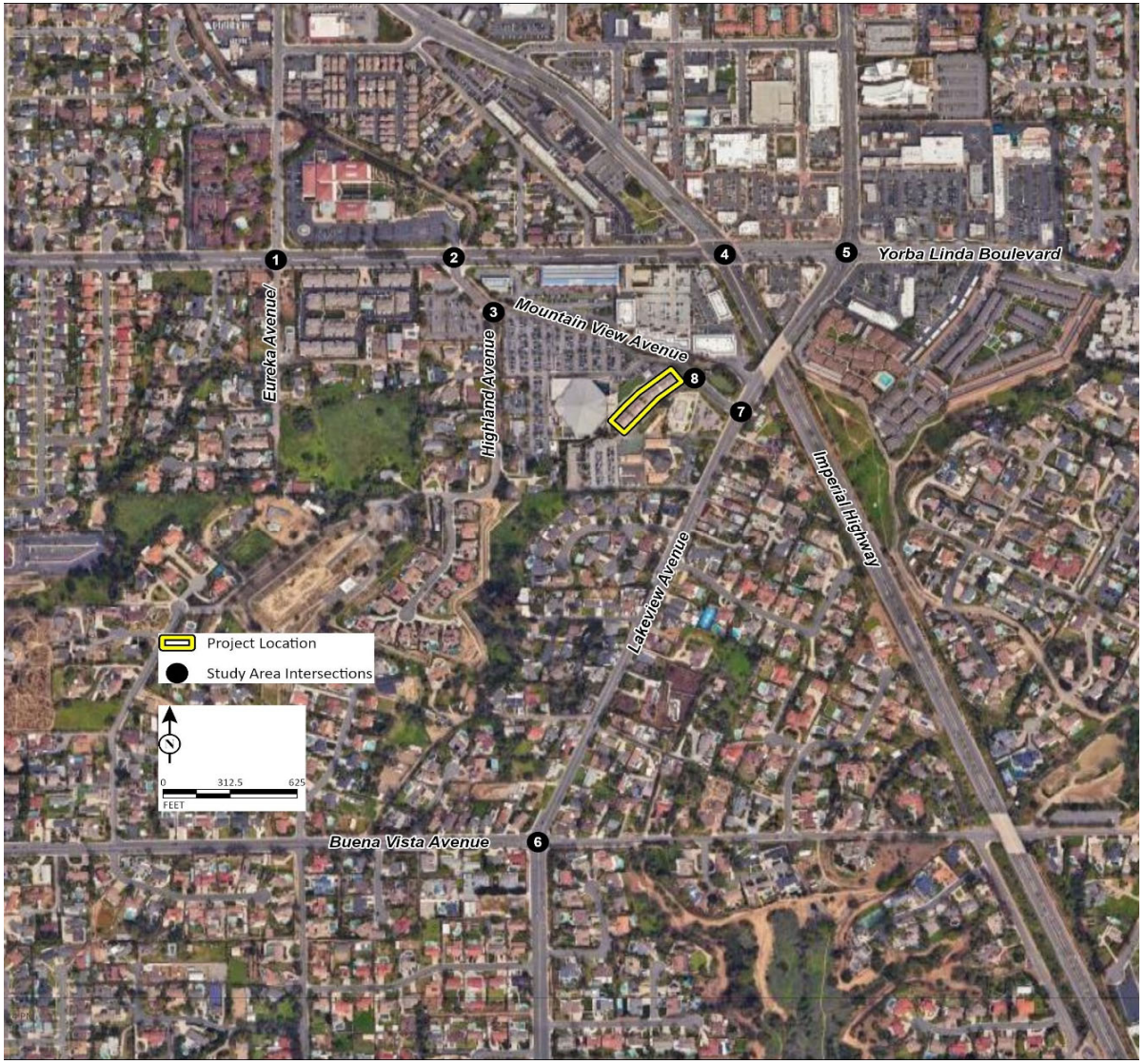
Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.325	A	0.402	A	0.366	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.296	A	0.336	A	0.275	A
3. Highland Avenue/Mountain View Avenue[1]	8.0 sec	A	7.9 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.730	C	0.716	C	0.733	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.592	A	0.675	B	0.618	B
6. Lakeview Avenue/Buena Vista Avenue[1]	54.4 sec	F	48.9 sec	E	59.7 sec	F
7. Lakeview Avenue/Private Roadway[1]	20.0 sec	C	16.8 sec	C	16.5 sec	C
8. Upper Campus Drop-off and Pick-up Zone/ Private Roadway[1]	7.6 sec	A	7.1 sec	A	6.9 sec	A

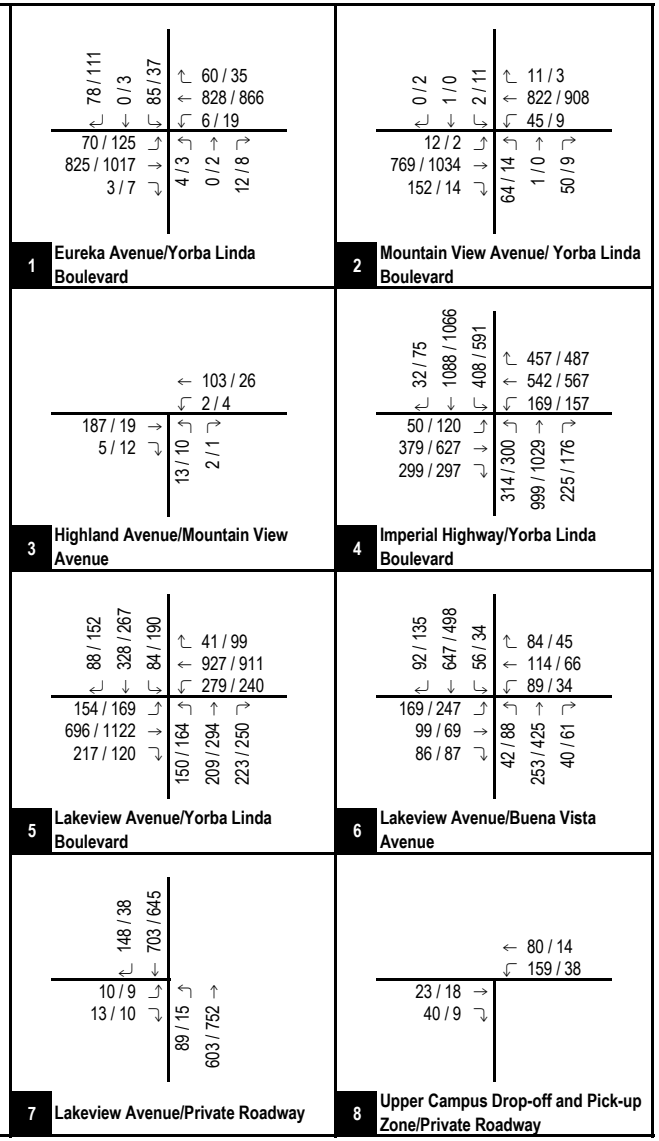
Source: Compiled by LSA (2026).
[1] Unsignalized intersection
= Unsatisfactory LOS
LOS = level of service
ICU = intersection capacity utilization
sec = seconds

As Table D shows, all study intersections are anticipated to continue to operate within their LOS target with the addition of cumulative project traffic and ambient traffic growth, with the exception of Lakeview Avenue/Buena Vista Avenue. The intersection of Lakeview Avenue/Buena Vista Avenue would continue to operate at an unsatisfactory LOS throughout the day and would be anticipated to degrade to LOS F in the a.m. peak hour with the addition of ambient traffic growth.

Similar to existing conditions, during all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket.

Similar to existing conditions, during all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.





LSA

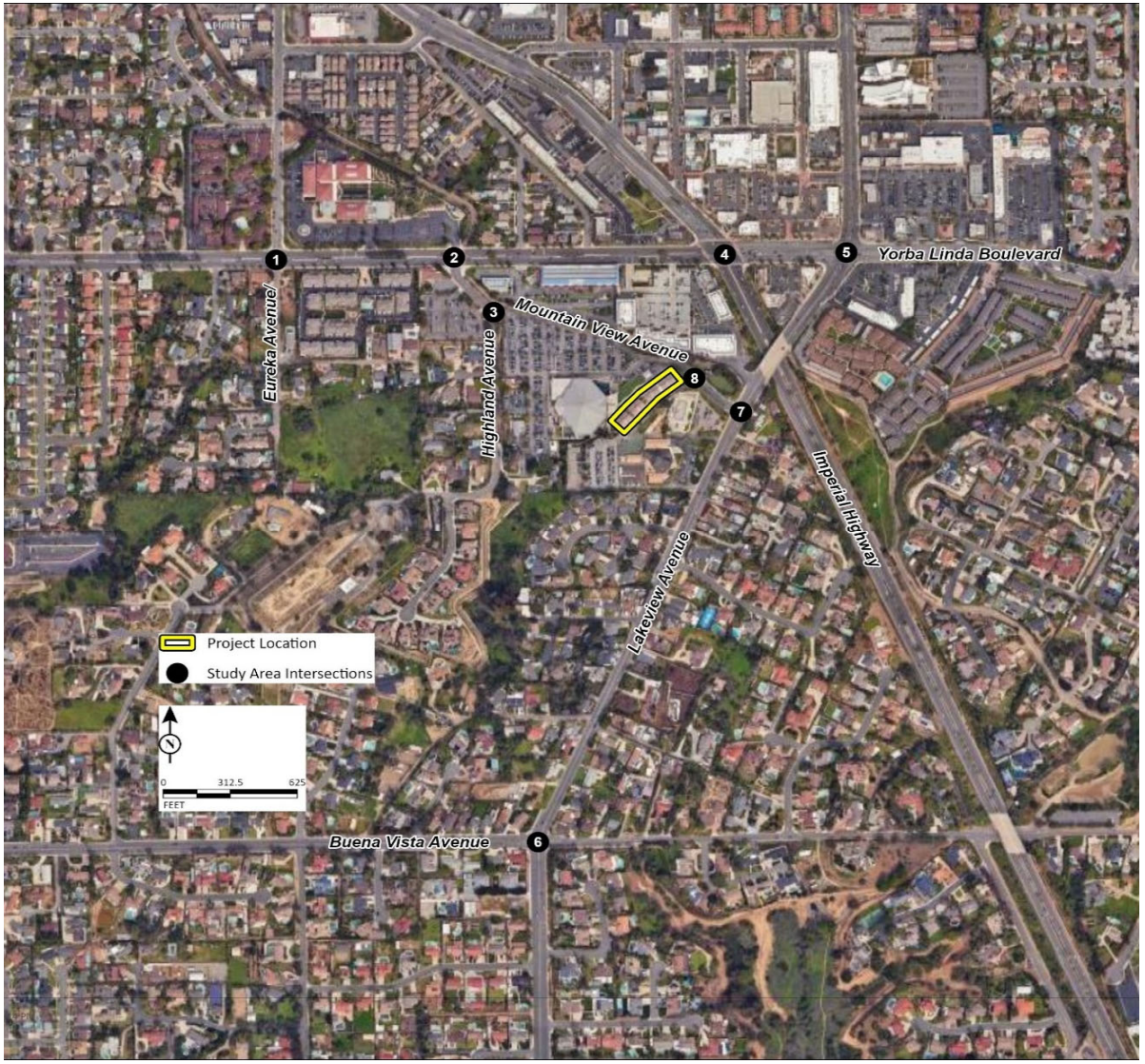
FIGURE 5a

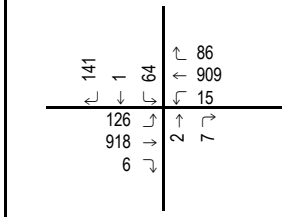
XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

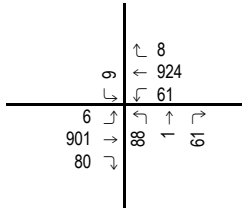
Opening Year (2028) AM and PM Peak Hour Traffic Volume

P:\2026\20262730\xls\Opening Year with Cumulative NP.xlsx\Figure (3/12/2026)

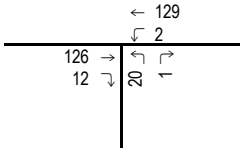




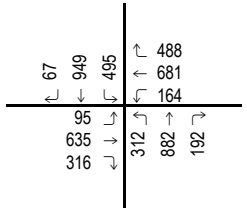
1 Eureka Avenue/Yorba Linda Boulevard



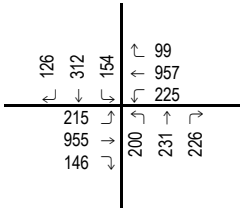
2 Mountain View Avenue/ Yorba Linda Boulevard



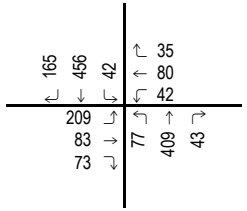
3 Highland Avenue/Mountain View Avenue



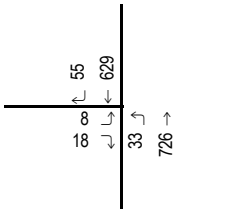
4 Imperial Highway/Yorba Linda Boulevard



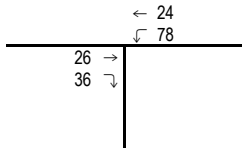
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 5b

Friend Christian School Project

Opening Year (2028) Afternoon Traffic Volume

HORIZON YEAR NO PROJECT

The City requested analysis of the future horizon at buildout of the General Plan. These conditions were recently forecasted for three of the study intersections in the *Yorba Linda Housing Element Update Traffic Analysis* (2024) that was included in the *Addendum to the Program Environmental Impact Report for the City of Yorba Linda 2021-2029 Housing Element Implementation Programs* (2024). These intersections were Imperial Highway/Yorba Linda Boulevard, Lakeview Avenue/Yorba Linda Boulevard, and Lakeview Avenue/Buena Vista Avenue.

For intersections not included in the Housing Element analysis, LSA calculated the traffic growth rate between existing and future conditions for intersections included in the Housing Element study area and applied that growth rate to adjacent intersections. For example, the intersections of Eureka Avenue/Yorba Linda Boulevard and Mountain View Avenue/Yorba Linda Boulevard were not included in the Housing Element analysis, but traffic growth at these intersections would be anticipated to be similar to future traffic growth at Imperial Highway/Yorba Linda Boulevard. Similarly, traffic growth along Lakeview Avenue could be calculated at the intersection of Lakeview Avenue/Yorba Linda Boulevard and applied to Intersection 7, Lakeview Avenue/Private Roadway. It was anticipated that traffic growth on arterial streets would not affect Intersection 8, Upper Campus Drop-off and Pick-up Zone/Private Roadway, which is internal to the Friends Church campus. Figure 6 illustrates the baseline horizon year traffic volumes.

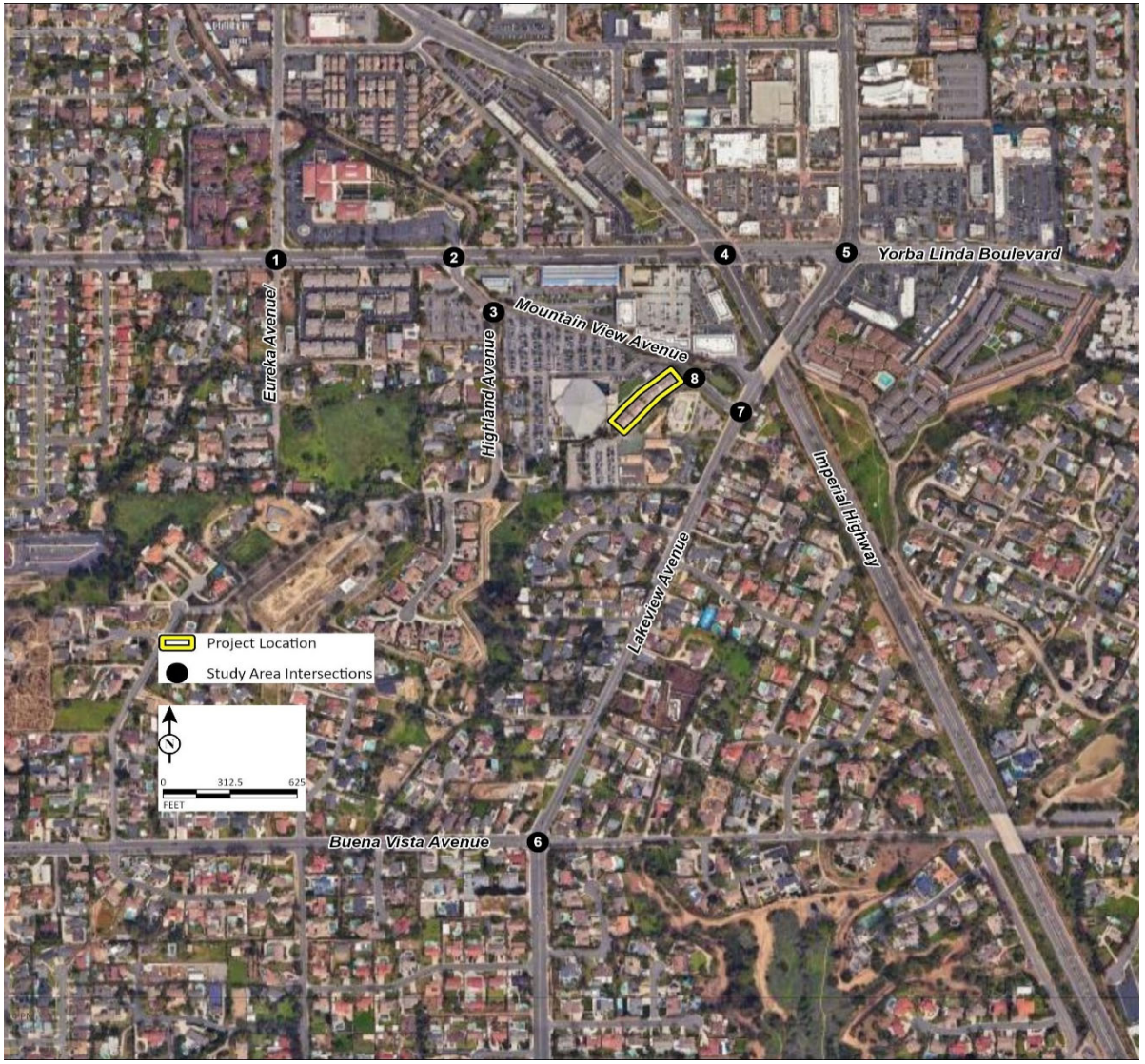
The City identified two planned roadway improvements that would be implemented at General Plan buildout. These included signalization of Lakeview Avenue/Buena Vista Avenue and widening of Yorba Linda Boulevard between Imperial Highway and Lakeview Avenue. Striping plans for both were provided by the City and incorporated into the analyzed intersection geometry. Figure 7 illustrates the resulting horizon-year intersection geometry.

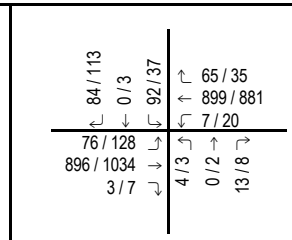
Table E presents the Horizon Year No Project LOS performance at the study intersections. LOS worksheets for the Horizon Year condition are provided in Appendix B. As Table E shows, all study intersections are anticipated to continue to operate within their LOS target at General Plan buildout. After signalization, the intersection of Lakeview Avenue/Buena Vista Avenue would operate at satisfactory LOS D.

The Friends Church northern driveway (intersection 7) would continue to have satisfactory levels of delay for the stop-controlled vehicles even with growth in traffic along Lakeview Avenue.

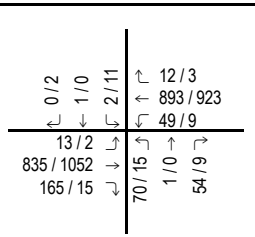
Similar to existing conditions, during all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket.

Similar to existing conditions, during all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.

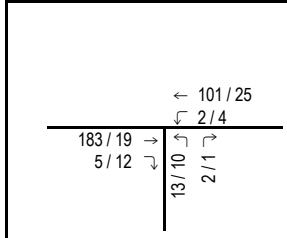




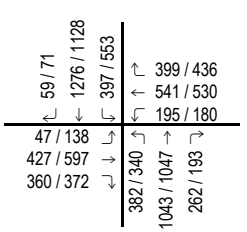
1 Eureka Avenue/Yorba Linda Boulevard



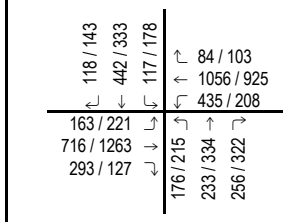
2 Mountain View Avenue/ Yorba Linda Boulevard



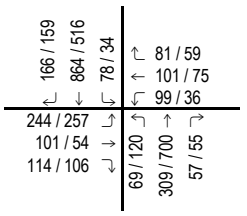
3 Highland Avenue/Mountain View Avenue



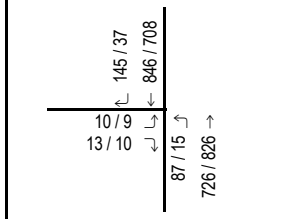
4 Imperial Highway/Yorba Linda Boulevard



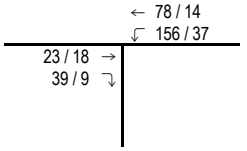
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

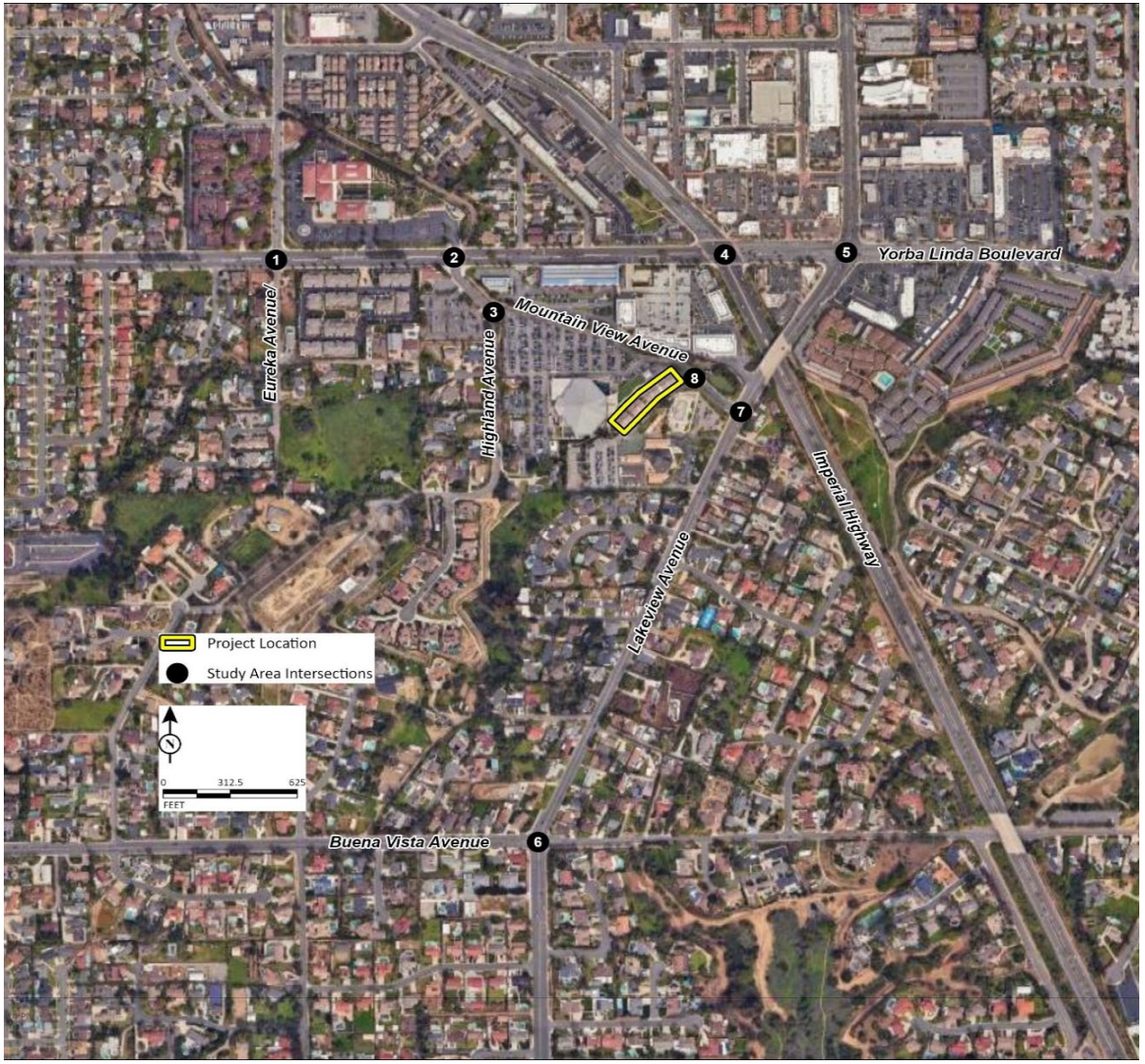
FIGURE 6a

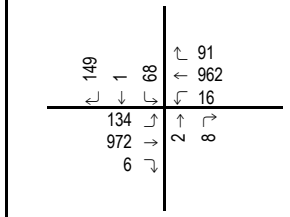
XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

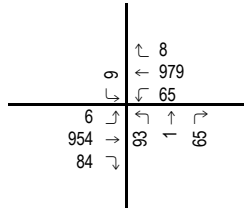
Horizon Year AM and PM Peak Hour Traffic Volume

P:\2026\20262730\xls\Horizon Year NP.xlsx\Figure (3/12/2026)

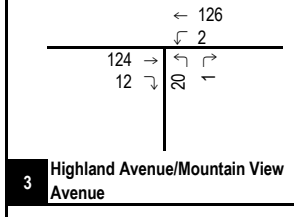




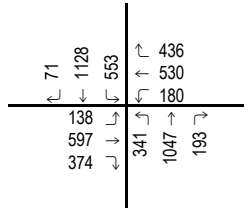
1 Eureka Avenue/Yorba Linda Boulevard



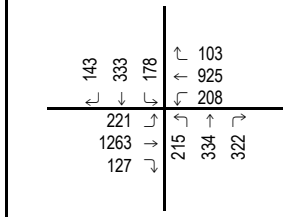
2 Mountain View Avenue/ Yorba Linda Boulevard



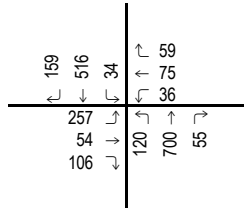
3 Highland Avenue/Mountain View Avenue



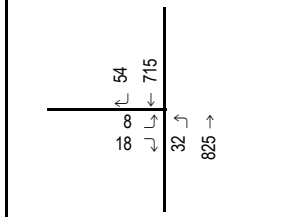
4 Imperial Highway/Yorba Linda Boulevard



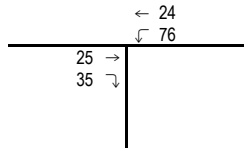
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 6b

Friend Christian School Project

Horizon Year Afternoon Traffic Volume

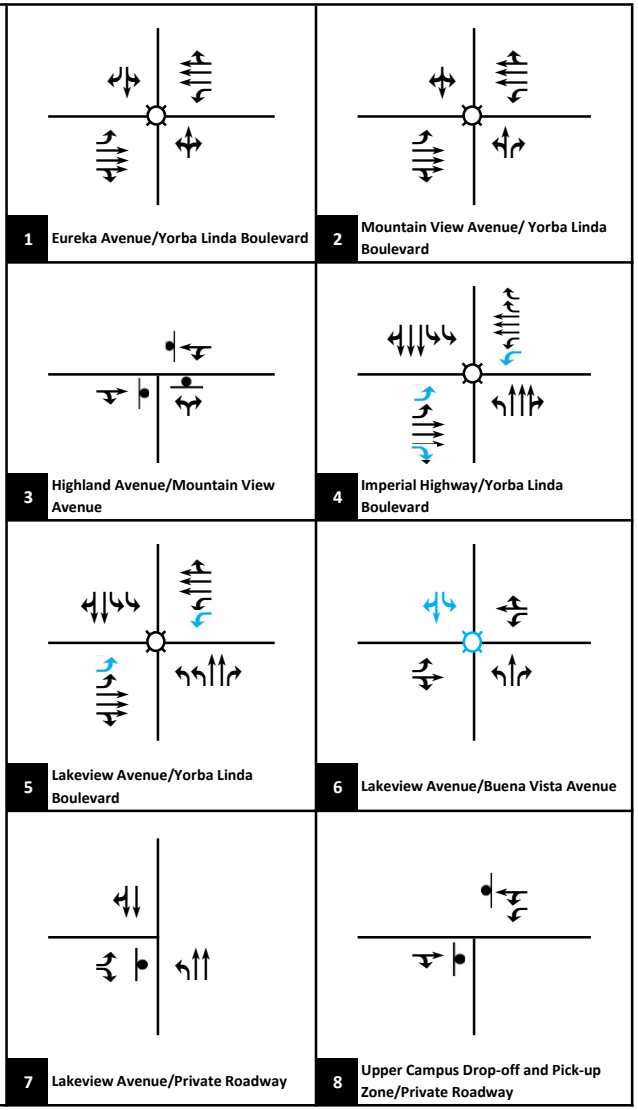


FIGURE 7

LSA

Legend

Signal
Stop Sign
Future Signal
Future Features

Friend Christian School Project

Horizon Year Intersection Geometrics

P:\2026\20262730\xls\Figure 7 - Horizon Year Intersection Geometrics.xlsx\Figure (3/13/2026)

Table E: Horizon Year Level of Service Summary

Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.348	A	0.423	A	0.373	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.318	A	0.352	A	0.281	A
3. Highland Avenue/Mountain View Avenue[1]	8.0 sec	A	7.8 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.806	D	0.759	C	0.757	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.592	A	0.587	A	0.587	A
6. Lakeview Avenue/Buena Vista Avenue	0.849	D	0.712	C	0.712	C
7. Lakeview Avenue/Private Roadway[1]	23.4 sec	C	18.3 sec	C	17.6 sec	C
8. Upper Campus Drop-off and Pick-up Zone/ Private Roadway[1]	7.6 sec	A	7.1 sec	A	6.9 sec	A

Source: Compiled by LSA (2026).
[1] Unsignalized intersection
☐ = Unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

PROJECT IMPACTS

Trip Generation

The proposed project would result in 5 additional school staff members and 83 additional elementary students enrolled at this campus. The ITE *Trip Generation Manual* provides trip rates surveyed at Elementary Schools (Land Use 520) and Private Schools K-8 (Land Use 530), both of which could describe the private Friends Christian School for elementary-aged students. LSA examined existing trip patterns at Friends Christian School and determined that Private Schools K-8 (Land Use 530) better fits the proposed project. The published trip rates include staff and delivery trips in the calculation of trips generated per student enrolled at the school. In addition to a.m. and p.m. peak-hour trip rates corresponding to peak commute periods, the ITE *Trip Generation Manual* identifies trip rates for the afternoon period corresponding to the end of the school day. Table F provides the trip generation calculation for the proposed addition of 83 students to the existing school campus. As shown in Table F, the proposed project would generate approximately 341 new daily vehicle trips, of which 84 would occur in the a.m. peak hour, 51 would occur at the end of the school day, and 22 would occur in the p.m. peak hour.

Table F: Project Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			Afternoon Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Trip Rates (Land Use)												
Private School K-8 (530)		Student	4.11	0.57	0.44	1.01	0.28	0.32	0.60	0.12	0.14	0.26
Project Trip Generation												
Proposed Project	83	Student	341	47	37	84	24	27	51	10	12	22
Total Trip Generation			**341**	**47**	**37**	**84**	**24**	**27**	**51**	**10**	**12**	**22**

Sources: ITE *Trip Generation Manual*, 12th Edition (2025). Compiled by LSA (2026).
ADT = average daily traffic
ITE = Institute of Transportation Engineers

Trip Distribution and Assignment

Trip distribution defines the regional percentage origins/destinations for a project. To determine trip distribution for the proposed project, LSA considered existing travel patterns and access to regional transportation networks. Project trip assignment followed the shortest travel paths. Figures 8a and 8b illustrate the project trip distribution and resulting assignment of project trips at each study intersection.

Existing Plus Project Condition

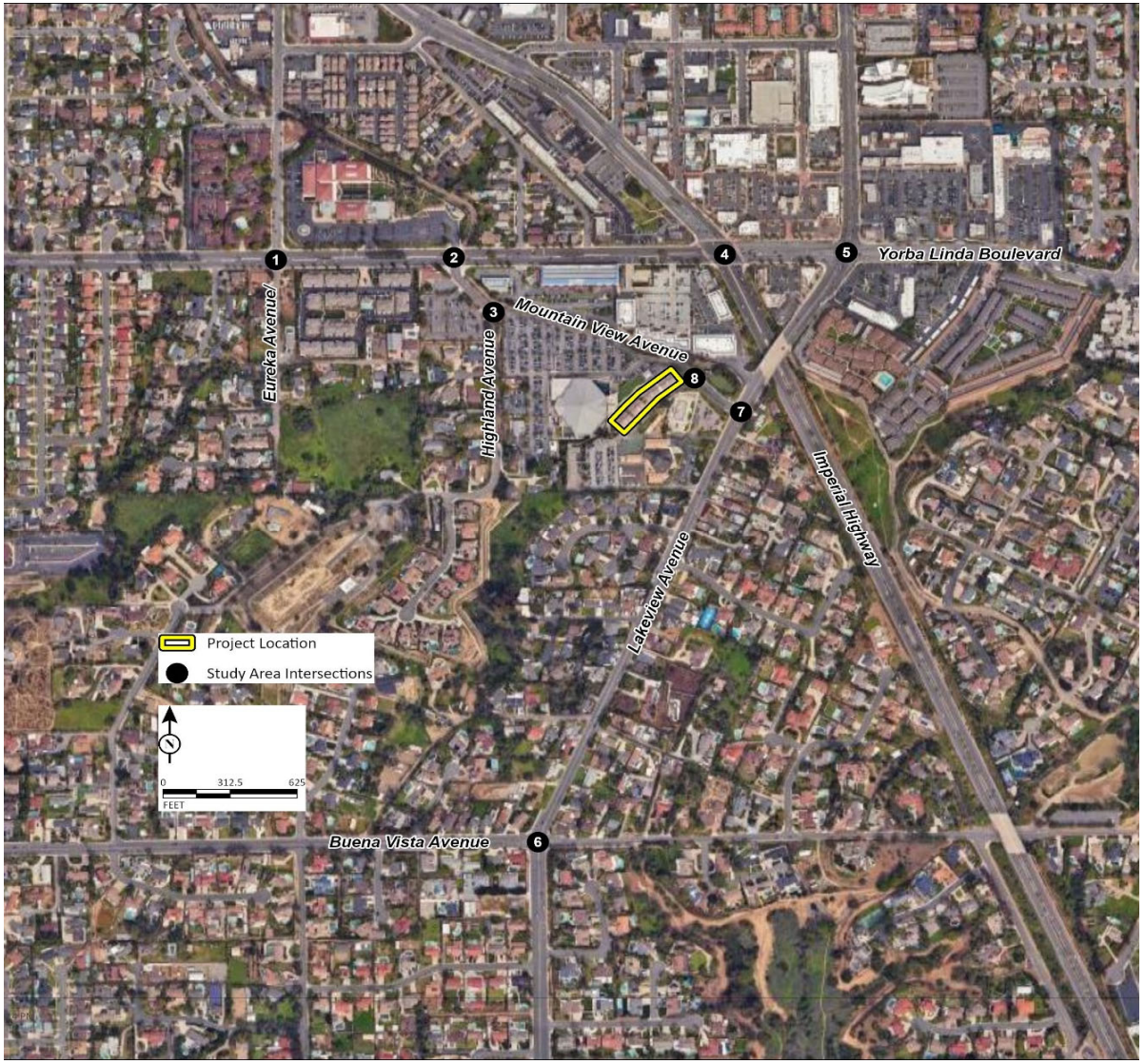
The new project trips were added to the existing traffic volumes at the study intersections. Figures 9a and 9b show the resulting Existing Plus Project peak-hour traffic volumes. Table G summarizes the results of the Existing Plus Project LOS analysis for all study intersections. LOS worksheets for the Existing Plus Project condition are provided in Appendix B. As Table G indicates, all study intersections are anticipated to continue to operate within their LOS target after the addition of project traffic, with the exception of Lakeview Avenue/Buena Vista Avenue. The study intersection internal to the campus controlling access to the upper campus drop-off/pick-up zone will continue to operate at satisfactory LOS with the additional project trips. The intersection of Lakeview Avenue/Buena Vista Avenue operates with unsatisfactory levels of delay in existing conditions and would continue to operate with unsatisfactory delay with the addition of project traffic.

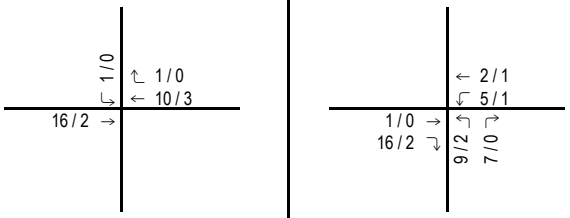
Table G: Existing Plus Project Level of Service Summary

Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.321	A	0.395	A	0.361	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.303	A	0.333	A	0.273	A
3. Highland Avenue/Mountain View Avenue[1]	8.2 sec	A	8.0 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.717	C	0.703	C	0.720	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.586	A	0.666	B	0.609	B
6. Lakeview Avenue/Buena Vista Avenue[1]	52.1 sec	F	46.1 sec	E	54.6 sec	F
7. Lakeview Avenue/Private Roadway[1]	20.3 sec	C	16.7 sec	C	16.4 sec	C
8. Upper Campus Drop-off and Pick-up Zone/Private Roadway[1]	7.7 sec	A	7.1 sec	A	7.0 sec	A

Source: Compiled by LSA (2026).
[1] Unsignalized intersection
☐ = Unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

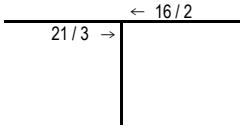
To determine whether the addition of project traffic would have an effect on the intersection of Lakeview Avenue/Buena Vista Avenue, a v/c analysis of the intersection was also conducted, which allows comparison according to the City's established threshold of a 0.01 change in the intersection v/c ratio. Table H provides a comparison between without and with project conditions. As Table H shows, the effect of project traffic on the intersection of Lakeview Avenue/Buena Vista Avenue is less than the established threshold of 0.01 increase in v/c ratio. Therefore, the project would have a less than significant effect on the intersection.



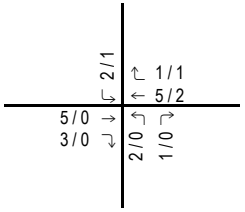


1 Eureka Avenue/Yorba Linda Boulevard

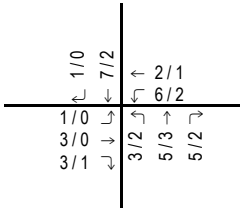
2 Mountain View Avenue/ Yorba Linda Boulevard



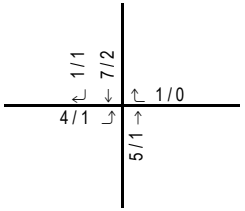
3 Highland Avenue/Mountain View Avenue



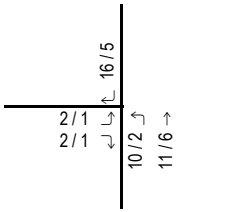
4 Imperial Highway/Yorba Linda Boulevard



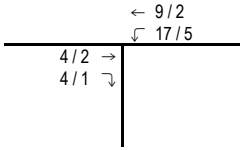
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

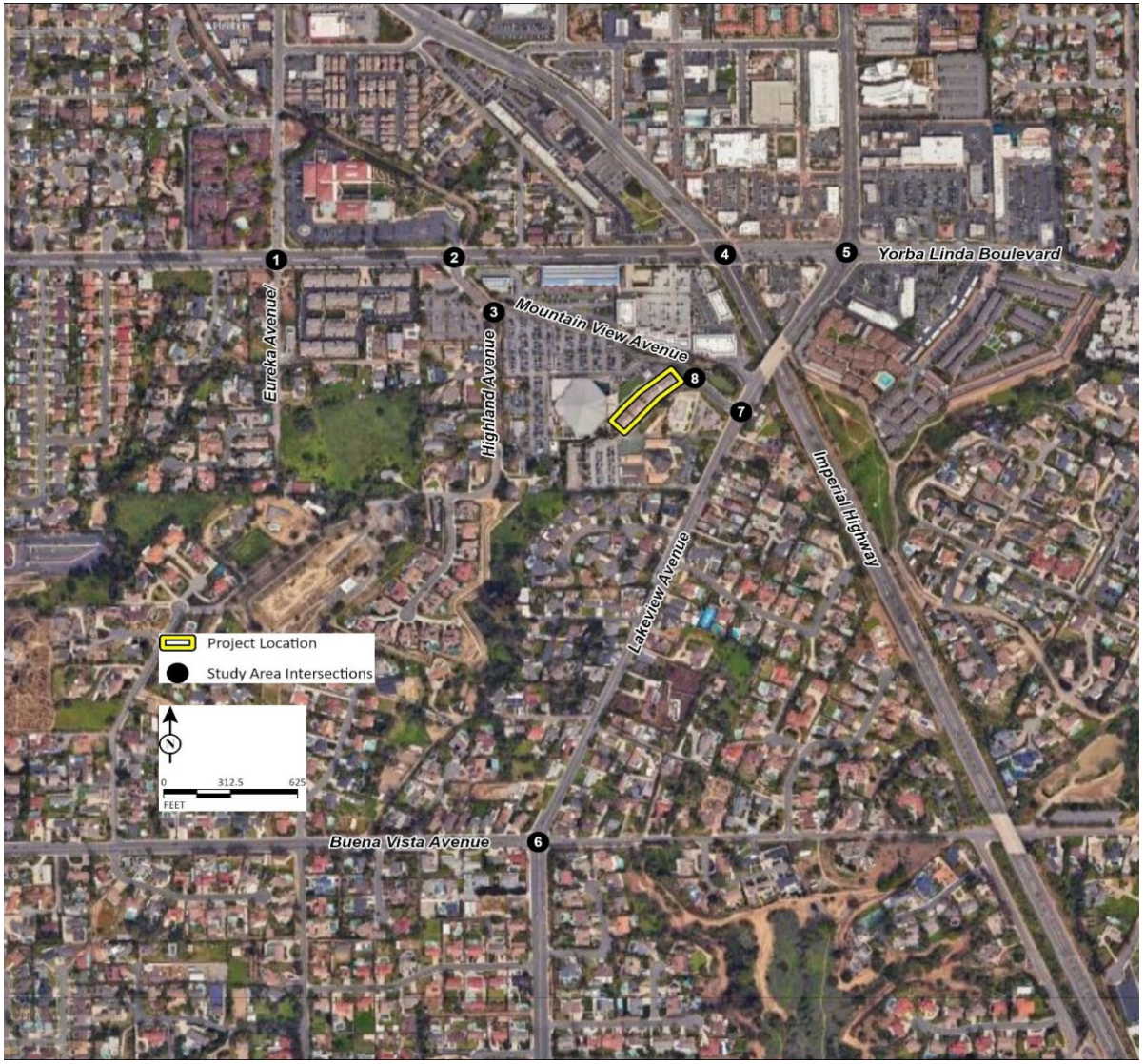
LSA

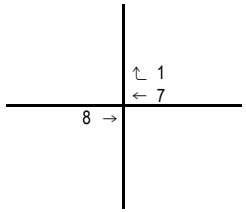
FIGURE 8a

XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

Project AM and PM Peak Hour Trip Distribution and Assignment





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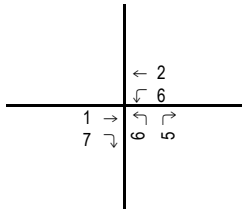

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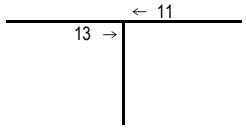

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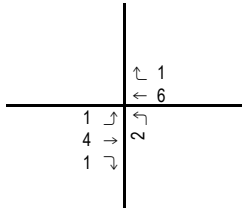

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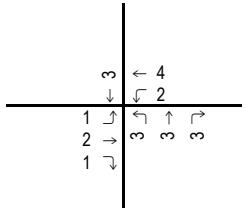

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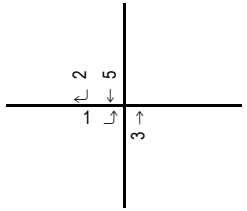

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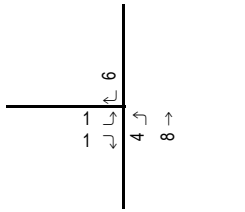
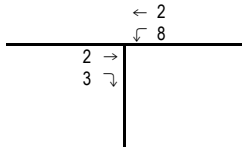


7 Lakeview Avenue/Private Roadway



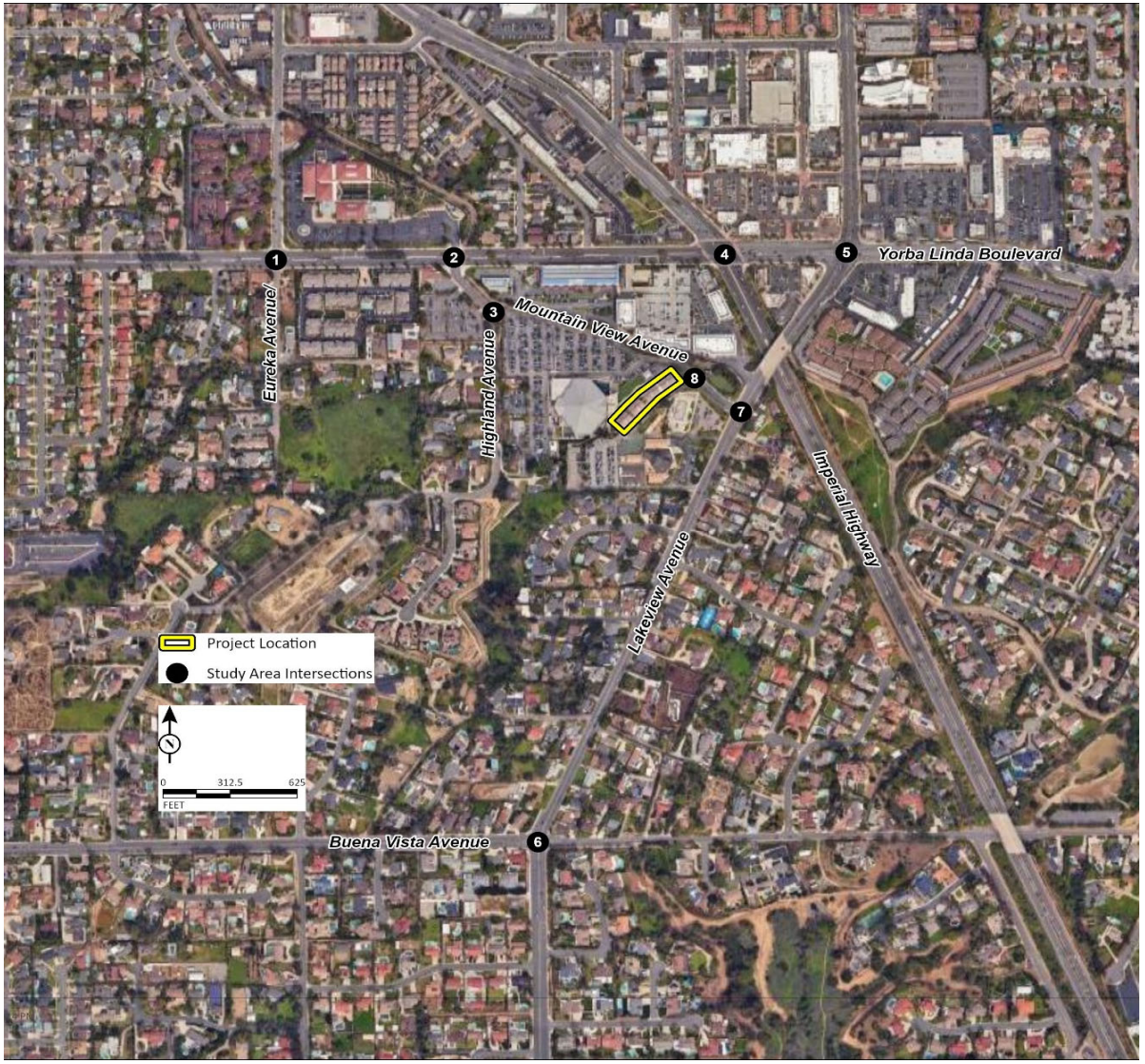
8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 8b

Friend Christian School Project

Project Afternoon Trip Distribution and Assignment



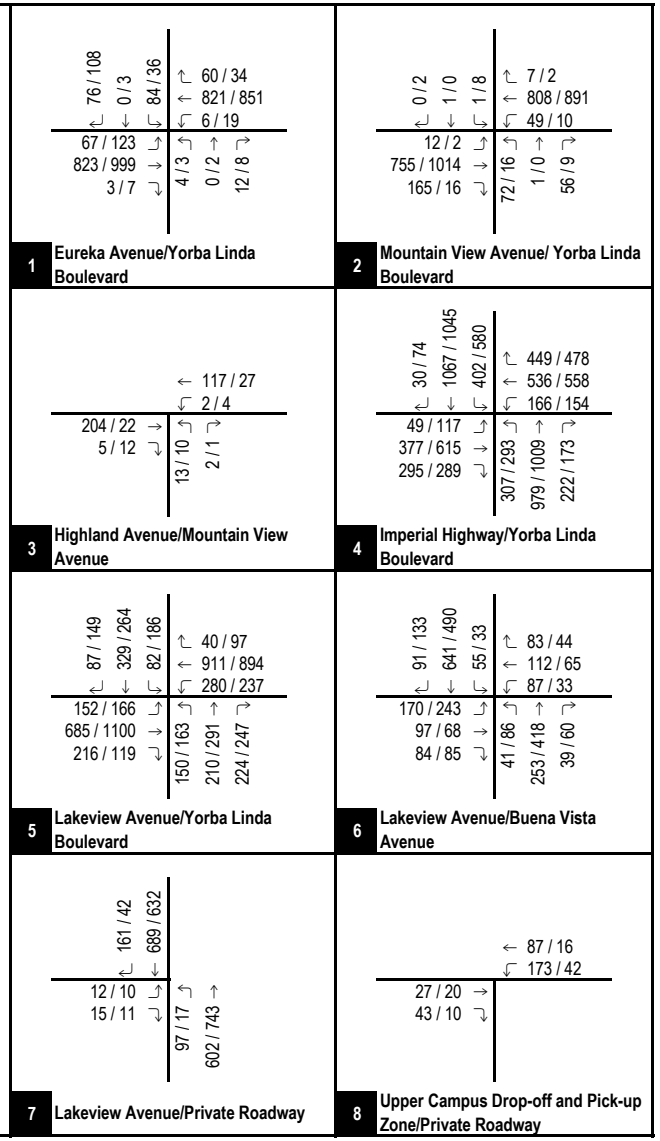


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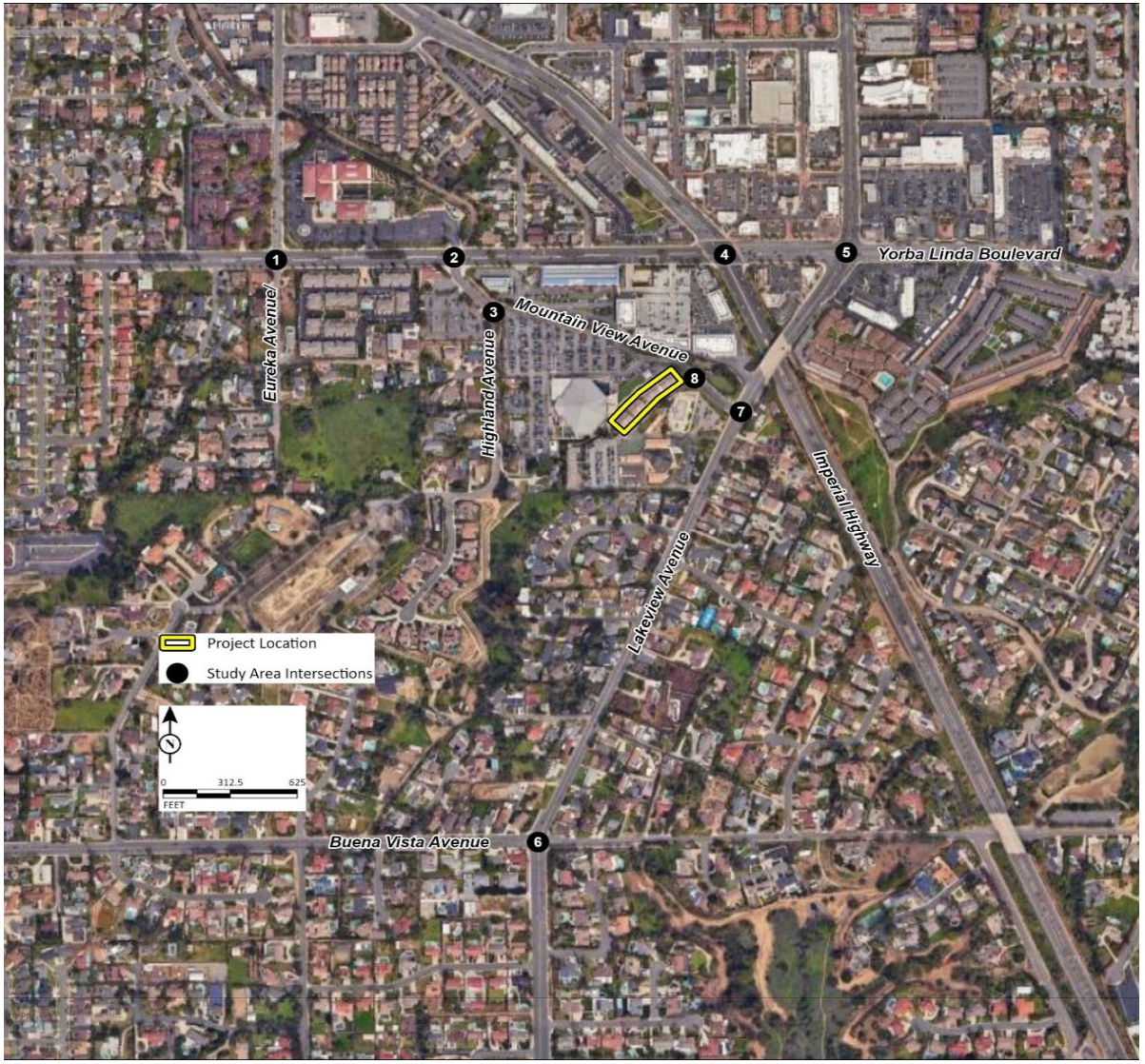
FIGURE 9a

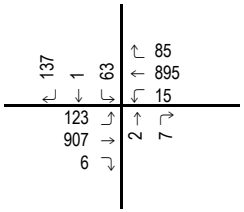
XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

Existing Plus Project AM and PM Peak Hour Traffic Volume

P:\2026\20262730\xls\Existing WP Volumes.xlsx\Figure (3/12/2026)





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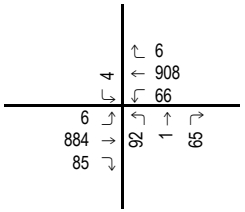

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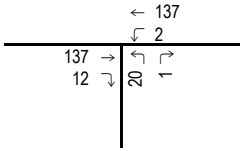
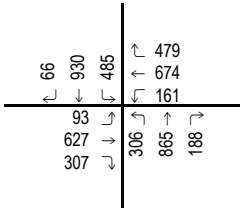
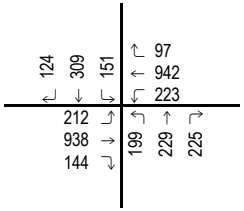


3 Highland Avenue/Mountain View Avenue



4 Imperial Highway/Yorba Linda Boulevard



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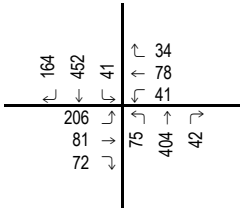
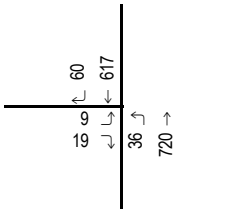
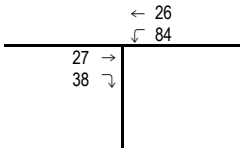


6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

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FIGURE 9b

Friend Christian School Project

Existing Plus Project Afternoon Traffic Volume

Table H: Project Effect Comparison—Existing Plus Project

6. Lakeview Avenue/Buena Vista Avenue	Existing	Plus Project	Project Effect
	V/C	V/C	V/C
AM Peak Hour	0.499	0.504	0.005
Afternoon Peak Hour	0.496	0.499	0.003
PM Peak Hour	0.521	0.522	0.001

Source: Compiled by LSA (2026).
LOS = level of service
v/c = volume-to-capacity ratio

LSA also examined queueing forecasts with the addition of project traffic. Similar to existing conditions, during all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket. During all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.

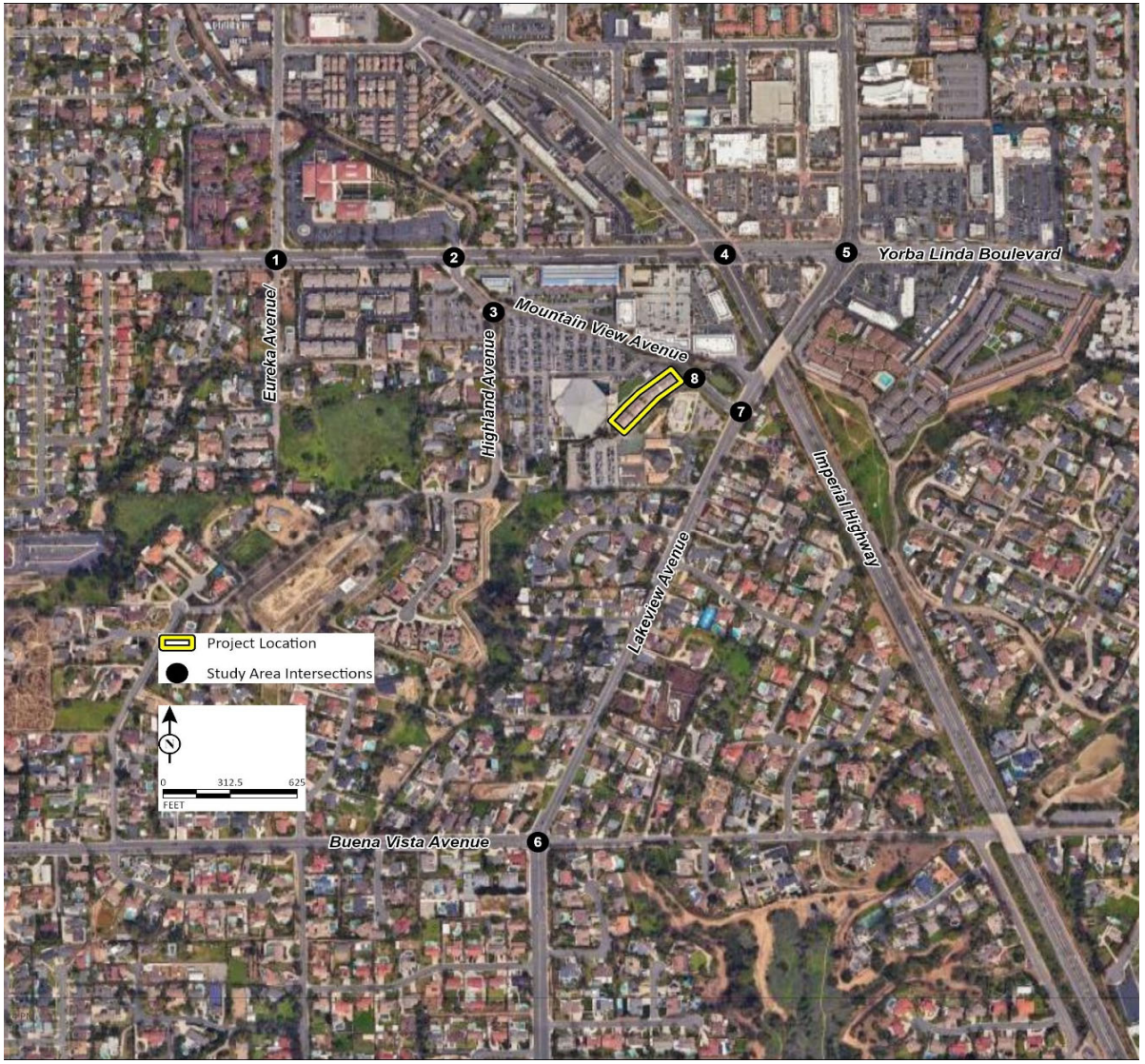
Opening Year (2028) Plus Project Condition

Project trips were also added to the Opening Year (2028) traffic volumes. Figures 10a and 10b show the resulting Opening Year (2028) Plus Project peak-hour traffic volumes. Table I summarizes the results of the Opening Year (2028) Plus Project LOS analysis for all study intersections. LOS worksheets for the Opening Year (2028) Plus Project condition are provided in Appendix B. As Table I indicates, all study intersections are anticipated to continue to operate within their LOS target after the addition of project traffic, with the exception of Lakeview Avenue/Buena Vista Avenue. This intersection operates with unsatisfactory levels of delay without project traffic and would continue to operate with unsatisfactory delay with the addition of project traffic. Table J provides a comparison between without and with project conditions. As Table J shows, the effect of project traffic on the intersection of Lakeview Avenue/Buena Vista Avenue is less than the established threshold of 0.01 increase in v/c ratio. Therefore, the project would have a less than significant effect on the intersection.

Table I: Opening Year (2028) Plus Project Level of Service Summary

Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.327	A	0.404	A	0.368	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.308	A	0.345	A	0.279	A
3. Highland Avenue/Mountain View Avenue[1]	8.3 sec	A	8.0 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.733	C	0.718	C	0.734	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.596	A	0.678	B	0.619	B
6. Lakeview Avenue/Buena Vista Avenue[1]	57.2 sec	F	50.6 sec	F	60.4 sec	F
7. Lakeview Avenue/Private Roadway[1]	20.8 sec	C	17.0 sec	C	16.6 sec	C
8. Upper Campus Drop-off and Pick-up Zone/Private Roadway[1]	7.7 sec	A	7.2 sec	A	7.0 sec	A

Source: Compiled by LSA (2026).
[1] Unsignalized intersection
☐ = Unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds



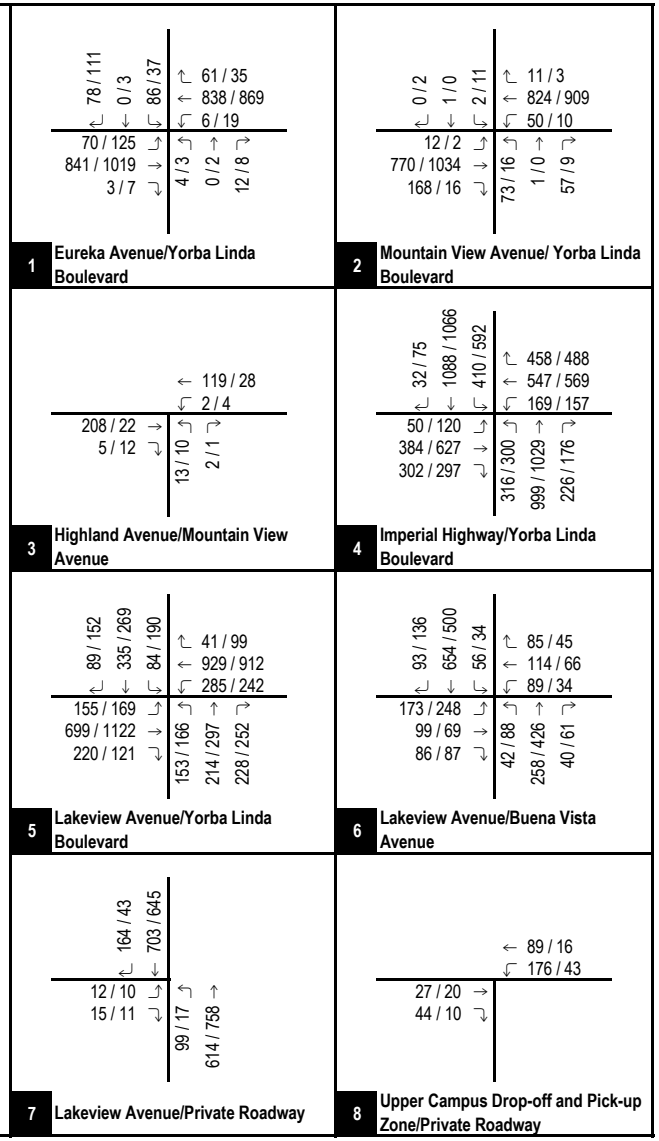


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FIGURE 10a

XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

Opening Year (2028) Plus Project AM and PM Peak Hour Traffic Volume

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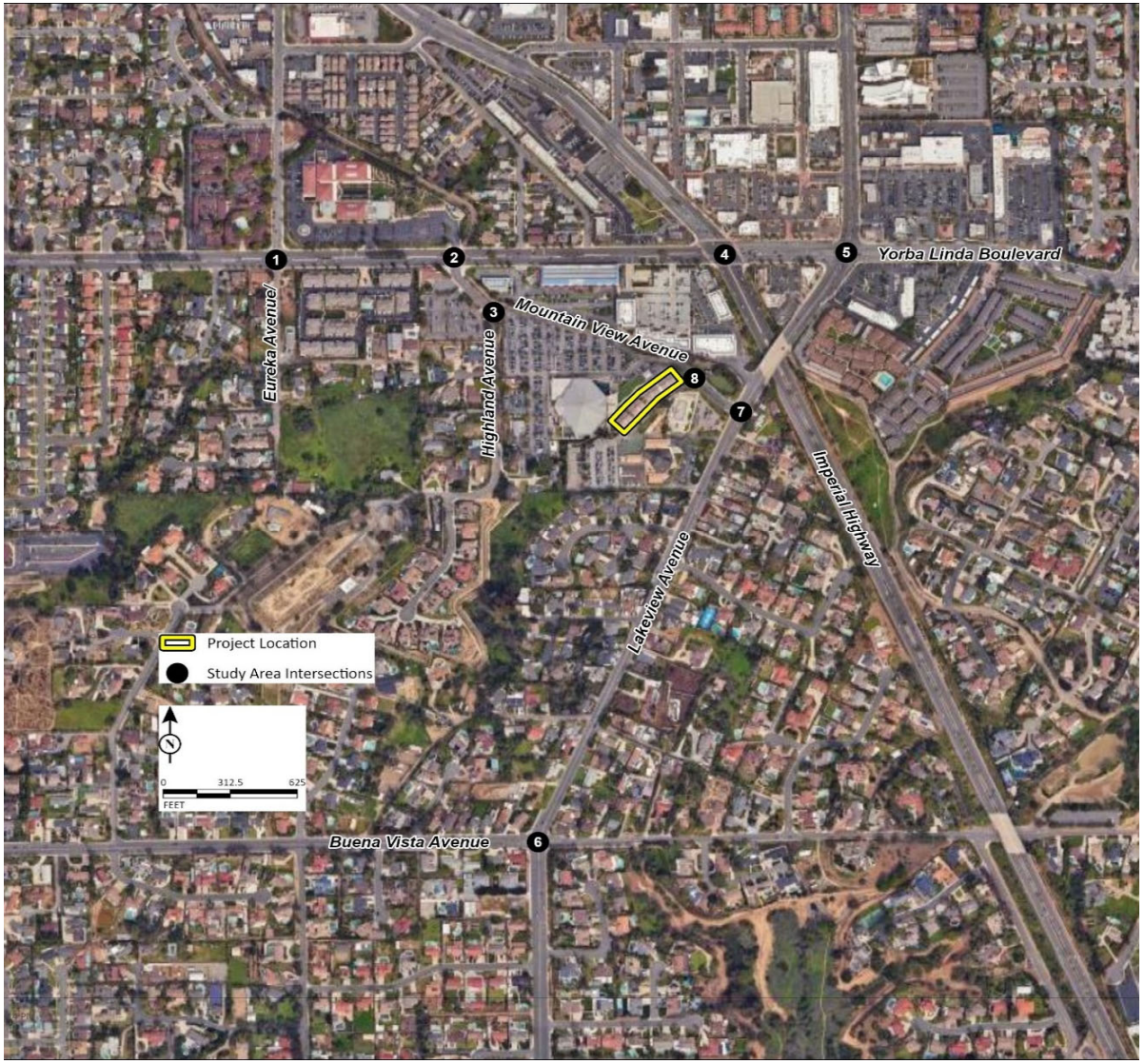
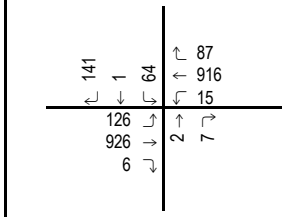
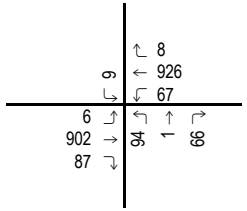
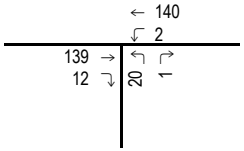




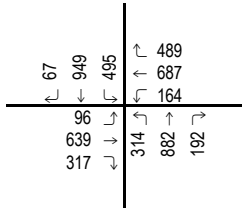
1 Eureka Avenue/Yorba Linda Boulevard



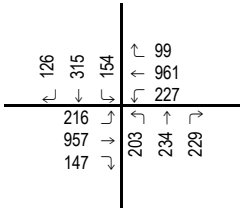
2 Mountain View Avenue/ Yorba Linda Boulevard



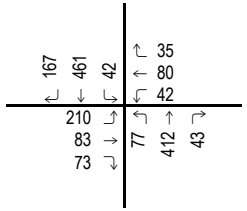
3 Highland Avenue/Mountain View Avenue



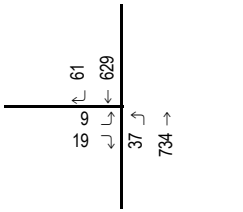
4 Imperial Highway/Yorba Linda Boulevard



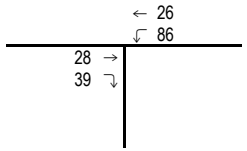
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

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FIGURE 10b

Friend Christian School Project

Opening Year (2028) Plus Project Afternoon Traffic Volume

Table J: Project Effect Comparison—Opening Year (2028) Plus Project

6. Lakeview Avenue/Buena Vista Avenue	Opening Year	Plus Project	Project Effect
	V/C	V/C	V/C
AM Peak Hour	0.508	0.513	0.005
Afternoon Peak Hour	0.506	0.508	0.002
PM Peak Hour	0.531	0.532	0.001

Source: Compiled by LSA (2026).
LOS = level of service
v/c = volume-to-capacity ratio

LSA also examined queueing forecasts with the addition of project traffic. During all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket. During all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.

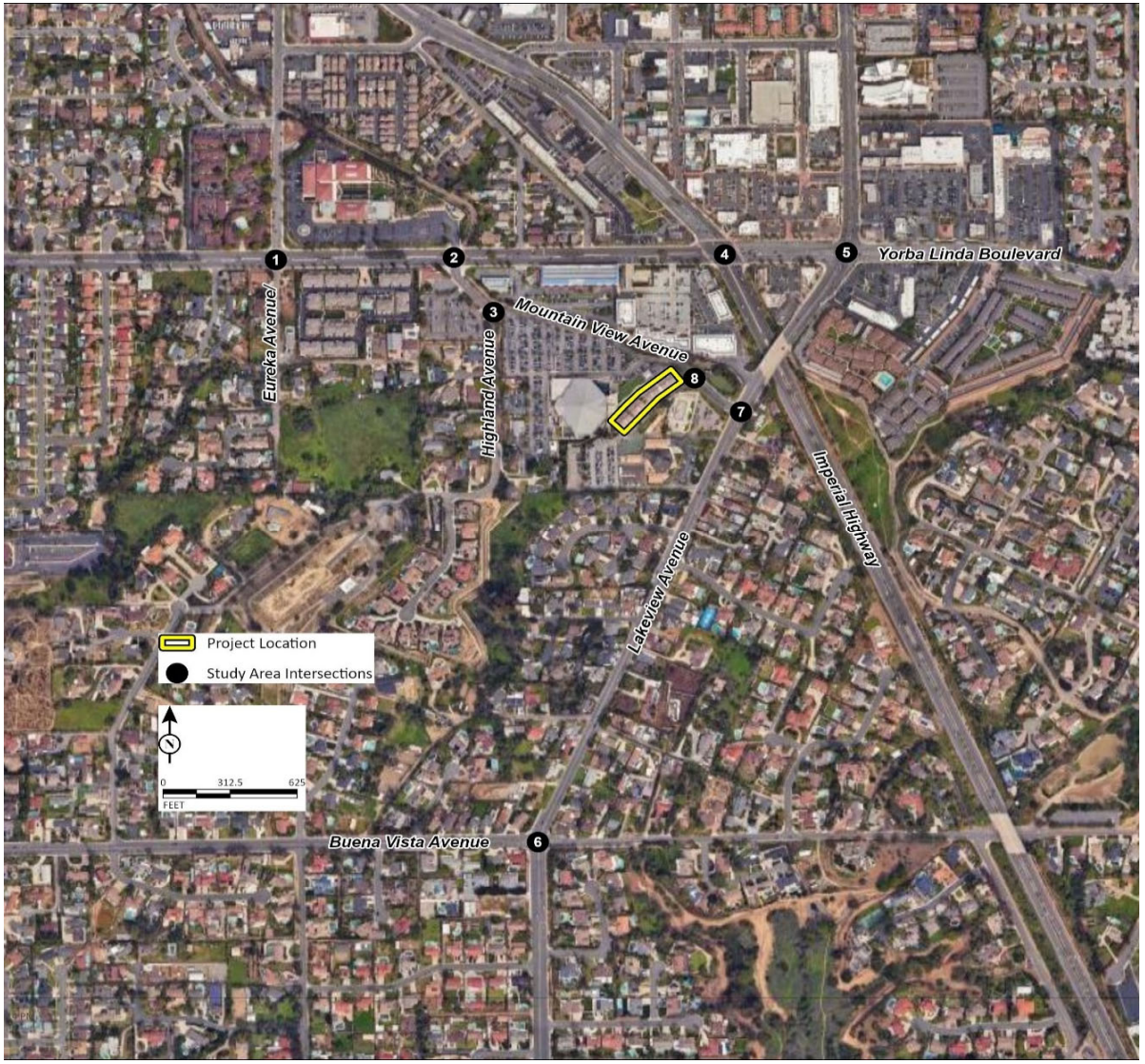
Horizon Year Plus Project Condition

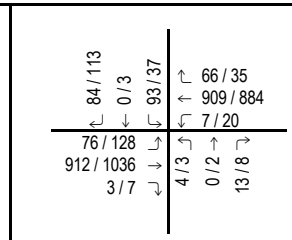
Project trips were also added to the Horizon Year traffic volumes. Figures 11a and 11b show the resulting Horizon Year Plus Project peak-hour traffic volumes. Table K summarizes the results of the Horizon Year Plus Project LOS analysis for all study intersections. LOS worksheets for the Horizon Year Plus Project condition are provided in Appendix B. As Table K indicates, all study intersections are anticipated to continue to operate within their LOS target after the addition of project traffic.

Table K: Horizon Year Plus Project Level of Service Summary

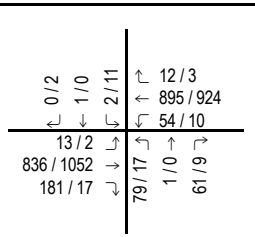
Intersection	AM Peak Hour		Afternoon Peak Hour		PM Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS	ICU/Delay	LOS
1. Eureka Avenue/Yorba Linda Boulevard	0.351	A	0.425	A	0.374	A
2. Mountain View Avenue/Yorba Linda Boulevard	0.329	A	0.361	A	0.283	A
3. Highland Avenue/Mountain View Avenue[1]	8.2 sec	A	8.0 sec	A	7.1 sec	A
4. Imperial Highway/Yorba Linda Boulevard	0.809	D	0.760	C	0.757	C
5. Lakeview Avenue/Yorba Linda Boulevard	0.598	A	0.590	A	0.589	A
6. Lakeview Avenue/Buena Vista Avenue	0.856	D	0.714	C	0.713	C
7. Lakeview Avenue/Private Roadway[1]	24.4 sec	C	18.6 sec	C	17.8 sec	C
8. Upper Campus Drop-off and Pick-up Zone/Private Roadway[1]	7.7 sec	A	7.1 sec	A	7.0 sec	A

Source: Compiled by LSA (2026).
[1] Unsignalized intersection
☐ = Unsatisfactory LOS
ICU = intersection capacity utilization
LOS = level of service
sec = seconds

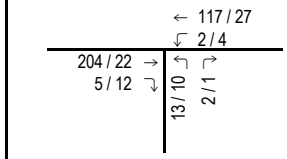




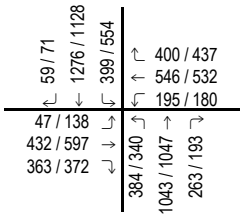
1 Eureka Avenue/Yorba Linda Boulevard



2 Mountain View Avenue/ Yorba Linda Boulevard



3 Highland Avenue/Mountain View Avenue



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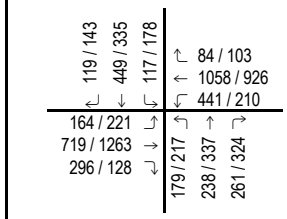

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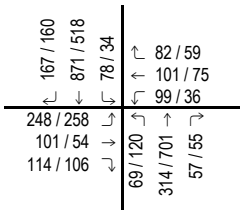

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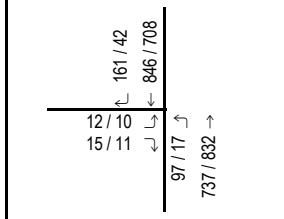
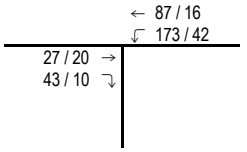


7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 11a

XX / YY AM / PM Peak Hour Traffic Volumes

Friend Christian School Project

Horizon Year Plus Project AM and PM Peak Hour Traffic Volume

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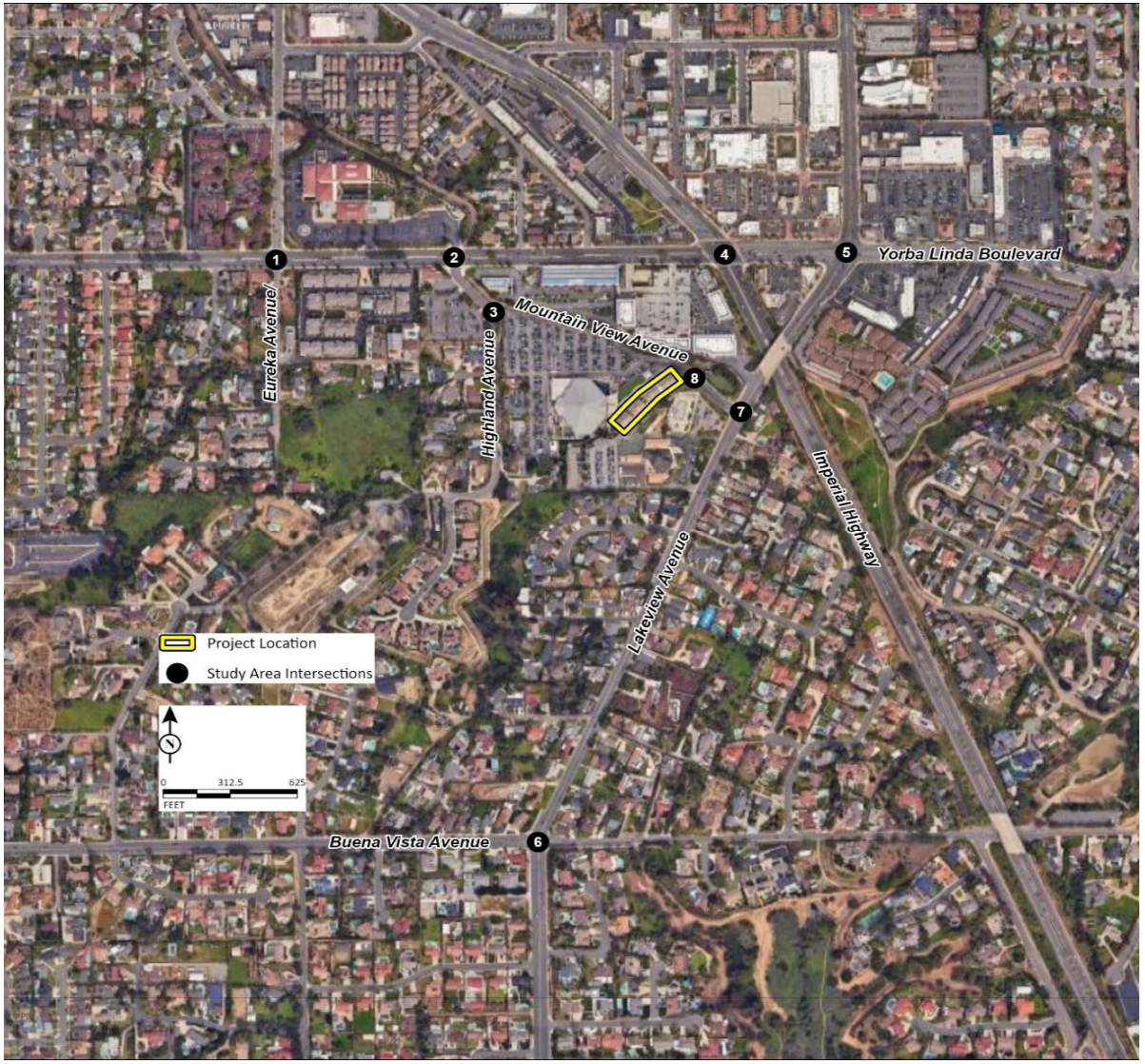
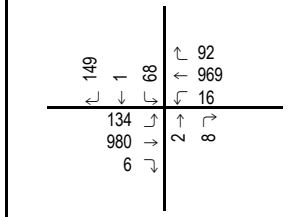
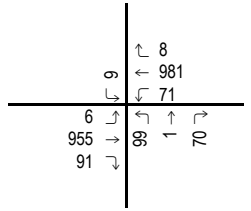
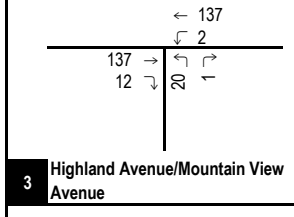




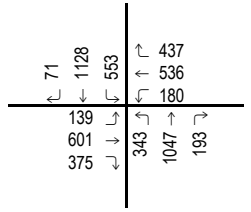
1 Eureka Avenue/Yorba Linda Boulevard



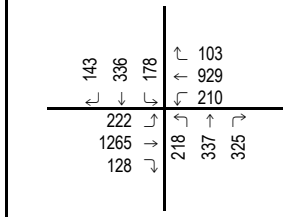
2 Mountain View Avenue/ Yorba Linda Boulevard



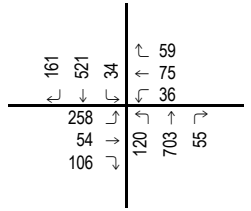
3 Highland Avenue/Mountain View Avenue



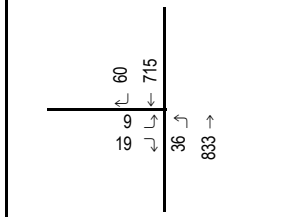
4 Imperial Highway/Yorba Linda Boulevard



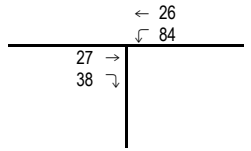
5 Lakeview Avenue/Yorba Linda Boulevard



6 Lakeview Avenue/Buena Vista Avenue



7 Lakeview Avenue/Private Roadway



8 Upper Campus Drop-off and Pick-up Zone/Private Roadway

LSA

FIGURE 11b

Friend Christian School Project

Horizon Year Plus Project Afternoon Traffic Volume

LSA also examined queueing forecasts with the addition of project traffic to the Horizon Year. During all 3 examined peak hours, the westbound left-turn queue calculated by HCM methodology at Mountain View Avenue/Yorba Linda Boulevard is no more than two vehicles. This can be accommodated within the existing turn pocket. During all 3 examined peak hours, the northbound left-turn queue calculated by HCM methodology at the northern driveway with Lakeview Avenue is no more than one vehicle.

SIGNAL WARRANT ANALYSIS

Signal warrant analysis was conducted at two unsignalized study intersections. These intersections are Intersection 6 (Lakeview Avenue/Buena Vista Avenue) and Intersection 7, the northern driveway of Friends Church at Lakeview Avenue. Intersection approach volumes for those two unsignalized study intersections were examined to determine whether signalization is warranted per the criteria defined in the California supplement of the *Manual on Uniform Traffic Control Devices* (CA-MUTCD).

#6: Lakeview Avenue/Buena Vista Avenue

The level of peak-hour traffic is Warrant 3 in the CA-MUTCD. Signal warrant worksheets are provided in Appendix C. According to the criteria established in the CA-MUTCD, this unsignalized intersection meets the signal warrant with existing peak-hour traffic volume. As described above, the City plans to signalize this intersection in the future.

#7: Lakeview Avenue/Private Roadway

The peak-hour traffic volumes for Warrant 3 were evaluated for this intersection under Existing, Opening Year (2028), and Horizon Year conditions. Signal warrant worksheets are provided in Appendix C. For each of these conditions, the peak-hour traffic volume does not meet the criteria established in the CA-MUTCD.

At this location, 24-hour roadway traffic volume data were collected. This allowed the analysis of the highest 8 hours of traffic volume (Warrant 1) and highest 4 hours of traffic volume (Warrant 2). Again, signal warrant worksheets are provided in Appendix C. Traffic volumes at this location are below the thresholds provided in the CA-MUTCD for warranting a traffic signal.

At this location, all three volume-based signal warrants identified in the CA-MUTCD were evaluated, and the intersection was not found to warrant installation of a traffic signal.

SIGHT DISTANCE

Sight distance describes the limits of visibility either from a vehicle on a roadway to objects ahead of the vehicle on or near the roadway, or from a vehicle preparing to enter a roadway to other vehicles on the roadway. The Friends Church campus has three driveways on Lakeview Avenue. The middle driveway is striped for entry only, but the northern and southern driveways are used by exiting vehicles. The southern driveway is the primary exit for vehicles picking up students at the end of the school day. This transportation analysis examined whether sufficient sight distance is provided at these driveways for the exiting vehicles.

Two types of sight distance are relevant for this analysis: (1) stopping sight distance refers to the distance required for a vehicle traveling on a roadway to come to a complete stop, and (2) intersection sight distance presents the amount of space necessary for a vehicle to enter a roadway without causing other vehicles to alter their velocity. Stopping sight distance is the minimum that must be provided. Intersection sight distance is different for left-turning and right-turning vehicles because left-turning vehicles must cross additional lanes of traffic before accelerating to the roadway's predominant speed. This report references recommended sight distance published in the California Department of Transportation (Caltrans) *Highway Design Manual* (HDM) (dated July 2020).

Sight distance is highly dependent on the predominant travel speed. In the project vicinity, the posted speed limit along Lakeview Avenue is 35 mph. However, the typical speed observed along Lakeview Avenue is 45 mph. Table L provides the sight distance for 35 mph (i.e., the speed limit) and 45 mph (i.e., the observed speed).

Table L: Recommended Sight Distance

Speed (mph)	Recommended Sight Distance (feet)		
	Stopping Sight Distance[1]	Intersection Sight Distance	
		Left Turn from Stop[2]	Right Turn from Stop[2]
35	250	440	335
45	360	565	430

Source: *Highway Design Manual* (HDM), 7th Edition (Caltrans 2020).
[1] Table 201.1
[2] Section 405.1
Caltrans = California Department of Transportation
mph = miles per hour

Since the intersection sight distance would be greater than the stopping sight distance, sight triangle figures were created at both the northern and southern driveways using the intersection sight distance. Figures 12 and 13 illustrate the sight distance at the northern driveway access at Lakeview Avenue (Intersection 7) for the posted speed of 35 mph and observed speed of 45 mph on Lakeview Avenue, respectively. Figures 14 and 15 illustrate the sight distance at the southern access for the posted speed of 35 mph and observed speed of 45 mph on Lakeview Avenue, respectively.

At the project access points, the sight distance for left-turn maneuvers coming out of the access points along Lakeview Avenue was measured between the driveway and northbound traffic, and the sight distance for right-turn maneuvers coming out of the access points along Lakeview Avenue was measured between the driveway and southbound traffic. As shown on these figures, there are no sight obstructions within the sight distance triangles at each access point; therefore, adequate sight distance for left- and right-turn maneuvers onto Lakeview Avenue is provided at both driveways. Vehicles exiting the Friends Church campus onto Lakeview Avenue have sufficient sight distance to accept an appropriate gap in traffic as specified in the HDM.

VEHICLE MILES TRAVELED

In January 2019 the State of California modified the Public Resources Code specifying that analysis of transportation impacts under the California Environmental Quality Act (CEQA) analyze a project's effect on VMT. VMT considers not just the number of vehicle trips generated by a project, but also the distance traveled by those vehicles. Land uses with fewer and/or shorter vehicle trips would have lower VMT than land uses with more and/or longer vehicle trips.

The *City of Yorba Linda Traffic Impact Analysis Guidelines* (May 2020) provides screening criteria identifying types of projects that would be presumed to have a less than significant impact and not require project-level analysis. The proposed project is not located in a transit priority area or a low-VMT area and cannot be screened based on project location. The guidelines provide examples of project type that have a tendency to shorten vehicle trips (and therefore reduce VMT) and do not require individual analysis. This list includes local-serving K-12 public schools. The proposed project is a private school and does not qualify for this project-type screening.

Simultaneously with the guidelines, the City developed the North Orange County Cities (NOCC) tool for analysis of project VMT. This tool is a helpful user interface that queries data developed by the Orange County Transportation Analysis Model (OCTAM). The NOCC tool can query VMT information for standard types of land uses (e.g., residential and office projects) very well but does not contain information for every possible land use type. Therefore, LSA calculated VMT for the proposed project using OCTAM.

LSA identified the project's traffic analysis zone (TAZ) and isolated the school land use within that TAZ. LSA confirmed that the socioeconomic data for the TAZ reflected the existing school employment and enrollment and ran OCTAM to calculate the No Project VMT based on the origin-destination methodology as specified in the City's guidelines. The resulting VMT and calculation of VMT per service population is provided in Table M. As shown in Table M, the existing VMT per service population for the current school operation is 18.24. The new employment and enrollment for the proposed project were added to the TAZ and OCTAM calculated the new (with project) VMT.

As stated above, the proposed project would add classrooms to the Friends Christian School campus and expand enrollment at this campus, but the grade being added is currently located at Friends Middle School and is contributing to citywide VMT in the existing condition. As shown in Table M, the total VMT for the school would increase with the additional enrollment, but VMT per service population would decrease to 16.49.

OCTAM was also used to calculate the VMT per service population for Yorba Linda. In the base year model, Yorba Linda generates 3,037,438 VMT, which is 30.79 VMT per service population. In the future-year model, Yorba Linda generates 3,234,632 VMT, which is 33.40 VMT per service population. Traffic model output is provided in Appendix D.

LEGEND

Sight Distance Triangle

FIGURE 12

0 45 90
FEET

Friends Christian School Project

Northern Driveway Sight Distance at Posted Speed Limit (35 mph)

SOURCE: Nearmap , January 2026

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LEGEND

Sight Distance Triangle

FIGURE 13

0 55 110
FEET

Friends Christian School Project

Northern Driveway Sight Distance at Observed Speed (45 mph)

SOURCE: Nearmap , January 2026

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LEGEND

Sight Distance Triangle

FIGURE 14

0 45 90
FEET

Friends Christian School Project

Southern Driveway Sight Distance at Posted Speed Limit (35 mph)

SOURCE: Nearmap , January 2026

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LEGEND

Sight Distance Triangle

FIGURE 15

0 55 110
FEET

Friends Christian School Project

Southern Driveway Sight Distance at Observed Speed Limit (45 mph)

SOURCE: Nearmap , January 2026

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Table M: Vehicle Miles Traveled Summary

City of Yorba Linda	
2019 Base Year Origin-Destination Total VMT	3,037,438
2019 Base Year Total Service Population	98,637
Base Year VMT per Service Population	30.79
2050 Future Year Origin-Destination Total VMT	3,234,632
2050 Future Year Total Service Population	96,847
Future Year VMT per Service Population	33.40
Existing School	
Origin-Destination VMT	11,127
Service Population (109 staff, 501 student)	610
VMT per Service Population	18.24
School With Project	
Origin-Destination VMT	11,508
Service Population (114 staff, 584 student)	698
VMT per Service Population	16.49

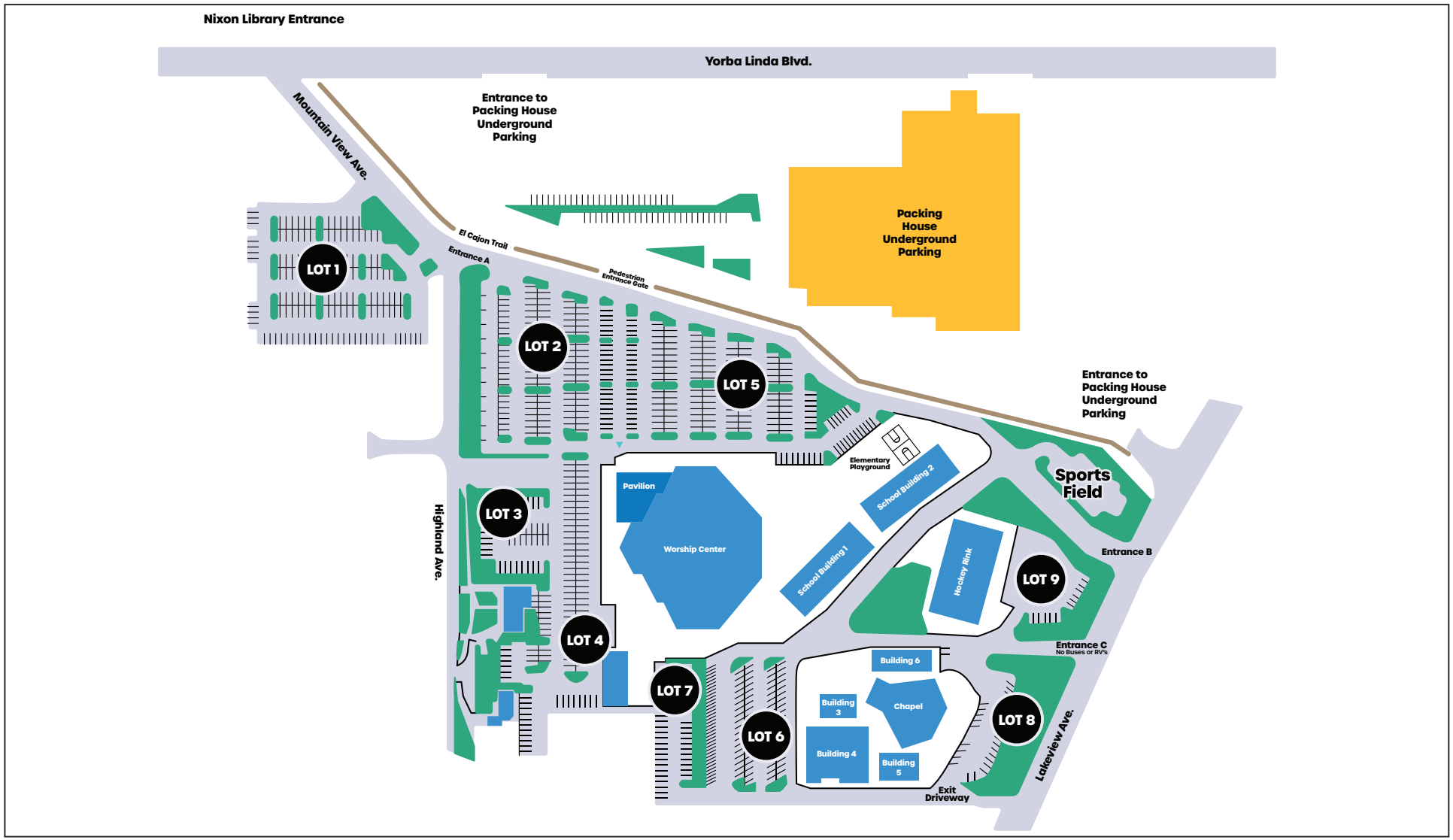
Source: OCTAM 5.1
OCTAM = Orange County Transportation Analysis Model
VMT = vehicle miles traveled

The project-generated VMT per service population is lower than the City of Yorba Linda General Plan Buildout VMT per service population. The proposed project would decrease the VMT per service population within the project TAZ. The project's would not result in an increase in citywide VMT per service population. Therefore, the project's effect on VMT would be less than significant under the criteria established in the City's guidelines.

PARKING

A total of 835 parking spaces are available in nine parking lot within the Friends Church campus. The locations of the nine parking lots are identified on Figure 16. The Friends Church campus experiences its peak parking demand during Sunday services. Most of the parking spaces are vacant during the school week. Lot 1 is gated and closed during the week to prevent random vehicle storage. Of the 337 parking spaces in Lots 2 and 5, only 18 were occupied at the beginning of the school day when LSA observed school traffic operations. Friends Christian School benefits from the ability to use this abundance of parking during the school week.

Yorba Linda Municipal Code Section 18.22.030 identifies the parking required for various types of land uses. For elementary or middle schools, the City requires that 2 spaces be provided for each teaching station. The existing school has 16 classrooms, which requires 32 parking spaces. The proposed project would add 7 classrooms, which would require an additional 14 parking spaces. Table N provides this calculation. Friends Church has 646 parking spaces on the Lower Campus and an additional 189 parking spaces on the Upper Campus, which is more than sufficient to accommodate the existing and proposed parking requirement for Friends Christian School.



LSA

N

0 110 220

FEET

FIGURE 16

Friend Christian School Project

Parking Lot Locations

SOURCE:

P:\2026\20262730\GIS\Figure 16 - Parking Lot Locations.ai (3/13/2026)

Table N: Municipal Code Parking Requirement

Land Use	Parking Space Rates per Yorba Linda Municipal Code Section 18.22.030	Parking Requirements		
		Size	Unit	Required Parking Spaces
Existing School				
Elementary or junior high school	2 spaces for each teaching station	16	Classrooms	32
Future School				
Elementary or junior high school	2 spaces for each teaching station	23	Classrooms	46
			Total Added Parking Requirement	**14**

Source: Yorba Linda Municipal Code Section 18.22.030.

Cumulative Project

The Richard Nixon Presidential Library and Museum, which is located north of Yorba Linda Boulevard, is currently planning an expansion. Its project would add storage, exhibit, and event space totaling 41,080 square feet. Currently, the Richard Nixon Presidential Library and Museum provides 235 parking spaces; this would expand to 262 with the project. According to the *Draft Parking Analysis for Richard Nixon Presidential Library and Museum* (GTS, December 2025), total parking demand with the expansion could be accommodated during weekdays. The draft parking analysis states, however, that use of overflow parking within the Friends Church campus will be necessary on Sundays when museum peak parking demand is anticipated to exceed museum parking supply by 14 spaces.

The museum has a shared parking agreement with Friends Church for use of surplus spaces in Lot 1. Lot 1 provides 152 parking spaces. Since the church experiences its peak parking demand on Sundays and the museum anticipates requiring overflow parking on Sundays, this report analyzed Sunday parking conditions.

Sunday Parking Demand

Sunday services are held at 9:00 a.m. and 11:00 a.m. Services at Amigos tu Iglesia are held Sundays at 11:00 a.m. Services are 70 minutes, and congregants are advised to arrive 20 minutes prior to service. This means that a 30-minute window is provided to clear the sanctuary and parking lot before arrivals begin for the second service.

LSA contracted with an independent data collection company to collect parking accumulation data within the Friends Church campus. This data were collected on Sunday, January 11, 2026. Surveys were conducted between 8:00 a.m. and 1:00 p.m. to capture the parking demand during and between both church services. The parking data is provided in Appendix E. Table O summarizes the peak parking demand within each analyzed parking zone by time period.

As Table O shows, Lot 1 has at least 79 parking spaces available on Sunday. During both the 9:00 a.m. and 11:00 a.m. services, Lot 1 has the most spaces remaining available of all the parking lots within the Friends Church campus. The entire Friends Church campus has at least 114 parking spaces available even during the busiest time during church services on Sunday.

Table O: Sunday Parking Demand Summary

	Lower Campus				Upper Campus			Grand Total
	Lot 1	Lots 2 and 5	Lots 3 and 4	Total	Lots 6 and 7	Lot 8	Lot 9	
Capacity	152	337	157	646	121	32	36	**835**
8:00 a.m.								
Parked	2	16	10	28	5	0	0	**33**
Remaining	150	321	147	618	116	32	36	**802**
8:45 a.m.								
Parked	2	193	25	220	33	0	0	**253**
Remaining	150	144	132	426	88	32	36	**582**
During 9:00 a.m. service								
Parked	40	337	158	535	77	0	0	**612**
Remaining	112	0	(1)	111	44	32	36	**223**
10:10 a.m.								
Parked	15	225	84	324	77	0	0	**401**
Remaining	137	112	73	322	44	32	36	**434**
10:30 a.m.								
Parked	9	145	58	212	59	4	0	**275**
Remaining	143	192	99	434	62	28	36	**560**
During 11:00 a.m. service								
Parked	73	336	159	568	95	32	26	**721**
Remaining	79	1	(2)	78	26	0	10	**114**
12:15 p.m.								
Parked	37	253	74	364	43	14	17	**438**
Remaining	115	84	83	282	78	18	19	**397**
12:40 p.m.								
Parked	14	59	28	101	26	6	10	**143**
Remaining	138	278	129	545	95	26	26	**692**
1:00 p.m.								
Parked	5	30	18	53	14	1	5	**73**
Remaining	147	307	139	593	107	31	31	**762**

Source: Counts Unlimited, compiled by LSA (2026).

SUMMARY AND CONCLUSIONS

Friends Christian School, at 5151 Lakeview Avenue, is located within the campus of Friends Church in Yorba Linda. The school currently serves 501 students and is proposing an expansion to bring fifth grade from the campus of Friends Middle School (at 4231 Rose Drive) to the elementary school campus. The proposed expansion of Friends Christian School would add 83 students. Vehicle trips associated with the relocated grades already traverse Yorba Linda roadways but would increase school traffic traveling to the Friends Church campus.

In the existing condition, morning drop-off trips are spread between 8:00 a.m. and 8:25 a.m. and occur in two locations; one drop-off zone on the Lower Campus and one drop-off zone on the Upper Campus. Vehicle queues in the morning do not interfere with public roadways. Afternoon pick-up occurs over a shorter period of time (starting at precisely 3:00 p.m.) and primarily occurs in one pick-up zone (Upper Campus in front of classrooms). Vehicle queues waiting to pick up extend onto

Lakeview Avenue but are present for less than 30 minutes. By 3:10 p.m., the pick-up operation is completed.

LSA collected traffic volume data at intersections in the vicinity of the project site. In existing conditions, only one intersection, the unsignalized intersection of Lakeview Avenue/Buena Vista Avenue, exceeds the City's vehicle LOS target. This intersection meets the threshold for signalization according to the CA-MUTCD.

The City provided information on a cumulative project, the proposed expansion of the Richard Nixon Presidential Library and Museum, that could be operating by the school project's opening year of 2028. Trips associated with the cumulative project and ambient traffic growth were added to study intersections and analyzed. Again, only the intersection of Lakeview Avenue/Buena Vista Avenue exceeds the City's vehicle LOS target.

The City provided information on two roadway projects anticipated to be constructed by the Horizon Year. Three of the study intersections were also analyzed in the traffic analysis of the Housing Element Update. Traffic growth rates at these intersections were applied to adjacent study intersections to analyze Horizon Year traffic conditions. While it is anticipated that the intersection of Lakeview Avenue/Buena Vista Avenue will be signalized in the Horizon Year, increased traffic volumes result in this intersection continuing to function in excess of the City's LOS target in the a.m. peak hour.

Published trip generation rates for private schools were applied to the proposed project and the new trips were distributed to the roadway network based on existing travel patterns. These trips were added to the baseline traffic volumes in Existing, Opening Year (2028), and Horizon Year scenarios and analyzed. The addition of project traffic is not anticipated to cause any intersection functioning at satisfactory LOS to degrade. The northern driveway on Lakeview Avenue would continue to operate within the City's standards, as would the internal intersection controlling access to the Upper Campus pick-up zone. The project's effect on the intersection of Lakeview Avenue/Buena Vista Avenue was found to be less than the City's threshold and is not considered significant. The unsignalized northern driveway access on Lakeview Avenue does not meet any of the volume-based signal warrant criteria even with the addition of project traffic.

This report also examined whether sufficient sight distance is provided at the northern and southern driveways on Lakeview Avenue. LSA examined both the posted 35 mph speed limit and the observed typical speed of 45 mph. Both driveways were found to provide sufficient sight distance for vehicles turning left or right from the campus onto Lakeview Avenue.

The State of California mandated changes to transportation analysis under CEQA and considers analysis of VMT to be the metric for a project's impacts. The City guidelines establish that VMT per service population is the metric to be used for project comparison. LSA used OCTAM to analyze the existing and proposed school staff and students. The traffic model shows that the increase of 5 staff and 83 students would result in a decrease in VMT per service population from 18.24 today to 16.49 with the project. Both the without and with project VMT per service population are lower than citywide average. Therefore, the project would not have an impact on transportation under CEQA.

This report considered parking demand for the project and the effect of reciprocal parking. The proposed project would increase the Municipal Code parking requirement from 32 parking spaces today to 46 parking spaces after the project. Friends Church has 646 parking spaces on the Lower Campus and an additional 189 parking spaces on the Upper Campus, which is more than sufficient to accommodate the existing and proposed parking requirement for Friends Christian School.

The *Draft Parking Analysis for Richard Nixon Presidential Library and Museum* identifies a brief period on Sundays when museum peak parking demand is anticipated to exceed its on-site parking supply by 14 parking spaces. The museum has a shared parking agreement with Friends Church for use of surplus spaces in Lot 1, which has 152 parking spaces. This report for Friends Christian School collected parking accumulation data within the Friends Church campus before, during, and after 9:00 a.m. and 11:00 a.m. Sunday services. The data showed that Lot 1 has at least 79 parking spaces available on Sunday, which could accommodate the museum's 14-space shortfall. The entire Friends Church campus has at least 114 available parking spaces even during the busiest period during Sunday services.

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