LAGUNA NIGUEL SENIOR LIVING CENTER & GRACE CHURCH REMODEL TRAFFIC IMPACT STUDY
City of Laguna Niguel, California

RK engineering group, inc.

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City of Laguna Niguel, California

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1.0 Introduction

1.1 Purpose of Report and Study Objectives

The purpose of this traffic impact analysis is to evaluate the proposed Laguna Niguel Senior Living Center & Grace Church Remodel (hereinafter referred to as project) from a traffic and circulation standpoint and to determine whether the proposed project will have a significant traffic impact on the environment. This study has been conducted pursuant to the *City of Laguna Niguel Transportation Assessment Guidelines (November 2020)* and the California Environmental Quality Act (CEQA) requirements.

Prior to initiating the study, a detailed scope of work has been prepared and provided to City staff for review and approval. As part of the scoping process, RK has provided the City with a draft scope of work which was reviewed and commented on by the City staff. The scope was then revised based on comments from City staff and a final scope was provided to the City and approved for the project. This study has been prepared in accordance with the approved scope of work. A copy of the final and approved scope of work is contained in Appendix G.

1.2 Site Location

The proposed project is located adjacent to the existing Grace Church on the corner of the Crown Valley Parkway / La Plata Drive intersection in the City of Laguna Niguel.

The project site location map is shown on Exhibit 1-1.

1.3 Project Description

The project site currently consists of the following land uses:

- The existing Grace Church; and
- A K-8 private school (currently inactive - to be displaced).

The proposed project consists of the construction of a fully state licensed RCFE senior assisted living and memory care facility with a size of 106,041 square feet (130,041 if the parking garage area is included) consisting of a total of 108 suites housing 111 beds. The Senior Living Center will provide 77 suites for senior assisted living care and 31 suites

provided for senior memory care in its own secure neighborhood on the entry level. It is a 2-story building over a basement containing a garage with 53 parking stalls and other common areas.

The senior living center is to be located adjacent to the existing Grace Church. The proposed project is expected to displace an existing building on-site which served a K-8 private school with a maximum enrollment capacity of 100 students and is currently being used for Christian education on Sundays and a few days a week.

The Grace Church property has been operating as a church since 1973. The Grace Church remodel will add 436 SF net increase in its church facilities, providing two new ADA bath-rooms and the relocation of classrooms and offices from the modular buildings to the second floor of the main church building. The proposed project is not planned to make any operational or capacity changes to the existing church use. Hence, the parking demand for the church component of the site is expected to be the same as existing conditions. Currently, the church has a parking capacity of 80 spaces and is proposed to be expanded to 82 spaces. In addition, during special events, the church could provide 121 spaces through the use of parking spaces located on the adjacent daycare site and through the implementation of valet parking.

Based on information provided by the project applicant, the church element of the project is planned to be a remodel and the proposed project is not expected to result in a significant increase in the existing day-to-day church activities and trip generation.

Access for the project site is planned via the following:

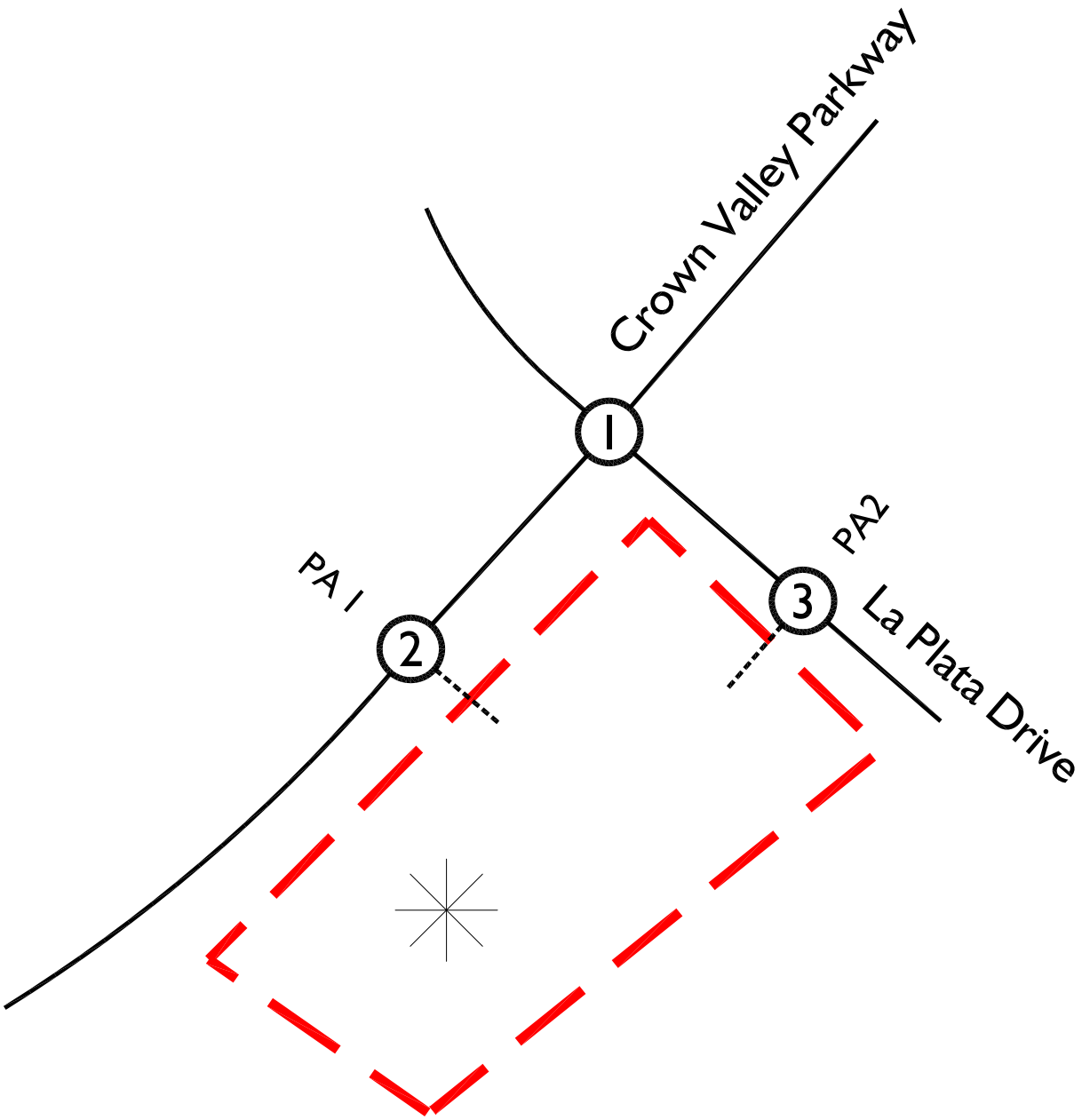
- One proposed right-in/right-out access driveway along Crown Valley Parkway; and
- One existing full-access unsignalized driveway along La Plata Drive.

The project is planned to open in 2022 and will be evaluated in one (1) single phase.

This traffic analysis evaluates the proposed project from a traffic and circulation standpoint in accordance with County of Orange Congestion Management Program (CMP) and City of Laguna Niguel Transportation Assessment Guidelines.

The project site plan is shown on Exhibit 1-2.

Exhibit 1-1
Location Map



Legend:

① = Study Area Intersection

= Project Site

- - - = Project Site Boundary

N

Exhibit 1-2
Site Plan

2.0 Study Area & Analysis Methodologies

This traffic analysis evaluates the proposed project from a traffic and circulation standpoint in accordance with the City of Laguna Niguel Transportation Assessment Guidelines.

The study area consists of level of service analysis for the following study intersections:

1. Crown Valley Parkway (NS) / La Plata Drive (EW);
2. Crown Valley Parkway (NS) / Project Access 1 (EW); and
3. Project Access 2 (NS) / La Plata Drive (EW).

The study intersection level of service has been evaluated for the following study scenarios for AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods.

- Existing Conditions;
- Existing Plus Project Conditions;
- Opening Year (2022) Without Project Conditions; and
- Opening Year (2022) With Project Conditions.

2.1 Intersection Capacity Utilization (LOS) Analysis Methodology (Signalized Intersections)

In accordance with the *City of Laguna Niguel Transportation Assessment Guidelines (November 2020),* the methodology used to assess the operation of signalized intersections is known as Intersection Capacity Utilization (ICU). To calculate an ICU, the volume of traffic of the intersection is compared with the capacity of the intersection. ICU is usually expressed as ratio (V/C). This V/C ratio represents the adequacy of an intersection to accommodate the vehicular demand.

The ICU analysis has been prepared utilizing the following parameters:

- Saturation Flow Rate: Saturation flow value of 1,700 vehicles per lane per hour; no

adjustments are used for protected movements with dedicated lanes (including both right and left turns).

- Clearance Interval: A clearance interval factor of 5% (0.05) is applied to the ICU calculations.

- Level of Service Ranges: Table 3-1 below illustrates the thresholds used in assigning a letter value to the resulting LOS:

Table 2-1
Intersection ICU Level of Service

LOS	Critical Volume to Capacity Ratio
A	0.00 – 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

- Peak-Periods: Weekday peak-hour analysis periods are defined as follows:

    - 7:00 to 9:00 AM

    - 4:00 to 6:00 PM

  Based on discussions with City staff, a Sunday analysis is not required for the project since the church is planned to continue to operate with the same capacity and additional activities that would result in added traffic or parking are not expected. Hence, the project is not considered a church expansion, but rather a remodel. Additionally, the proposed assisted living and senior memory care use is not expected to generate more than 50 peak hour trips during Sunday conditions, which is typically the threshold for a project requiring a full traffic analysis.

- Peak-Hour: The highest one-hour period in both the AM and PM peak periods, as determined by four consecutive 15-minute count periods are used in the ICU

calculations. Both AM and PM peak hours are studied.

- Right Turn Movements: If the distance from the edge of the outside through lane is at least 19 feet and parking is prohibited during the peak period, right turning vehicles may be assumed to utilize this "unofficial" right turn lane. Otherwise, all right turn traffic is assigned to the through lane. If a right turn lane exists, right turn activity is checked for conflicts with other critical movements. It is assumed that right turn movements are accommodated during non-conflicting left turn phases (e.g., northbound right turns during westbound left turn phase), as well as non-conflicting through flows (e.g., northbound right turn movements and north/south through flows). Right turn movements become critical when conflicting movements (e.g., northbound right turns, southbound left turns, and eastbound through flows) represent a sum of V/C ratios, which are greater than the normal through/left turn critical movements.

2.2 Highway Capacity Manual (HCM) Analysis Methodology (Unsignalized Intersections)

The Highway Capacity Manual 6th Edition (HCM 6) methodology is used to calculate level of service at unsignalized study area intersections. For intersections with stop control on the minor street only, the calculation of level of service is dependent on the occurrence of gaps occurring in the traffic flow of the main street, and the level of service is determined based on the vehicle delay of the worst individual movement or movements sharing a single lane.

Table 2-2 shows the level of service criteria based on the HCM methodology.

Table 2-2
HCM Level of Service - Vehicle Delay

Level of Service (LOS)	Vehicle Delay (Seconds)
A	0.00 - 10.00
B	10.01 - 15.00
C	15.01 - 25.00
D	25.01 - 35.00
E	35.01 - 50.00
F	>50.01

2.3 Study Intersection Level of Service (LOS) Performance Criteria & Thresholds of Significance

In accordance with the *City of Laguna Niguel Transportation Assessment Guidelines (November 2020),* the following criteria shall be used in determining whether the addition of project should be considered to have significant traffic impacts:

- A signalized intersection to degrade from an acceptable LOS D or better to LOS E or LOS F; or

- The volume to capacity (V/C) ratio to increase by more than 0.01 at a signalized intersection operating at LOS E or LOS F.

If an intersection is operating at LOS E or worse and a significant impact is anticipated (V/C ratio increase of more than 0.01), improvement is needed to improve intersection operations equal to the project-generated impact on the operation of the intersection. If an impact drops from LOS D or above to LOS E or F, improvement is required to bring the LOS back to the acceptable threshold level (LOS D) as a part of the project approval. No improvement is required for intersections operating at above the acceptable threshold.

2.4 CEQA Evaluation & Vehicle Miles Traveled (VMT) Analysis

Effective July 1st, 2020, the longstanding metric of roadway level of service (LOS), which is typically measured in terms of vehicle delay, roadway capacity and congestion, will no longer be considered a significant impact under the California Environmental Quality Act (CEQA). Pursuant to CEQA Guidelines, Section 15064.3, VMT is now the most appropriate measure of transportation impacts.

The City of Laguna Niguel has prepared the *City of Laguna Niguel Transportation Assessment Guidelines (Nov 2020*), detailing the appropriate VMT methodologies, thresholds of significance, and feasible mitigation measures. This analysis follows the practices and recommendations in the *City of Laguna Niguel Transportation Assessment Guidelines (Nov 2020)*.

3.0 Existing Traffic Volumes & Circulation System

This section provides a discussion of existing study area conditions and traffic volumes.

3.1 Existing Traffic Controls and Intersection Geometrics

RK conducted a field review of the study area in February 2021 to determine the existing traffic controls and intersection geometrics for roadway facilities near the site. Exhibit 3-1 identifies the existing roadway conditions within the study including the study intersection of Crown Valley Parkway / La Plata Drive. The number of through traffic lanes for existing roadways and the existing intersection controls are identified. The type of traffic control and number of lanes at an intersection are key inputs for the calculation of level of service.

3.2 Existing Traffic Volumes

Due to the COVID-19 pandemic, collection of new traffic counts might result in abnormal traffic volume data as traffic volumes and patterns might not be typical.

After reviewing available pre-pandemic traffic count data provided by the City within the study area, pre-pandemic traffic counts were available from May 2019 for the nearby intersection of Crown Valley Parkway / La Paz Road.

In order to derive valid existing (2021) traffic count data, existing (2021) traffic count data was newly collected in February 2021 at the following intersections:

- Crown Valley Parkway (NS) / La Plata Drive (EW); and

- Crown Valley Parkway (NS) / La Paz Road (EW) (for comparison to the previously collected 2019 pre-pandemic data and derivation of adjustment factor between pandemic and non-pandemic conditions).

Utilizing the May 2019 pre-pandemic traffic count data for the Crown Valley Parkway / La Paz Road intersection, RK then projected 2021 traffic count data at the Crown Valley Parkway / La Paz Road intersection by application of a one percent (1%) growth rate per year for two (2) years.

A comparison of projected 2021 and observed 2021 traffic count data for the Crown Valley Parkway / La Paz Road intersection was made based on the intersection's total volume to produce an adjustment factor between pandemic and non-pandemic conditions. This adjustment factor correspondingly was applied to the newly observed 2021 traffic data for the study intersections to derive non-pandemic existing 2021 traffic conditions volumes for use in this analysis.

Furthermore, traffic counts at the Project Access (NS) / La Plata Drive (EW) for use in the analysis were collected in February 2022 during non-pandemic conditions.

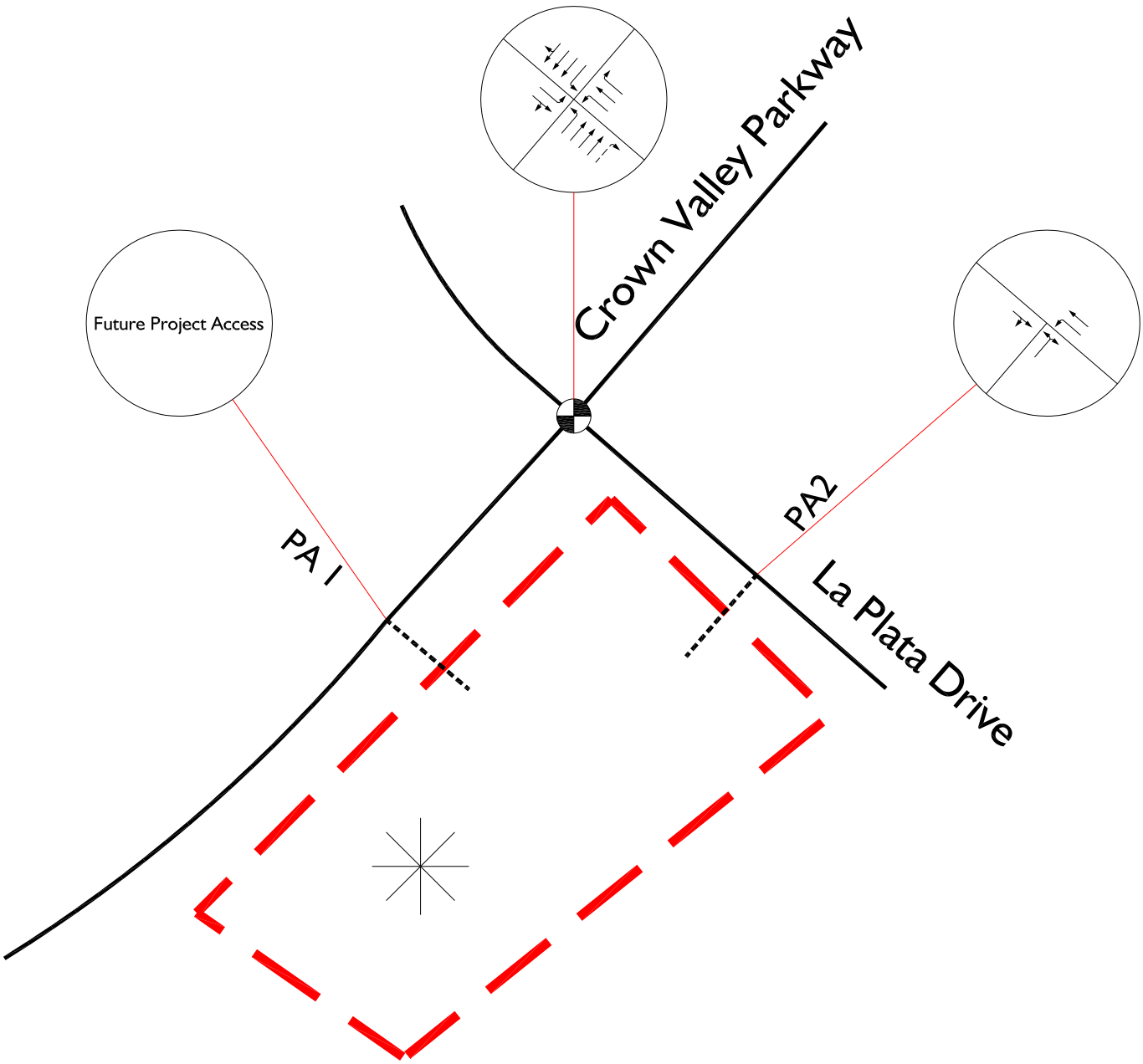
The traffic counts were collected during typical weekday conditions and site operations.

Existing traffic count data is contained in Appendix A.

Exhibit 3-2 shows the existing (2021) conditions traffic volumes for the study area.

Exhibit 3-1

Existing Study Intersection Geometry and Traffic Controls



Legend:

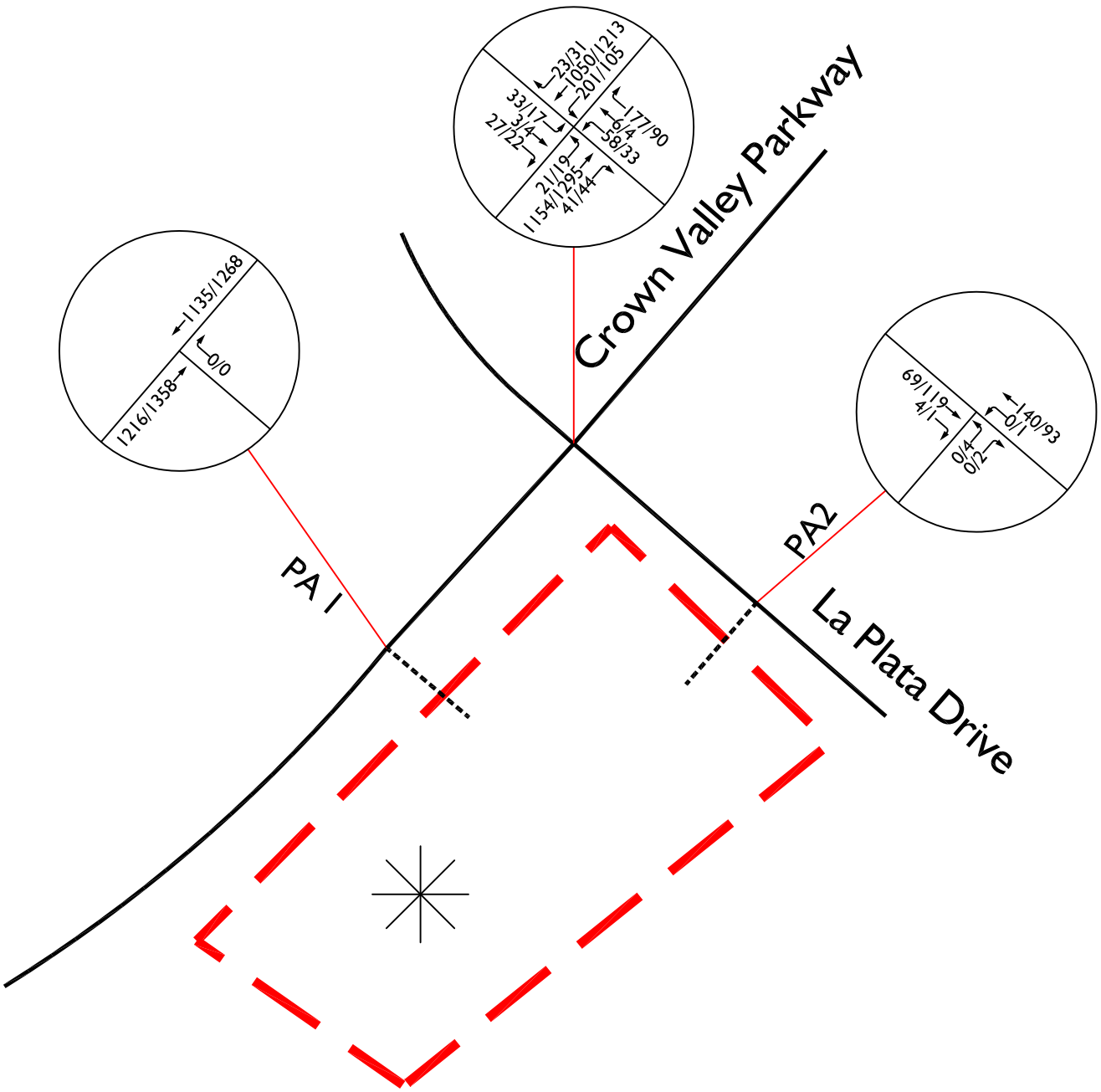
= Traffic Signal

= Defacto Right Turn

N

Exhibit 3-2

Existing Conditions Traffic Volumes



Legend:

10/20 = AM/PM Peak Hour Volumes

N

4.0 Projected & Future Traffic Volumes

This section of the report provides a discussion on methodologies utilized to derive future traffic volumes for the study area.

4.1 Project Traffic Conditions

4.1.1 Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. The trip generation for the project is based upon the specific land uses that have been planned for this development.

Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017)*. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 4-1 shows the ITE trip generation rates for the proposed as well as the existing land use which will be displaced by the proposed project.

Table 4-2 shows the trip generation for the proposed project utilizing the trip generation rates shown in Table 4-1.

As shown in Table 4-2, based on ITE trip generation rates, the proposed project is forecast to generate approximately 289 daily trips which include approximately 21 AM peak hour trips and approximately 29 PM peak hour trips.

As previously noted, the proposed project will displace the existing K-8 private school use (which is not currently active but can be reactivated at any time) with a maximum capacity of 100 students.

Table 4-3 shows the trip generation for the existing land use utilizing the ITE trip generation rates shown in Table 4-1.

As shown in Table 4-3, based on ITE trip generation rates, the existing land use generates approximately 411 daily trips which include approximately 91 AM peak hour trips and approximately 26 PM peak hour trips.

Table 4-4 shows the project's net trip generation after accounting for the existing land use which will be displaced.

As shown in Table 4-4, when compared to the existing land use, the proposed project is forecast to generate approximately 122 FEWER NET daily trips which include approximately 70 FEWER NET AM peak hour trips and approximately 3 ADDITIONAL NET PM peak hour trips.

Also, when compared to the existing land use which generated traffic in short bursts during school pick-up and drop-off times, the proposed project is expected to have a traffic generation that is more evenly distributed throughout the day and peak periods.

In order to conservatively assess the proposed project's potential transportation impact, the traffic analysis utilizes the project trip generation shown in Table 4-2 without taking credit for the existing land use.

It should be noted, based on ITE trip generation rates, the proposed assisted living and memory care use is forecast to generate approximately 32 trips during the Sunday peak hour of the use, which is below the 50 trip threshold for requiring a Sunday traffic analysis.

4.1.2 Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of retail, employment, and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses and highways within the study area.

The outbound project trip distribution is shown in Exhibit 4-1 and the inbound project trip distribution is shown in Exhibit 4-2.

4.1.3 Modal Split

Modal split denotes the proportion of traffic generated by a project that would use any of the transportation modes, namely buses, cars, bicycles, motorcycles, trains, carpools, etc. The traffic-reducing potential of public transit and other modes is significant. However, the traffic projections in this study are conservative in that public transit and alternative transportation may be able to reduce the traffic volumes, but, no modal split reduction is applied to the projections. With the implementation of transit service and provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.4 Project Traffic Volumes/Assignment

The assignment of project traffic to the adjoining roadway system is based upon the project's trip generation, trip distribution, and proposed arterial highway and local street systems that would be in place by the time of initial occupancy of the site.

Project traffic volumes are shown in Exhibit 4-3.

4.2 Existing Plus Project Conditions Traffic Volumes

Existing Plus Project Conditions traffic volumes consist of the summation of the existing (2021) traffic volumes shown in Exhibit 3-2 and the project traffic volumes shown in Exhibit 4-3.

Existing Plus Project traffic volumes are shown in Exhibit 4-4.

4.3 Background Traffic

4.3.1 Method of Projection

To assess future conditions, project traffic is combined with existing traffic and area-wide growth. To account for area-wide/ambient growth in the study area, an annual growth rate of 1% per year has been applied to existing (2021) traffic volumes over a one-year period to derive project opening year (2022) traffic volumes.

4.3.2 Cumulative Projects Traffic

Based on discussions with City staff, there are currently no cumulative or background projects within close proximity of the project site.

4.4 Opening Year (2022) Without Project Conditions Traffic Volumes

Opening Year (2022) Without Project Conditions traffic volumes consist of one (1) year of annual growth on top of existing (2021) traffic volumes at 1% per year.

Opening Year (2022) Without Project Conditions traffic volumes are shown in Exhibit 4-5.

4.5 Opening Year (2022) With Project Conditions Traffic Volumes

Opening Year (2022) With Project Conditions traffic volumes consist of one (1) year of annual growth on top of existing (2021) traffic volumes at 1% per year, plus the traffic generated by the proposed project.

Opening Year (2022) With Project Conditions traffic volumes are shown in Exhibit 4-6.

Table 4-1
ITE Trip Generation Rates[1]

Land Use	Units	ITE Code	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Proposed Use - Assisted Living	Beds	254	0.12	0.07	0.19	0.10	0.16	0.26	2.60
Existing Use - K-8 Private School	Students	534	0.50	0.41	0.91	0.12	0.14	0.26	4.11

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Table 4-2
Proposed Project Trip Generation[1]

Land Use (ITE Code)	Quantity	Units	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Assisted Living (254)	111.0	Beds	13	8	21	11	18	29	289

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Table 4-3
Existing Land Use Trip Generation[1]

Land Use (ITE Code)	Quantity	Units	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Private K-8 School (534)	100.0	Students	50	41	91	12	14	26	411

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

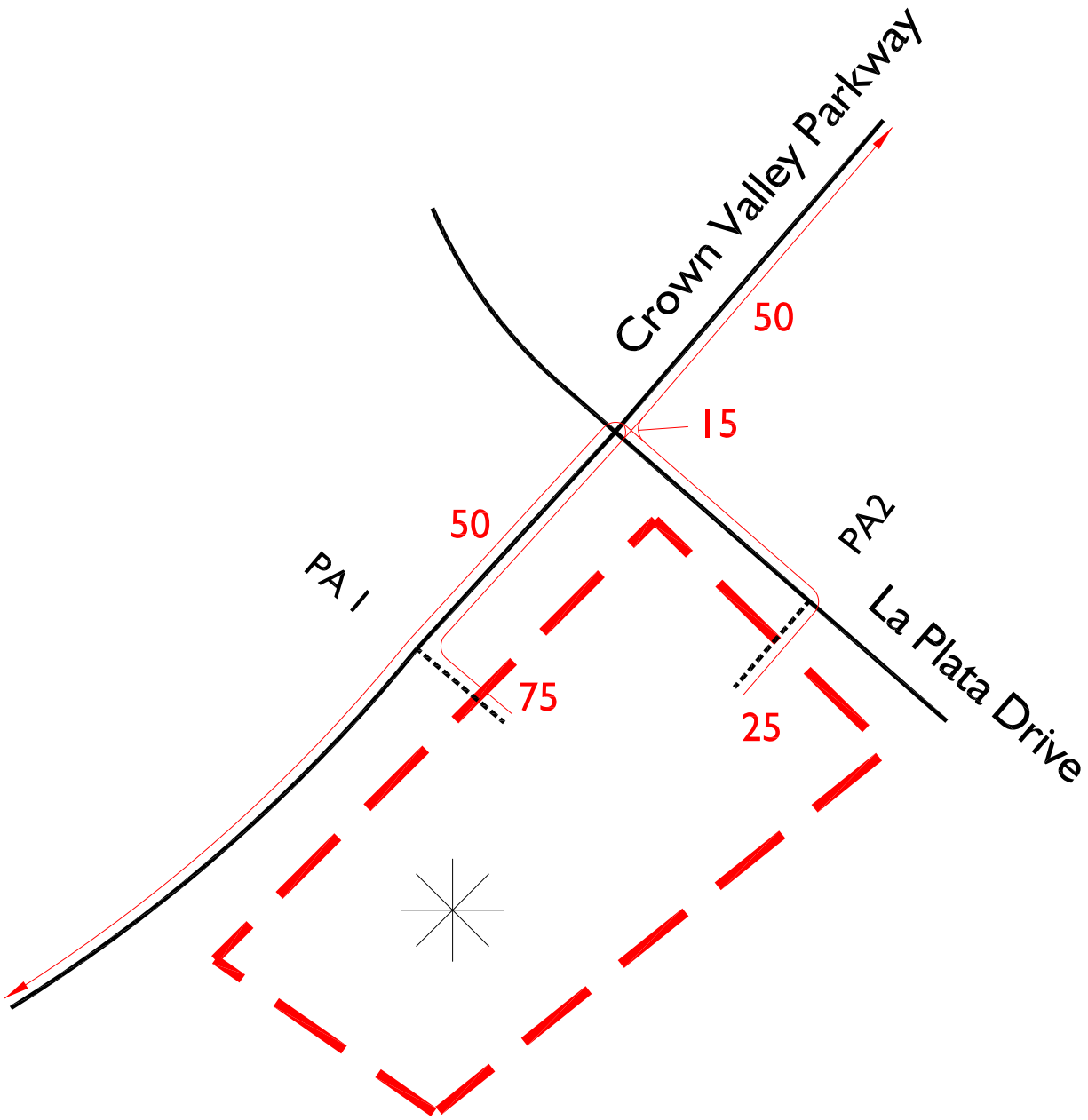
Table 4-4
Project Net Trip Generation[1]

Land Use (ITE Code)	AM			PM			Daily
	In	Out	Total	In	Out	Total	
Proposed Use	13	8	21	11	18	29	289
Existing Use	-50	-41	-91	-12	-14	-26	-411
Net Trip Generation	**-37**	**-33**	**-70**	**-1**	**4**	**3**	**-122**

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Exhibit 4-1

Outbound Project Trip Distribution



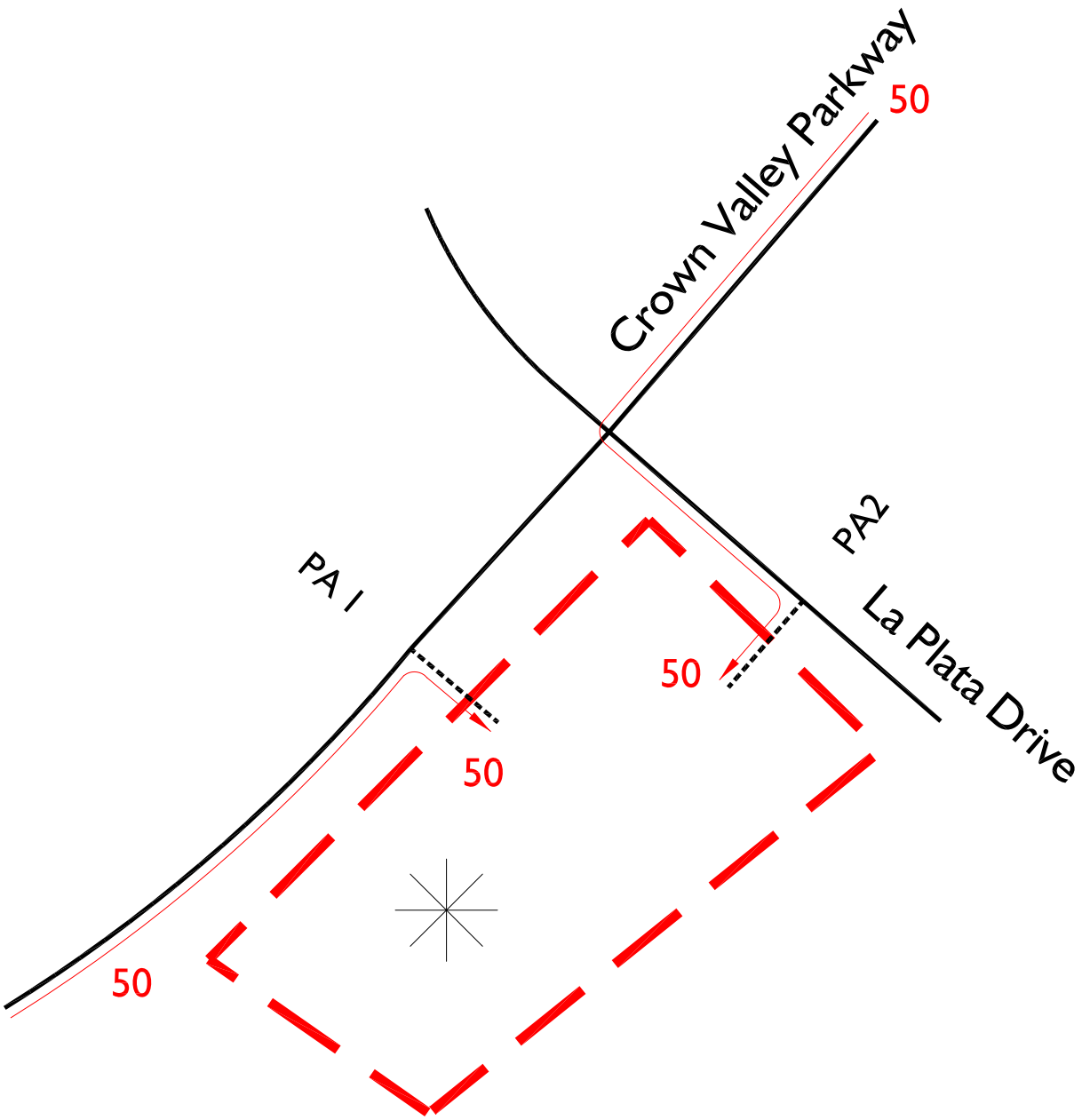
Legend:

10 = Percent to/from Project

N

Exhibit 4-2

Inbound Project Trip Distribution



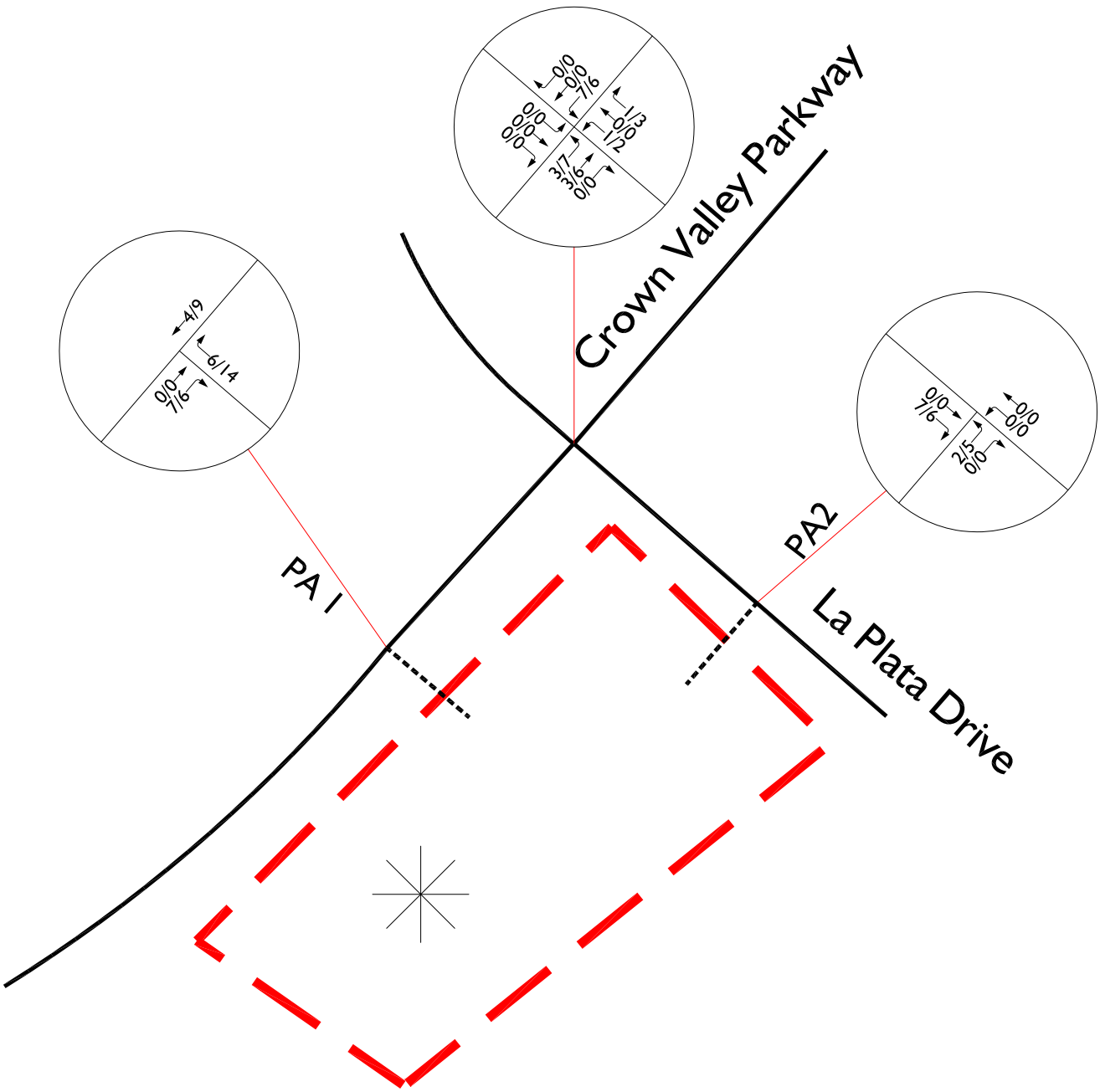
Legend:

10 = Percent to/from Project

N

Exhibit 4-3

Project Traffic Volumes



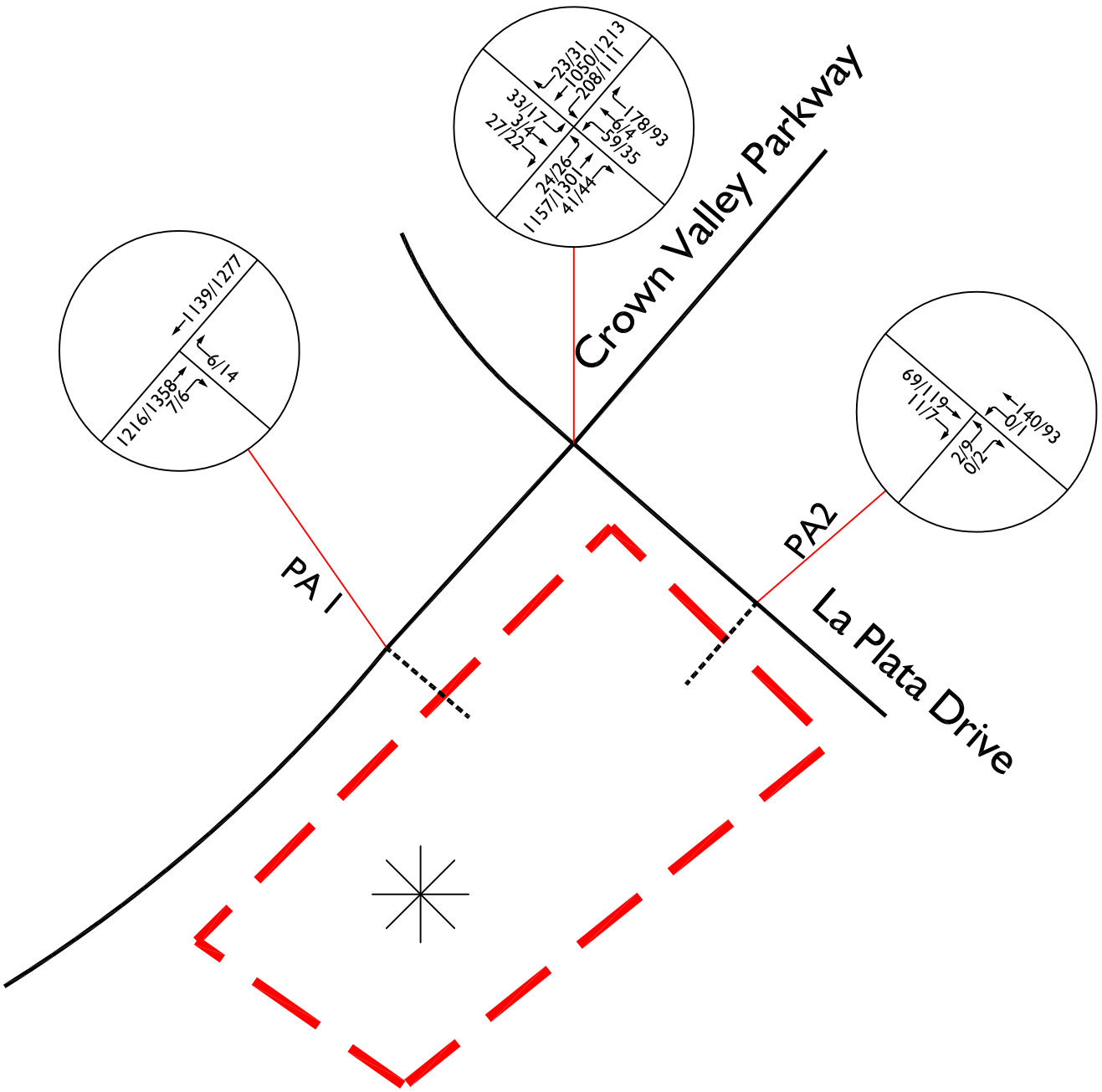
Legend:

10/20 = AM/PM Peak Hour Volumes

N

Exhibit 4-4

Existing Plus Project Conditions Traffic Volumes



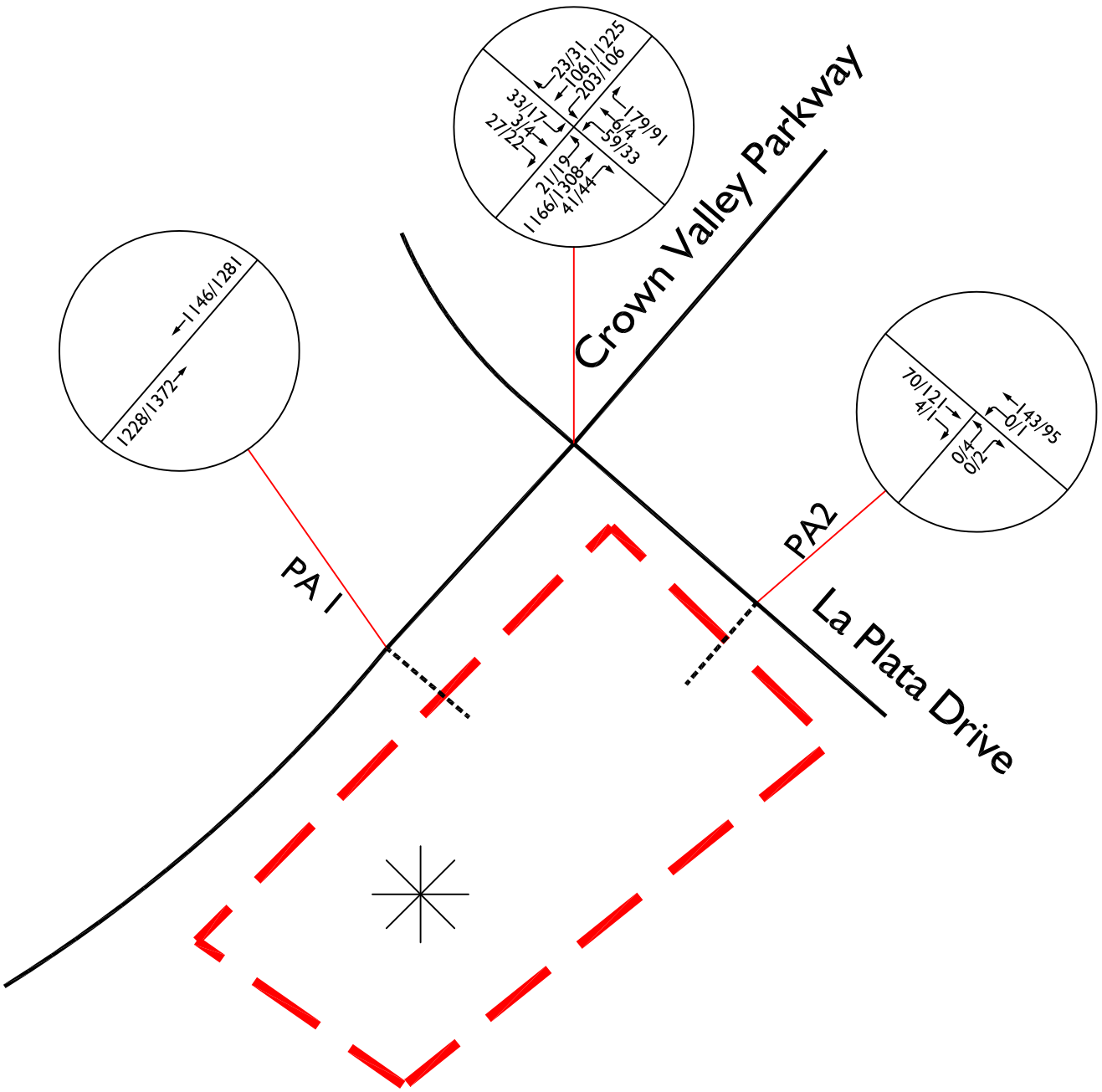
Legend:

10/20 = AM/PM Peak Hour Volumes

N

Exhibit 4-5

Project Opening Year (2022) Without Project Conditions Traffic Volumes



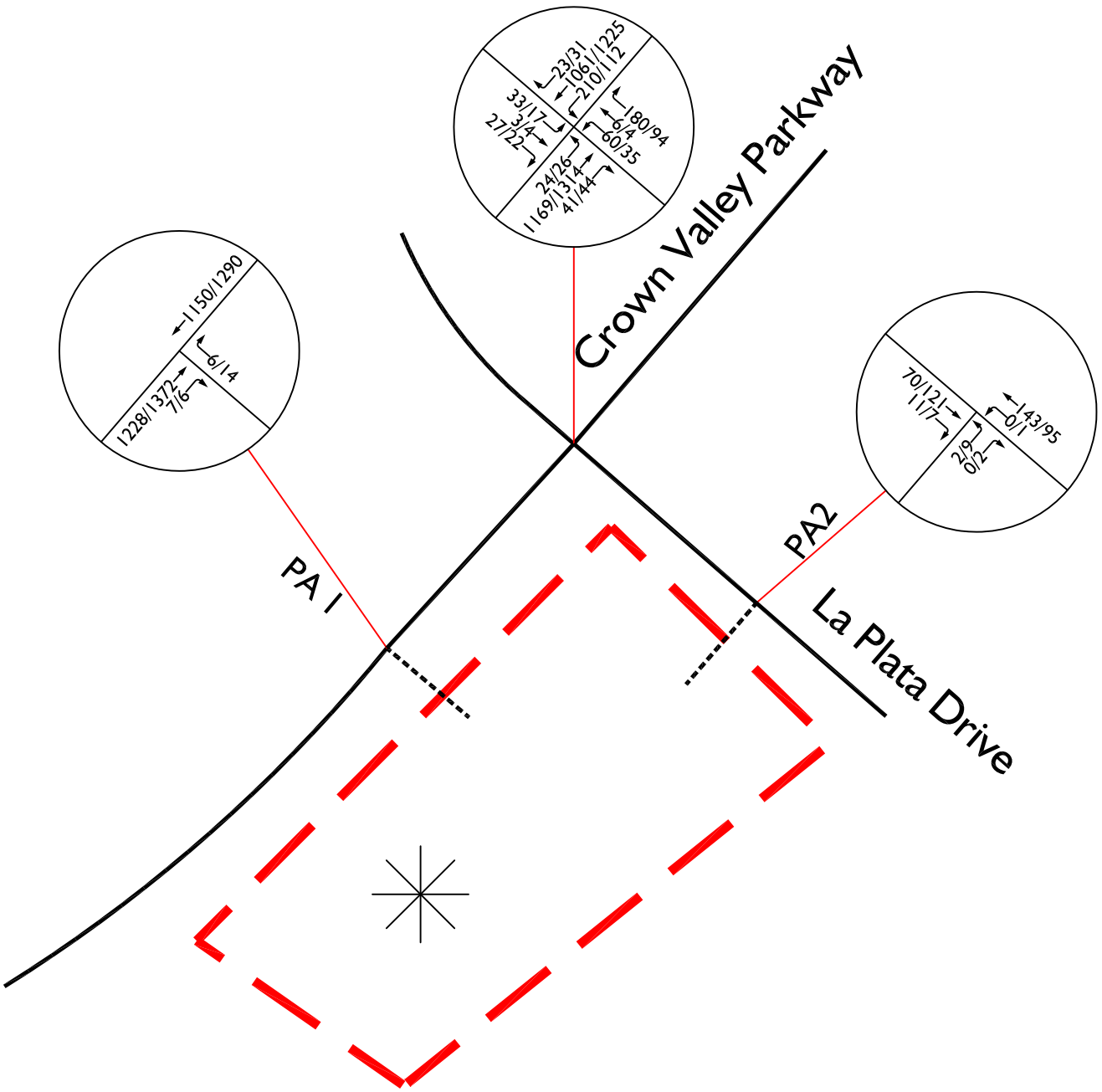
Legend:

10/20 = AM/PM Peak Hour Volumes

N

Exhibit 4-6

Project Opening Year (2022) With Project Conditions Traffic Volumes



Legend:

10/20 = AM/PM Peak Hour Volumes

N

5.0 Study Intersection Peak Hour Level of Service Analysis

5.1 Existing Conditions Study Intersection Peak Hour LOS

Existing Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-1 and are based upon the baseline existing (2021) volumes shown in Exhibit 3-2, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-1, the study intersections are all currently operating at an acceptable LOS (LOS D or better) during the peak hours for Existing Conditions.

Detailed LOS analysis sheets for Existing Conditions are contained in Appendix B.

5.2 Existing Plus Project Conditions Study Intersection Peak Hour LOS

Existing Plus Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-2 and are based upon the Existing Plus Project Conditions traffic volumes shown in Exhibit 4-4, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-2, the study intersections are forecast to continue operating at an acceptable LOS (LOS D or better) during the peak hours for Existing Plus Project Conditions.

As also shown in Table 5-2, based on agency-established criteria, the proposed project is forecast to not require improvements at the study intersections for Existing Plus Project Conditions.

Detailed LOS analysis sheets for Existing Plus Project Conditions are contained in Appendix C.

5.3 Opening Year (2022) Without Project Conditions Study Intersection Peak Hour LOS

Opening Year (2022) Without Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-3 and are based upon the Project Opening Year (2022) Without Project Conditions traffic volumes shown in Exhibit 4-5, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-3, the study intersections are forecast to continue operating at an acceptable LOS (LOS D or better) during the peak hours for Opening Year (2022) Without Project Conditions.

Detailed LOS analysis sheets for Opening Year (2022) Without Project Conditions are contained in Appendix D.

5.4 Opening Year (2022) With Project Conditions Study Intersection Peak Hour LOS

Opening Year (2022) With Project Conditions level of service (LOS) calculations for the study intersections are shown in Table 5-4 and are based upon the Opening Year (2022) With Project Conditions traffic volumes shown in Exhibit 4-5, and the existing geometry shown in Exhibit 3-1.

As shown in Table 5-4, the study intersections are forecast to continue operating at an acceptable LOS (LOS D or better) during the peak hours for Opening Year (2022) With Project Conditions.

As also shown in Table 5-4, based on agency-established criteria, the proposed project is forecast to not require improvements at the study intersections for Opening Year (2022) With Project Conditions.

Detailed LOS analysis sheets for Opening Year (2022) With Project Conditions are contained in Appendix E.

Table 5-1
Study Intersection LOS Analysis Summary
Existing Conditions

	Intersection	Traffic Control[2]	V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service	
			AM	PM	AM	PM	AM	PM
1.	Crown Valley Parkway (NS) / La Plata Drive (EW)	TS	0.518	0.429	--	--	A	A
2.	Crown Valley Parkway (NS) / Project Access 1 (EW)	CSS	--	--	--	--	--	--
3.	Project Access 2 (NS) / La Plata Drive (EW)	CSS	--	--	0.0	9.6	A	A

[1] Deficient operation shown in **Bold**.

[2] TS = Traffic Signal

CSS = Cross-Street Stop

[3] V/C = Volume to Capacity Ratio (V/C) is calculated utilizing the Traffix analysis software and Intersection Capacity Utilization (ICU) methodology for signalzied intersections.

[4] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements) are shown.

Table 5-2
Study Intersection LOS Analysis Summary
Existing Plus Project Conditions

	Intersection	Traffic Control[2]	Existing Conditions						Existing Plus Project Conditions							
			V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service		V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service		Significant Impact?	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	Crown Valley Parkway (NS) / La Plata Drive (EW)	TS	0.518	0.429	--	--	A	A	0.523	0.435	--	--	A	A	No	No
2.	Crown Valley Parkway (NS) / Project Access 1 (EW)	CSS	--	--	--	--	--	--	--	--	15.6	17.3	C	C	No	No
3.	Project Access 2 (NS) / La Plata Drive (EW)	CSS	--	--	0.0	9.6	A	A	--	--	9.9	9.8	A	A	No	No

[1] Deficient operation shown in **Bold**.

[2] TS = Traffic Signal

CSS = Cross-Street Stop

[3] V/C = Volume to Capacity Ratio (V/C) is calculated utilizing the Traffix analysis software and Intersection Capacity Utilization (ICU) methodology for signalized intersections.

[4] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements) are shown.

Table 5-3
Study Intersection LOS Analysis Summary
Opening Year (2022) Without Project Conditions

	Intersection	Traffic Control[2]	V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service	
			AM	PM	AM	PM	AM	PM
1.	Crown Valley Parkway (NS) / La Plata Drive (EW)	TS	0.523	0.432	--	--	A	A
2.	Crown Valley Parkway (NS) / Project Access 1 (EW)	CSS	--	--	--	--	--	--
3.	Project Access 2 (NS) / La Plata Drive (EW)	CSS	--	--	0.0	9.6	A	A

[1] Deficient operation shown in **Bold**.

[2] TS = Traffic Signal

CSS = Cross-Street Stop

[3] V/C = Volume to Capacity Ratio (V/C) is calculated utilizing the Traffix analysis software and Intersection Capacity Utilization (ICU) methodology for signalzied intersections.

[4] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements) are shown.

Table 5-4
Study Intersection LOS Analysis Summary
Opening Year (2022) With Project Conditions

Intersection		Traffic Control[2]	Opening Year (2022) Without Project Conditions						Opening Year (2022) With Project Conditions							
			V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service		V/C Ratio[1,3]		Delay (Secs)[1,4]		Level of Service		Significant Impact?	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	Crown Valley Parkway (NS) / La Plata Drive (EW)	TS	0.523	0.432	--	--	A	A	0.528	0.439	--	--	A	A	No	No
2.	Crown Valley Parkway (NS) / Project Access 1 (EW)	CSS	--	--	--	--	--	--	--	--	15.7	17.5	C	C	No	No
3.	Project Access 2 (NS) / La Plata Drive (EW)	CSS	--	--	0.0	9.6	A	A	--	--	9.9	9.8	A	A	No	No

[1] Deficient operation shown in **Bold**.

[2] TS = Traffic Signal

CSS = Cross-Street Stop

[3] V/C = Volume to Capacity Ratio (V/C) is calculated utilizing the Traffix analysis software and Intersection Capacity Utilization (ICU) methodology for signalized intersections.

[4] HCM Analysis Software: Synchro, Version 10.0. Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements) are shown.

6.0 CEQA Vehicle Miles Traveled (VMT) Analysis

In accordance with the Office of Planning Research (OPR), vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision 15064.3(b)(2) of the CEQA Guidelines, regarding roadway capacity, a project's effect on automobile delay cannot constitute a significant environmental impact.

Based on the City of Laguna Niguel guidelines in regards to VMT, land use projects that meets any one of the following screening criteria would be expected to cause a less than significant CEQA transportation impact without having to conduct a detailed VMT analysis:

- Small Projects
- Redevelopment Projects
- Projects Located in a Low VMT Area
- Projects Located in Transit Priority Areas
- Locally Serving Land Use Projects
- Affordable Housing Projects

Based on the aforementioned screening criteria, the proposed project would be expected to cause a less than significant CEQA transportation impact as the City's screening thresholds for *Small Projects* is met. The screening thresholds for *Small Projects is as follows:*

Small Projects

Projects that would generate less than 500 vehicle trips per day based on the latest Institute of Transportation Engineers (ITE) Trip Generation Manual are presumed to be less than significant. As with other types of transportation analysis, the trip generation of the current uses, which have been determined to constitute the CEQA baseline conditions, could be reduced from the proposed project so only net trips are assessed. A project

demonstrating fewer and/or shorter trips leading to lower VMT than existing conditions may be presumed to be less than significant.

As previously shown in Table 4-2, even without taking credit for the existing use that will be displaced, the proposed project is forecast to generate approximately 296 daily trips which is much less than the 500 trip threshold for small projects.

Hence, the proposed project is screened out and is deemed to not result in any significant VMT impacts per the City's adopted thresholds.

7.0 Crown Valley Parkway Access & Sight Distance Analysis

This section provides a detailed review of the proposed right-in/right-out only project access driveway on Crown Valley Parkway.

Crown Valley Parkway is classified as a Major Arterial highway and is designed as a six-lane divided roadway. It has a full right of way width of 120 feet and a roadway width from curb to curb of 100 feet. The Major highway has a planned capacity of 50,600 vehicle trips per day at level of service D, and its function is to carry a large volume of regional through traffic.

The Orange County Master Plan of Arterial Highways (MPAH) recommends limiting access openings on arterial highways in order to improve the traffic carrying capacity and to reduce the number of conflict points. This analysis has been provided to review the design standards and operations of the proposed access on an arterial highway.

7.1 Crown Valley Parkway Access Overview

The proposed project driveway on Crown Valley Parkway is planned to be located approximately 240 feet south of the intersection of Crown Valley Parkway and La Plata Drive and will be restricted to right-in/right-out only.

The primary purpose of the Crown Valley driveway to provide a secondary access point for emergency vehicles and fire, as well as to give the senior living facility a direct access point to the new parcel that is being formed as part of the subdivision of the Grace Church property. The new access would also provide a secondary point of entrance/exit for the project site, reducing the amount of traffic at the existing access on La Plata Drive.

7.2 Sight Distance Analysis

One of the most important design factors to consider when taking access to an arterial highway is the ability of a driver to see oncoming traffic before entering the roadway. This analysis has been provided to review the adequacy of sight distance at the proposed right-in/right-out driveway on Crown Valley Parkway.

Crown Valley Parkway is classified as a Major Arterial Highway with a minimum design speed of 60 miles per hour within the vicinity of the project site. RK reviewed sight distance standards from both the Caltrans Highway Design Manual and the Orange County

Highway Design Manual. The minimum corner sight distance (feet) is determined by the equation (*1.47 x V_m x T_g), where* V_m is the design speed (mph) of the major road and T_g is the time gap (seconds) for the minor road vehicle to enter the major road.

Based on the Orange County Public Works Standard Plan #1117 regarding intersection sight distance, 660 feet is required to provide adequate sight distance for drivers entering Crown Valley Parkway.

Exhibit 7-1 shows the required sight distance.

A field review was conducted on March 1st, 2021 to evaluate the sight distance at the project access driveway along Crown Valley Parkway and to determine if adequate sight distance can be provided.

Figure 7-1 shown below was taken during the site visit and indicates that at the approximate driveway location and at the sidewalk and road elevation, clear line of sight is currently provided looking south along Crown Valley Parkway towards Central Park Drive. Based on the field observations and photo, vehicles can be seen all the way to the intersection of Crown Valley Parkway and Central Park Drive, which is located approximately 1,300 feet south of the proposed driveway location.

Currently, Crown Valley Parkway has an elevation below the project site. Hence, the proposed driveway would slope down from the site onto the edge of Crown Valley Parkway.

Based on the field observation and review of the project development plan, the proposed driveway is expected to be designed in a manner where the approaching slope on the driveway does not interfere with the line of sight of the driver before joining the edge of Crown Valley Parkway. With the driveway located on the outside of the curve, the limited use area is minimal, and as shown in Exhibit 7-2, the toe of slope is not expected to impede the limited use area.

Obstructions such as monumentation, landscaping, and roadway signage and features will be restricted within a limited use area to a maximum height of 12 inches to ensure the line of sight is maintained for this driveway approach. The existing Grace Church Monument sign, located just south of the proposed driveway, will need to be removed/relocated to maintain the limited use area.

Figure 7-1
Crown Valley Parkway looking South at Location of proposed Driveway

Figure 7-1 shows the existing line of sight looking south on Crown Valley Parkway at the location of proposed driveway. Exhibit 7-1 shows the required sight distance and limited use area and Exhibit 7-2 shows a computer 3-D rendering of the sight distance looking south onto Crown Valley Parkway.

Exhibit 7-1

Sight Distance Evaluation - Crown Valley Parkway Driveway

Legend:

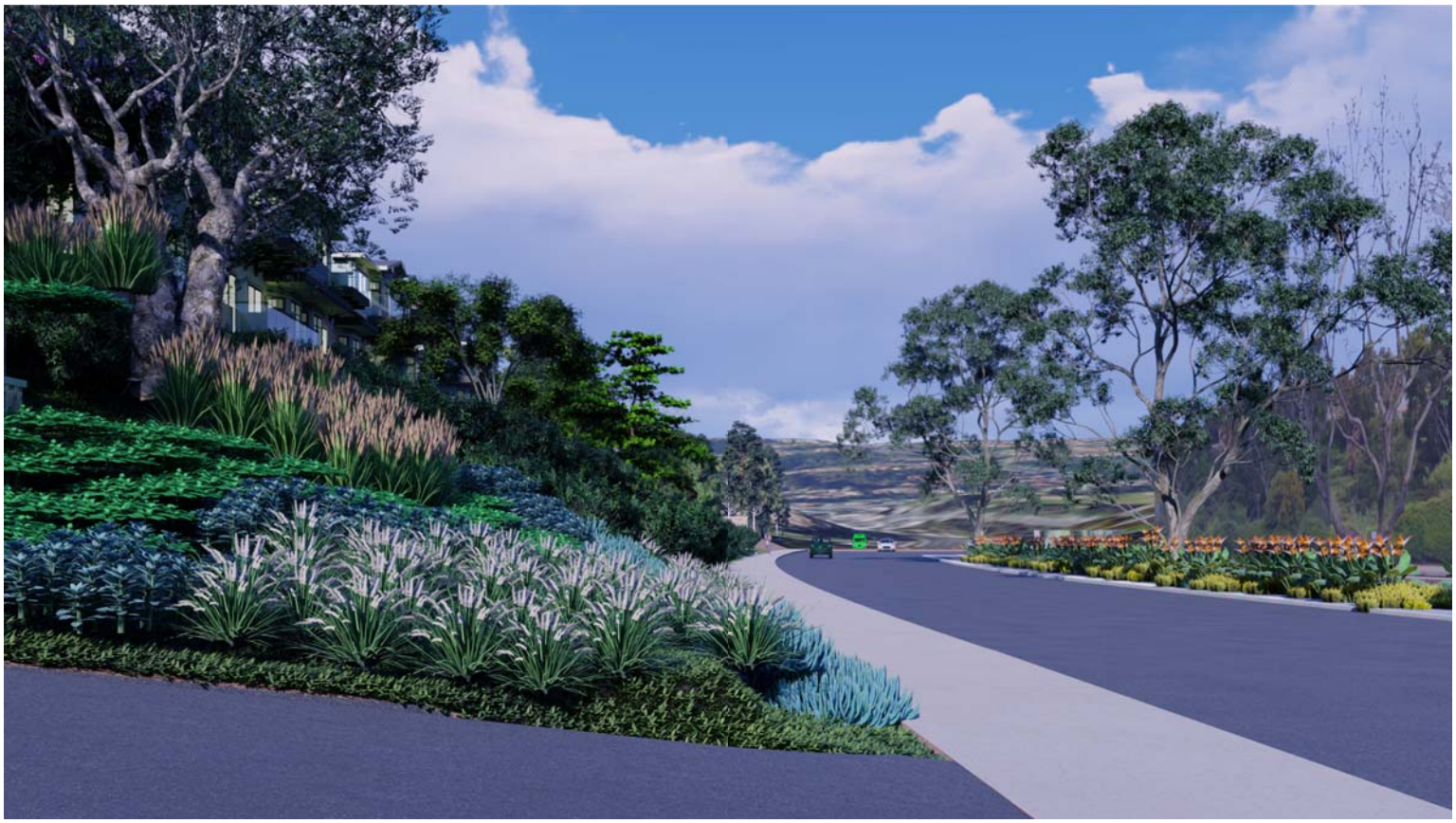
= Limited Use Area

Sight distance at each project access should be reviewed at the time of construction per City of Laguna Niguel standards.

- A limited use area shall be maintained where a clear line of sight can be established.
- The limited use area shall be used for the purpose of prohibiting or clearing obstructions to maintain adequate sight distance at intersections.
- Limited use area to be kept clear of all obstructions over 30 inches high, including vegetation.
- No trees, walls, or any obstructions shall be allowed in the limited use area.
- The toe of the slope shall not encroach into the limited use area.

Exhibit 7-2

Sight Distance Rendering
Looking South onto Crown Valley Parkway



7.3 City of Laguna Niguel Municipal Code Requirements

The City of Laguna Niguel provides standards for drive aisles along arterial roadways. Per Laguna Niguel Municipal Code Section 9-1-65(d), the internal drive aisle leading to the Crown Valley driveway is defined as a parking accessway, which are those driveways that provide ingress or egress from a street to the parking aisles, and those driveways providing interior circulation between parking aisles. No parking is permitted on an accessway. Accessways shall conform to the following standards:

(1) All parking facilities taking access from a major, primary or secondary arterial shall have a parking accessway between the arterial and the parking aisles.

(2) Parking accessways from arterial highways shall not have parking spaces taking direct access therefrom and shall not be intersected by a parking aisle or another parking accessway for a minimum distance of 30 feet for projects with zero to 200 parking spaces, 50 feet for projects with 201 to 350 spaces, 70 feet for projects with 351 to 450 spaces, and 90 feet for projects with 451 spaces or more. All distances shall be measured from the curb face of the ultimate curbline of the adjacent street.

(3) Parking accessways from nonarterial highways shall be not less than 20 feet in length from the ultimate curbline of the adjacent street.

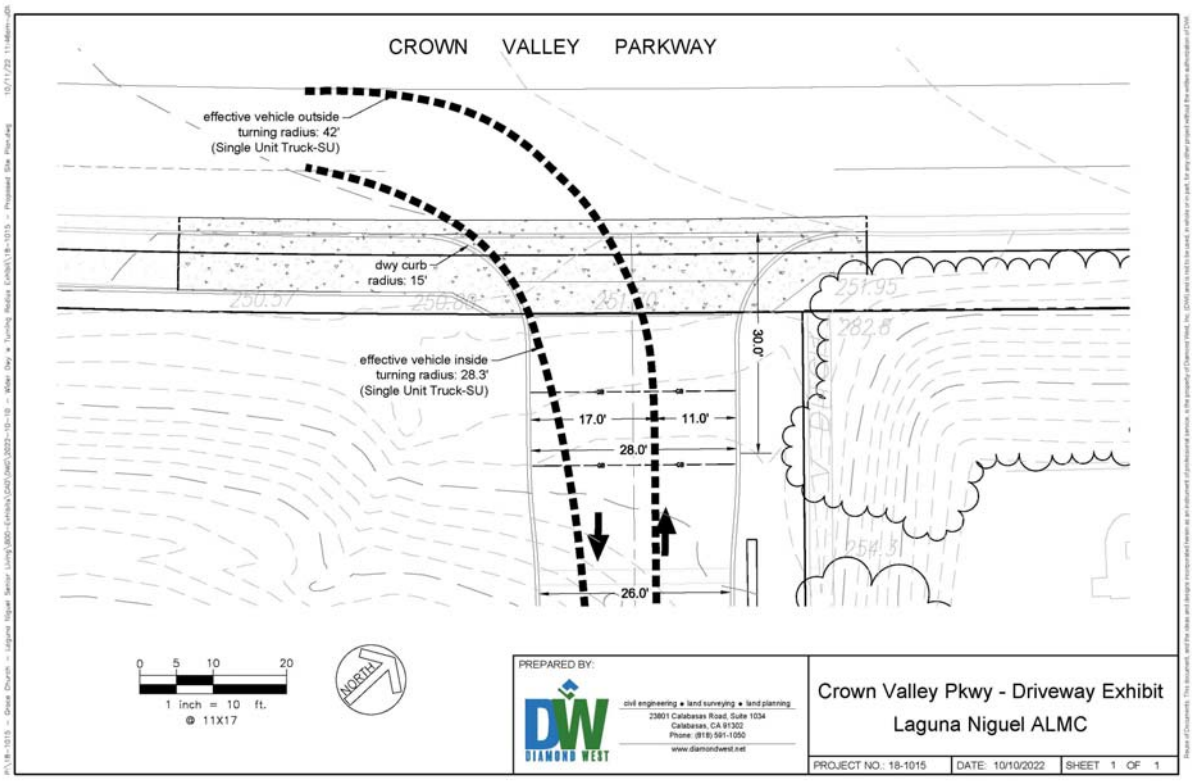
(4) One-way accessways shall have a minimum width of 15 feet, unless the accessway is a fire lane, which requires a minimum of 20 feet.

(5) Two-way accessways shall have a minimum width of 28 feet.

The current design provides approximately 100 feet of uninterrupted throat length from the curbline of Crown Valley to the first drive aisle. The current design meets the minimum throat length per the City's code.

According to the latest site plan, the proposed accessway width is 28 feet at the driveway entrance and tapers to 26 feet after approximately 30 feet. Figure 7-2 shows that the driveway throat is wide enough to accommodate delivery trucks and large vehicles turning into the site without conflicting with exiting traffic. The AASHTO Design Vehicle Single Unit truck was used to show adequate an drive width is being provided.

Figure 7-2
Single Unit (SU) Truck Turning Template



To help further improve ingress/egress to the site, the following recommendation is provided:

- The project access driveway on Crown Valley Parkway should provide a minimum width of 28 feet along the driveway throat (minimum of 30 feet from curbline of Crown Valley)

- Provide a minimum curb radius of 25 feet for the southerly curb return on the Crown Valley Parkway driveway to improve the inbound flow of traffic.

7.4 Right-In/Right-Out Only Restriction

Right-in and right-out only driveways generally result in less friction on the flow of traffic when compared to full access driveways by eliminating left turn and through movements across the major roadway. The Crown Valley Parkway driveway will be restricted to right-in and right-out only movements by the existing raised median on Crown Valley Parkway. Hence, left turn and through movements will be physically restricted by the raised median.

7.5 Level of Service and Vehicular Delay

As previously shown in Section 5.0 of this report, the Crown Valley driveway is forecast to operate at an acceptable level of service (LOS C or better) for all the analysis scenarios. The driveway is expected to experience a total of 7 vehicles entering and 6 vehicles exiting during the AM peak hour and 6 vehicles entering and 14 vehicles exiting during the PM peak hour. The volume of traffic expected to enter and exit the Crown Valley driveway is not considered substantial in comparison to the overall capacity of Crown Valley Parkway and would not disrupt the flow of traffic or cause queuing backups within the site. Sufficient gaps in the mainstream of traffic on Crown Valley Parkway are expected to be present to allow for the orderly and efficient flow of traffic leaving the site. Furthermore, northbound right turns entering the site do not have conflicting movements, and thus vehicles entering the site will experience zero delay, per HCM methodology.

7.6 Right Turn Deceleration Lane Warrants

Turning lanes at intersections can help reduce collisions by allowing for deceleration outside of the through-traffic lanes. However, there are not well-established design guidelines for determining when dedicated right turn deceleration lanes are warranted. For example, neither the Orange County Highway Design Manual, Caltrans Highway Design Manual, or the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets (Green Book) discuss right turn deceleration lane warrants.

The northbound curb lane on Crown Valley Parkway is approximately 20 feet wide (12-foot travel lane plus 8-foot bike lane) and will act as a defacto right turn lane. The right turn volume is projected to be approximately 7 vehicles per hour during the peak hour. This low volume is not considered significant, and as currently designed, vehicles would be able to utilize the existing 8-foot-wide bicycle lane to decelerate and enter the site. A lane break is proposed approximately 150 feet south of the driveway to allow vehicles to move over and make the turn into the site. The 20-foot-wide curb lane will allow vehicles to partially pull out of the flow of traffic while decelerating. This configuration is consistent with multiple intersections along Crown Valley Parkway that utilize defacto right turn lanes instead of dedicated right turn lanes.

To help further evaluate the need for a dedicated right turn lane, RK researched and reviewed several sources of data and found examples of warrants for when dedicated right turn lanes should be considered. Key design criteria for determining whether a right turn

deceleration lane is warranted is the volume of traffic turning right, the through volume on the major road, and the speed of the major road.

Table 7-1 summarizes examples of right-turn lane warrants and provides discussion about whether the condition is warranted for the project.

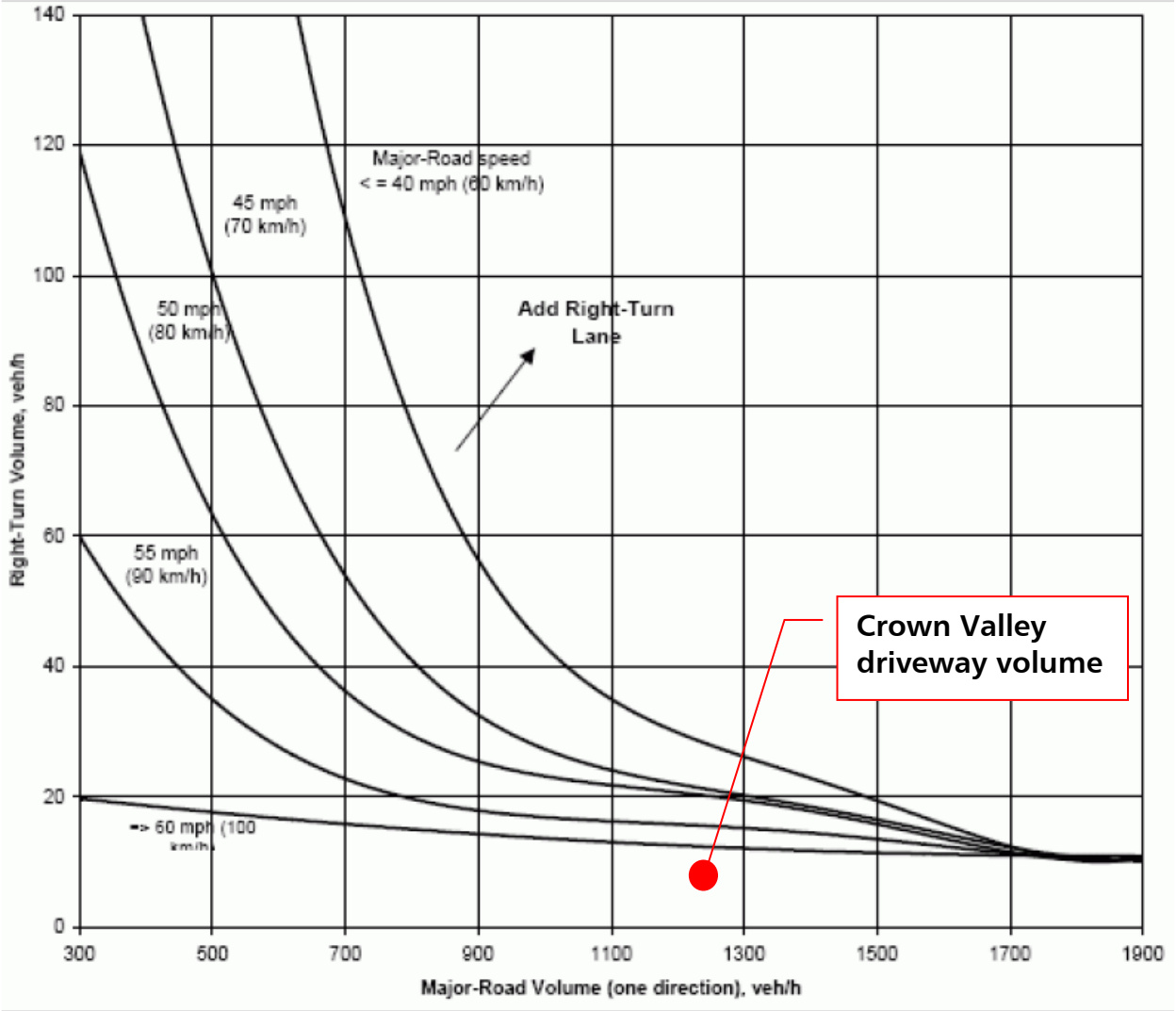
<Table 7-1 shown on the following page>

Table 7-1
Crown Valley Parkway Driveway
Right Turn Lane Deceleration Warrants

Right Turn Lane Warrant[1]	Project Discussion	Finding
Poor internal site design and circulation leads to backups on the mainline. Auto-oriented businesses with short drive-through lanes or poorly designed parking lots would be prime examples of this situation	The Crown Valley Driveway has been designed per the City of Laguna Niguel standards with sufficient throat length and internal drive aisle circulation to accommodate the flow of traffic into the site. The site is not expected to experience queues or back-ups that would block the driveway entrance or spill back onto Crown Valley Parkway.	**Not Warranted**
The peak hour turning traffic activity is unusually high (e.g., greater than 10 percent of the daily total).	The expected peak hour right turn volume is seven (7) vehicles. As shown in the Figure 7-2 below, the project does not meet the peak hour volume criteria.	**Not Warranted**
Operating speeds on the mainline route are very high (greater than 60 miles per hour) and drivers would generally not expect right turns.	The posted speed limit is 45 mph along this segment, and as demonstrated above, adequate sight distance will be provided to alert drivers to the intersection.	**Not Warranted**
The driveway or minor public road intersection is difficult for drivers to see.	Adequate sight distance will be provided per Orange County Highway Design Manual and Caltrans Highway Design Manual standards.	**Not Warranted**
The driveway entrance is gated or otherwise must be entered very slowly.	The driveway is not gated, and it is recommended that a 25-foot curb radius be provided for passenger vehicles and single-unit trucks to enter the site efficiently.	**Not Warranted**
Right turning traffic consists of an unusually high number of trailers or other large vehicles.	The project is not expected to generate a large number of trucks or vehicles with trailers.	**Not Warranted**
The intersection or driveway angle is highly skewed.	The driveway will intersect Crown Valley Parkway at approximately 90-degrees and the angle would not be skewed.	**Not Warranted**
Rear end collision experience is unusually high at a location.	As discussed in Section 7.7, historical collision data was reviewed at other similar unsignalized intersections along Crown Valley, and a high rate of rear end collisions was not found.	**Not Warranted**

Source: Missouri Department of Transportation: Auxiliary Acceleration and Turning Lanes. https://epg.modot.org/index.php/940.9_Auxiliary_Acceleration_and_Turning_Lanes (Accessed October 2022).

Figure 7-3
Right Turn Lane Warrant Example



Source: Missouri Department of Transportation: Auxiliary Acceleration and Turning Lanes. https://epg.modot.org/index.php/940.9_Auxiliary_Acceleration_and_Turning_Lanes (Accessed October 2022).

7.7 Rear-End Collisions

Concerns were raised regarding the increased potential for rear end collisions at the proposed driveway opening on Crown Valley Parkway. Rear end collisions can occur when vehicles decelerate within the flow of traffic and inadequate stopping sight distance is provided. As previously discussed, adequate sight distance will be provided at the proposed driveway and a defacto right turn lane will be provided for vehicles to decelerate (a

dedicated right turn deceleration lane would not typically be warranted for a driveway with this low of volume).

To help further evaluate the potential for rear end collisions, RK reviewed accident data from the California Statewide Integrated Traffic Records System (SWITRS) at three (3) nearby locations to see if they experience a high rate of rear end collisions.

Table 7-2 summarizes the rear end collision data at three intersections near the site that exhibit similar characteristics as the proposed driveway. The intersections of Crown Valley Parkway at Glrenrock Drive, Paseo Del Niguel, and West Nine Drive, respectively, were chosen as they are all unsignalized intersections along Crown Valley that do not have dedicated right turn lanes. (It is worth noting that unlike the proposed project driveway, which will be restricted to right-in/right-out only, these other unsignalized intersections along Crown Valley Parkway also allow left turns).

Table 7-2
Rear End Collisions along Crown Valley Parkway

Intersection	Number of Rear End Collisions per Year[1]				
	2017	2018	2019	2020	2021
Crown Valley Parkway at Glenrock Drive	0	0	0	0	0
Crown Valley Parkway at Paseo Del Niguel	0	0	1	0	0
Crown Valley Parkway at West Nine Drive/Laguna Woods Drive	0	0	0	1	0

Source: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) database. All rear end collisions occurring at or near the intersection are reported. See Appendix H for detailed SWITRS reports.

Based on our review of other unsignalized intersections along Crown Valley Parkway, the number of rear end collisions does not appear to be significant in relationship to the overall volume of traffic along Crown Valley, and a correlation between unsignalized intersections and rear end collisions was not found. Hence, it would be expected that the proposed driveway will operate similar to these other existing unsignalized intersections (i.e., no dedicated right turn deceleration lane) and would not be expected to result in significant rear-end collisions.

8.0 Findings & Conclusions

The purpose of this traffic impact analysis is to evaluate the proposed Laguna Niguel Senior Living Center & Grace Church Remodel (hereinafter referred to as project) from a traffic and circulation standpoint and to determine whether the proposed project will have a significant traffic impact on the environment. This study has been conducted pursuant to the *City of Laguna Niguel Transportation Assessment Guidelines (November 2020)* and the California Environmental Quality Act (CEQA) requirements.

Prior to initiating the study, a detailed scope of work has been prepared and provided to City staff for review and approval. As part of the scoping process, RK has provided the City with a draft scope of work which was reviewed and commented on by the City staff. The scope was then revised based on comments from City staff and a final scope was provided to the City and approved for the project. This study has been prepared in accordance with the approved scope of work. A copy of the final and approved scope of work is contained in Appendix G.

8.1 Proposed Project

The proposed project is located adjacent to the existing Grace Church on the corner of the Crown Valley Parkway / La Plata Drive intersection in the City of Laguna Niguel.

The project site currently consists of the following land uses:

- The existing Grace Church; and
- A K-8 private school (currently inactive - to be displaced).

The proposed project consists of the construction of a fully state licensed RCFE senior assisted living and memory care facility with a size of 106,041 square feet (130,041 if the parking garage area is included) consisting of a total of 108 suites housing 111 beds. The Senior Living Center will provide 77 suites for senior assisted living care and 31 suites provided for senior memory care in its own secure neighborhood on the entry level. It is a 2-story building over a basement containing a garage with 53 parking stalls and other common areas.

The senior living center is to be located adjacent to the existing Grace Church. The proposed project is expected to displace an existing building on-site which served a K-8

private school with a maximum enrollment capacity of 100 students and is currently being used for Christian education on Sundays and a few days a week.

The Grace Church property has been operating as a church since 1973. The Grace Church remodel will add 436 SF net increase in its church facilities, providing two new ADA bathrooms and the relocation of classrooms and offices from the modular buildings to the second floor of the main church building. The proposed project is not planned to make any operational or capacity changes to the existing church use. Hence, the parking demand for the church component of the site is expected to be the same as existing conditions. Currently, the church has a parking capacity of 80 spaces and is proposed to be expanded to 82 spaces. In addition, during special events, the church could provide 121 spaces through the use of parking spaces located on the adjacent daycare site and through the implementation of valet parking.

Based on information provided by the project applicant, the church element of the project is planned to be a remodel and the proposed project is not expected to result in a significant increase in the existing day-to-day church activities and trip generation.

Access for the project site is planned via the following:

- One proposed right-in/right-out access driveway along Crown Valley Parkway; and
- One existing full-access unsignalized driveway along La Plata Drive.

8.2 Project Trip Generation

Based on ITE trip generation rates, the proposed project is forecast to generate approximately 289 daily trips which include approximately 21 AM peak hour trips and approximately 29 PM peak hour trips.

As previously noted, the proposed project will displace the existing K-8 private school use with a maximum capacity of 100 students.

Based on ITE trip generation rates, the existing land use generates approximately 411 daily trips which include approximately 91 AM peak hour trips and approximately 26 PM peak hour trips.

When compared to the existing land use, the proposed project is forecast to generate approximately 122 FEWER NET daily trips which include approximately 70 FEWER NET AM peak hour trips and approximately 3 ADDITIONAL NET PM peak hour trips.

Also, when compared to the existing land use which generated traffic in short bursts during school pick-up and drop-off times, the proposed project is expected to have a traffic generation that is more evenly distributed throughout the day and peak periods.

In order to conservatively assess the proposed project's potential transportation impact, the traffic analysis utilizes the project trip generation without taking credit for the existing land use.

8.3 Study Intersections Level of Service Analysis Summary

All study intersections are currently operating at an acceptable LOS (LOS D or better) during the peak hours for Existing Conditions and are forecast to continue to operate at an acceptable LOS (LOS D or better) during the peak hours for all of the analysis scenarios evaluated as part of this report.

Based on agency-established criteria, the proposed project is forecast to not require improvements at the study intersections.

8.4 CEQA Vehicle Miles Traveled (VMT) Analysis Summary

The proposed project would be expected to cause a less than significant CEQA transportation impact as the City's screening thresholds for *Small Projects* is met. The screening thresholds for *Small Projects is as follows:*

Small Projects

Projects that would generate less than 500 vehicle trips per day based on the latest Institute of Transportation Engineers (ITE) Trip Generation Manual are presumed to be less than significant. As with other types of transportation analysis, the trip generation of the current uses, which have been determined to constitute the CEQA baseline conditions, could be reduced from the proposed project so only net trips are assessed. A project demonstrating fewer and/or shorter trips leading to lower VMT than existing conditions may be presumed to be less than significant.

As previously shown in Table 4-2, even without taking credit for the existing use that will be displaced, the proposed project is forecast to generate approximately 296 daily trips which is much less than the 500 trip threshold for small projects.

Hence, the proposed project is screened out and is deemed to not result in any significant VMT impacts per the City's adopted thresholds.

8.5 Crown Valley Access & Sight Distance Analysis Summary

As previously noted, access for the project site is planned via the following:

- One proposed right-in/right-out access driveway along Crown Valley Parkway; and
- One existing full-access unsignalized driveway along La Plata Drive.

The proposed driveway on Crown Valley Parkway is planned to be located approximately 240 feet south of the Crown Valley Parkway / La Plata Drive intersection.

The new access would provide a second point of entrance/exit for the project site, reducing the amount of traffic on the existing access on La Plata Drive.

Since the access is planned to be restricted to right-in/right-out only with the existing raised median on Crown Valley Parkway, the proposed access is generally expected to result in less friction on the flow of traffic on Crown Valley Parkway when compared to a full access that facilitates left turns in and out of a site.

As previously shown in Section 5.0 of this report, the study intersections and the proposed driveway are forecast to continue to operate at an acceptable level of service for all of the analysis scenarios.

As requested by the City, a sight distance evaluation has also been prepared to determine the adequacy of sight distance at the proposed right-in/right-out driveway on Crown Valley Parkway.

Crown Valley Parkway has a posted speed limit of 45 MPH going northbound and southbound within the vicinity of the project site. Based on the Orange County Public Works Standard Plan #1117 regarding sight distance, 660 feet is recommended to provide adequate sight for drivers entering the Crown Valley Parkway roadway.

A field review was conducted on March 1st, 2021 to evaluate the sight distance at the project access driveway along Crown Valley Parkway and to determine if adequate sight distance can be provided.

Field observations indicate that at the approximate driveway location and at the sidewalk and road elevation, clear line of sight is currently provided looking south along Crown Valley Parkway towards Central Park Drive. Based on the field observation and photos, vehicles can be seen all the way from approximately the intersection of Crown Valley Parkway / Central Park Drive, which is located approximately 1,300 feet south of the proposed driveway location.

Currently, Crown Valley Parkway has an elevation below the project site. Hence, the proposed driveway would slope down from the site onto the edge of Crown Valley Parkway.

Based on the field observation and review of the project development plan the proposed driveway is expected to be designed in a manner where the approaching slope on the driveway does not interfere with the line of sight of the driver before joining the edge of Crown Valley Parkway.

Obstructions such as monumentation, landscaping, and roadway signage and features will be restricted within a limited use area to a maximum height of 128.6 inches to ensure the line of sight is maintained for this driveway approach. The existing Grace Church Monument sign, located just south of the proposed driveway, will need to be removed/relocated to maintain the limited use area.

8.6 Project Access and Circulation Recommendations

I. Install stop sign, stop bar and stop legend for outbound traffic at each project driveway.

II. Sight distance at each project access should be reviewed at the time of construction per City of Laguna Niguel standards.

   i. A limited use area shall be maintained where a clear line of sight can be established.

   ii. The limited use area shall be used for the purpose of prohibiting or clearing obstructions to maintain adequate sight distance at intersections.

   iii. Limited use area to be kept clear of all obstructions over 12 inches high, including vegetation.

   iv. No trees, walls, or any obstructions shall be allowed in the limited use area.

   v. The toe of the slope shall not encroach into the limited use area.

III. The project access driveway on Crown Valley Parkway should provide a minimum width of 28 feet along the driveway throat (minimum of 30 feet from curbline of Crown Valley).

IV. Provide a minimum curb radius of 25 feet for the southerly curb return on the Crown Valley Parkway driveway to improve the inbound flow of traffic.

8.7 CEQA Findings & Checklist

Based on CEQA and agency-established thresholds of significance, the proposed project is forecast to not result in any significant traffic impacts and therefore, no mitigation measures are required for the proposed project.

A copy of the CEQA transportation checklist for the proposed project is contained in Appendix F of this report.

8.8 Construction Traffic

The details on the project construction traffic generation including the expected magnitude of construction trips and haul routes shall be coordinated and discussed with the City at a later time.

Appendices

Appendix A

Existing Traffic Counts

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Laguna Niguel
N/S: Church Access Driveway
E/W: La Plata Drive
Weather: Clear

File Name : LNL_Church DW_La Plata AM
Site Code : 23822142
Start Date : 2/23/2022
Page No : 1

Groups Printed- Total Volume

	La Plata Drive Westbound			Church Access Driveway Northbound			La Plata Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	20	20	0	0	0	10	0	10	30
07:15 AM	0	29	29	0	0	0	14	1	15	44
07:30 AM	0	35	35	0	0	0	8	1	9	44
07:45 AM	0	31	31	0	0	0	19	0	19	50
Total	0	115	115	0	0	0	51	2	53	168
08:00 AM	0	38	38	0	0	0	12	1	13	51
08:15 AM	0	45	45	0	0	0	17	1	18	63
08:30 AM	0	26	26	0	0	0	21	2	23	49
08:45 AM	0	23	23	0	0	0	20	0	20	43
Total	0	132	132	0	0	0	70	4	74	206
Grand Total	0	247	247	0	0	0	121	6	127	374
Apprch %	0	100		0	0		95.3	4.7		
Total %	0	66	66	0	0	0	32.4	1.6	34	

	La Plata Drive Westbound			Church Access Driveway Northbound			La Plata Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	31	31	0	0	0	19	0	19	50
08:00 AM	0	38	38	0	0	0	12	1	13	51
08:15 AM	0	**45**	**45**	0	0	0	17	1	18	**63**
08:30 AM	0	26	26	0	0	0	**21**	**2**	**23**	49
Total Volume	0	140	140	0	0	0	69	4	73	213
% App. Total	0	100		0	0		94.5	5.5		
PHF	.000	.778	.778	.000	.000	.000	.821	.500	.793	.845

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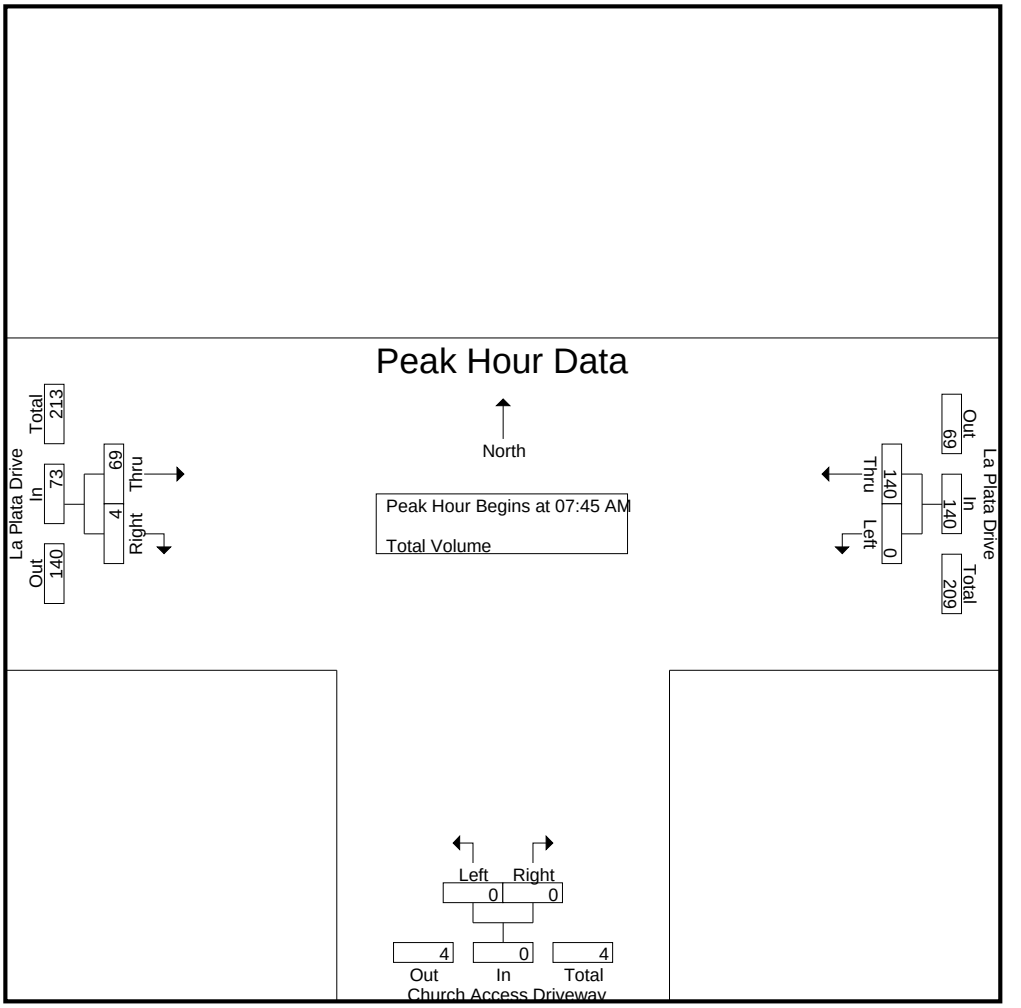
City of Laguna Niguel
N/S: Church Access Driveway
E/W: La Plata Drive
Weather: Clear

File Name : LNL_Church DW_La Plata AM
Site Code : 23822142
Start Date : 2/23/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			08:00 AM		
+0 mins.	0	35	35	0	0	0	12	1	13
+15 mins.	0	31	31	0	0	0	17	1	18
+30 mins.	0	38	38	0	0	0	**21**	**2**	**23**
+45 mins.	0	**45**	**45**	0	0	0	20	0	20
Total Volume	0	149	149	0	0	0	70	4	74
% App. Total	0	100		0	0		94.6	5.4	
PHF	.000	.828	.828	.000	.000	.000	.833	.500	.804

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City of Laguna Niguel
N/S: Church Access Driveway
E/W: La Plata Drive
Weather: Clear

File Name : LNL_Church DW_La Plata PM
Site Code : 23822142
Start Date : 2/23/2022
Page No : 1

Groups Printed- Total Volume

	La Plata Drive Westbound			Church Access Driveway Northbound			La Plata Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	29	29	3	0	3	31	0	31	63
04:15 PM	0	18	18	0	0	0	19	0	19	37
04:30 PM	0	19	19	1	0	1	37	0	37	57
04:45 PM	0	30	30	0	0	0	22	1	23	53
Total	0	96	96	4	0	4	109	1	110	210
05:00 PM	0	21	21	0	1	1	33	0	33	55
05:15 PM	0	20	20	1	0	1	26	0	26	47
05:30 PM	0	23	23	2	0	2	29	0	29	54
05:45 PM	1	29	30	1	1	2	31	1	32	64
Total	1	93	94	4	2	6	119	1	120	220
Grand Total	1	189	190	8	2	10	228	2	230	430
Apprch %	0.5	99.5		80	20		99.1	0.9		
Total %	0.2	44	44.2	1.9	0.5	2.3	53	0.5	53.5	

	La Plata Drive Westbound			Church Access Driveway Northbound			La Plata Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	21	21	0	**1**	1	**33**	0	**33**	55
05:15 PM	0	20	20	1	0	1	26	0	26	47
05:30 PM	0	23	23	**2**	0	**2**	29	0	29	54
05:45 PM	**1**	**29**	**30**	1	1	2	31	**1**	32	**64**
Total Volume	1	93	94	4	2	6	119	1	120	220
% App. Total	1.1	98.9		66.7	33.3		99.2	0.8		
PHF	.250	.802	.783	.500	.500	.750	.902	.250	.909	.859

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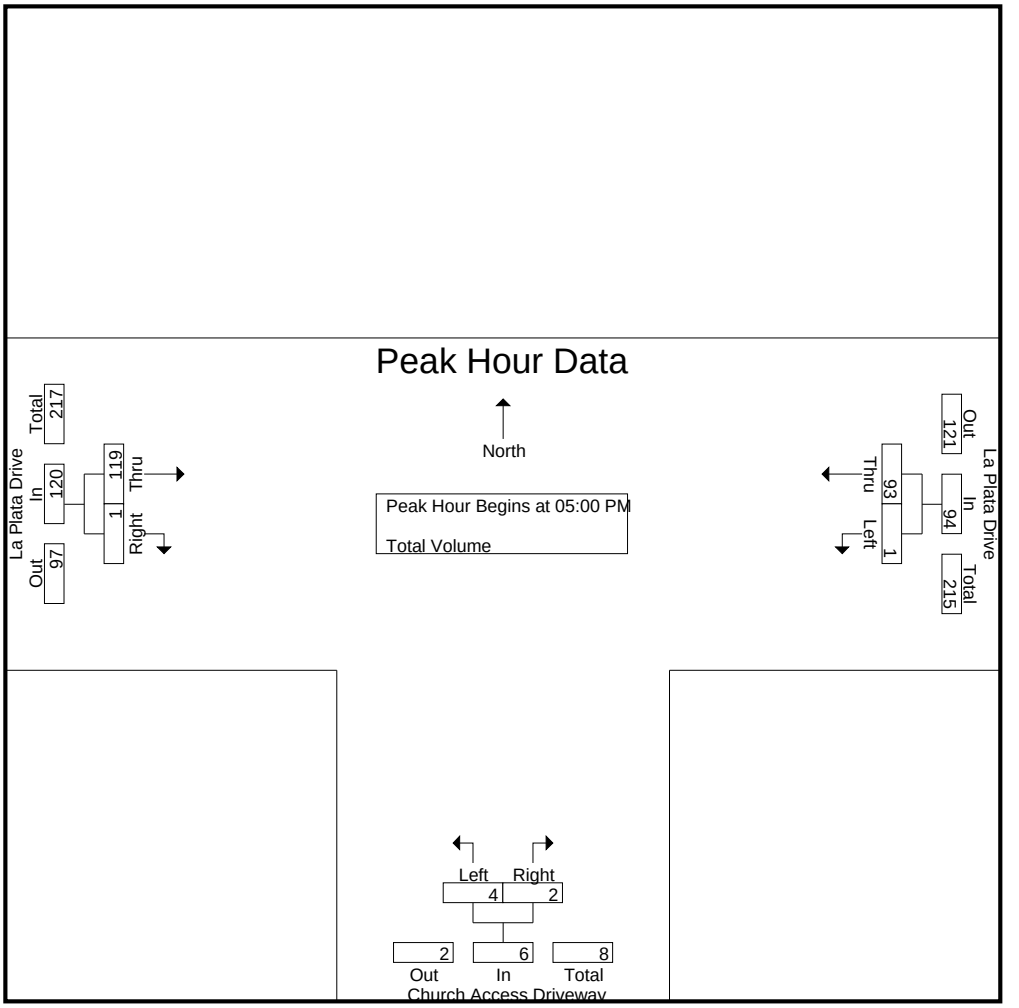
City of Laguna Niguel
N/S: Church Access Driveway
E/W: La Plata Drive
Weather: Clear

File Name : LNL_Church DW_La Plata PM
Site Code : 23822142
Start Date : 2/23/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	29	29	0	**1**	1	**33**	0	**33**
+15 mins.	0	18	18	1	0	1	26	0	26
+30 mins.	0	19	19	**2**	0	**2**	29	0	29
+45 mins.	0	**30**	**30**	1	1	2	31	**1**	32
Total Volume	0	96	96	4	2	6	119	1	120
% App. Total	0	100		66.7	33.3		99.2	0.8	
PHF	.000	.800	.800	.500	.500	.750	.902	.250	.909

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata AM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	154	1	161	3	0	20	23	2	134	5	141	1	0	2	3	328
07:15 AM	9	150	1	160	8	0	11	19	0	175	3	178	3	1	6	10	367
07:30 AM	10	200	3	213	6	0	26	32	2	202	4	208	4	1	10	15	468
07:45 AM	40	223	1	264	11	2	39	52	12	224	11	247	4	0	5	9	572
Total	65	727	6	798	28	2	96	126	16	735	23	774	12	2	23	37	1735
08:00 AM	76	207	6	289	13	2	36	51	1	198	7	206	13	1	4	18	564
08:15 AM	28	194	6	228	15	1	35	51	2	239	8	249	4	1	9	14	542
08:30 AM	13	195	5	213	6	0	28	34	1	239	6	246	5	0	3	8	501
08:45 AM	21	201	3	225	4	0	19	23	2	176	6	184	8	0	4	12	444
Total	138	797	20	955	38	3	118	159	6	852	27	885	30	2	20	52	2051
Grand Total	203	1524	26	1753	66	5	214	285	22	1587	50	1659	42	4	43	89	3786
Apprch %	11.6	86.9	1.5		23.2	1.8	75.1		1.3	95.7	3		47.2	4.5	48.3		
Total %	5.4	40.3	0.7	46.3	1.7	0.1	5.7	7.5	0.6	41.9	1.3	43.8	1.1	0.1	1.1	2.4	

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	40	**223**	1	264	11	**2**	**39**	**52**	**12**	224	**11**	247	4	0	5	9	**572**
08:00 AM	**76**	207	**6**	**289**	13	2	36	51	1	198	7	206	**13**	**1**	4	**18**	564
08:15 AM	28	194	6	228	**15**	1	35	51	2	**239**	8	**249**	4	1	**9**	14	542
08:30 AM	13	195	5	213	6	0	28	34	1	239	6	246	5	0	3	8	501
Total Volume	157	819	18	994	45	5	138	188	16	900	32	948	26	2	21	49	2179
% App. Total	15.8	82.4	1.8		23.9	2.7	73.4		1.7	94.9	3.4		53.1	4.1	42.9		
PHF	.516	.918	.750	.860	.750	.625	.885	.904	.333	.941	.727	.952	.500	.500	.583	.681	.952

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata AM
Site Code : 10521068
Start Date : 2/24/2021
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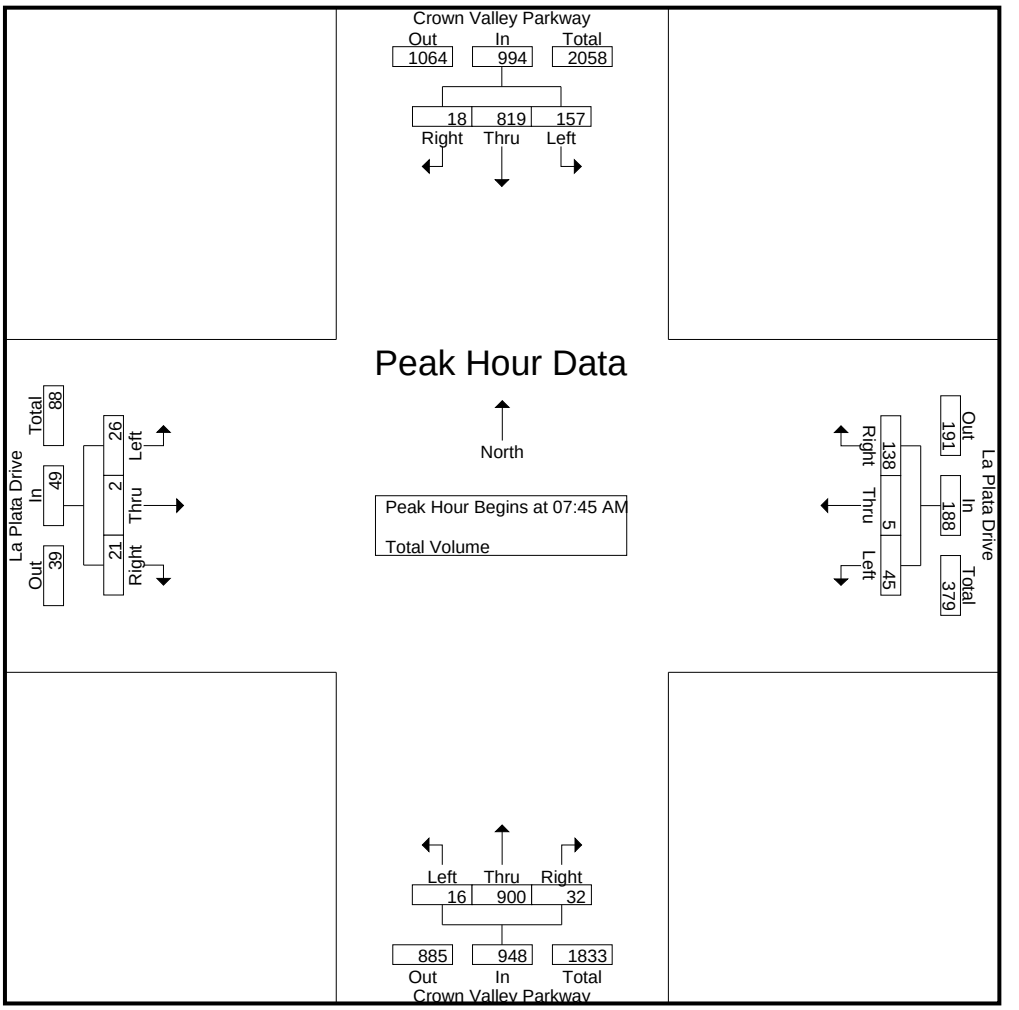

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	10	200	3	213	11	**2**	**39**	**52**	**12**	224	**11**	247	4	**1**	**10**	15
+15 mins.	40	**223**	1	264	13	2	36	51	1	198	7	206	4	0	5	9
+30 mins.	**76**	207	**6**	**289**	**15**	1	35	51	2	**239**	8	**249**	**13**	1	4	**18**
+45 mins.	28	194	6	228	6	0	28	34	1	239	6	246	4	1	9	14
Total Volume	154	824	16	994	45	5	138	188	16	900	32	948	25	3	28	56
% App. Total	15.5	82.9	1.6		23.9	2.7	73.4		1.7	94.9	3.4		44.6	5.4	50	
PHF	.507	.924	.667	.860	.750	.625	.885	.904	.333	.941	.727	.952	.481	.750	.700	.778

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata PM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	16	274	4	294	8	1	20	29	3	297	14	314	4	1	3	8	645
04:15 PM	22	254	7	283	8	1	14	23	5	273	6	284	4	1	2	7	597
04:30 PM	25	246	7	278	8	0	22	30	2	284	5	291	2	1	6	9	608
04:45 PM	25	241	8	274	4	1	19	24	6	229	12	247	4	0	7	11	556
Total	88	1015	26	1129	28	3	75	106	16	1083	37	1136	14	3	18	35	2406
05:00 PM	33	248	5	286	9	1	12	22	3	283	15	301	4	2	1	7	616
05:15 PM	27	270	3	300	13	0	21	34	9	253	2	264	5	1	5	11	609
05:30 PM	24	279	2	305	5	0	10	15	4	265	13	282	1	1	3	5	607
05:45 PM	16	259	5	280	7	0	12	19	8	226	12	246	1	0	4	5	550
Total	100	1056	15	1171	34	1	55	90	24	1027	42	1093	11	4	13	28	2382
Grand Total	188	2071	41	2300	62	4	130	196	40	2110	79	2229	25	7	31	63	4788
Apprch %	8.2	90	1.8		31.6	2	66.3		1.8	94.7	3.5		39.7	11.1	49.2		
Total %	3.9	43.3	0.9	48	1.3	0.1	2.7	4.1	0.8	44.1	1.6	46.6	0.5	0.1	0.6	1.3	

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	16	**274**	4	**294**	**8**	**1**	20	29	3	**297**	**14**	**314**	**4**	**1**	3	8	**645**
04:15 PM	22	254	7	283	8	1	14	23	5	273	6	284	4	1	2	7	597
04:30 PM	**25**	246	7	278	8	0	**22**	**30**	2	284	5	291	2	1	6	9	608
04:45 PM	25	241	**8**	274	4	1	19	24	**6**	229	12	247	4	0	**7**	**11**	556
Total Volume	88	1015	26	1129	28	3	75	106	16	1083	37	1136	14	3	18	35	2406
% App. Total	7.8	89.9	2.3		26.4	2.8	70.8		1.4	95.3	3.3		40	8.6	51.4		
PHF	.880	.926	.813	.960	.875	.750	.852	.883	.667	.912	.661	.904	.875	.750	.643	.795	.933

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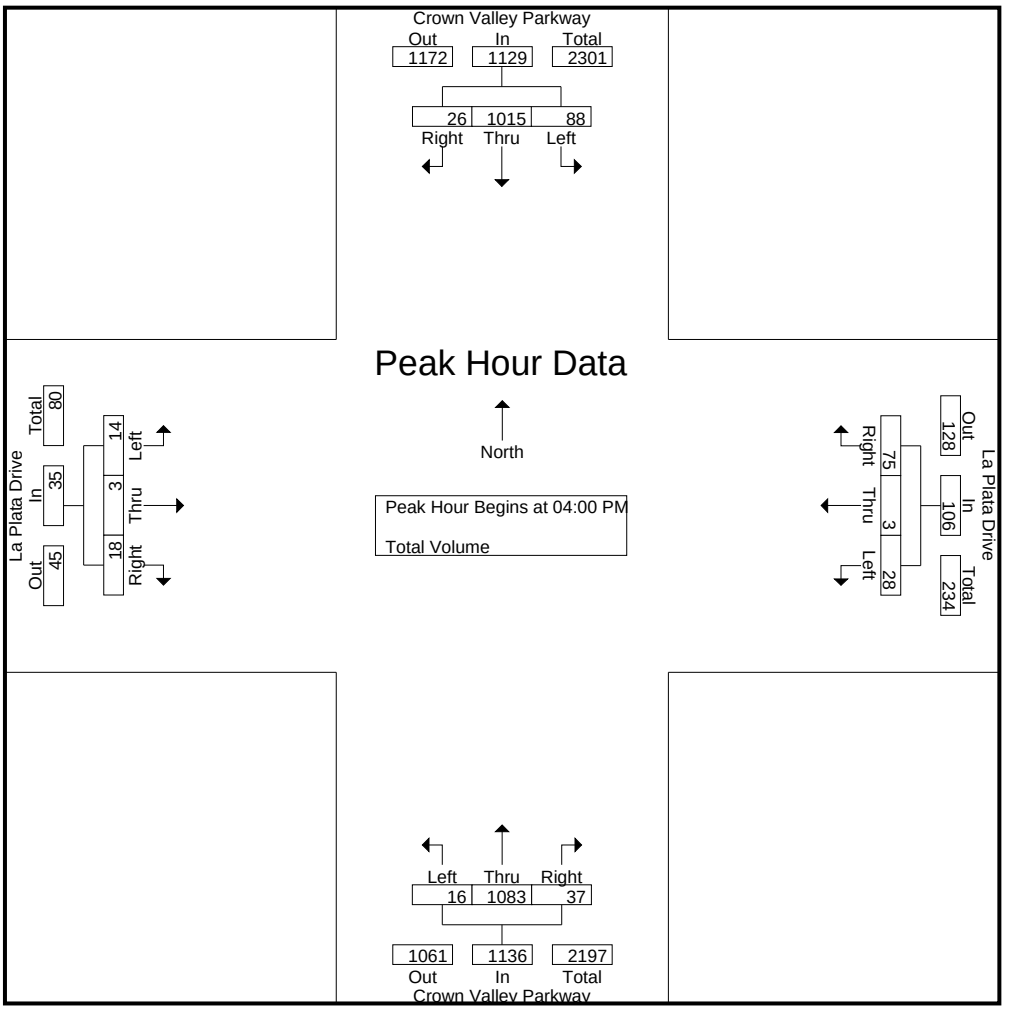
City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata PM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	**33**	248	**5**	286	8	0	**22**	30	3	**297**	**14**	**314**	2	1	6	9
+15 mins.	27	270	3	300	4	**1**	19	24	5	273	6	284	4	0	**7**	**11**
+30 mins.	24	**279**	2	**305**	9	1	12	22	2	284	5	291	4	**2**	1	7
+45 mins.	16	259	5	280	**13**	0	21	**34**	**6**	229	12	247	**5**	1	5	11
Total Volume	100	1056	15	1171	34	2	74	110	16	1083	37	1136	15	4	19	38
% App. Total	8.5	90.2	1.3		30.9	1.8	67.3		1.4	95.3	3.3		39.5	10.5	50	
PHF	.758	.946	.750	.960	.654	.500	.841	.809	.667	.912	.661	.904	.750	.500	.679	.864

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata SAT
Site Code : 10521068
Start Date : 2/27/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	29	245	7	281	11	0	10	21	7	269	7	283	7	0	3	10	595
12:15 PM	22	265	4	291	7	0	19	26	4	260	10	274	5	0	8	13	604
12:30 PM	21	294	3	318	10	0	18	28	5	283	10	298	12	3	7	22	666
12:45 PM	15	262	5	282	7	1	17	25	3	272	5	280	6	0	6	12	599
Total	87	1066	19	1172	35	1	64	100	19	1084	32	1135	30	3	24	57	2464
01:00 PM	19	262	3	284	8	2	10	20	4	238	4	246	4	2	3	9	559
01:15 PM	21	272	6	299	2	1	19	22	4	260	11	275	6	2	2	10	606
01:30 PM	12	272	5	289	10	1	14	25	6	280	8	294	5	0	5	10	618
01:45 PM	16	281	2	299	11	1	18	30	3	225	3	231	1	0	5	6	566
Total	68	1087	16	1171	31	5	61	97	17	1003	26	1046	16	4	15	35	2349
Grand Total	155	2153	35	2343	66	6	125	197	36	2087	58	2181	46	7	39	92	4813
Apprch %	6.6	91.9	1.5		33.5	3	63.5		1.7	95.7	2.7		50	7.6	42.4		
Total %	3.2	44.7	0.7	48.7	1.4	0.1	2.6	4.1	0.7	43.4	1.2	45.3	1	0.1	0.8	1.9	

	Crown Valley Parkway Southbound				La Plata Drive Westbound				Crown Valley Parkway Northbound				La Plata Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	**29**	245	**7**	281	**11**	0	10	21	**7**	269	7	283	7	0	3	10	595
12:15 PM	22	265	4	291	7	0	**19**	26	4	260	**10**	274	5	0	**8**	13	604
12:30 PM	21	**294**	3	**318**	10	0	18	**28**	5	**283**	10	**298**	**12**	**3**	7	**22**	**666**
12:45 PM	15	262	5	282	7	**1**	17	25	3	272	5	280	6	0	6	12	599
Total Volume	87	1066	19	1172	35	1	64	100	19	1084	32	1135	30	3	24	57	2464
% App. Total	7.4	91	1.6		35	1	64		1.7	95.5	2.8		52.6	5.3	42.1		
PHF	.750	.906	.679	.921	.795	.250	.842	.893	.679	.958	.800	.952	.625	.250	.750	.648	.925

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Plata Drive
Weather: Clear

File Name : 01_LNL_Crown Valley_La Plata SAT
Site Code : 10521068
Start Date : 2/27/2021
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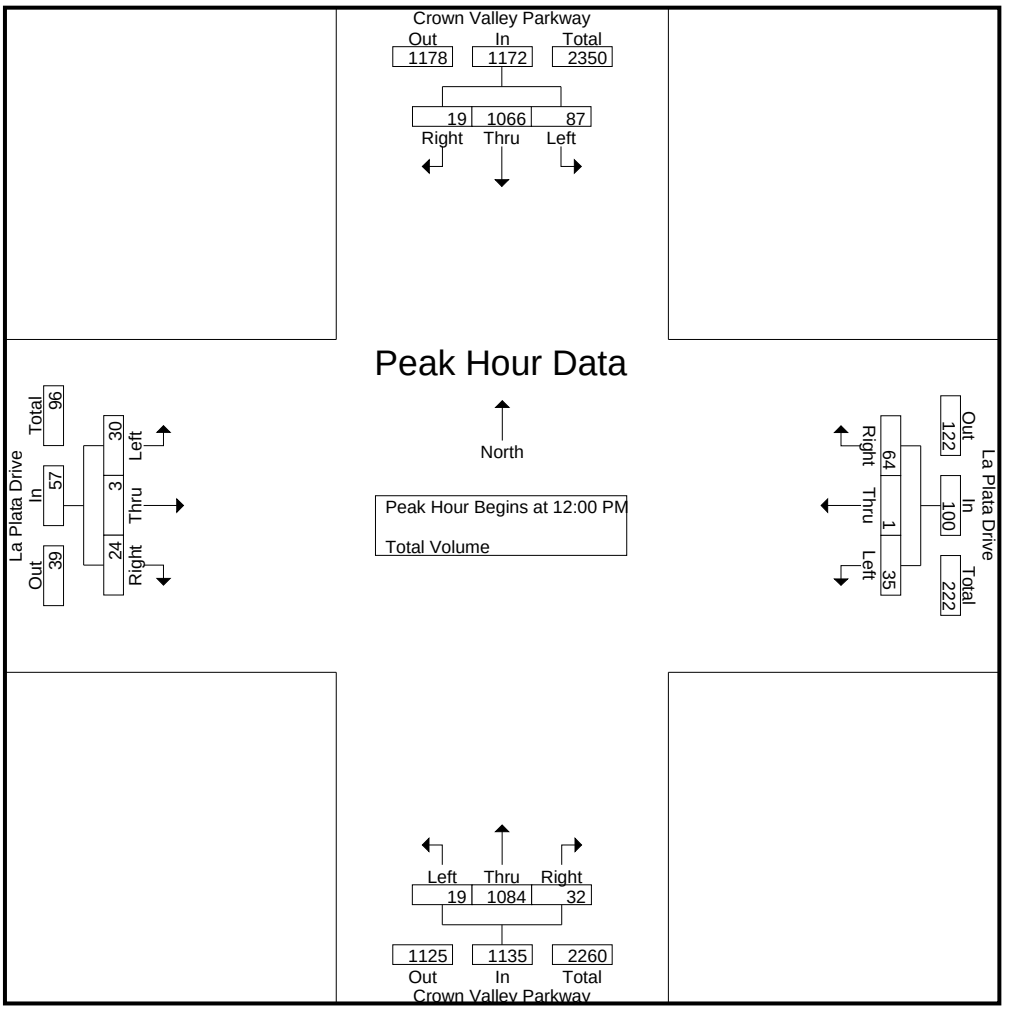

Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:30 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	**21**	**294**	3	**318**	**11**	0	10	21	**7**	269	7	283	7	0	3	10
+15 mins.	15	262	5	282	7	0	**19**	26	4	260	**10**	274	5	0	**8**	13
+30 mins.	19	262	3	284	10	0	18	**28**	5	**283**	10	**298**	**12**	**3**	7	**22**
+45 mins.	21	272	**6**	299	7	**1**	17	25	3	272	5	280	6	0	6	12
Total Volume	76	1090	17	1183	35	1	64	100	19	1084	32	1135	30	3	24	57
% App. Total	6.4	92.1	1.4		35	1	64		1.7	95.5	2.8		52.6	5.3	42.1	
PHF	.905	.927	.708	.930	.795	.250	.842	.893	.679	.958	.800	.952	.625	.250	.750	.648

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Paz Road
Weather: Clear

File Name : 02_LNL_Crown Valley_La Paz AM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	138	7	145	25	120	145	7	23	30	320
07:15 AM	132	19	151	25	167	192	18	24	42	385
07:30 AM	162	38	200	29	193	222	46	38	84	506
07:45 AM	217	30	247	34	225	259	45	35	80	586
Total	649	94	743	113	705	818	116	120	236	1797
08:00 AM	219	36	255	37	205	242	34	61	95	592
08:15 AM	179	34	213	42	245	287	28	35	63	563
08:30 AM	170	44	214	47	211	258	13	53	66	538
08:45 AM	177	15	192	47	153	200	15	43	58	450
Total	745	129	874	173	814	987	90	192	282	2143
Grand Total	1394	223	1617	286	1519	1805	206	312	518	3940
Apprch %	86.2	13.8		15.8	84.2		39.8	60.2		
Total %	35.4	5.7	41	7.3	38.6	45.8	5.2	7.9	13.1	

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	217	30	247	34	225	259	**45**	35	80	586
08:00 AM	**219**	36	**255**	37	205	242	34	**61**	**95**	**592**
08:15 AM	179	34	213	42	**245**	**287**	28	35	63	563
08:30 AM	170	**44**	214	**47**	211	258	13	53	66	538
Total Volume	785	144	929	160	886	1046	120	184	304	2279
% App. Total	84.5	15.5		15.3	84.7		39.5	60.5		
PHF	.896	.818	.911	.851	.904	.911	.667	.754	.800	.962

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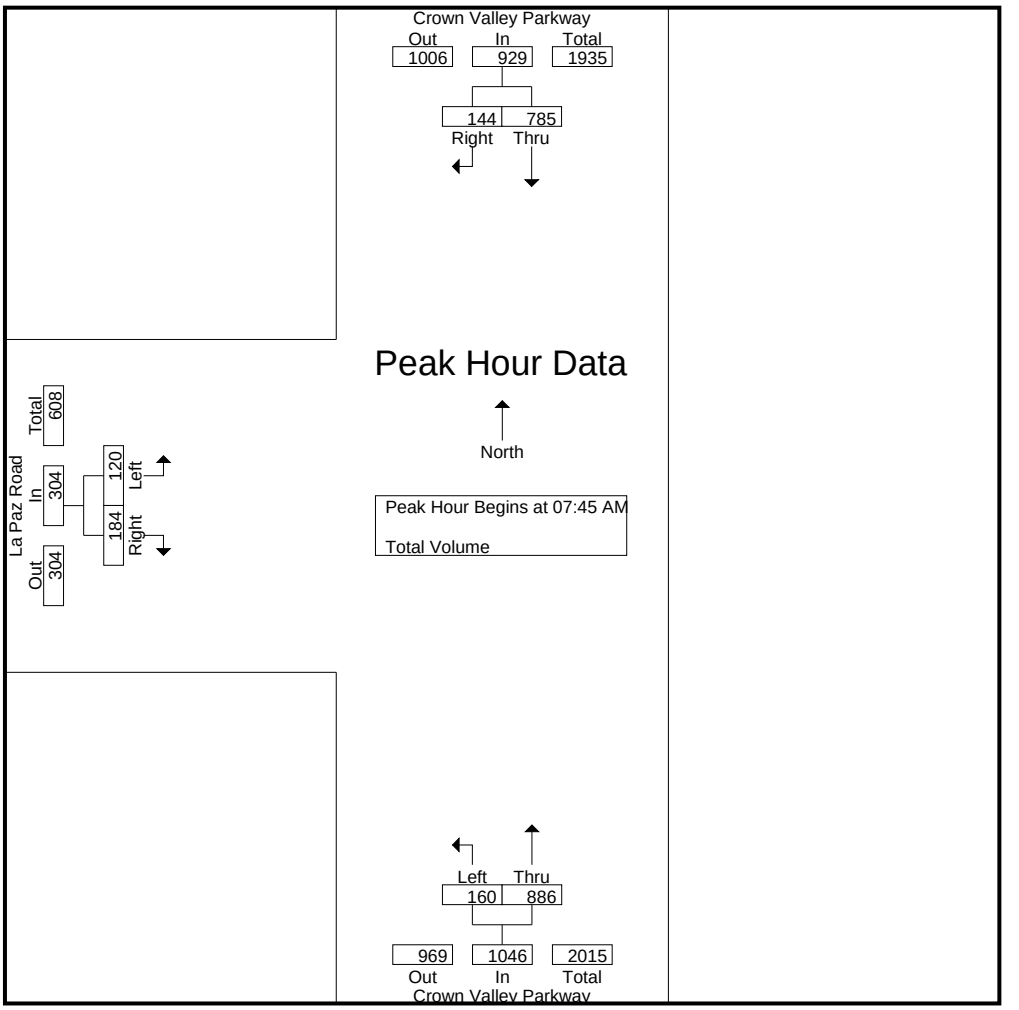
City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Paz Road
Weather: Clear

File Name : 02_LNL_Crown Valley_La Paz AM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:30 AM		
+0 mins.	217	30	247	34	225	259	**46**	38	84
+15 mins.	**219**	36	**255**	37	205	242	45	35	80
+30 mins.	179	34	213	42	**245**	**287**	34	**61**	**95**
+45 mins.	170	**44**	214	**47**	211	258	28	35	63
Total Volume	785	144	929	160	886	1046	153	169	322
% App. Total	84.5	15.5		15.3	84.7		47.5	52.5	
PHF	.896	.818	.911	.851	.904	.911	.832	.693	.847

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City of Laguna Niguel
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E/W: La Paz Road
Weather: Clear

File Name : 02_LNL_Crown Valley_La Paz PM
Site Code : 10521068
Start Date : 2/24/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	218	22	240	51	257	308	19	65	84	632
04:15 PM	217	16	233	50	239	289	21	66	87	609
04:30 PM	188	16	204	43	256	299	16	85	101	604
04:45 PM	205	26	231	50	196	246	17	74	91	568
Total	828	80	908	194	948	1142	73	290	363	2413
05:00 PM	199	17	216	61	225	286	15	76	91	593
05:15 PM	202	17	219	54	213	267	30	89	119	605
05:30 PM	216	15	231	53	211	264	15	72	87	582
05:45 PM	233	12	245	28	210	238	20	63	83	566
Total	850	61	911	196	859	1055	80	300	380	2346
Grand Total	1678	141	1819	390	1807	2197	153	590	743	4759
Apprch %	92.2	7.8		17.8	82.2		20.6	79.4		
Total %	35.3	3	38.2	8.2	38	46.2	3.2	12.4	15.6	

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**218**	22	**240**	**51**	**257**	**308**	19	65	84	**632**
04:15 PM	217	16	233	50	239	289	**21**	66	87	609
04:30 PM	188	16	204	43	256	299	16	**85**	**101**	604
04:45 PM	205	**26**	231	50	196	246	17	74	91	568
Total Volume	828	80	908	194	948	1142	73	290	363	2413
% App. Total	91.2	8.8		17	83		20.1	79.9		
PHF	.950	.769	.946	.951	.922	.927	.869	.853	.899	.955

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File Name : 02_LNL_Crown Valley_La Paz PM
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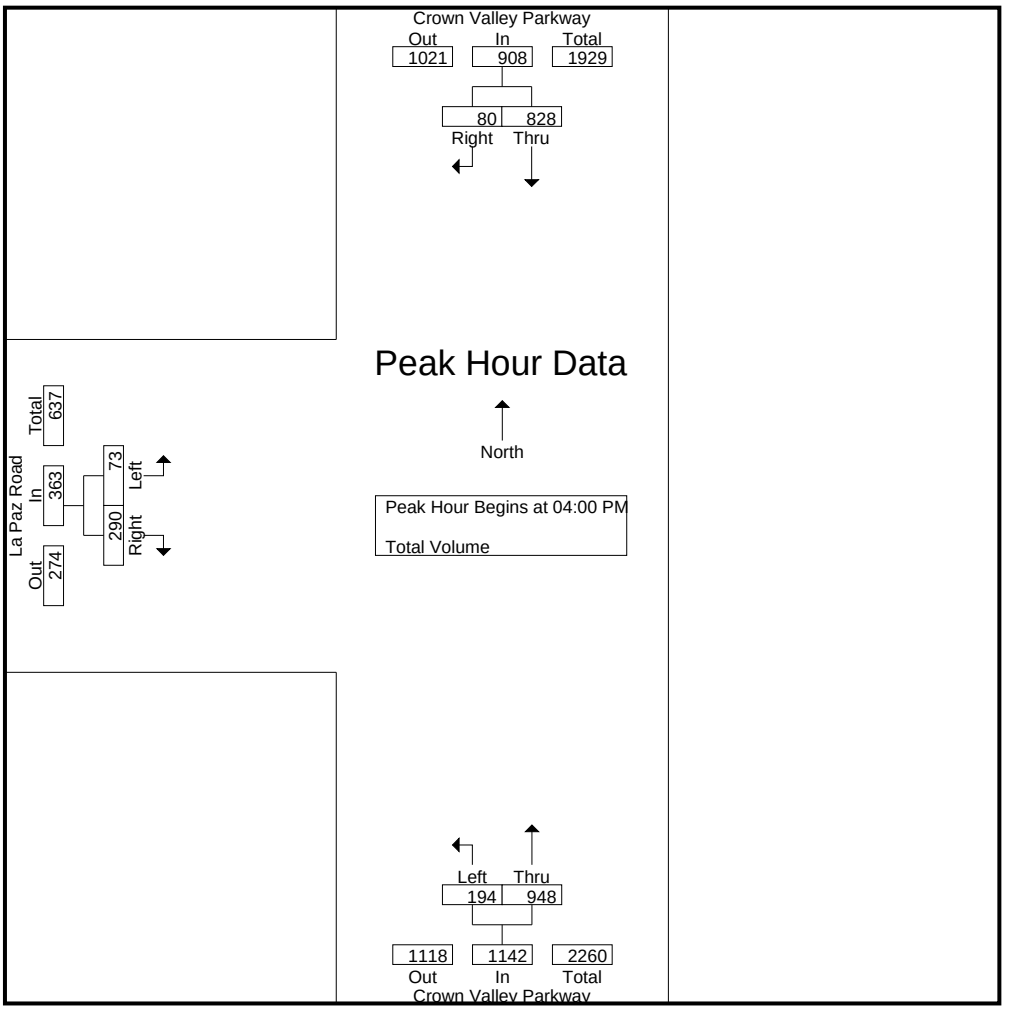

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:30 PM		
+0 mins.	199	**17**	216	**51**	**257**	**308**	16	85	101
+15 mins.	202	17	219	50	239	289	17	74	91
+30 mins.	216	15	231	43	256	299	15	76	91
+45 mins.	**233**	12	**245**	50	196	246	**30**	**89**	**119**
Total Volume	850	61	911	194	948	1142	78	324	402
% App. Total	93.3	6.7		17	83		19.4	80.6	
PHF	.912	.897	.930	.951	.922	.927	.650	.910	.845

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City of Laguna Niguel
N/S: Crown Valley Parkway
E/W: La Paz Road
Weather: Clear

File Name : 02_LNL_Crown Valley_La Paz SAT
Site Code : 10521068
Start Date : 2/27/2021
Page No : 1

Groups Printed- Total Volume

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
12:00 PM	216	23	239	48	237	285	16	76	92	616
12:15 PM	207	18	225	48	225	273	25	75	100	598
12:30 PM	248	24	272	54	257	311	25	86	111	694
12:45 PM	218	23	241	58	234	292	23	65	88	621
Total	889	88	977	208	953	1161	89	302	391	2529
01:00 PM	208	11	219	57	203	260	13	86	99	578
01:15 PM	216	17	233	56	222	278	22	75	97	608
01:30 PM	229	24	253	59	251	310	14	72	86	649
01:45 PM	248	24	272	38	209	247	21	66	87	606
Total	901	76	977	210	885	1095	70	299	369	2441
Grand Total	1790	164	1954	418	1838	2256	159	601	760	4970
Apprch %	91.6	8.4		18.5	81.5		20.9	79.1		
Total %	36	3.3	39.3	8.4	37	45.4	3.2	12.1	15.3	

	Crown Valley Parkway Southbound			Crown Valley Parkway Northbound			La Paz Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	216	23	239	48	237	285	16	76	92	616
12:15 PM	207	18	225	48	225	273	**25**	75	100	598
12:30 PM	**248**	**24**	**272**	54	**257**	**311**	25	**86**	**111**	**694**
12:45 PM	218	23	241	**58**	234	292	23	65	88	621
Total Volume	889	88	977	208	953	1161	89	302	391	2529
% App. Total	91	9		17.9	82.1		22.8	77.2		
PHF	.896	.917	.898	.897	.927	.933	.890	.878	.881	.911

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Site Code : 10521068
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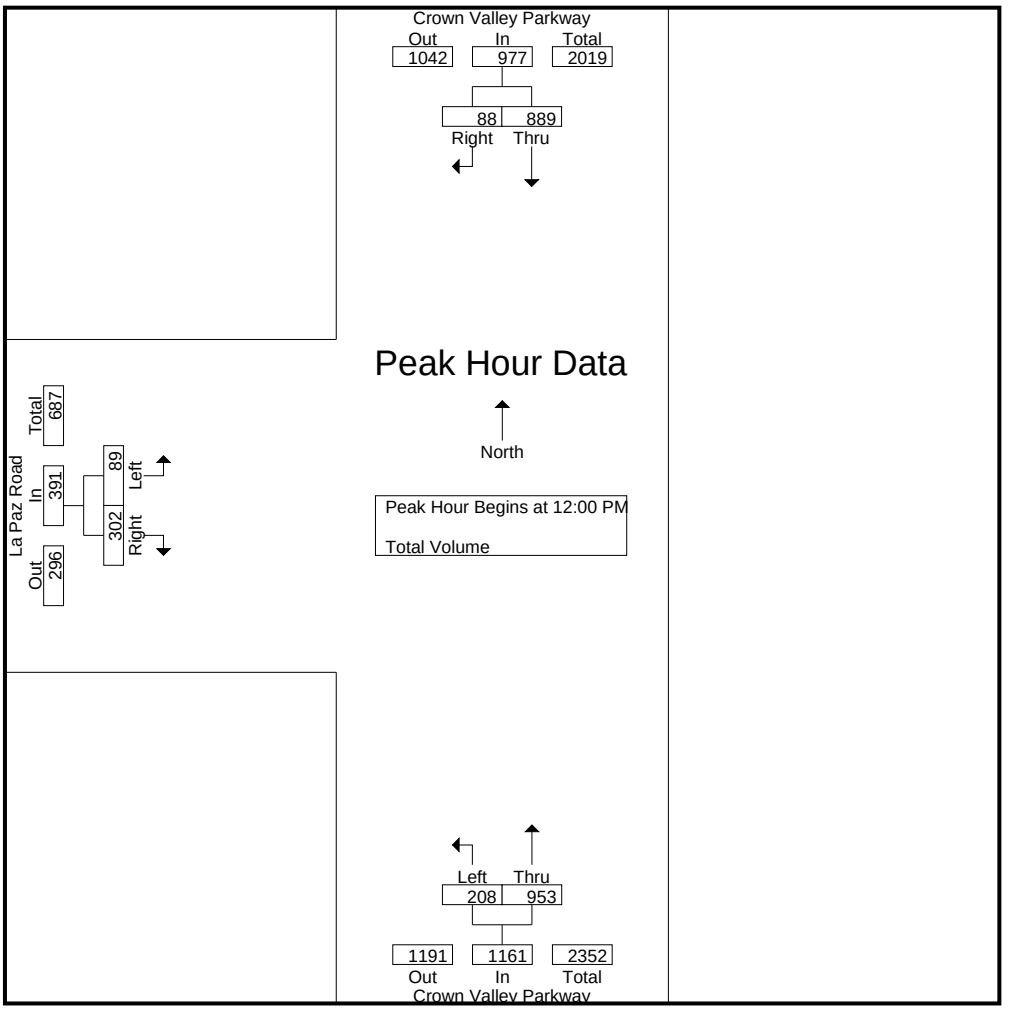


Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM			12:00 PM			12:15 PM		
+0 mins.	216	23	239	48	237	285	**25**	75	100
+15 mins.	207	18	225	48	225	273	25	**86**	**111**
+30 mins.	**248**	**24**	**272**	54	**257**	**311**	23	65	88
+45 mins.	218	23	241	**58**	234	292	13	86	99
Total Volume	889	88	977	208	953	1161	86	312	398
% App. Total	91	9		17.9	82.1		21.6	78.4	
PHF	.896	.917	.898	.897	.927	.933	.860	.907	.896

Appendix B

Intersection LOS Analysis Sheets – Existing Conditions

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
EXISTING CONDITIONS
AM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.518
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

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:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	21	1154	41	201	1050	23	33	3	27	58	6	177
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:	21	1154	41	201	1050	23	33	3	27	58	6	177
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:	21	1154	41	201	1050	23	33	3	27	58	6	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1154	41	201	1050	23	33	3	27	58	6	177
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:	21	1154	41	201	1050	23	33	3	27	58	6	177
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	3.00	1.00	1.00	2.94	0.06	1.00	0.10	0.90	1.00	1.00	1.00
Final Sat.:	1700	5100	1700	1700	4991	109	1700	170	1530	1700	1700	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.02	0.12	0.21	0.21	0.02	0.02	0.02	0.03	0.00	0.10
Crit Moves:		****			****			****				****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	5085	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1863	5085	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	0	1216	0	0	1135
Future Volume (vph)	0	0	1216	0	0	1135
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	0	1322	0	0	1234
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1322	0	0	1234

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1216	0	0	1135
Future Vol, veh/h	0	0	1216	0	0	1135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1322	0	0	1234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	661	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	347	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	347	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992					
Flt Protected						
Satd. Flow (prot)	1848	0	1863	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1848	0	1863	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	69	4	0	140	0	0
Future Volume (vph)	69	4	0	140	0	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	81	5	0	165	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	0	165	0	0

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	4	0	140	0	0
Future Vol, veh/h	69	4	0	140	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	5	0	165	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	86	0	249	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1510	-	739	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1510	-	739	975
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1510	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
EXISTING CONDITIONS
PM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.429
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

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:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	19	1295	44	105	1213	31	17	4	22	33	4	90
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:	19	1295	44	105	1213	31	17	4	22	33	4	90
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:	19	1295	44	105	1213	31	17	4	22	33	4	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	1295	44	105	1213	31	17	4	22	33	4	90
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:	19	1295	44	105	1213	31	17	4	22	33	4	90
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	3.00	1.00	1.00	2.93	0.07	1.00	0.15	0.85	1.00	1.00	1.00
Final Sat.:	1700	5100	1700	1700	4973	127	1700	262	1438	1700	1700	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.25	0.03	0.06	0.24	0.24	0.01	0.02	0.02	0.02	0.00	0.05
Crit Moves:		****			****			****				****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	5085	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1863	5085	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	0	1358	0	0	1268
Future Volume (vph)	0	0	1358	0	0	1268
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	0	1476	0	0	1378
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1476	0	0	1378

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1358	0	0	1268
Future Vol, veh/h	0	0	1358	0	0	1268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1476	0	0	1378

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	738	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	309	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	309	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.961	
Flt Protected					0.966	
Satd. Flow (prot)	1863	0	1863	1863	1729	0
Flt Permitted					0.966	
Satd. Flow (perm)	1863	0	1863	1863	1729	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	119	0	0	93	4	2
Future Volume (vph)	119	0	0	93	4	2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	138	0	0	108	5	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	0	0	108	7	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	0	0	93	4	2
Future Vol, veh/h	119	0	0	93	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	0	0	108	5	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	138	0	246	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1446	-	742	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1446	-	742	910
Mov Cap-2 Maneuver	-	-	-	-	742	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	791	-	-	1446	-
HCM Lane V/C Ratio	0.009	-	-	-	-
HCM Control Delay (s)	9.6	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix C

Intersection LOS Analysis Sheets – Existing Plus Project Conditions

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
EXISTING PLUS PROJECT CONDITIONS
AM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.523
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

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:	1	0 3	0	1	1	0 2	1	0	1	0	0	1 0	1	0	1	0 1
Volume Module:																
Base Vol:	21	1154	41		201	1050	23		33	3	27		58	6	177	
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:	21	1154	41		201	1050	23		33	3	27		58	6	177	
Added Vol:	3	3	0		7	0	0		0	0	0		1	0	1	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	24	1157	41		208	1050	23		33	3	27		59	6	178	
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:	24	1157	41		208	1050	23		33	3	27		59	6	178	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	24	1157	41		208	1050	23		33	3	27		59	6	178	
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:	24	1157	41		208	1050	23		33	3	27		59	6	178	
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	3.00	1.00		1.00	2.94	0.06		1.00	0.10	0.90		1.00	1.00	1.00	
Final Sat.:	1700	5100	1700		1700	4991	109		1700	170	1530		1700	1700	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.23	0.02		0.12	0.21	0.21		0.02	0.02	0.02		0.03	0.00	0.10	
Crit Moves:		****				****				****						****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1611	5080	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1611	5080	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	6	1216	7	0	1139
Future Volume (vph)	0	6	1216	7	0	1139
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	7	1322	8	0	1238
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	7	1330	0	0	1238

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	1216	7	0	1139
Future Vol, veh/h	0	6	1216	7	0	1139
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	1322	8	0	1238

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	665	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	345	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	345	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	345	-
HCM Lane V/C Ratio	-	-	0.019	-
HCM Control Delay (s)	-	-	15.6	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.981					
Flt Protected					0.950	
Satd. Flow (prot)	1827	0	1863	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1827	0	1863	1863	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	69	11	0	140	2	0
Future Volume (vph)	69	11	0	140	2	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	81	13	0	165	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	0	165	2	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	11	0	140	2	0
Future Vol, veh/h	69	11	0	140	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	81	13	0	165	2	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	94	0	253	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1500	-	736	970
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	736	970
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	736	-	-	1500	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	9.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
EXISTING PLUS PROJECT CONDITIONS
PM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.435
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

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:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	19	1295	44	105	1213	31	17	4	22	33	4	90
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:	19	1295	44	105	1213	31	17	4	22	33	4	90
Added Vol:	7	6	0	6	0	0	0	0	0	2	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	1301	44	111	1213	31	17	4	22	35	4	93
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:	26	1301	44	111	1213	31	17	4	22	35	4	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	1301	44	111	1213	31	17	4	22	35	4	93
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:	26	1301	44	111	1213	31	17	4	22	35	4	93
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	3.00	1.00	1.00	2.93	0.07	1.00	0.15	0.85	1.00	1.00	1.00
Final Sat.:	1700	5100	1700	1700	4973	127	1700	262	1438	1700	1700	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.26	0.03	0.07	0.24	0.24	0.01	0.02	0.02	0.02	0.00	0.05
Crit Moves:		****			****			****				****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1611	5080	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1611	5080	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	14	1358	6	0	1277
Future Volume (vph)	0	14	1358	6	0	1277
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	15	1476	7	0	1388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	1483	0	0	1388

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	1358	6	0	1277
Future Vol, veh/h	0	14	1358	6	0	1277
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	1476	7	0	1388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	742	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	307	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	307	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	307	-
HCM Lane V/C Ratio	-	-	0.05	-
HCM Control Delay (s)	-	-	17.3	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.2	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.993				0.977	
Flt Protected			0.950		0.960	
Satd. Flow (prot)	1850	0	1770	1863	1747	0
Flt Permitted			0.950		0.960	
Satd. Flow (perm)	1850	0	1770	1863	1747	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	119	7	1	93	9	2
Future Volume (vph)	119	7	1	93	9	2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	138	8	1	108	10	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	1	108	12	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	7	1	93	9	2
Future Vol, veh/h	119	7	1	93	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	8	1	108	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	146	0	252	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	110	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1436	-	737	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1436	-	736	906
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1436	-
HCM Lane V/C Ratio	0.017	-	-	0.001	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Appendix D

Intersection LOS Analysis Sheets – Opening Year (2022)
Without Project Conditions

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
OPENING YEAR (2022) WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.523
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

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:	1	0 3	0	1	1	0 2	1	0	1	0	0 1	0	1	0	1	0 1
Volume Module:																
Base Vol:	21	1154	41		201	1050	23		33	3	27		58	6	177	
Growth Adj:	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01	
Initial Bse:	21	1166	41		203	1061	23		33	3	27		59	6	179	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	21	1166	41		203	1061	23		33	3	27		59	6	179	
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:	21	1166	41		203	1061	23		33	3	27		59	6	179	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	21	1166	41		203	1061	23		33	3	27		59	6	179	
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:	21	1166	41		203	1061	23		33	3	27		59	6	179	
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	3.00	1.00		1.00	2.94	0.06		1.00	0.10	0.90		1.00	1.00	1.00	
Final Sat.:	1700	5100	1700		1700	4991	109		1700	170	1530		1700	1700	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.23	0.02		0.12	0.21	0.21		0.02	0.02	0.02		0.03	0.00	0.11	
Crit Moves:		****				****				****						****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	5085	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1863	5085	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	0	1228	0	0	1146
Future Volume (vph)	0	0	1228	0	0	1146
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	0	1335	0	0	1246
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1335	0	0	1246

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1228	0	0	1146
Future Vol, veh/h	0	0	1228	0	0	1146
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1335	0	0	1246

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	668	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	344	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	344	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992					
Flt Protected						
Satd. Flow (prot)	1848	0	1863	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1848	0	1863	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	70	4	0	143	0	0
Future Volume (vph)	70	4	0	143	0	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	82	5	0	168	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	0	0	168	0	0

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	4	0	143	0	0
Future Vol, veh/h	70	4	0	143	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	5	0	168	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	87	0	253	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1509	-	736	974
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1509	-	736	974
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1509	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
OPENING YEAR (2022) WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.432
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

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:	1	0 3	0	1	1	0 2	1	0	1	0 0	1	0	1	0 1	0	1
Volume Module:																
Base Vol:	19	1295	44		105	1213	31		17	4	22		33	4	90	
Growth Adj:	1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01		1.01	1.01	1.01	
Initial Bse:	19	1308	44		106	1225	31		17	4	22		33	4	91	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	19	1308	44		106	1225	31		17	4	22		33	4	91	
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:	19	1308	44		106	1225	31		17	4	22		33	4	91	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	19	1308	44		106	1225	31		17	4	22		33	4	91	
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:	19	1308	44		106	1225	31		17	4	22		33	4	91	
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	3.00	1.00		1.00	2.93	0.07		1.00	0.15	0.85		1.00	1.00	1.00	
Final Sat.:	1700	5100	1700		1700	4973	127		1700	262	1438		1700	1700	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.26	0.03		0.06	0.25	0.25		0.01	0.02	0.02		0.02	0.00	0.05	
Crit Moves:		****				****				****					****	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	5085	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1863	5085	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	0	1372	0	0	1281
Future Volume (vph)	0	0	1372	0	0	1281
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	0	1491	0	0	1392
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1491	0	0	1392

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1372	0	0	1281
Future Vol, veh/h	0	0	1372	0	0	1281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1491	0	0	1392

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	746	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	305	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	305	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.961	
Flt Protected			0.950		0.966	
Satd. Flow (prot)	1861	0	1770	1863	1729	0
Flt Permitted			0.950		0.966	
Satd. Flow (perm)	1861	0	1770	1863	1729	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	121	1	1	95	4	2
Future Volume (vph)	121	1	1	95	4	2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	1.00	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	141	1	1	95	5	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	142	0	1	95	7	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	121	1	1	95	4	2
Future Vol, veh/h	121	1	1	95	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	100	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	1	1	95	5	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	142	0	239	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1441	-	749	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1441	-	748	906
Mov Cap-2 Maneuver	-	-	-	-	748	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	794	-	-	1441	-
HCM Lane V/C Ratio	0.009	-	-	0.001	-
HCM Control Delay (s)	9.6	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix E

Intersection LOS Analysis Sheets – Opening Year (2022)
With Project Conditions

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
OPENING YEAR (2022) WITH PROJECT CONDITIONS
AM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.528
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

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:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	21	1154	41	201	1050	23	33	3	27	58	6	177
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	21	1166	41	203	1061	23	33	3	27	59	6	179
Added Vol:	3	3	0	7	0	0	0	0	0	1	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	1169	41	210	1061	23	33	3	27	60	6	180
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:	24	1169	41	210	1061	23	33	3	27	60	6	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	1169	41	210	1061	23	33	3	27	60	6	180
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:	24	1169	41	210	1061	23	33	3	27	60	6	180
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	3.00	1.00	1.00	2.94	0.06	1.00	0.10	0.90	1.00	1.00	1.00
Final Sat.:	1700	5100	1700	1700	4991	109	1700	170	1530	1700	1700	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.02	0.12	0.21	0.21	0.02	0.02	0.02	0.04	0.00	0.11
Crit Moves:		****			****			****				****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1611	5080	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1611	5080	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	6	1228	7	0	1150
Future Volume (vph)	0	6	1228	7	0	1150
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	7	1335	8	0	1250
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	7	1343	0	0	1250

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	1228	7	0	1150
Future Vol, veh/h	0	6	1228	7	0	1150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	1335	8	0	1250

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	672	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	342	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	342	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	342	-
HCM Lane V/C Ratio	-	-	0.019	-
HCM Control Delay (s)	-	-	15.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.982					
Flt Protected					0.950	
Satd. Flow (prot)	1829	0	1863	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1829	0	1863	1863	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	70	11	0	143	2	0
Future Volume (vph)	70	11	0	143	2	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	82	13	0	168	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	0	168	2	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	11	0	143	2	0
Future Vol, veh/h	70	11	0	143	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	13	0	168	2	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	257	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1499	-	732	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	732	969
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1499	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	9.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

GRACE CHURCH TRAFFIC STUDY (JN: 2936-2020-01)
OPENING YEAR (2022) WITH PROJECT CONDITIONS
PM PEAK HOUR

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

Intersection #1 CROWN VALLEY PARKWAY (NS) / LA PLATA DRIVE (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.439
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

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:	1 0	3 0	1	1 0	2 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	19	1295	44	105	1213	31	17	4	22	33	4	90
Growth Adj:	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Initial Bse:	19	1308	44	106	1225	31	17	4	22	33	4	91
Added Vol:	7	6	0	6	0	0	0	0	0	2	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	1314	44	112	1225	31	17	4	22	35	4	94
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:	26	1314	44	112	1225	31	17	4	22	35	4	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	1314	44	112	1225	31	17	4	22	35	4	94
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:	26	1314	44	112	1225	31	17	4	22	35	4	94
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	3.00	1.00	1.00	2.93	0.07	1.00	0.15	0.85	1.00	1.00	1.00
Final Sat.:	1700	5100	1700	1700	4973	127	1700	262	1438	1700	1700	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.26	0.03	0.07	0.25	0.25	0.01	0.02	0.02	0.02	0.00	0.06
Crit Moves:		****			****			****				****

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1611	5080	0	0	5085
Flt Permitted						
Satd. Flow (perm)	0	1611	5080	0	0	5085
Link Speed (mph)	30		30			30
Link Distance (ft)	243		411			300
Travel Time (s)	5.5		9.3			6.8

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	0	14	1372	6	0	1290
Future Volume (vph)	0	14	1372	6	0	1290
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	15	1491	7	0	1402
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	1498	0	0	1402

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	1372	6	0	1290
Future Vol, veh/h	0	14	1372	6	0	1290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	1491	7	0	1402

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	749	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	304	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	304	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	304	-
HCM Lane V/C Ratio	-	-	0.05	-
HCM Control Delay (s)	-	-	17.5	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.2	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.993				0.977	
Flt Protected			0.950		0.960	
Satd. Flow (prot)	1850	0	1770	1863	1747	0
Flt Permitted			0.950		0.960	
Satd. Flow (perm)	1850	0	1770	1863	1747	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	298			388	187	
Travel Time (s)	6.8			8.8	4.3	

Intersection Summary	
Area Type:	Other

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	121	7	1	95	9	2
Future Volume (vph)	121	7	1	95	9	2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	141	8	1	110	10	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	0	1	110	12	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	121	7	1	95	9	2
Future Vol, veh/h	121	7	1	95	9	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	8	1	110	10	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	149	0	257	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	112	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1432	-	732	902
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1432	-	731	902
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	912	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	757	-	-	1432	-
HCM Lane V/C Ratio	0.017	-	-	0.001	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Appendix F

Project CEQA Transportation Checklist

CEQA Guidelines – Appendix G Environmental Checklist

XVII. TRANSPORTATION. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

DISCUSSION:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ***No Impact***

SIGNIFICANCE ANALYSIS:

As stated in Section 1.1 this Study has been conducted pursuant to the City of Laguna Niguel Transportation Assessment Guidelines (November 2020) and the California Environmental Quality Act (CEQA) requirements. As such this traffic analysis evaluates the propose project from a traffic and circulation standpoint in accordance with County of Orange Congestion Management Program (CMP) and City of Laguna Niguel Transportation Assessment Guidelines. As stated in Section 2.4 CEQA Evaluation & Vehicle Miles Traveled (VMT) Analysis, "Effective July 1st, 2020, the longstanding metric of roadway level of service (LOS), which is typically measured in terms of vehicle delay, roadway capacity and congestion, will no longer be considered a significant impact under the California Environmental Quality Act (CEQA). Pursuant to CEQA Guidelines, Section 15064.3, VMT is now the most appropriate measure of transportation impacts. The City of Laguna Niguel has prepared the City of Laguna Niguel Transportation Assessment Guidelines (Nov 2020), detailing the appropriate VMT methodologies, thresholds of significance, and feasible mitigation

measures. This analysis follows the practices and recommendations in the City of Laguna Niguel Transportation Assessment Guidelines (Nov 2020).

Consequently, there will not be any conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? *No Impact.*

SIGNIFICANCE ANALYSIS:

The CEQA Guidelines section 15064.3 subdivision (b) states the following:

"SECTION 15064.3. DETERMINING THE SIGNIFICANCE OF TRANSPORTATION IMPACTS

(a) Purpose.

This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

(b) Criteria for Analyzing Transportation Impacts.

(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in

absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? *No Impact.*

d) Result in inadequate emergency access? *No Impact. E existing*

SIGNIFICANCE ANALYSIS:

c) & d) As discussed in Section 3.1 Existing Traffic Controls and Intersection Geometrics, RK conducted a field review of the study area in February 2021 to determine the existing traffic controls and intersection geometrics for roadway facilities near the site. Exhibits 3-1 and 3.2 identifies the existing roadway conditions within the study. The number of through traffic lanes for existing roadways and the existing intersection controls are identified. The type of traffic control and number of lanes at an intersection are key inputs for the calculation of level of service. The existing Intersection Geometry and Traffic Controls Study depicts the existing intersection of Crown Valley Parkway and La Plata Drive.

The proposed project is generally not expected to change or modify the existing circulation system and hence is forecast to not result in any impacts for this CEQA analysis item.

A new access is proposed on Crown Valley Parkway which has been evaluated for level of service as well as sight distance as required by the City and both the level of service and sight distance at this new access is found to be satisfactory per the agency-established guidelines and requirements.

Emergency access to the project is from either existing roadway. This TIA Study concluded that based on the aforementioned screening criteria, the proposed project would be expected to cause a less than significant CEQA transportation impact as the City's screening thresholds for Small Projects is met. The screening thresholds for Small Projects is as follows:

Small Projects

Projects that would generate less than 500 vehicle trips per day based on the latest Institute of Transportation Engineers (ITE) Trip Generation Manual are presumed to be less than significant. As with other types of transportation analysis, the trip generation of the current uses, which have been determined to constitute the CEQA baseline conditions, could be reduced from the proposed project so only net trips are assessed. A project demonstrating fewer and/or shorter trips leading to lower VMT than existing conditions may be presumed to be less than significant. As

previously shown in Table 4-2, even without taking credit for the existing use that will be displaced, the proposed project is forecast to generate approximately 296 daily trips which is much less than the 500 trip threshold for small projects. Hence, the proposed project is screened out and is deemed to not result in any significant VMT impacts per the City's adopted thresholds.

Appendix G

Scope of Work

Grace Church Subdivision Project Traffic Study
Scoping Agreement

December 30, 2020

The following provides information on the proposed project, summarizes the analysis scope, parameters, and assumptions for review and approval, and also includes request for information on items related to the study.

A. Project Description: The proposed Grace Church Subdivision Project is located adjacent to the existing Grace Church on the corner of the Crown Valley Parkway / La Plata Drive intersection in the City of Laguna Nigel.

The proposed project consists of the construction of an assisted living and memory care facility with a total size of 108,844 gross square feet (132,478 if the parking areas are included) containing a total of 114 beds, to be located adjacent to the existing Grace Church. The proposed project is expected to displace an existing building on-site which served a K-8 private school with a maximum enrollment capacity of 100 students.

Access for the project is planned via the following:

- One right-in/right-out access driveway along Crown Valley Parkway; and
- One full-access unsignalized driveway along La Plata Drive.

The project is planned to open in 2022 and will be evaluated in one single phase.

Exhibit A shows the location of the proposed project. Exhibit B shows the proposed site plan.

B. Project Trip Generation: Trip generation represents the amount of traffic that is attracted and produced by a development.

Trip generation is typically estimated based on the trip generation rates from the latest *Institute of Transportation Engineers (ITE) Trip Generation Manual.* The latest and most recent version (10th Edition, 2017) ITE Manual has been utilized for this scoping agreement. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

Table 1 shows the ITE trip generation rates for the proposed as well as the existing use which will be displaced by the proposed project.

Table 2 shows the trip generation for the proposed project utilizing the trip generation rates shown in Table 1.

As shown in Table 2, based on ITE trip generation rates, the proposed project is forecast to generate approximately 296 daily trips which include approximately 22 AM peak hour trips and approximately 29 PM peak hour trips.

As previously noted, the proposed project will displace the existing K-8 private school use with a maximum capacity of 100 students.

Table 3 shows the trip generation for the existing use utilizing the ITE trip generation rates shown in Table 1.

As shown in Table 3, based on ITE trip generation rates, the existing use generates approximately 411 daily trips which include approximately 91 AM peak hour trips and approximately 26 PM peak hour trips.

Table 4 shows the project net trip generation after accounting for the existing use which will be displaced.

A shown in table 4, when compared to the exiting use, the proposed use is forecast to generate approximately 115 FEWER NET daily trips which include approximately 69 FEWER NET AM peak hour trips and approximately 3 ADDITIONAL NET PM peak hour trips.

When compared to the existing use which generated traffic in short bursts during school pick-up and drop-off times, the proposed project is expected to have a traffic generation that is more evenly distributed throughout the day and peak periods.

The traffic analysis will utilize the project trip generation shown in Table 2 without taking credit for the existing land use.

C. Project Trip Distribution: Exhibit C-1 shows the outbound trip distribution for the proposed project.

Exhibit C-2 shows the inbound trip distribution for the proposed project.

D. Study Intersections: Based on review of the project's preliminary trip generation, geographical area, and circulation system, the traffic study will evaluate the following study intersections:

1. Crown Valley Parkway (NS) / La Plata Drive (EW);

2. Crown Valley Parkway (NS) / Project Access Driveway 1 (EW); and

3. Project Access Driveway 2 (NS) / La Plata Drive (EW)

E. Analysis Scenarios: The analysis will evaluate traffic conditions for the following scenarios during the weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods:

- Existing Conditions;

- Existing Plus Project Conditions;

- Opening Year (2022) Without Project Conditions; and

- Opening Year (2022) With Project Conditions.

F. Traffic Analysis Parameters: Signalized study intersections will be evaluated utilizing the Traffix analysis software and the ICU analysis methodology.

Unsignalized study intersections will be evaluated utilizing the Synchro analysis software and the Highway Capacity Manual (HCM) 2010 analysis methodology.

G. Existing Traffic Counts: Due to the COVID-19 pandemic, collection of new and valid traffic counts might not be valid.

RK would request to see if the City has recent traffic counts at the study intersection that can be utilized for use in the analysis after application of a growth rate. RK will also research for availability or pre-pandemic traffic counts at the study intersections from traffic count companies.

Otherwise, another methodology would be needed for derivation of existing traffic volumes.

- AM peak period counts will be during one typical weekday from 7:00 AM to 9:00 AM.

- PM peak period counts will be during one typical weekday from 4:00 PM to 6:00 PM.

H. Forecast Opening Year (2022) Conditions Traffic Volumes: Opening year background traffic volumes will be derived by applying an annual growth rate of one percent (1%) per year to existing traffic volumes.

I. Vehicles Miles Traveled: Effective July 1st, 2020, the longstanding metric of roadway level of service (LOS), which is typically measured in terms of vehicle delay, roadway capacity and congestion, will no longer be considered a significant impact under the California Environmental Quality Act (CEQA). Pursuant to CEQA Guidelines, Section 15064.3, VMT is now the most appropriate measure of transportation impacts.

The City of Laguna Nigel has prepared the *City of Laguna Nigel Transportation Assessment Guidelines (Nov 2020)* detailing the appropriate VMT methodologies, thresholds of significance, and feasible mitigation measures.

Since the proposed project can be considered local-serving and also can be considered small in size (projects generating less than 500 daily trips), according to the *City of Laguna Nigel Transportation Assessment Guidelines*, the proposed project will be exempt from a VMT analysis and the project's impacts will be considered less than significant.

J. Performance Criteria: Acceptable performance criteria for local transportation facilities are established in the Laguna Nigel Circulation Plan Element's LOS policies.

A significant impact would occur at a study intersection when project-related traffic cause:

- A signalized intersection to degrade from an acceptable LOS D or better to LOS E or worse; or

- The volume to capacity (V/C) ratio to increase by more than 0.01 at a signalized intersection operating at LOS E or worse

K. Mitigation Measure: If an intersection is operating LOS E or worse and a significant impact in anticipated, improvements will be identified to improve intersection operations

back to overall level of service prior to the addition project-related traffic. If an impact drops from an acceptable (LOS D or better) to LOS E or worse, improvement is required to bring back the LOS back to the acceptable threshold level (LOS D or better).

L. Evaluation of Sight Distance: A sight distance evaluation will be performed at the project access on Crown Valley Parkway. If adequate sight distance is not provided, recommendations will be identified.

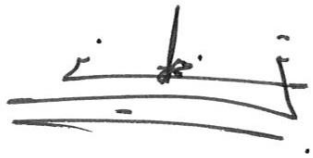
M. Request for Information:

- Information on cumulative projects that need to be included in the traffic analysis (location, land use type(s), and land use quantities).

If you have any questions, or would like further review, please call us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC.



Alex Tabrizi, PE, TE
Principal

Attachments

Approved by:

_____

City of Laguna Nigel

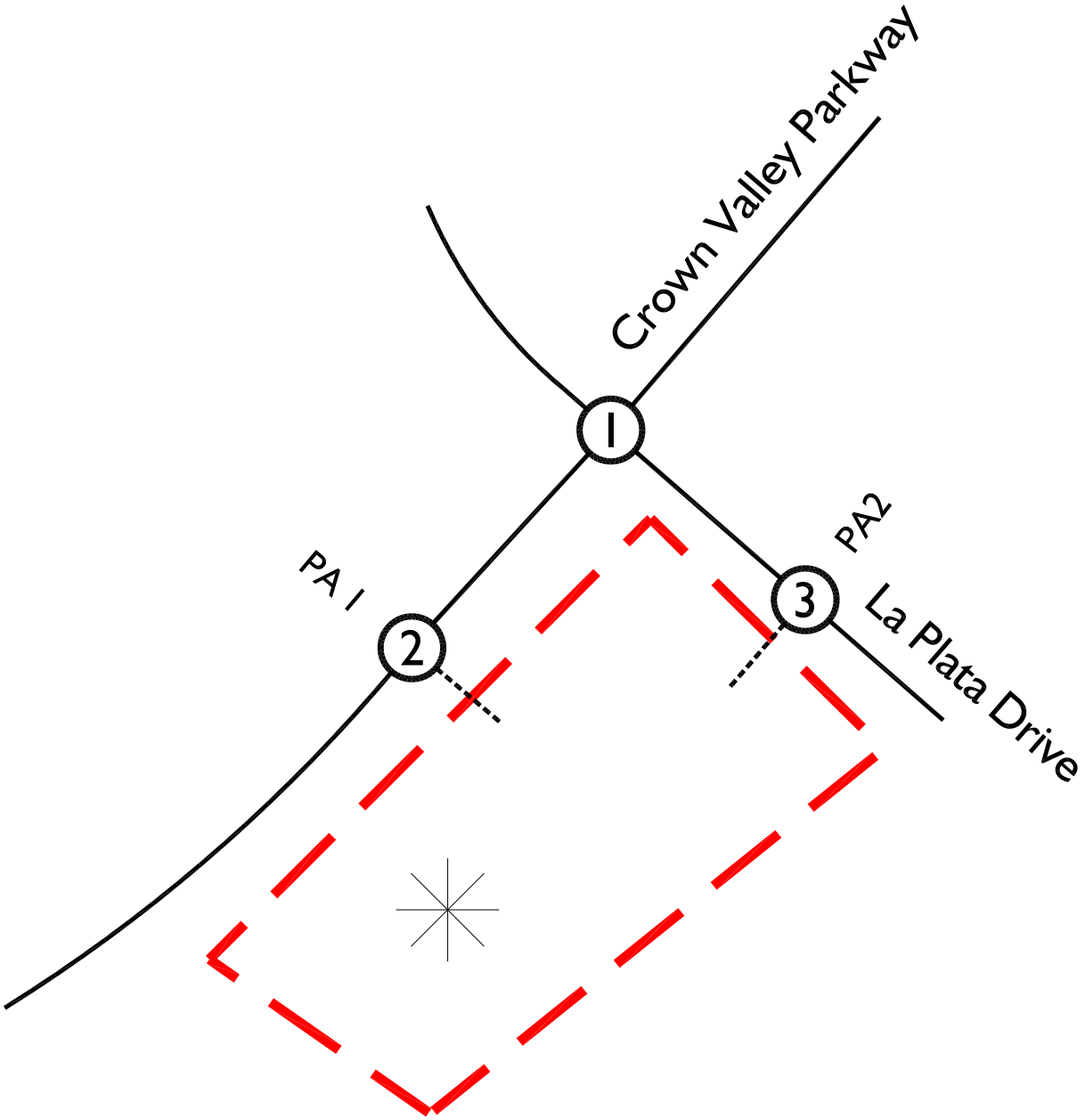
_____

Date

Attachments

Exhibit A

Location Map



Legend:

① = Study Area Intersection

= Project Site

- - - = Project Site Boundary

N

Exhibit B
Site Plan

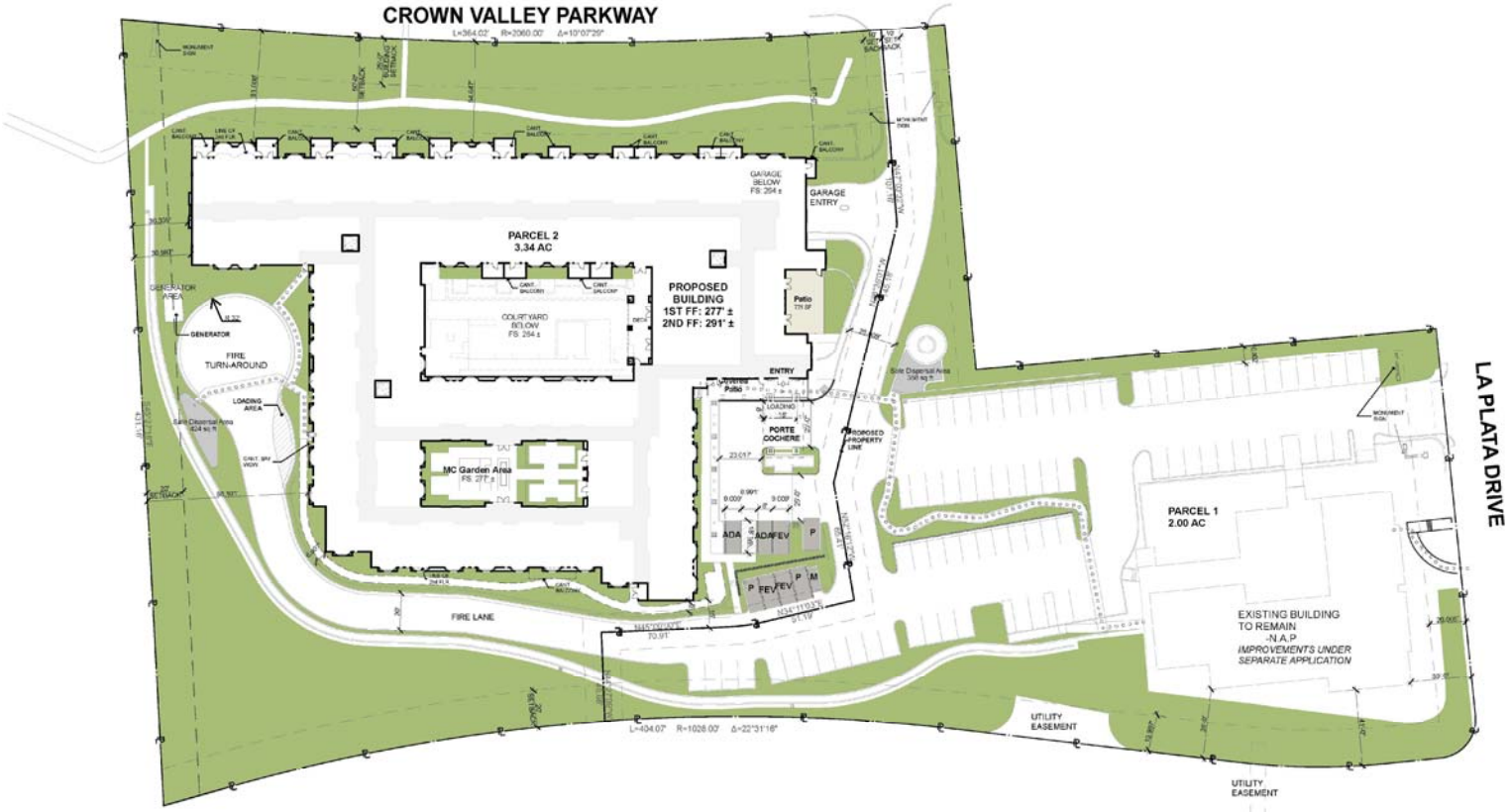
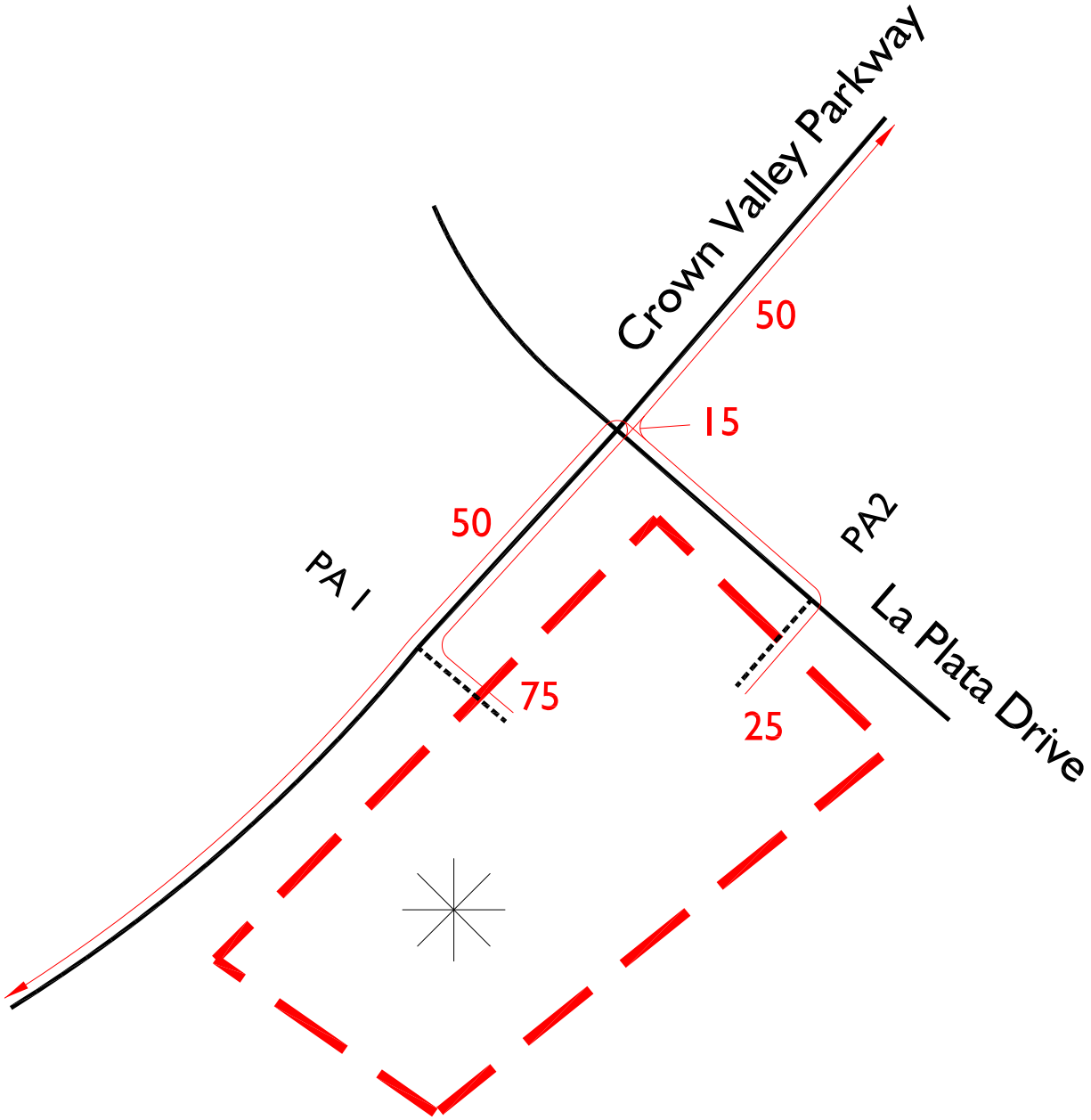


Exhibit C-1

Outbound Project Trip Distribution



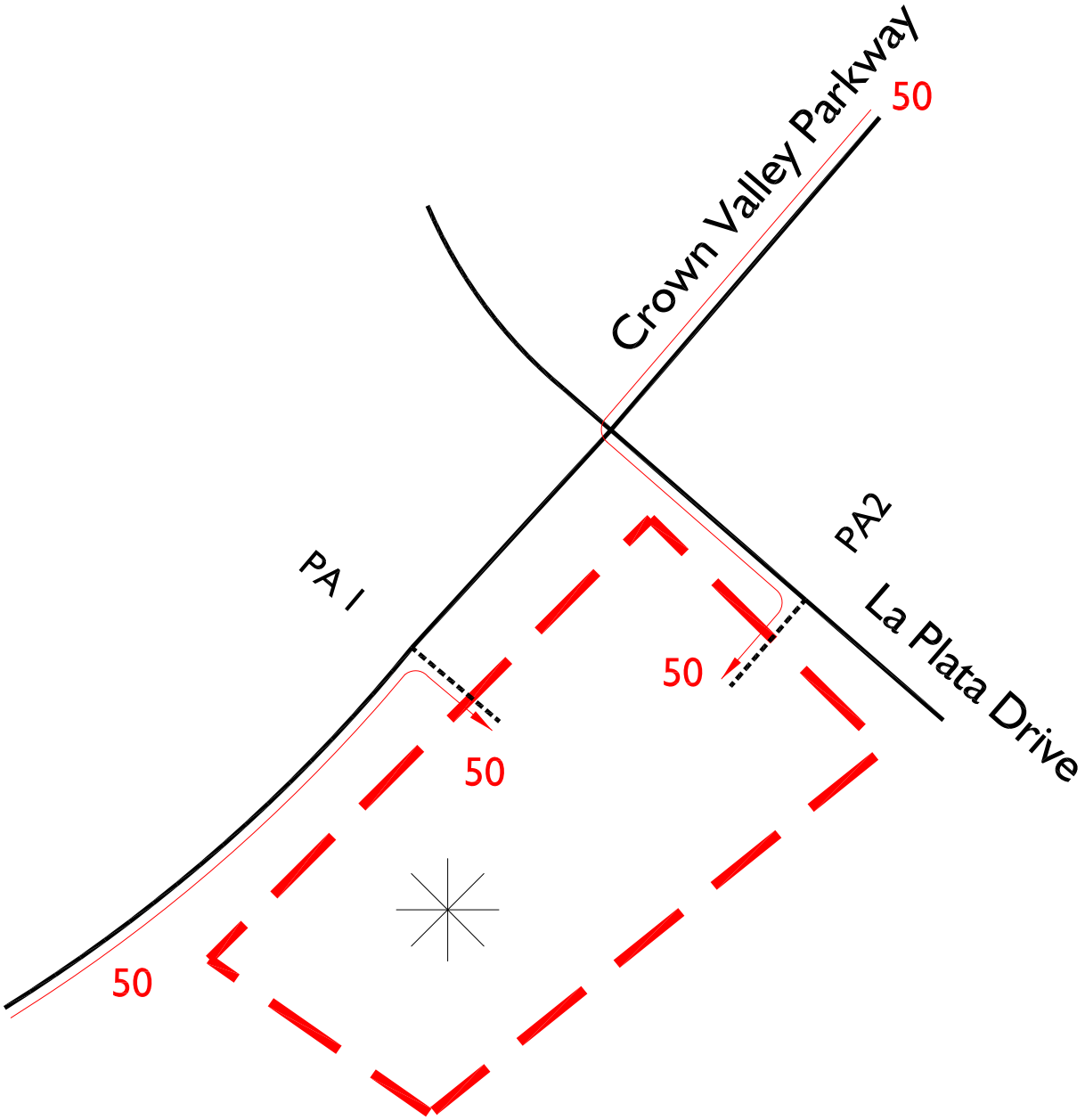
Legend:

10 = Percent to/from Project

N

Exhibit C-2

Inbound Project Trip Distribution



Legend:

10 = Percent to/from Project

N

Table 1
ITE Trip Generation Rates[1]

Land Use	Units	ITE Code	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Proposed Use - Assisted Living	Beds	254	0.12	0.07	0.19	0.10	0.16	0.26	2.60
Existing Use - K-8 Private School	Students	534	0.50	0.41	0.91	0.12	0.14	0.26	4.11

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Table 2
Proposed Project Trip Generation[1]

Land Use (ITE Code)	Quantity	Units	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Assisted Living (254)	114.0	Beds	14	8	22	11	18	29	296

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Table 3
Existing Use Trip Generation[1]

Land Use (ITE Code)	Quantity	Units	AM			PM			Daily
			In	Out	Total	In	Out	Total	
Private K-8 School (534)	100.0	Students	50	41	91	12	14	26	411

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Table 4
Project Net Trip Generation[1]

Land Use (ITE Code)	AM			PM			Daily
	In	Out	Total	In	Out	Total	
Proposed Use	14	8	22	11	18	29	296
Existing Use	-50	-41	-91	-12	-14	-26	-411
Net	**-36**	**-33**	**-69**	**-1**	**4**	**3**	**-115**

[1] Source: *2017 ITE Trip Generation Manual (10th Edition).*

Appendix H

Rear End Collision SWITRS Data
(2017 – 2021)

PASS		**8**	**F**	**6**	**3**	**M**	**G**
PASS		**11**	**M**	**4**	**3**	**M**	**G**

Primary Rd **CROWN VALLEY** *Distance (ft)* **468.** *Direction* **E** *Secondary Rd* **PASEO DEL** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **951F6** *Beat* **743** *Type* **0** *CalTrans* *Badge* **5163** *Collision Date* **20190213** *Time* **1901** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20190410**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	32	F	W	HBD-UI		PROC ST	W	A	0100	VOLKS	2011	-	3	A	22107	-	L	G
2	DRVR	41	M	A	HNBD		PROC ST	E	A	0100	INFIN	2017	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	32	F	1	0	L	G
DRVR	OTH VIS	41	M	1	0	L	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **37.0** *Direction* **E** *Secondary Rd* **PASEO DEL** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **951F6** *Beat* **743** *Type* **0** *CalTrans* *Badge* **9696** *Collision Date* **20190524** *Time* **1819** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20190725**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	25	M	W	HNBD		PROC ST	N	A	0100	BMW	2013	-	3	N		-	L	G
2	DRVR	51	M	W	HNBD		STOPPED	N	A	0100	CHEVR	2003	-	3	N		-	M	G
3	DRVR	47	F	W	HNBD		PROC ST	-	A	0100	TESLA	2016	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	25	M	1	0	L	G
DRVR	OTH VIS	51	M	1	0	M	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **183.** *Direction* **W** *Secondary Rd* **RT 5** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **922B7** *Beat* **743** *Type* **0** *CalTrans* *Badge* **9696** *Collision Date* **20190316** *Time* **0003** *Day* **SAT**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190515**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	49	M	W	HBD-UI		PROC ST	W	A	0100	VOLVO	2014	-	3	A	22350	-	L	G
2	DRVR	25	M	H	HNBD		PARKED	W	D	2200	GMC	2013	-	3	N		-	M	P
3	PRKD	998	-				PARKED	N	A	0100	AUDI	2015	-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CROWN VALLEY** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RT 5** *NCIC* **3000** *State Hwy?* **Y** *Route* **5** *Postmile Prefix* **-** *Postmile* **13.609** *Side of Hwy* **S**
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **922B7** *Beat* **743** *Type* **0** *CalTrans* **12** *Badge* **5163** *Collision Date* **20190909** *Time* **1728** *Day* **MON**
Primary Collision Factor **UNKNOWN** *Violation* *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20200609**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1	DRVR	45	M	W	HNBD		PROC ST	E	C	0200	HARLE	2007	-	3	N		-	P	W
2	DRVR	19	F	O	HNBD		LFT TURN	W	A	0100	CHEVR	2014	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	45	M	1	1	P	W
PASS		19	F	3	0	M	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **632.** *Direction* **W** *Secondary Rd* **VIA VALLE** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **951F5** *Beat* **743** *Type* **0** *CalTrans* *Badge* **5163** *Collision Date* **20200519** *Time* **2328** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20201102**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	36	M	W	HNBD		PROC ST	E	D	2200	-	2014	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	36	M	1	0	L	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **VIA VALLE** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **951F5** *Beat* **743** *Type* **0** *CalTrans* *Badge* **5013** *Collision Date* **20200903** *Time* **1645** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20201104**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	16	F	W	HNBD		LFT TURN	E	A	0700	-	2014	-	3	N	-	M	G
2	DRVR	57	F	W	HNBD		PROC ST	S	A	0100	-	2010	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	57	F	1	0	M	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **620.** *Direction* **W** *Secondary Rd* **W 9 DR** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **971E1** *Beat* **741** *Type* **0** *CalTrans* *Badge* **5013** *Collision Date* **20201107** *Time* **1209** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20210129**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	37	F	W	HNBD		PROC ST	E	A	0100	FORD	2017	-	3	N	-	L	G
2	DRVR	32	M	A	HNBD		PROC ST	E	A	0700	-	2015	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	37	F	1	0	L	G
DRVR	COMP PN	32	M	1	0	M	G

Primary Rd **CROWN VALLEY** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **WEST NINE DR** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **951F6** *Beat* **743** *Type* **0** *CalTrans* *Badge* **5013** *Collision Date* **20200228** *Time* **1705** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20200527**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	71	M	W	HNBD		LFT TURN	S	A	0100	TOYOT	1992	-	3	N	-	L	G
2	DRVR	17	F	W	HNBD		PROC ST	N	A	0100	MAZDA	2012	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	71	M	1	0	L	G
DRVR	OTH VIS	17	F	1	0	L	G
PASS		17	M	3	0	L	G

Primary Rd **CRYSTAL SANDS DR** *Distance (ft)* **243.** *Direction* **W** *Secondary Rd* **FLYING CLOUD DR** *NCIC* **3000** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Laguna Niguel** *County* **Orange** *Population* **5** *Rpt Dist* **971E1** *Beat* **6M39** *Type* **0** *CalTrans* *Badge* **4647** *Collision Date* **20200811** *Time* **1445** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20201016**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	BICY	15	M	W	IMP UNK	IMP UNK	PROC ST	W	L	0400	-		-	3	N	-	-	-
2	PRKD	998	-				PARKED	W	A	0100	-	2008	-	-	N	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	OTH VIS	15	M	-	-	-	-