HEXAGON TRANSPORTATION CONSULTANTS, INC.

3700-3720 Valle Verde Drive

Transportation Impact Analysis

Prepared for:

David J. Powers & Associates, Inc.

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Hexagon Transportation Consultants, Inc.

Hexagon Office: 4 North Second Street, Suite 400

San Jose, CA 95113

Hexagon Job Number: 18SS03

Phone: 408.971.6100

Client Name: Mr. Akoni Danielson

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Executive Summary

This report presents the results of the traffic study for the proposed residential project at 3700, 3710 and 3720 Valle Verde Drive in Napa, California. The project site currently comprises the vacant Sunrise Assisted Living building with 74 bedrooms. The proposed Heritage House project would modify the interior of that building to provide 66 single-room occupancy (SRO) units for low-income individuals. Also, the project proposes to develop a new 24-unit apartment building on an adjacent vacant lot. Access to the project site is provided via Valle Verde Drive. Valle Verde Drive would be abandoned north of Firefly Lane and conveyed to the project. The existing public utilities in the street would be relocated. The project proposes 85 parking spaces in parking lots and along the proposed private driveway aisle. The two buildings would be on separate parcels and funded independently but would have agreements in place to share access to the public street, parking and utility points of entry.

Project Trip Generation

The proposed project would generate 14 AM and 23 PM peak-hour trips.

Intersection Levels of Service

The results of the intersection LOS analysis under existing plus project, background plus project, and cumulative plus project conditions show that all the study intersections would operate at an acceptable level during both the AM and PM peak hours (see Table ES-1). The level of service analysis for unsignalized intersections is provided for information only, as the City does not have a level of service standard for unsignalized intersections. A signal warrant analysis was conducted to determine if these intersections would require a traffic signal based on the peak-hour volume warrant. The analysis showed that the unsignalized intersections would not require a traffic signal.

Table ES-1
Intersection Level of Service Summary

Int. #	Study Intersection	Peak Hour	Control[2]	Count Date	Existing Avg. Delay (sec)[1]	Existing LOS	Existing Plus Project Avg. Delay (sec)[1]	Existing Plus Project LOS	Background Avg. Delay (sec)[1]	Background LOS	Background Plus Project Avg. Delay (sec)[1]	Background Plus Project LOS	2040 Cumulative Avg. Delay (sec)[1]	2040 Cumulative LOS	2040 Cumulative Plus Project Avg. Delay (sec)[1]	2040 Cumulative Plus Project LOS
1	Villa Lane & Trancas Street	AM	Signal	05/22/18	20.2	C	20.2	C	20.2	C	20.2	C	20.3	C	20.3	C
		PM		05/22/18	21.1	C	21.2	C	21.4	C	21.5	C	21.7	C	21.8	C
2	Valle Verde Drive & Trancas Street	AM	TWSC	05/22/18	22.9	C	23.3	C	23.5	C	23.8	C	22.9	C	23.3	C
		PM		05/22/18	21.5	C	22.1	C	22.2	C	22.8	C	25.5	D	26.3	D
3	Valle Verde Drive & Firefly Lane	AM	TWSC	05/22/18	9.3	A	9.4	A	9.3	A	9.4	A	9.4	A	9.5	A
		PM		05/22/18	9.7	A	9.9	A	9.7	A	9.9	A	10.0	A	10.1	B

Notes:
[1] For TWSC, the average Delay and LOS is reported for the worst movement.
[2] Intersection control type definitions: TWSC = Two-way-stop-control

1. Introduction

This report presents the results of the traffic study for the proposed residential project "Continuum of Housing" at 3700, 3710 and 3720 Valle Verde Drive in Napa, California (see Figure 1). The project site currently consists of the vacant Sunrise Assisted Living building with 74 bedrooms. The proposed Heritage House project would modify the interior of that building to provide 66 SRO units for low-income individuals. Also, the project proposes to develop a new 24-unit apartment building on an adjacent vacant lot. Access to the project site is provided via an existing driveway on Valle Verde Drive (see Figure 2). Also, Valle Verde Drive would be abandoned north of Firefly Lane, conveyed to the project, and used for parking. The existing public utilities in the street would be relocated. The project proposes 85 parking spaces in parking lots and along the proposed private driveway aisle. The two buildings would be on separate parcels and funded independently but would have agreements in place to share access to the public street, parking, and utility points of entry.

Scope of Study

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Napa and the requirements of the California Environmental Quality Act (CEQA). The traffic study includes an analysis of AM and PM peak hour traffic conditions during weekdays on the following study intersections in the vicinity of the project site. These intersections were selected for study based on prior traffic studies in the area.

Study Intersections

1. Villa Lane and Trancas Street
2. Valle Verde Drive and Trancas Street (Unsignalized Intersection)
3. Valle Verde Drive and Firefly Lane (Unsignalized Intersection)

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour of adjacent street traffic is generally between 7:00 and 9:00 AM, and the PM peak hour of adjacent street traffic is typically between 4:00 and 6:00 PM. It is during these periods on an average weekday that the most congested traffic conditions occur.

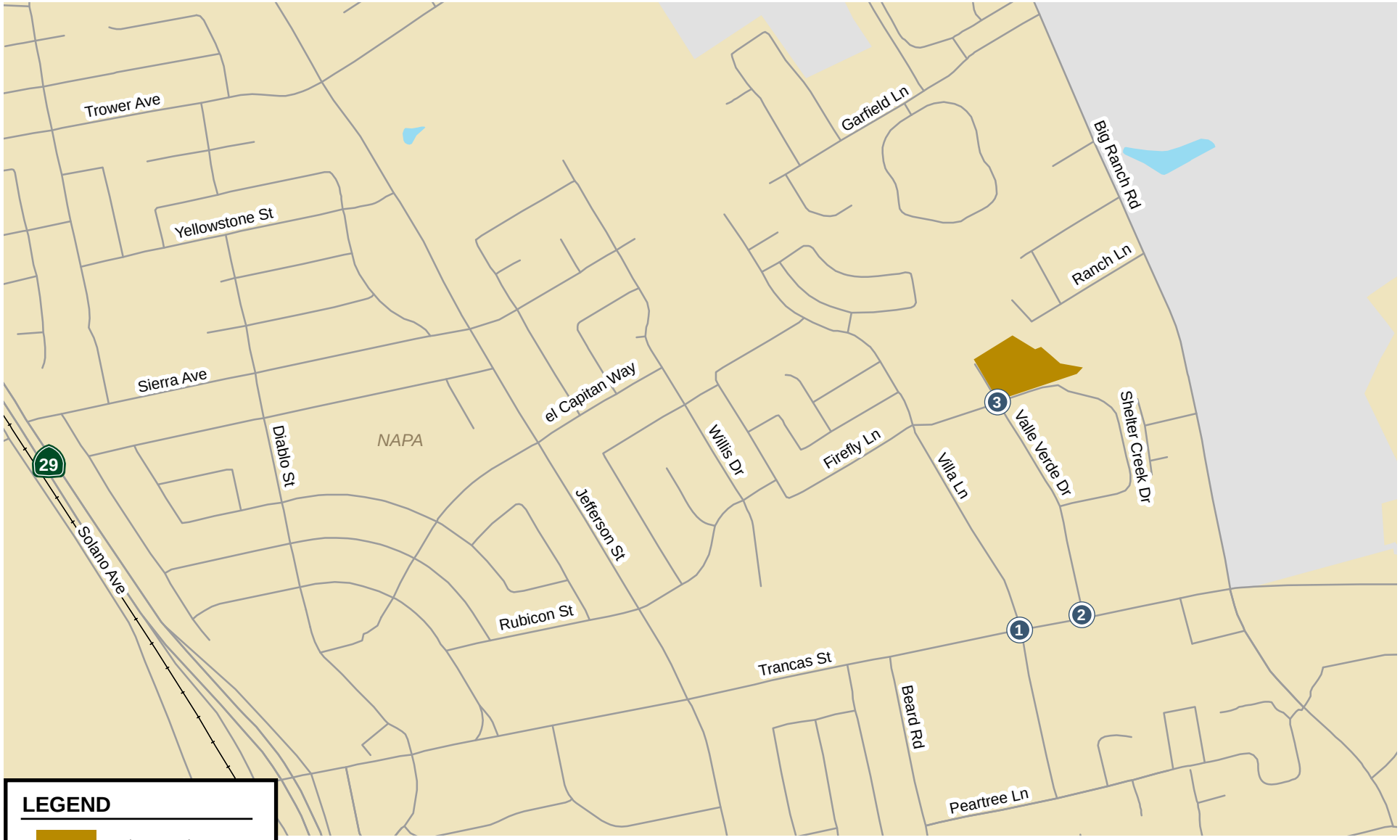

Figure 1
Site Location and Study Intersections

Figure 2
Project Site Plan

NORTH
Not to Scale

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes were based on new traffic counts conducted in the year 2018, while schools were in session.

Scenario 2: *Existing Plus Approved/Not Built Developments.* Existing plus approved/not built developments traffic volumes were estimated by adding to existing volumes the projected volumes from approved but not yet completed developments in the project area. A list of such projects was provided by the City of Napa.

Scenario 3: *Existing Plus Project Conditions.* Existing Plus Project peak hour traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions to determine the effects the project would have on the existing roadway network.

Scenario 4: *Existing Plus Approved/Not Built Developments Plus Project Conditions.* Existing plus approved/not built developments plus Project traffic volumes were estimated by adding to Existing plus approved/not built developments traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to Existing plus approved/not built developments conditions to determine potential project impacts.

Scenario 5: *Cumulative Conditions.* The Cumulative Conditions traffic forecasts for year 2040 were developed based on the City of Napa Citywide Travel Demand model that incorporates build-out land use assumptions from the General plans of all jurisdictions in the county.

Scenario 6: *Cumulative Plus Project Conditions.* The Cumulative Plus Proposed Project Conditions traffic forecasts for year 2040 were developed by adding project-related traffic volumes to the Cumulative Conditions volumes.

Methodology

This section describes the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from field observations, new traffic counts, previous traffic studies, the City of Napa, and the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. The following data were collected from these sources:

- Existing traffic volumes,
- Existing lane geometries,
- Signal timing and phasing, and
- Applicable trip generation rates

Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

City of Napa Intersections

This study utilizes the 2010 Highway Capacity Manual (HCM) methodology for signalized intersections, implemented with Synchro. This method evaluates intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. Table 1 presents the level of service definitions for signalized intersections. In Policy T-2.1 of Envision Napa 2020 – City of Napa General Plan, the City of Napa established a level of service standard of mid-LOS D or better for all signalized intersections on arterial and collector streets with the following exceptions, where midrange LOS E will be permitted.

- Downtown Napa within the area bounded by Soscol Avenue, First Street, California Boulevard, and Third Street
- Jefferson Street between Third Street and Old Sonoma Road
- Silverado Trail between Soscol Avenue and First Street

Table 1
Signalized Intersection Level of Service Definition Based on Average Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major-contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2010 Highway Capacity Manual* (Washington, D.C., 2010) p18-6.

Unsignalized Intersections

For the unsignalized study intersections, the level of service that is reported in this traffic study corresponds to the average control delay for all stop-controlled approaches. This method is applicable for both side street stop-controlled and all-way stop-controlled intersections The City of Napa

established a level of service standard of mid-LOS E or better for all unsignalized intersections in the City of Napa General Plan Revised Draft EIR. The delay and corresponding level of service at the unsignalized and stop-controlled intersections are presented in Table 2.

Traffic Signal Warrant

For the unsignalized intersections, the analysis of level of service was supplemented with a signal warrant check. The assessment of the need for signalization was conducted using the peak-hour signal warrants described in the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD). This analysis provides an indication of whether traffic conditions are, or would be, sufficient to justify installation of a traffic signal.

Table 2
Unsignalized Intersection Level of Service Definition Based on Average Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Little or no traffic delay	10.0 or less
B	Short Traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *2010 Highway Capacity Manual* (Washington, D.C., 2010) p20-3.

City of Napa Definition of Significant Intersection Impacts

The following guidelines are outlined by the Public Works Department Policy Guidelines – Traffic Impact Analysis for Private Developmental Review in assessing the significant impacts:

a. When a signalized intersection operates at midrange LOS 'D' (as allowed by the General Plan in most locations) or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS 'E' or 'F'. The project mitigation should bring the facility to operate at midrange LOS 'D', at a minimum.

b. When a signalized intersection operates at midrange LOS 'E' (as allowed by the General Plan in some locations and for State Highways facilities) or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS 'F'. The project mitigation should bring the facility to operate at midrange LOS 'E', at a minimum.

c. When a signalized intersection operates at LOS 'F' (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the intersection. The project mitigation should bring the facility to pre-project conditions.

d. At an unsignalized intersection when the minor stop-controlled approach operates at LOS 'E' or better or has acceptable operation in terms of total control delay, the addition of

project trips increases the total control delay to more than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach. The project mitigation should bring the facility to operate at LOS 'E' or to bring the total control delay to less than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach, at a minimum.

e. At an unsignalized intersection when the minor stop-controlled approach operates at LOS 'F' and does not have acceptable operation in terms of total control delay (total delay less than 4 vehicle hours for single lane movement or 5 vehicle hours for multilane movement), the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the minor approach. The project mitigation should bring the facility to pre-project conditions.

Report Organization

This report has a total of seven chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 presents the traffic conditions in the study area under background conditions. Chapter 4 presents project conditions including descriptions of the method used to estimate project traffic, its impact on the transportation system, and any recommended mitigation measures. Chapter 5 presents the intersection operations under cumulative conditions. Chapter 6 provides an evaluation of other transportation-related issues, such as site access, on-site circulation, vehicle queuing, parking, as well as potential project impacts on bicycle, pedestrian, and transit facilities. Chapter 7 presents the study conclusions including a summary of recommended improvements.

2. Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the project site, including the roadway network, transit service, and bicycle and pedestrian facilities. Also included are the existing levels of service of the study intersections.

Existing Roadway Network

Regional access to the project study area is provided by SR 29. This road is described below.

SR 29 is a four-lane north-south freeway in the vicinity of the site. SR 29 extends through Napa and ultimately connects to SR37 in Vallejo. Access to and from the project study area is provided via a full access interchange at Trancas Street.

Local access to the project site is provided via Silverado Trail, Trancas Street, Villa Verde Drive, Firefly Lane and Villa Lane. These roadways are described below.

Silverado Trail is a two-lane scenic route in the project vicinity. Silverado Trail extends from SR 29 through Napa and terminates at Trancas Street. Silverado Trail provides access to the project site via its intersection with Trancas Street. The speed limit on Silverado Trail is 55 mph.

Trancas Street is a four- to five-lane east-west arterial extending from SR 121 in the east to SR 29 in the west. Trancas Street provides access to the project site via Valle Verde Drive. The posted speed limit on Trancas Street is 30 mph.

Valle Verde Drive is a two-lane north-south local street extending from the project site in the north to Trancas Street in the south. Valle Verde Drive provides direct access to the project site. The speed limit on this local street is 25 mph.

Villa Lane is a two-lane north-south local street extending from Villa Court in the north to Pear Tree Lane in the south. Villa Lane provides access to the project site via Firefly Lane. The posted speed limit on Villa Lane is 25 mph.

Firefly Lane is a two-lane east-west local street extending from Wild Rye Way in the east to Valle Verde Drive in the west. Firefly Lane provides direct access to the project site. The speed limit on this local street is 25 mph.

Existing Bicycle and Pedestrian Facilities

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths (Class I facilities) are pathways, separate from roadways that are designated for use by bicycles. Often, these pathways also allow pedestrian access. Bike lanes (Class II facilities) are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes (Class III) are existing rights-of-way that accommodate bicycles but are not separate from the existing travel lanes. Routes are typically designated only with signs.

There are bike/pedestrian paths that extend from the end of Valle Verde Drive to the adjacent neighborhoods to the north. There are bike lanes and bike routes on a few of the streets in the area. Although most nearby streets do not have bike facilities, they are low speed, low volume streets that are conducive to bicycling.

Sidewalks are present on all roadway segments within the vicinity of the project site. There are no crosswalks present at the unsignalized intersections on Valle Verde Drive and Firefly Lane. All intersections along Trancas Street within the project vicinity have crosswalks on at least one leg on each side except at Montclair Avenue. All signalized intersections within the project vicinity have actuated pedestrian push buttons and signal heads.

Existing Transit Service

The site is within walking distance of two bus lines. Existing transit service to the study area is provided by the VINE Transit. These services are shown on Figure 4.

Table 3
Existing Transit Service

Bus Route	Description	Operating Hours	Peak Hour Headway	Closest Bus Stop	Walk Distance to Project Site
Regional Route 10	Between Castiloga and Napa Valley College	5:00 AM to 11:15 PM	22 to 56 min.	Trancas Street/Valle Verde Drive	1,500 feet
Regional Route 11	Between Trancas Park and Ride Lot (located on the corner of Redwood Road and Trancas Street) in the City of Napa to the Vallejo Ferry Terminal	4:00 AM to 10:00 PM	29 to 76 min.	Trancas Street/Valle Verde Drive	1,500 feet

Apart from Vine Transit for regular commuters, the Napa County Transportation and Planning Agency provides Vine Go and TAXI SCRIP for seniors and/or persons with disabilities.

VINE GO

VINE Go is an origin to destination, shared ride service that provides demand responsive, origin to destination transportation for persons with disabilities in the cities of Calistoga, St. Helena, Napa, American Canyon, the Town of Yountville, and the unincorporated areas of Napa County. VINE Go is the ADA complementary paratransit service to the fixed route services.

TAXI SCRIP

NVTA (Napa County Transportation and Planning Agency) uses public transit tax dollars to subsidize taxi rides for seniors and/or persons with disabilities. While not intended as a primary means of transportation, this program was created to provide a lifeline service to supplement the regular VINE

bus system for seniors and/or persons with disabilities that have evening trips after the bus goes out of service, or on a day when the rider may not feel well enough to take the bus. Under the program, eligible City of Napa residents may take a cab ride anywhere in the City of Napa and NVTA will pay up to 50% of the cost of the cab ride. The person should be 65 years or older or ADA certified or disabled of any age to qualify for this program.

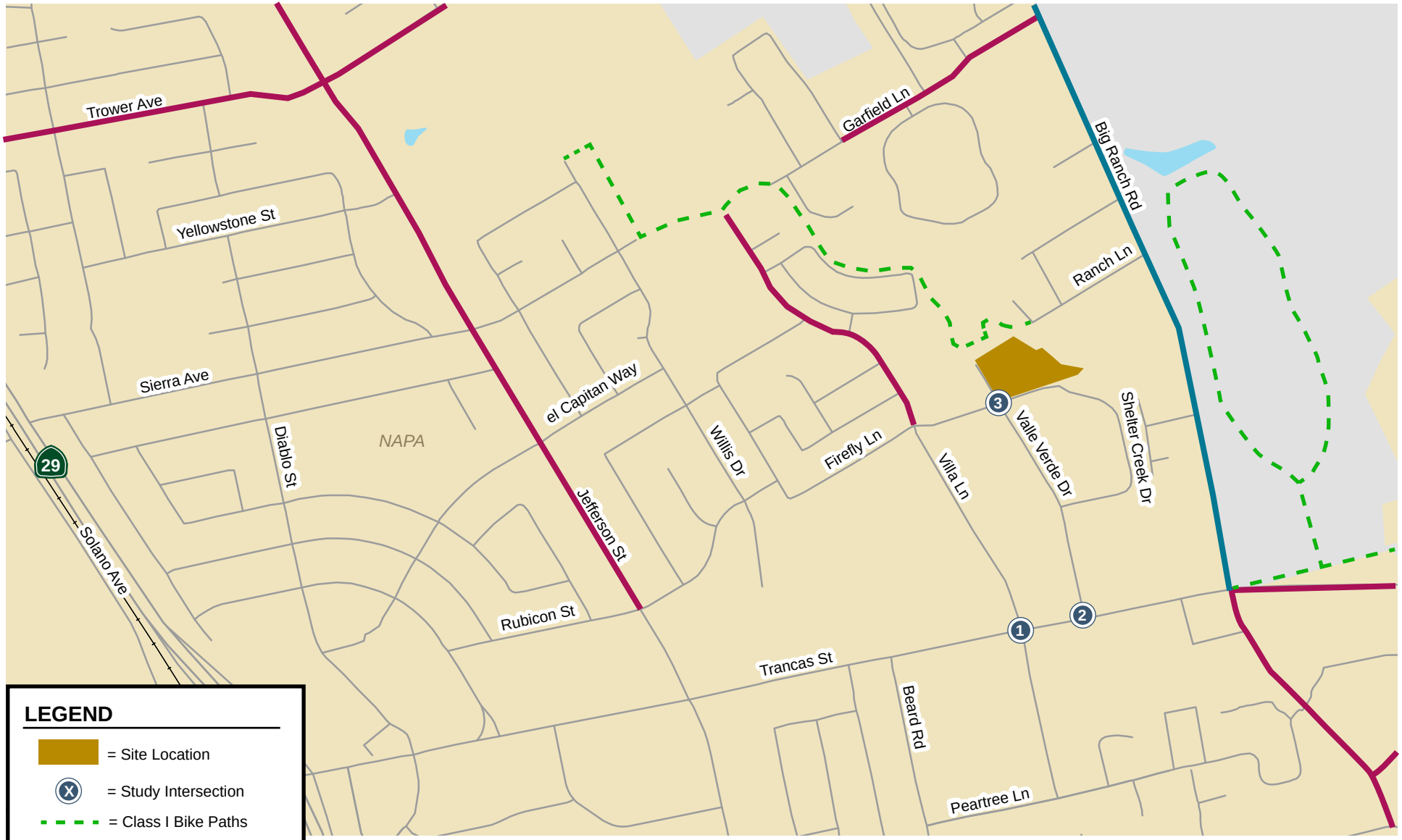

Figure 3
Existing Bicycle Facilities

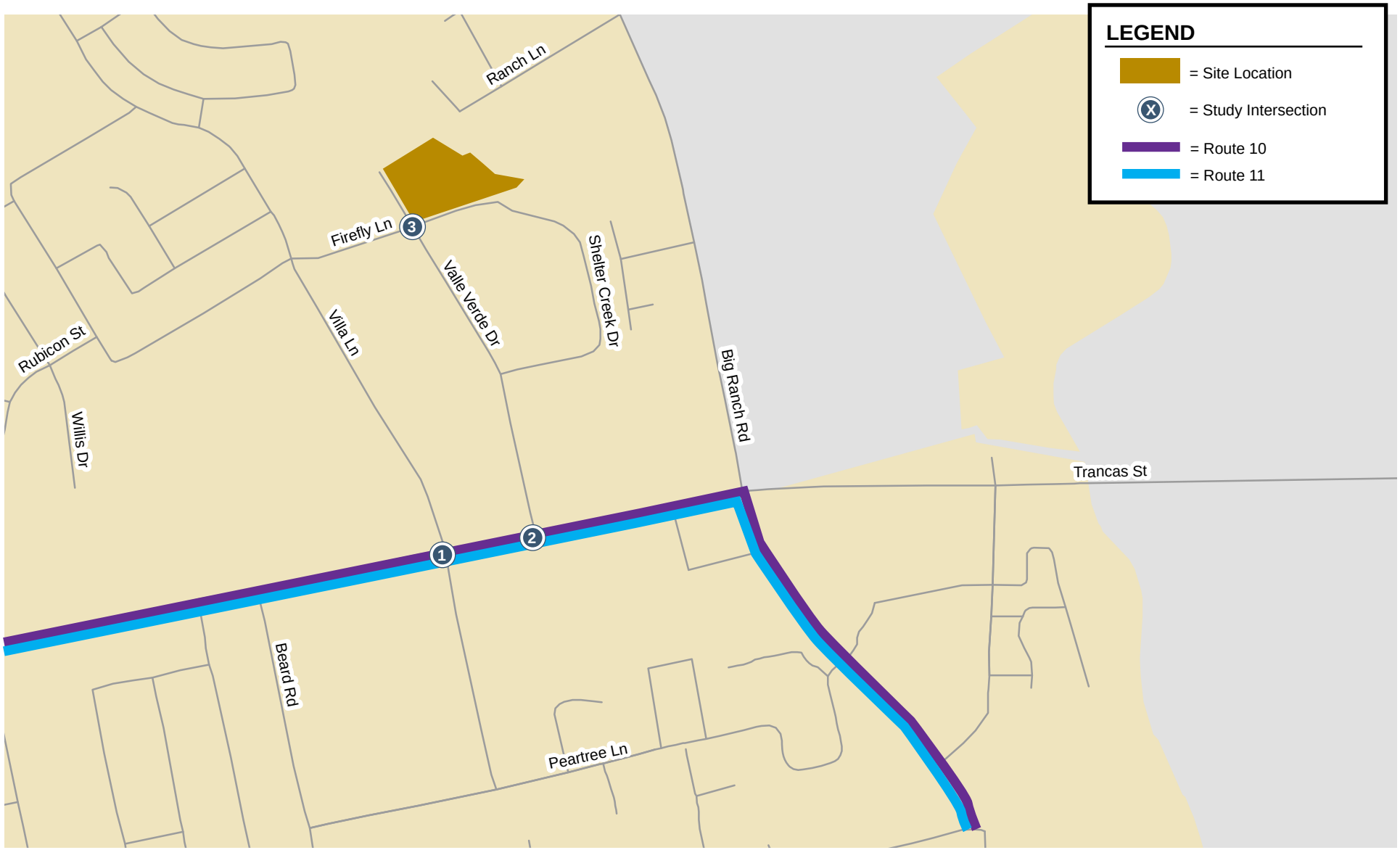

Figure 4
Existing Transit Services

NORTH
Not to Scale

Existing Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were obtained from field observations (see Figure 5).

Existing traffic volumes were obtained from new manual peak-hour turning-movement counts conducted in May 2018 (see Figure 6), while schools were in session. The traffic count data (including pedestrian and bicycle count data) are included in Appendix A.

Traffic volumes on three roadway segments were obtained from tube counts conducted in November 2018. Volume, speed, and vehicle classification counts were conducted on the following roadway segments:

- Trancas Street, between Villa Lane and Valle Verde Drive
- Villa Lane, between Trancas Street and Firefly Lane
- Valle Verde Drive, between Trancas Street and Shelter Creek Drive

It was found that the average weekday (Mon-Thurs) volume for these street segments are 18,750 on Trancas Street, 5,300 on Villa Lane, and 1,900 on Valle Verde Drive. The weekend (Fri-Sun) volume is slightly lower. The 85th percentile speed on Trancas Street, Villa Lane and Valle Verde Drive were approximately 33 mph, 27.5 mph, and 23.5 mph, respectively. The 85th percentile speeds on Trancas Street and Villa Lane were slightly over the posted speed limits of 30 mph and 25 mph. The observed speeds are not high enough over the speed limit to be a concern. The tube counts are included in Appendix G.

Existing Intersection Levels of Service

The intersection level of service analysis results show that all study intersections currently operate at acceptable levels of service during both AM and PM peak hours (see Table 4). A signal warrant analysis was conducted to determine if these intersections would require a traffic signal based on the peak-hour volume warrant. The analysis showed that, based on the peak-hour signal warrants, the unsignalized intersections do not require a traffic signal.The signal warrant analysis is included in Appendix D. The intersection level of service calculation sheets are included in Appendix C.

Table 4
Existing Intersection Level of Service Summary

Number	Study Intersection	Peak Hour	Control Type[1]	Count Date	Avg. Delay (sec)	LOS
1	Villa Lane & Trancas Street	AM	Signal	05/22/18	20.2	C
		PM		05/22/18	21.1	C
2	Valle Verde Drive & Trancas Street	AM	TWSC	05/22/18	22.9	C
		PM		05/22/18	21.5	C
3	Valle Verde Drive & Firefly Lane	AM	TWSC	05/22/18	9.3	A
		PM		05/22/18	9.7	A

Notes:

[1] Intersection control type definitions: TWSC = Two-way-stop-control

[2] For TWSC, the average Delay and LOS is reported for the worst movement.

Observed Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated intersection levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect intersection operation in the field.

Overall the study intersections operated adequately during both the AM and PM peak hours of traffic, and the level of service analysis appears to accurately reflect actual existing traffic conditions. There were no operational issues observed at the study intersections during field observations.

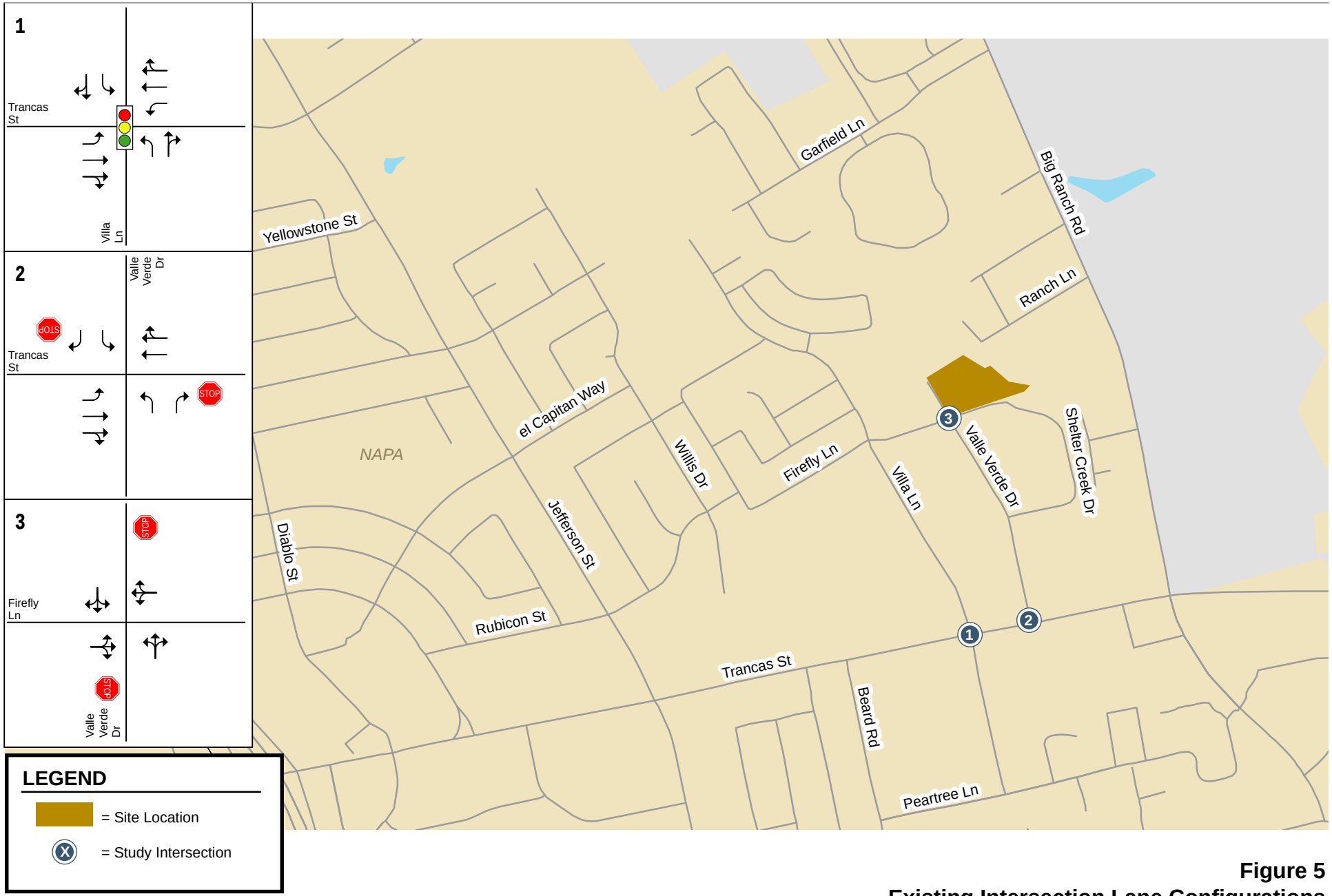

Figure 5
Existing Intersection Lane Configurations

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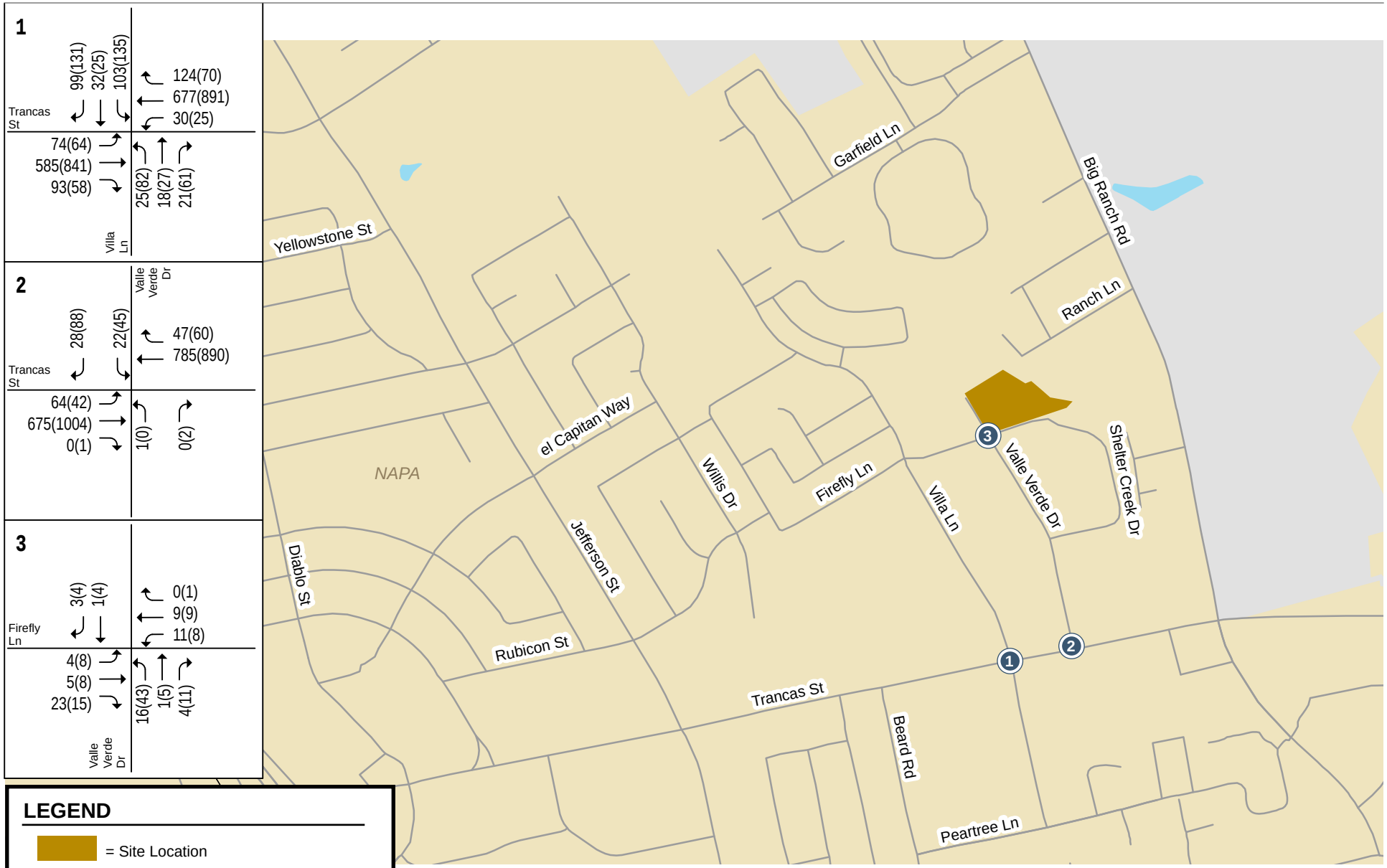


LEGEND

- = Site Location
- X = Study Intersection
- XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 6
Existing Traffic Volumes

HEXAGON

NORTH
Not to Scale

3. Background Conditions

This chapter describes background traffic conditions without the project. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions. The background scenario predicts a realistic baseline traffic condition that would occur as approved development gets built and occupied.

Transportation Network under Background Conditions

It is assumed in this analysis that the transportation network under background conditions, including roadways and intersection lane configurations, would be the same as that described under existing conditions at all study intersections.

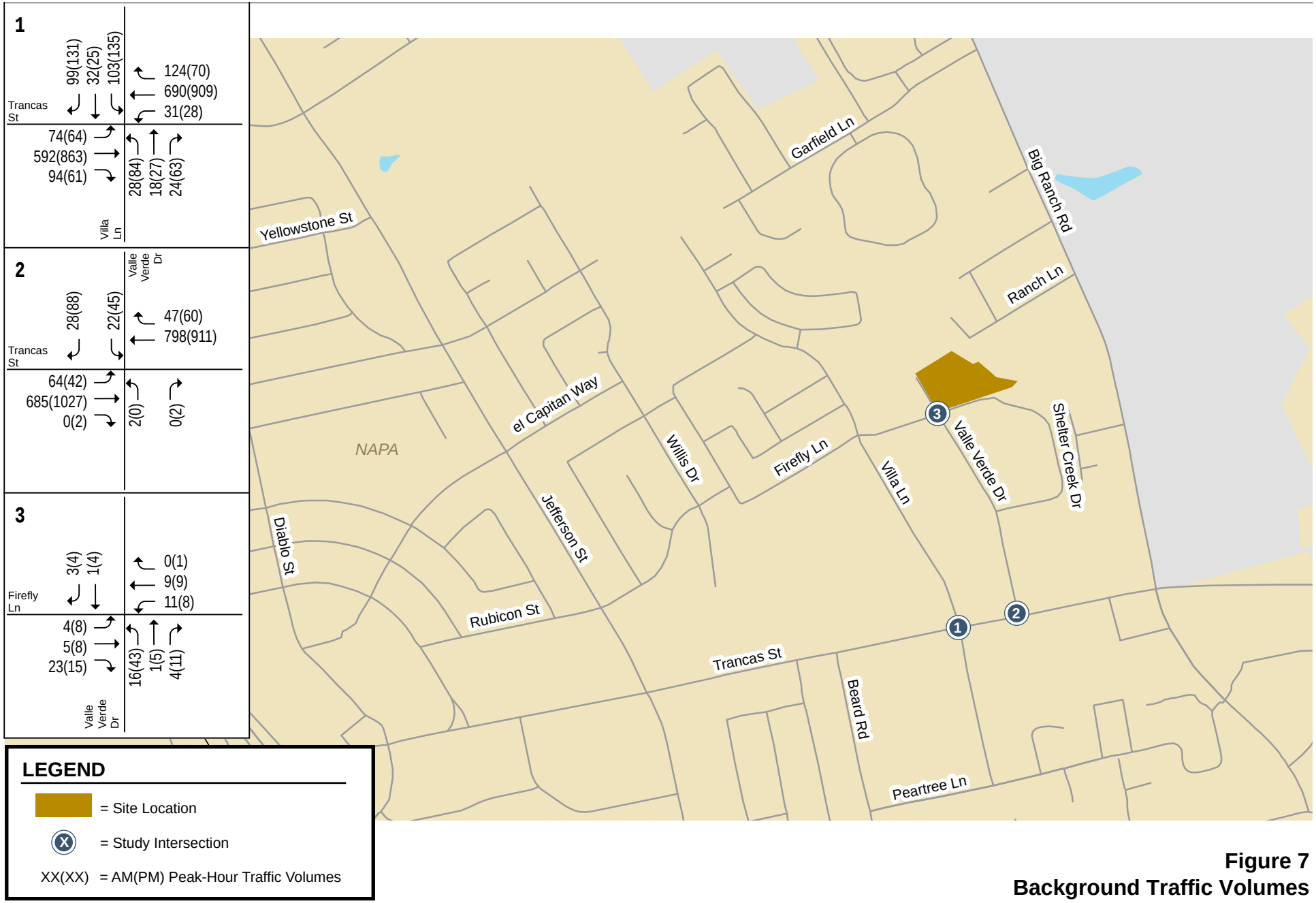
Background Traffic Volumes

Background conditions traffic volumes were estimated by adding to the existing traffic volumes the traffic estimated to be generated by the approved but not yet constructed projects within the City of Napa. A list of approved projects was provided by City of Napa staff. Based on a review of traffic studies prepared for these projects, the types and sizes of these developments, and their distance from the project site, the approved developments listed in Appendix E are expected to add traffic to at least one of the study intersections during at least one of the peak hour periods.

Trip generation estimates for the approved projects were based on traffic impact studies conducted for each of the projects, if available. For projects that did not require a traffic study (due to their small size), trips were estimated based on ITE trip rates. The estimated trips from the approved projects were distributed and assigned to the project study area roadways based on the trip distribution assumptions present in the traffic studies, if available, or knowledge of the study area.

Trips generated by the approved projects were added to existing traffic volumes to estimate background traffic volumes. The AM and PM peak-hour intersection traffic volumes under background conditions are shown on Figure 7. The trips assigned to the study intersections are tabulated in Appendix B.

3700 - 3720 Valle Verde Drive



LEGEND

= Site Location

X = Study Intersection

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 7
Background Traffic Volumes

HEXAGON

NORTH
Not to Scale

Background Intersection Levels of Service

The intersection level of service analysis results show that all study intersections would continue to operate at acceptable levels of service under Background conditions (see Table 5). The analysis also shows that, based on the peak-hour signal warrants, the unsignalized intersections do not require a traffic signal. The signal warrant analysis is included in Appendix D. The intersection level of service calculation sheets are included in Appendix C.

Table 5
Background Intersection Level of Service Summary

Number	Study Intersection	Peak Hour	Existing Avg. Delay (sec)[1]	Existing LOS	Background Avg. Delay (sec)[1]	Background LOS
1	Villa Lane & Trancas Street	AM	20.2	C	20.2	C
		PM	21.1	C	21.4	C
2	Valle Verde Drive & Trancas Street	AM	22.9	C	23.5	C
		PM	21.5	C	22.2	C
3	Valle Verde Drive & Firefly Lane	AM	9.3	A	9.3	A
		PM	9.7	A	9.7	A

Notes:
[1] For TWSC, the average Delay and LOS is reported for the worst movement.

4. Project Conditions

This chapter describes project traffic conditions. First is a description of the transportation system under project conditions. Project traffic estimates are then described. Included in this chapter is a summary of project traffic conditions, as well as any impacts caused by the project.

Transportation Network under Project Conditions

It is assumed in this analysis that the transportation network under project conditions, including roadways and intersection lane configurations, would be the same as that described under existing and background conditions at all study intersections.

Project Description

The project site currently consists of the vacant Sunrise Assisted Living building with 74 bedrooms. The proposed project would modify the interior of that building to provide 66 SRO units for low-income individuals. Also, the project proposes to develop a new 24-unit apartment building and parking lot with 85 parking spaces. Access to the project would be provided via Valle Verde Drive.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that correlate trip making to building size for various land use types. For many types of land use there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. The standard trip generation rates are published in the Institute of Transportation Engineers (ITE) manual entitled *Trip Generation*, *10th Edition*.
The ITE land use type that is applicable to the proposed project is Mid-Rise Multifamily Housing (ITE Land Use Code 221) and Congregate Care Facility (253). SRO units with centralized kitchen and dining

facilities are typically proposed by the City and County to address the needs of homeless and vulnerable populations, which includes seniors, those with disabilities, veterans, and at-risk families and individuals. There is no separate ITE category for SRO units. Based on previous traffic study experiences, SRO residents don't own very many cars. Thus, a good, representative ITE category is "Congregate Care Facility" which includes an independent living development that provides centralized amenities such as dining, housekeeping, transportation, and organized social/recreational activities. Since the existing project site is currently vacant, trips associated with the existing uses on the project site were not credited against the project trip generation. Table 6 shows that the project would generate 14 AM and 23 PM peak-hour trips.

Table 6
Trip Generation Summary

	ITE		Daily		AM Peak Hour				PM Peak Hour			
Land Use	**Code**	**Size**	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Proposed Land Use												
Congregate Care Facility	253	66 d.u.	2.02	133	0.07	3	2	5	0.18	6	6	12
Multifamily Housing (Mid-Rise)	221	24 d.u.	5.44	131	0.36	3	6	9	0.44	7	4	11
Net New Vehicle Trips				**264**		**6**	**8**	**14**		**13**	**10**	**23**

Notes:
d.u. = Dwelling Unit
All rates are from Institute of Transportation Engineers, *Trip Generation Manual, 10th Edition, 2017*. Average rates are used.

Trip Distribution and Assignment

The trip distribution pattern for the proposed project was estimated based on existing travel patterns of the surrounding roadway system and the locations of complementary land uses (See Figure 8).

The project trips were assigned to the roadway network based on the directions of approach and departure, the roadway network connections, and the location of the project driveway (Figure 8).

3700 - 3720 Valle Verde Drive

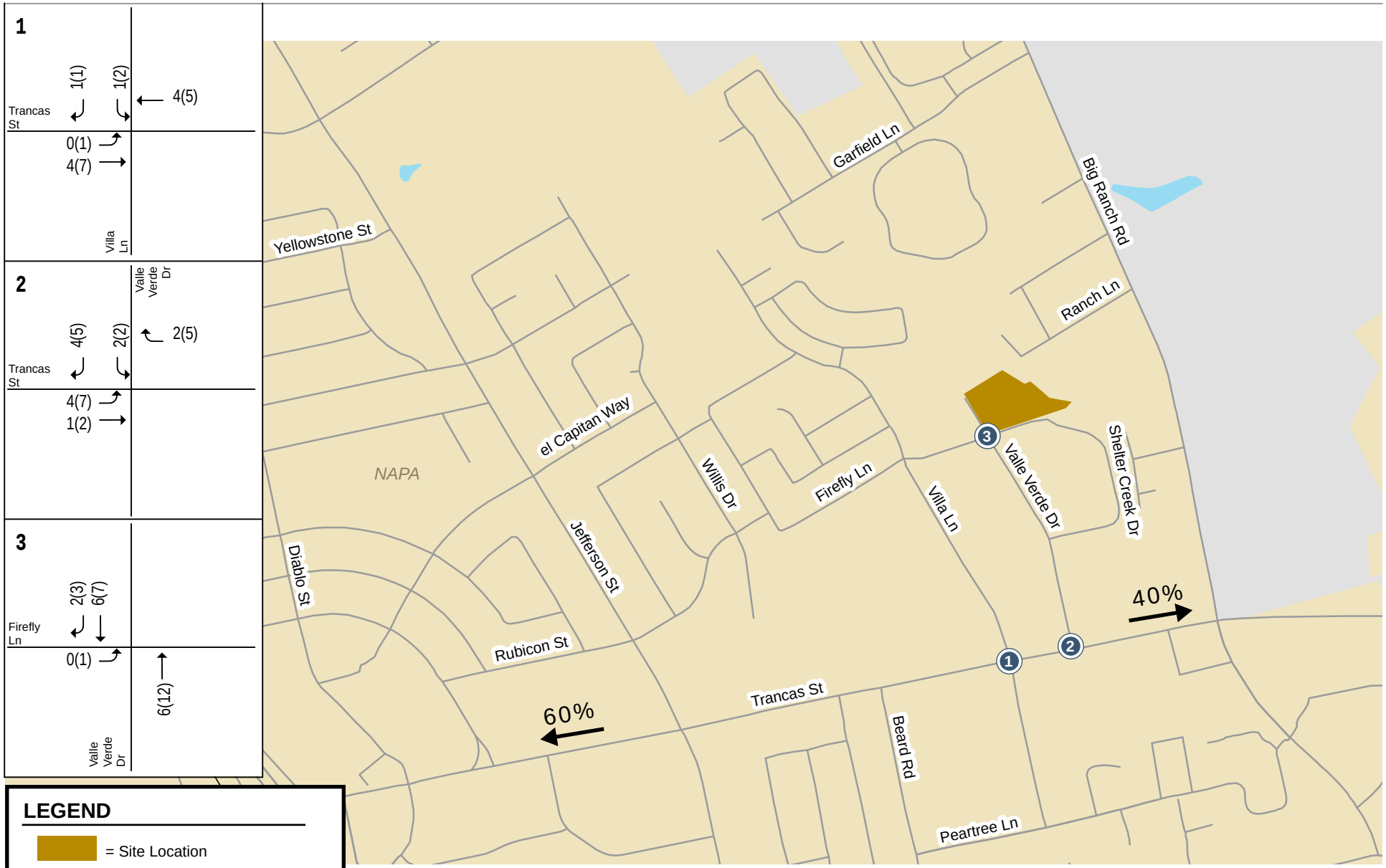


Figure 8
Project Trip Distribution and Assignment

HEXAGON

Intersection Traffic Volumes

Project impacts were evaluated relative to existing and background traffic volumes. The net new trips generated by the project were added to the existing and background traffic volumes to derive the existing plus project and background plus project traffic volumes respectively (see Figure 9 and 10).

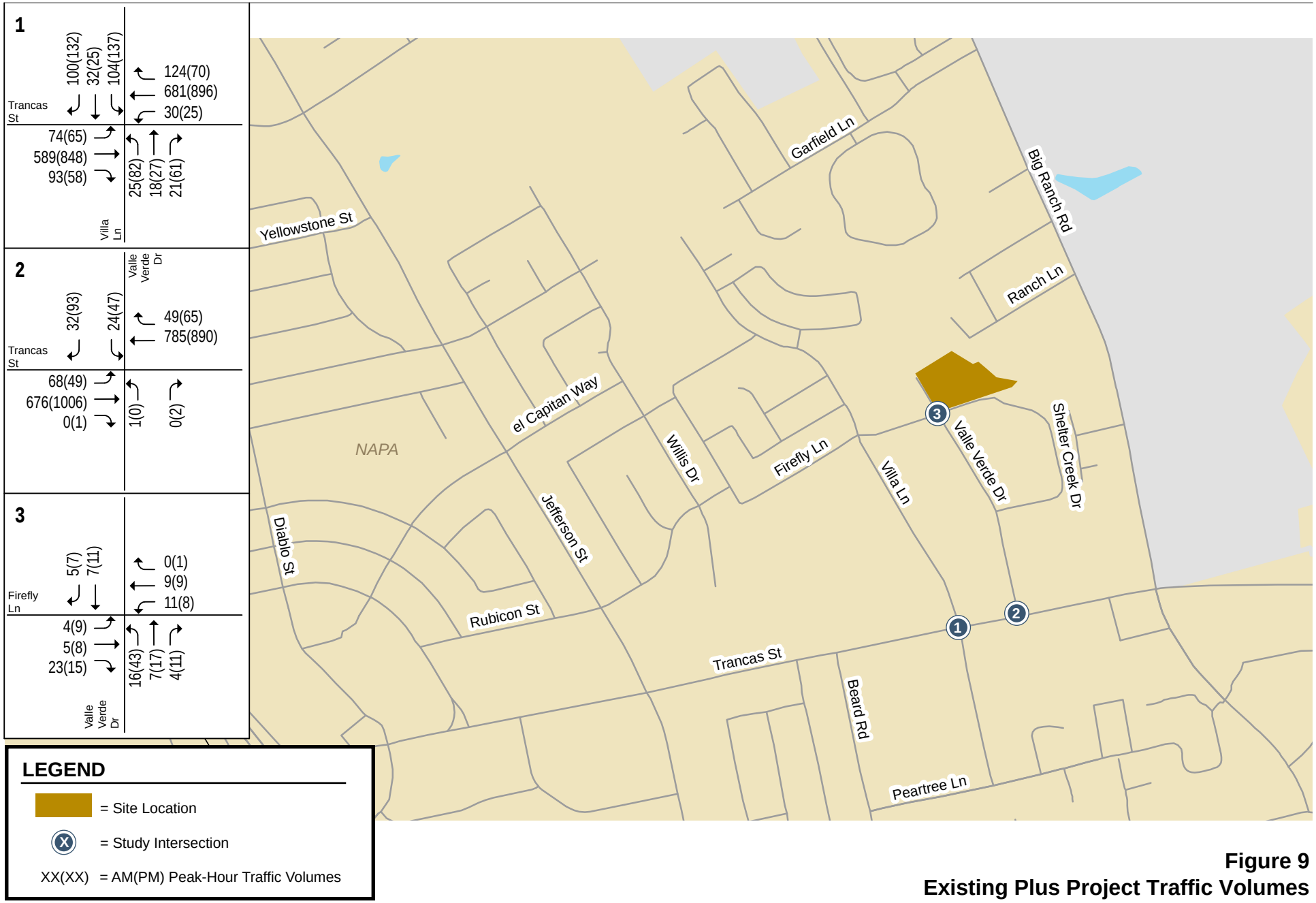
Project Conditions Intersection Levels of Service

The results of the intersection LOS analysis under existing plus project and background plus project conditions show that all the study intersections would operate at an acceptable level during both the AM and PM peak hours of traffic when measured against the applicable municipal level of service standards (see Table 7). A signal warrant analysis was conducted to determine if these intersections would require a traffic signal based on the peak-hour volume warrant. The analysis showed that, based on the peak-hour signal warrants, the unsignalized intersections do not require a traffic signal. The signal warrant analysis is included in Appendix D. The volume summary table is included in Appendix B. LOS calculation sheets of each study intersection are included in Appendix C.

Table 7
Project Level of Service Summary

			Existing		Existing Plus Project		Background		Background Plus Project	
Number	Study Intersection	Peak Hour	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS
1	Villa Lane & Trancas Street	AM	20.2	C	20.2	C	20.2	C	20.2	C
		PM	21.1	C	21.2	C	21.4	C	21.5	C
2	Valle Verde Drive & Trancas Street	AM	22.9	C	23.3	C	23.5	C	23.8	C
		PM	21.5	C	22.1	C	22.2	C	22.8	C
3	Valle Verde Drive & Firefly Lane	AM	9.3	A	9.4	A	9.3	A	9.4	A
		PM	9.7	A	9.9	A	9.7	A	9.9	A

Notes:
[1] For TWSC, the average Delay and LOS is reported for the worst movement.



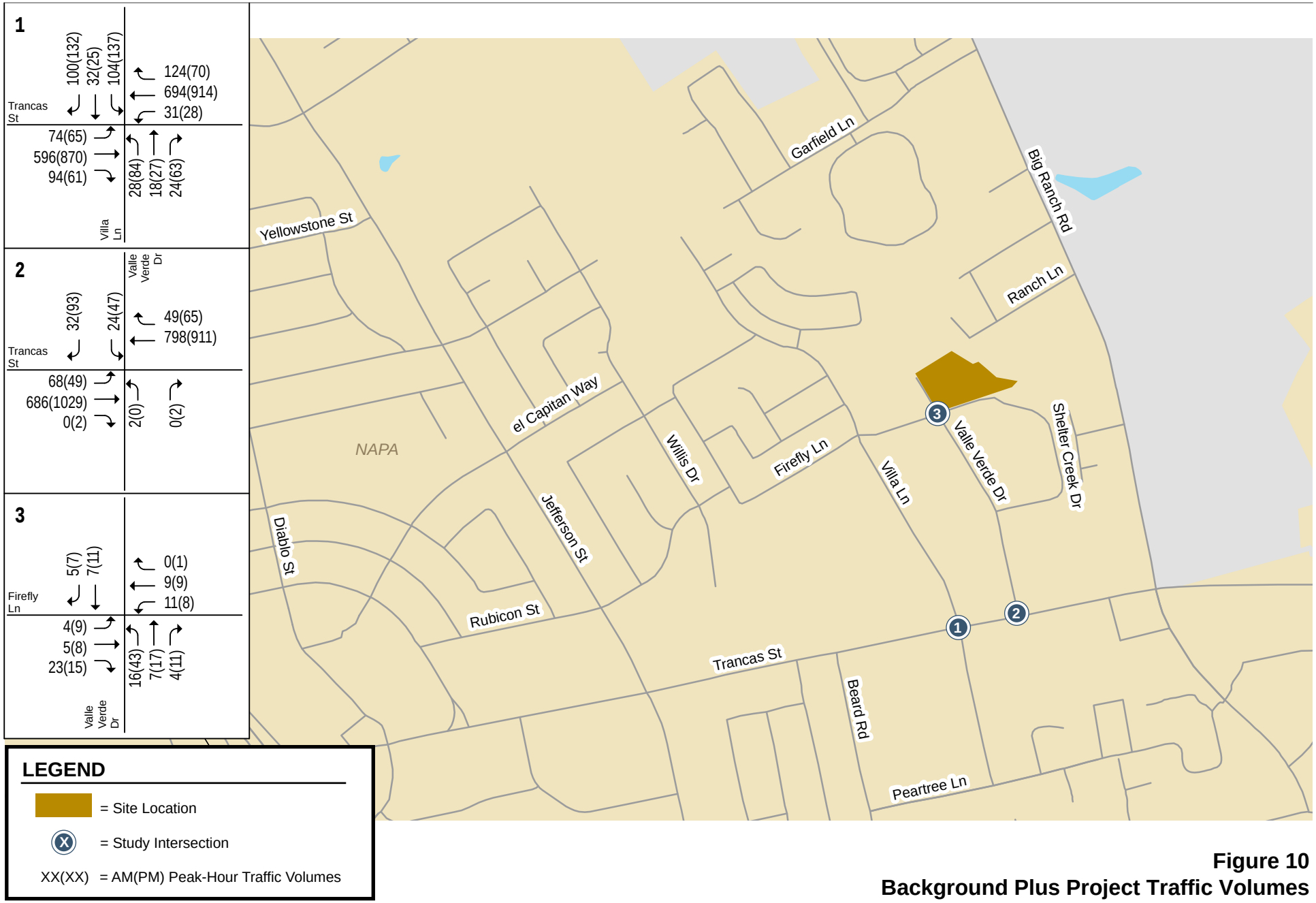
LEGEND

- = Site Location
- X = Study Intersection
- XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 9
Existing Plus Project Traffic Volumes

HEXAGON

NORTH
Not to Scale



LEGEND

- = Site Location
- X = Study Intersection
- XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 10
Background Plus Project Traffic Volumes

HEXAGON

NORTH
Not to Scale

5. Cumulative Conditions

This chapter describes the roadway traffic operations under cumulative conditions and cumulative plus project conditions. Cumulative conditions represent future traffic conditions with expected growth in the area. The 2040 AM and PM peak hour traffic volumes at the signalized study intersection were obtained from the City of Napa Citywide Travel Demand Model for the year 2040.

Transportation Network under Background Conditions

It is assumed in this analysis that the transportation network under cumulative conditions, including roadways and intersection lane configurations, would be the same as that described under existing conditions at all study intersections.

Intersection Traffic Volumes

Cumulative 2040 traffic conditions were evaluated for the AM and PM peak hours. The 2040 AM and PM peak hour traffic volumes at the study intersection were obtained from the City of Napa Citywide Travel Demand Model for the year 2040. Segment volumes for the horizon year of 2040 were obtained from the model and translated to turning movement volumes at the study intersection using the "Furness" method. The Furness method is an iterative process that employs existing turn movement data, existing link volumes, and future link volumes to project likely future turning movement volumes at intersections. The cumulative traffic volumes at study intersections are shown in Figure 12.

Cumulative plus project peak-hour traffic volumes were estimated by adding to cumulative traffic volumes the additional traffic generated by the project. The cumulative plus project traffic volumes at study intersections are shown in Figure 13. The volume summary table is included in Appendix B.

Intersection Levels of Service Under 2040 Cumulative Conditions

The results of the intersection LOS analysis under cumulative and cumulative plus project conditions show that all the study intersections would operate at an acceptable level during both the AM and PM peak hours (see Table 8). A signal warrant analysis was conducted to determine if these intersections would require a traffic signal based on the peak-hour volume warrant. The analysis showed that, based on the peak-hour signal warrants, the unsignalized intersections do not require a traffic signal. The signal warrant analysis is included in Appendix D. LOS calculation sheets of each study intersection are included in Appendix C.

Table 8
Cumulative Conditions Intersection Level of Service Summary

Number	Intersection	Hour	Cumulative		Cumulative Plus Project	
			Avg. Delay (Sec)[1]	LOS	Avg. Delay (Sec)[1]	LOS
1	Villa Lane & Trancas Street	AM	20.3	C	20.3	C
		PM	21.7	C	21.8	C
2	Valle Verde Drive & Trancas Street	AM	22.9	C	23.3	C
		PM	25.5	D	26.3	D
3	Valle Verde Drive & Firefly Lane	AM	9.4	A	9.5	A
		PM	10.0	A	10.1	B

Notes:
[1] For TWSC, the average Delay and LOS is reported for the worst movement.

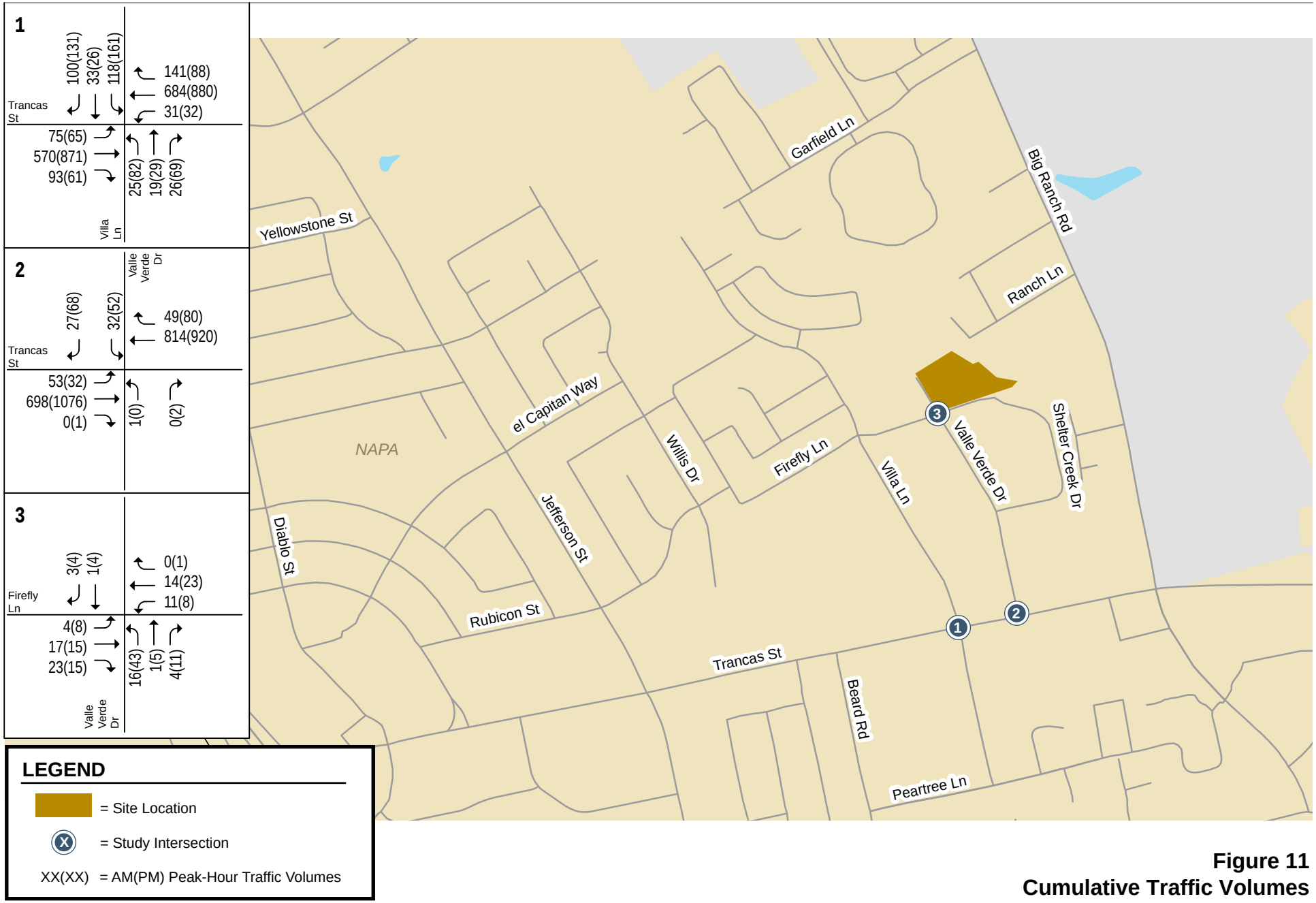
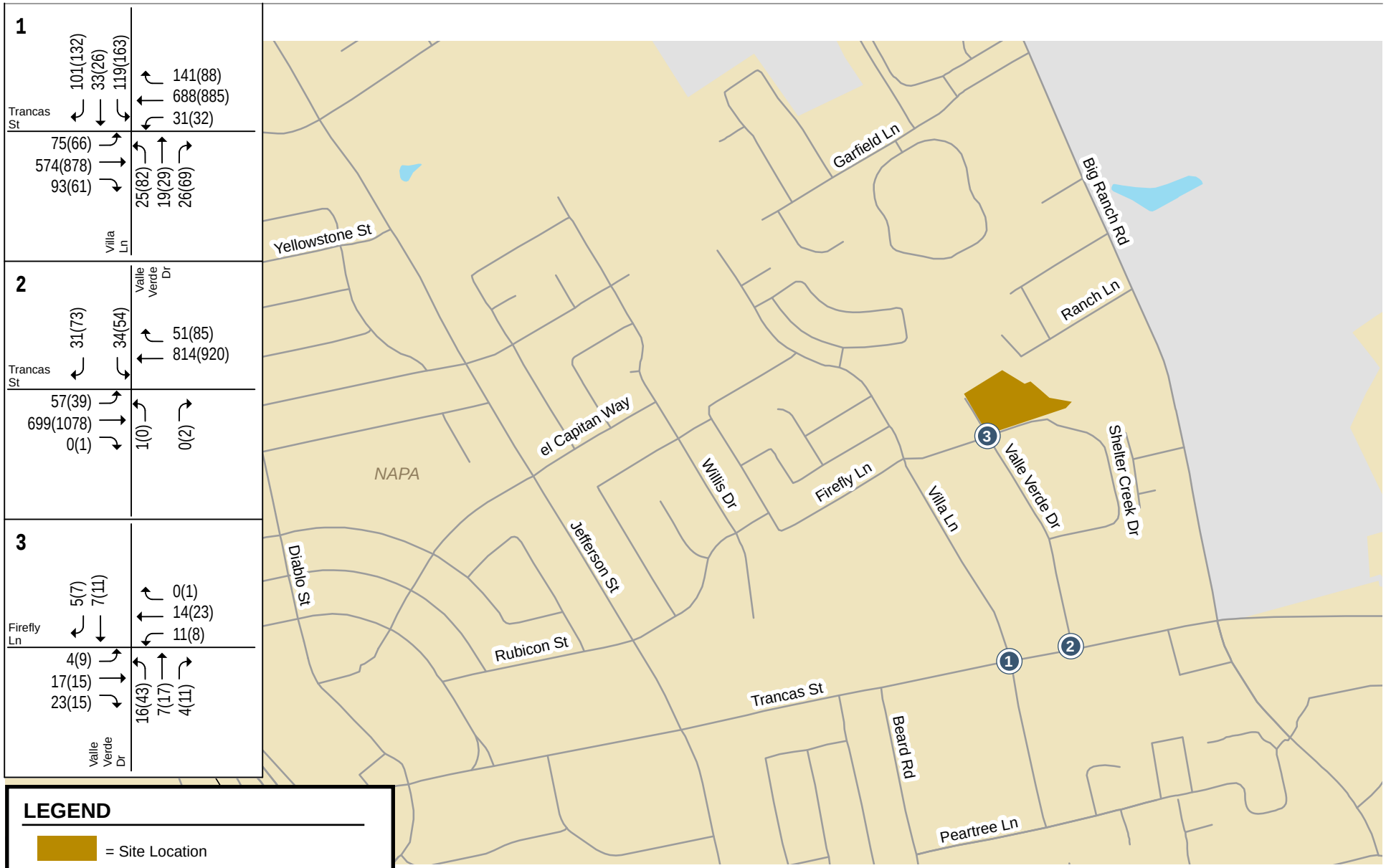


Figure 11
Cumulative Traffic Volumes

HEXAGON



LEGEND

= Site Location

X = Study Intersection

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 12
Cumulative Plus Project Traffic Volumes

HEXAGON

NORTH
Not to Scale

6. Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project site, including:

- Potential impacts to transit, pedestrian and bicycle facilities,
- Site access, on-site circulation, and
- Parking.

Unlike the level of service impact methodology, which is specified in the City of Napa Traffic Level of Service policy, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the project environment.

Project Impact on Bicycles, Pedestrians and Transit Facilities

The project would generate pedestrian traffic between the project site and the Trancas Street transit stop, among other destinations. Pedestrian sidewalks and crosswalks are present on every block forming a continuous pedestrian connection from the project site to the transit stop.

There is an existing Class I bike/pedestrian path along Salvador Creek. Nearby bicycle facilities within the project vicinity include Class II bike lane on Villa Lane between Austin Miller Memorial Bike Path and Firefly lane and Trancas Street between Big Ranch Road and Silverado Trail. As per the Napa County Bicycle Plan, Villa Lane and Trancas Street are identified as having future Class II bike lanes, and Valle Verde Drive is identified as future Class III bicycle route. The project proposes to build an 8-foot wide bike path adjacent to its parking lot. The path would replace the current Val Verde Drive connection to nearby trails so that cyclists would not have to ride through the project's parking lot. These additions will improve bicycle connectivity. The project proposes bicycle racks at three locations providing 20 bicycle parking spaces for residents, guests and employees. Spaces are shown located at the Heritage House patio area and near the building entrances for both the buildings. Access to the bike racks at the Heritage House patio area would be provided for residents only.

There is transit service on Trancas Street. It is not expected that the proposed project would generate a significant amount of transit ridership or create a significant impact to intersection levels of service

along transit routes. Therefore, the project would not significantly impact transit facilities and transit travel times. VINE GO and Taxi Scrip are the two additional services provided by the City of Napa for seniors and/or persons with disabilities.

Site Access and Circulation

This section describes the site access and circulation of the proposed project. This review is based on the project site plan prepared by MWA Architects, dated August 10, 2018.

Site Access

Site access was evaluated to determine the adequacy of site driveway with regard to corner sight distance and traffic volume. The project proposes to have one private driveway aisle on Valle Verde Drive and two driveways from the private aisle, which would provide full access to the project site. The driveways would lead to surface parking lots for both the buildings. As per City of Napa standards, the minimum driveway width should be 20 feet for a two-way driveway. The proposed driveway on Valle Verde Drive is 20 feet wide, and the two driveways off of the private aisle are 25 feet, which meet the City standards.

The project driveway should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. Any landscaping and signage should be located in such a way as to ensure an unobstructed view for drivers entering and exiting the site. Adequate corner sight distance (sight distance triangles) should be provided at all site access points in accordance with the City's standards. Sight distance triangles should be measured approximately 15 feet back from the traveled way. Sight distance requirements vary depending on the roadway speeds. The speed limit on Firefly Lane and Valle Verde Drive near the project vicinity is 25 mph. The Caltrans recommended stopping sight distance is 150 feet. Eastbound Firefly Lane traffic is controlled by a stop sign, and the necessary sight distance is available for vehicles exiting the project driveway to see westbound vehicles.

The private driveway aisle is projected to serve a maximum of 14 vehicles during the AM peak hour, which is one vehicle every four minutes. During the PM peak hour, the driveway is projected to serve a maximum of 23 vehicles, which is one vehicle every three minutes. Therefore, the driveway is not expected to create any operational issues. Due to the low volume on Valle Verde Drive and Firefly Lane during the AM and PM peak hours, the vehicles entering the project site are not expected to block through traffic. The vehicles exiting the site would not experience excessive delay and easily would be able to find sufficient gaps.

On-Site Circulation

The drive-aisles are shown to be at least 25 feet wide, which complies with the minimum requirements established by the City of Napa Parking Standards for 90-degree parking. 12 parking spaces provided behind the Heritage House building would be accessed via a one-way drive-aisle of 14 feet width, which also meets the City of Napa Parking Standards. All standard parking stalls within the parking lot should be 19 feet in length and 9 feet in width, and compact parking stalls should be minimum of 16 feet in length and 8 feet and 6 inches in width to meet the City's requirements. There are building entrances to stairwells and bicycle racks shown along the project entrance. This will provide easy access for pedestrians and bicyclists.

Loading and Truck Access and Circulation

The site plan shows a new trash enclosure near the Heritage House building. The trash bin can be accessed by trucks from the drive aisle surrounding the building, which is large enough to

accommodate trucks. rash bins from the trash room would be rolled to the dedicated trash staging area in the private drive aisle on the collection days. Garbage trucks would collect trash from the private drive aisle and turn back by entering into the project driveway and backing into the City property by making three-point turn. As per the City of Napa municipal code, residential developments are not required to provide separate on-site loading areas.

Parking

For residential developments with 4-49 dwelling units, the Napa Zoning Ordinance requires parking to be provided at the rate of a minimum of 1.4 parking spaces per studio or one-bedroom unit, 1.6 parking spaces per two-bedroom unit, 1.80 parking spaces per three-bedroom unit, and one guest parking space per four units. The project proposes 12 one-bedroom units, 6 two-bedroom units and 6 three-bedroom units in the Valle Verde apartment building. Thus, the project is required to provide 44 parking spaces. As per the code, the Heritage House single room occupancy group residential development, which serves long-term low-income households, requires parking to be provided at the rate of 0.5 parking spaces per unit. The proposed Heritage House project proposes 66 single room occupancy units. Thus, the project is required by code to provide 33 parking spaces for Heritage House. Overall the project is required to provide 77 parking spaces for both Heritage House and Valle Verde. The project site plan shows 85 parking spaces, which exceeds the City code. As per the City of Napa Municipal Code, up to 30% of required residential parking facilities may be designed as compact spaces. The project proposes to provide 13 compact spaces for Heritage House and 7 compact spaces for Valle Verde, which meets the City requirements. As per the California Building Code (CBC), at least two percent of Multi-Unit Residential parking spaces should be accessible parking (ADA). The project proposes to provide 4 ADA parking spaces, which meets CBC requirements.

Based on the Zoning Ordinance, there are no bicycle parking requirements for residential developments. The project proposes bicycle racks at three locations providing 20 bicycle parking spaces for residents, guests, and employees at the Heritage House patio area and near the building entrances for both the buildings. Access to the bike racks at the Heritage House patio area would be provided for residents only.

Parking Occupancy Counts

The existing stub end of Valle Verde Drive allows on-street parking. It is believed that residents of the apartment complex located across the street use Valle Verde Drive for overflow parking and also that people park along Valle Verde Drive to access the adjacent trail. Hexagon collected parking occupancy counts on Valle Verde Drive north of Firefly Lane for 24 hours on Wednesday, May 23rd, 2018 and Sunday, May 27th, 2018 to quantify the existing parking usage patterns. The number of parked vehicles was counted every 30 minutes for 24 hours (see Appendix E). On weekdays, the peak parking occurred during night time (between 12:00 AM and 6:00 AM). Peak parking on Sunday occurred during the morning (at 9:00 AM) and the evening. The weekday parking demand peaked with 18 spaces occupied out of a total of 20 on-street spaces. On Sunday, all 20 spaces were occupied during peak times. The on-street parking spaces would be removed with the project. Vehicles that currently park on the stub end of Valle Verde Drive would probably need to park on Valle Verde Drive south of Firefly Lane. Parking also is allowed on Firefly Lane. However, that parking is more heavily used and probably would not be available during peak times.

Vehicle Miles Traveled

Senate Bill 743 (SB 743) was signed in 2013 and requires that for land use projects, vehicle miles traveled (VMT) per capita, employee, or net VMT are to be used as metrics for transportation analysis.

The CEQA guidelines update implementing SB 743 will apply statewide in July 2020. SB 743 will require lead agencies to implement its guidelines, requiring them to select a VMT methodology, choose significance thresholds, and determine feasible mitigation measures. VMT should be reduced to minimize the transportation impact a development has on a community. The goal of SB 743 is to encourage development that reduces VMT.

In accordance with SB 743, daily vehicle miles traveled for projects in Napa versus the average for the San Francisco Bay Area were determined based on the Metropolitan Transportation Commission (MTC) travel demand forecast model (accessed on February 14, 2019). Daily vehicle miles traveled were analyzed for residents. Given that no standard approach or guidelines have been finalized under SB 743, the VMT presented in this report is for informational purposes only. It is not intended to provide any indication of the transportation impacts of the proposed development under SB 743. The average daily VMT per capita within the Transportation Analysis Zone (TAZ) of the travel demand forecast model is reported below in Table 9. The project site is located within TAZ 1306.

Table 9
Vehicle Miles Traveled

Year	TAZ 1306	SF Bay Area
2020	12.83	15.0
2030	12.74	14.4
2040	11.8	13.8

The average daily VMT per capita forecasted in TAZ 1306 is lower than the regional average for the San Francisco Bay Area. Unlike more populated areas of the Bay Area, it can be assumed that the average is lower due to a shorter commute by those that live in Napa.

7.
Conclusions

This report presents the results of the traffic study for the proposed residential project at 3700, 3710 and 3720 Valle Verde Drive in Napa, California. The project site currently comprises the vacant Sunrise Assisted Living building with 74 bedrooms. The proposed Heritage House project would modify the interior of that building to provide 66 single-room-occupancy (SRO) units for low-income individuals. Also, the project proposes to build a new 24-unit apartment building on the adjacent vacant lot. Access to the project site is provided via Valle Verde Drive. Valle Verde Drive would be abandoned north of Firefly Lane, conveyed to the project, and existing public utilities would be relocated. The project proposes 85 parking spaces in surface parking lots and along the private driveway aisle. The two buildings will be on separate parcels and funded independently but will have agreements in place to share access to the public street, parking, and utility points of entry.

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Napa and the requirements of the California Environmental Quality Act (CEQA). The traffic study includes an analysis of AM and PM peak hour traffic conditions during weekdays on three study intersections in the vicinity of the project site.

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour of adjacent street traffic is generally between 7:00 and 9:00 AM, and the PM peak hour of adjacent street traffic is typically between 4:00 and 6:00 PM. It is during these periods on an average weekday that the most congested traffic conditions occur.

Intersection Level of Service Results

The results of the intersection LOS analysis under existing plus project, background plus project and cumulative plus project conditions show that all the study intersections would operate at an acceptable level during both the AM and PM peak hours of traffic when measured against the applicable municipal level of service standards. A signal warrant analysis was conducted to determine if the intersections would require a traffic signal based on the peak-hour volume warrant. The analysis showed that, based on the peak-hour signal warrants, the unsignalized intersections do not require a traffic signal.

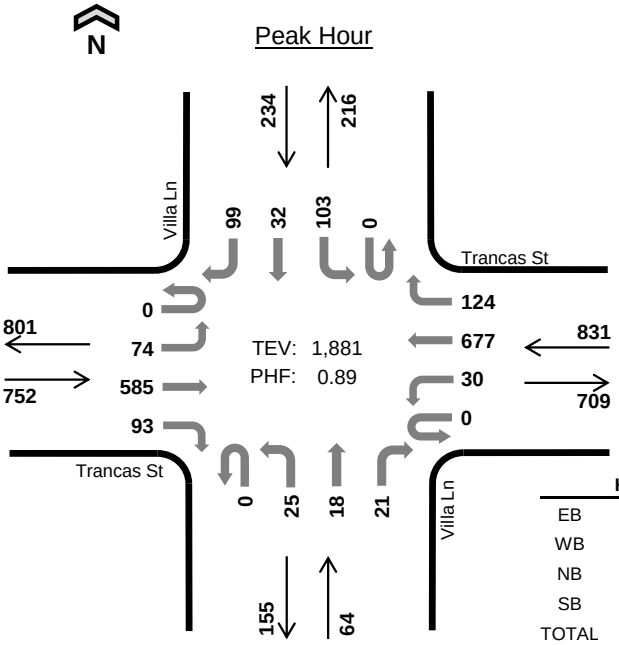
3700-3720 Valle Verde Drive Residential Development
Transportation Impact Analysis
Technical Appendices

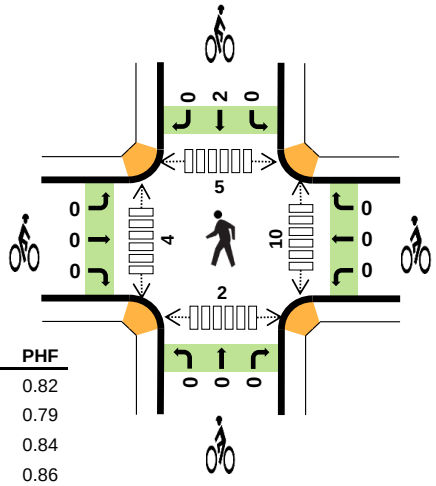
Appendix A
Traffic Counts

Villa Ln
Trancas St

Date: 05-22-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	2.3%	0.82
WB	2.9%	0.79
NB	6.3%	0.84
SB	1.7%	0.86
TOTAL	2.6%	0.89

Two-Hour Count Summaries

Interval Start	Trancas St Eastbound				Trancas St Westbound				Villa Ln Northbound				Villa Ln Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	9	81	4	0	6	64	27	0	1	1	0	0	15	5	10	223	0
7:15 AM	0	9	103	14	0	0	116	30	0	3	1	0	0	12	2	12	302	0
7:30 AM	**0**	**14**	**113**	**15**	**0**	**4**	**165**	**31**	**0**	**8**	**3**	**6**	**0**	**27**	**7**	**27**	**420**	0
7:45 AM	**0**	**19**	**136**	**27**	**0**	**8**	**203**	**52**	**0**	**7**	**6**	**5**	**0**	**21**	**13**	**34**	**531**	1,476
8:00 AM	**0**	**23**	**177**	**30**	**0**	**8**	**163**	**22**	**0**	**7**	**5**	**7**	**0**	**30**	**7**	**25**	**504**	1,757
8:15 AM	**0**	**18**	**159**	**21**	**0**	**10**	**146**	**19**	**0**	**3**	**4**	**3**	**0**	**25**	**5**	**13**	**426**	**1,881**
8:30 AM	0	17	140	23	0	5	144	25	0	5	4	7	0	17	0	10	397	1,858
8:45 AM	0	13	132	18	0	9	139	32	0	7	3	11	0	25	5	18	412	1,739
Count Total	0	122	1,041	152	0	50	1,140	238	0	41	27	39	0	172	44	149	3,215	0
Peak Hour All	**0**	**74**	**585**	**93**	**0**	**30**	**677**	**124**	**0**	**25**	**18**	**21**	**0**	**103**	**32**	**99**	**1,881**	**0**
Peak Hour HV	**0**	**0**	**15**	**2**	**0**	**0**	**22**	**2**	**0**	**3**	**0**	**1**	**0**	**2**	**1**	**1**	**49**	**0**
Peak Hour HV%	**-**	**0%**	**3%**	**2%**	**-**	**0%**	**3%**	**2%**	**-**	**12%**	**0%**	**5%**	**-**	**2%**	**3%**	**1%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	0	0	0	*3*	0	0	0	1	*1*	0	2	0	1	*3*
7:15 AM	5	4	1	1	*11*	0	2	0	0	*2*	4	0	0	0	*4*
7:30 AM	**4**	**7**	**1**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	*3*
7:45 AM	**3**	**7**	**2**	**0**	***12***	**0**	**0**	**0**	**1**	***1***	**6**	**1**	**2**	**0**	*9*
8:00 AM	**5**	**5**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
8:15 AM	**5**	**5**	**1**	**2**	***13***	**0**	**0**	**0**	**1**	***1***	**2**	**2**	**2**	**1**	***7***
8:30 AM	3	4	1	0	*8*	0	0	0	0	*0*	2	1	0	0	*3*
8:45 AM	4	3	3	0	*10*	0	0	0	0	*0*	2	1	0	2	*5*
Count Total	32	35	9	5	*81*	0	2	0	3	*5*	18	8	5	5	*36*
Peak Hour	**17**	**24**	**4**	**4**	***49***	**0**	**0**	**0**	**2**	***2***	**10**	**4**	**5**	**2**	***21***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Trancas St Eastbound				Trancas St Westbound				Villa Ln Northbound				Villa Ln Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	5	0	0	0	4	0	0	1	0	0	0	1	0	0	11	0
7:30 AM	**0**	**0**	**2**	**2**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**14**	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	40
8:00 AM	**0**	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	47
8:15 AM	**0**	**0**	**5**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**13**	**49**
8:30 AM	0	0	2	1	0	0	3	1	0	1	0	0	0	0	0	0	8	43
8:45 AM	0	0	4	0	0	0	2	1	0	1	0	2	0	0	0	0	10	41
Count Total	0	0	29	3	0	0	31	4	0	6	0	3	0	3	1	1	81	0
Peak Hour	**0**	**0**	**15**	**2**	**0**	**0**	**22**	**2**	**0**	**3**	**0**	**1**	**0**	**2**	**1**	**1**	**49**	**0**

Two-Hour Count Summaries - Bikes

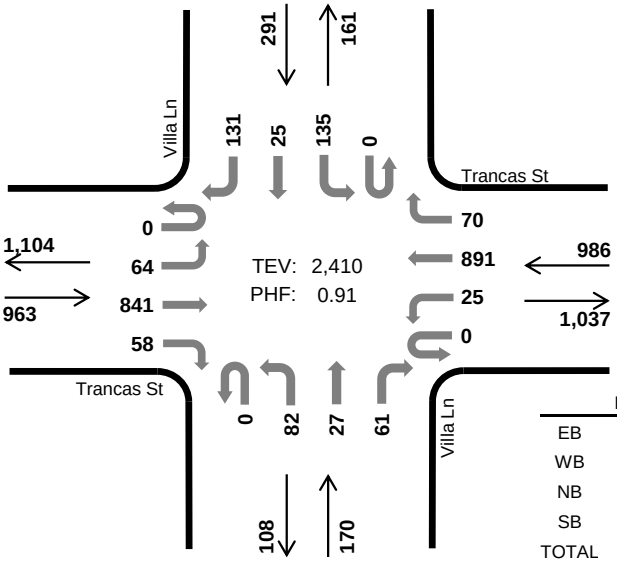
Interval Start	Trancas St Eastbound			Trancas St Westbound			Villa Ln Northbound			Villa Ln Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	2	0	0	0	0	0	3	0	5	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

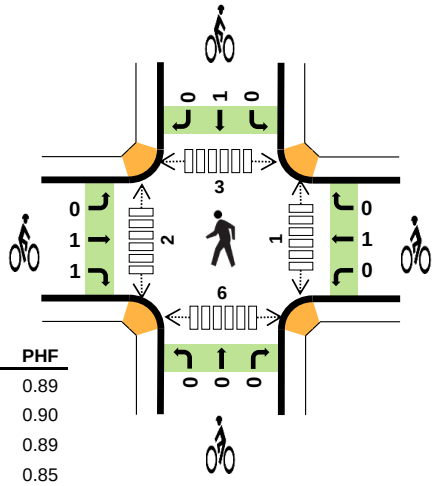
Villa Ln
Trancas St

Date: 05-22-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour



	HV %:	PHF
EB	1.3%	0.89
WB	1.1%	0.90
NB	1.8%	0.89
SB	0.3%	0.85
TOTAL	1.2%	0.91



Two-Hour Count Summaries

Interval Start	Trancas St Eastbound				Trancas St Westbound				Villa Ln Northbound				Villa Ln Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	22	205	15	0	7	226	27	0	18	5	7	0	31	7	26	596	0
4:15 PM	**0**	**23**	**175**	**16**	**0**	**7**	**198**	**12**	**0**	**19**	**4**	**14**	**0**	**28**	**3**	**40**	**539**	0
4:30 PM	**0**	**17**	**204**	**12**	**0**	**2**	**216**	**20**	**0**	**19**	**10**	**17**	**0**	**45**	**5**	**29**	**596**	0
4:45 PM	**0**	**14**	**218**	**13**	**0**	**10**	**244**	**19**	**0**	**22**	**6**	**11**	**0**	**25**	**9**	**21**	**612**	2,343
5:00 PM	**0**	**10**	**244**	**17**	**0**	**6**	**233**	**19**	**0**	**22**	**7**	**19**	**0**	**37**	**8**	**41**	**663**	**2,410**
5:15 PM	0	15	199	9	0	7	196	14	0	16	8	7	0	33	4	31	539	2,410
5:30 PM	0	11	189	11	0	6	204	11	0	7	8	14	0	28	3	21	513	2,327
5:45 PM	0	15	177	11	0	5	183	22	0	17	9	8	0	29	6	23	505	2,220
Count Total	0	127	1,611	104	0	50	1,700	144	0	140	57	97	0	256	45	232	4,563	0
Peak Hour All	**0**	**64**	**841**	**58**	**0**	**25**	**891**	**70**	**0**	**82**	**27**	**61**	**0**	**135**	**25**	**131**	**2,410**	**0**
Peak Hour HV	**0**	**2**	**11**	**0**	**0**	**0**	**10**	**1**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**28**	**0**
Peak Hour HV%	**-**	**3%**	**1%**	**0%**	**-**	**0%**	**1%**	**1%**	**-**	**4%**	**0%**	**0%**	**-**	**1%**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	5	7	1	1	*14*	0	0	0	0	*0*	1	1	1	3	*6*
4:15 PM	**0**	**3**	**1**	**0**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**1**	*1*
4:30 PM	**6**	**3**	**0**	**1**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	*5*
4:45 PM	**3**	**3**	**2**	**0**	***8***	**1**	**1**	**0**	**0**	***2***	**0**	**2**	**1**	**0**	*3*
5:00 PM	**4**	**2**	**0**	**0**	***6***	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**2**	**0**	***3***
5:15 PM	2	3	2	0	*7*	0	0	0	0	*0*	0	1	2	0	*3*
5:30 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	1	0	1	*2*
5:45 PM	2	4	1	0	*7*	1	0	0	1	*2*	0	1	0	4	*5*
Count Total	22	27	7	2	*58*	3	1	0	2	*6*	2	6	6	14	*28*
Peak Hour	**13**	**11**	**3**	**1**	***28***	**2**	**1**	**0**	**1**	***4***	**1**	**2**	**3**	**6**	***12***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Trancas St Eastbound				Trancas St Westbound				Villa Ln Northbound				Villa Ln Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	1	0	0	7	0	0	1	0	0	0	1	0	0	14	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	0
4:30 PM	**0**	**1**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**10**	0
4:45 PM	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	36
5:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**28**
5:15 PM	0	0	2	0	0	0	3	0	0	2	0	0	0	0	0	0	7	31
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	23
5:45 PM	0	0	2	0	0	0	4	0	0	1	0	0	0	0	0	0	7	22
Count Total	0	2	19	1	0	0	26	1	0	7	0	0	0	2	0	0	58	0
Peak Hour	**0**	**2**	**11**	**0**	**0**	**0**	**10**	**1**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**28**	**0**

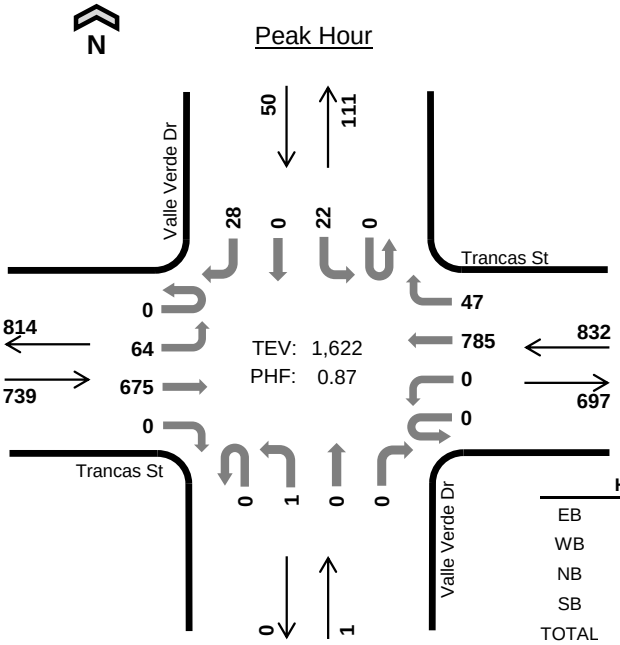
Two-Hour Count Summaries - Bikes

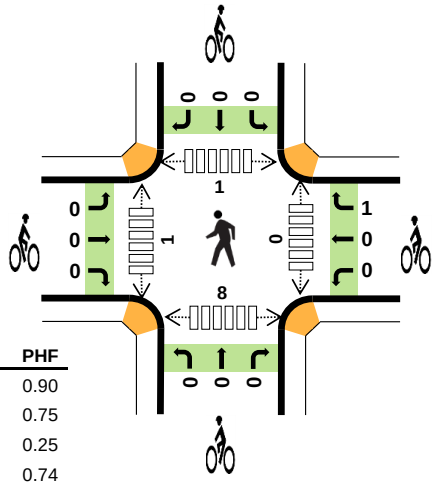
Interval Start	Trancas St Eastbound			Trancas St Westbound			Villa Ln Northbound			Villa Ln Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	3
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2	3
Count Total	0	2	1	0	1	0	0	0	0	0	2	0	6	0
Peak Hour	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Valle Verde Dr
Trancas St

Date: 05-22-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	2.2%	0.90
WB	2.4%	0.75
NB	0.0%	0.25
SB	2.0%	0.74
TOTAL	2.3%	0.87

Two-Hour Count Summaries

Interval Start		Trancas St Eastbound				Trancas St Westbound				Valle Verde Dr Northbound				Valle Verde Dr Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	94	0	0	0	102	4	0	0	0	0	0	8	0	4	215	0
7:15 AM		0	12	103	0	0	0	138	4	0	0	0	0	0	3	0	5	265	0
7:30 AM		0	7	122	0	0	0	175	5	0	0	0	2	0	10	0	15	336	0
7:45 AM		**0**	**19**	**156**	**0**	**0**	**0**	**263**	**13**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**5**	**465**	1,281
8:00 AM		**0**	**12**	**193**	**0**	**0**	**0**	**181**	**17**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**12**	**420**	1,486
8:15 AM		**0**	**12**	**185**	**0**	**0**	**0**	**183**	**9**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**4**	**399**	1,620
8:30 AM		**0**	**21**	**141**	**0**	**0**	**0**	**158**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**7**	**338**	**1,622**
8:45 AM		0	16	154	0	0	0	175	16	0	0	0	0	0	17	0	13	391	1,548
Count Total		0	102	1,148	0	0	0	1,375	76	0	1	0	2	0	60	0	65	2,829	0
Peak Hour	**All**	**0**	**64**	**675**	**0**	**0**	**0**	**785**	**47**	**0**	**1**	**0**	**0**	**0**	**22**	**0**	**28**	**1,622**	**0**
	HV	**0**	**0**	**16**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**37**	**0**
	HV%	**-**	**0%**	**2%**	**-**	**-**	**-**	**3%**	**0%**	**-**	**0%**	**-**	**-**	**-**	**0%**	**-**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	0	0	0	*3*	0	1	0	0	*1*	0	0	0	3	*3*
7:15 AM	6	4	0	0	*10*	0	1	0	1	*2*	0	0	0	2	*2*
7:30 AM	4	7	0	1	*12*	0	0	0	0	*0*	0	2	0	3	*5*
7:45 AM	**3**	**6**	**0**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:00 AM	**5**	**4**	**0**	**1**	***10***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**1**	**1**	*2*
8:15 AM	**6**	**5**	**0**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	*5*
8:30 AM	**2**	**5**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***
8:45 AM	6	2	0	0	*8*	0	0	0	0	*0*	0	0	0	3	*3*
Count Total	35	33	0	2	*70*	0	3	0	1	*4*	0	3	1	19	*23*
Peak Hour	**16**	**20**	**0**	**1**	***37***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**1**	**8**	***10***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Trancas St				Trancas St				Valle Verde Dr				Valle Verde Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	1	5	0	0	0	4	0	0	0	0	0	0	0	0	0	10	0
7:30 AM	0	0	4	0	0	0	7	0	0	0	0	0	0	0	0	1	12	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	34
8:00 AM	**0**	**0**	**5**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	41
8:15 AM	**0**	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	42
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**37**
8:45 AM	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	8	36
Count Total	0	2	33	0	0	0	33	0	0	0	0	0	0	0	0	2	70	0
Peak Hour	**0**	**0**	**16**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**37**	**0**

Two-Hour Count Summaries - Bikes

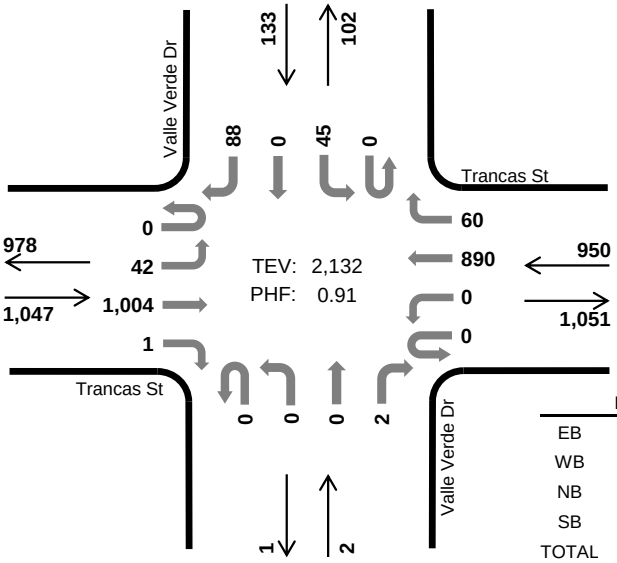
Interval Start	Trancas St			Trancas St			Valle Verde Dr			Valle Verde Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	2	1	0	0	0	1	0	0	4	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

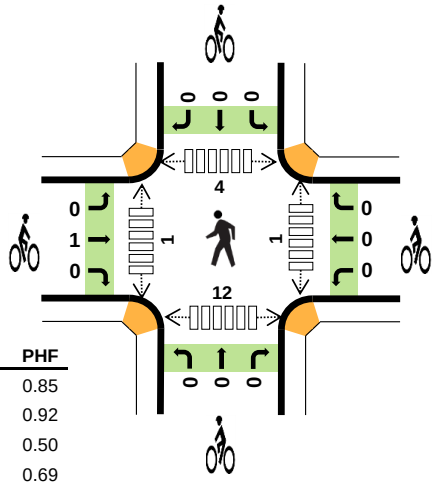
Valle Verde Dr
Trancas St

Date: 05-22-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

Peak Hour



	HV %:	PHF
EB	1.3%	0.85
WB	1.2%	0.92
NB	0.0%	0.50
SB	0.8%	0.69
TOTAL	1.2%	0.91



Two-Hour Count Summaries

Interval Start		Trancas St Eastbound				Trancas St Westbound				Valle Verde Dr Northbound				Valle Verde Dr Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	9	230	0	0	0	231	19	0	0	0	0	0	13	0	18	520	0
4:15 PM		0	11	207	0	0	0	213	11	0	0	0	0	0	10	0	17	469	0
4:30 PM		**0**	**10**	**256**	**1**	**0**	**0**	**231**	**12**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**12**	**533**	0
4:45 PM		**0**	**9**	**236**	**0**	**0**	**0**	**245**	**13**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**16**	**523**	2,045
5:00 PM		**0**	**15**	**293**	**0**	**0**	**0**	**221**	**12**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**30**	**584**	2,109
5:15 PM		**0**	**8**	**219**	**0**	**0**	**0**	**193**	**23**	**0**	**0**	**0**	**1**	**0**	**18**	**0**	**30**	**492**	**2,132**
5:30 PM		0	11	237	0	0	0	210	12	0	1	0	0	0	7	0	12	490	2,089
5:45 PM		1	10	190	0	0	0	183	18	0	0	0	0	0	8	0	18	428	1,994
Count Total		1	83	1,868	1	0	0	1,727	120	0	1	0	2	0	83	0	153	4,039	0
Peak Hour	**All**	**0**	**42**	**1,004**	**1**	**0**	**0**	**890**	**60**	**0**	**0**	**0**	**2**	**0**	**45**	**0**	**88**	**2,132**	**0**
	HV	**0**	**1**	**13**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**26**	**0**
	HV%	**-**	**2%**	**1%**	**0%**	**-**	**-**	**1%**	**0%**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**1%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	5	7	0	0	*12*	0	0	0	0	*0*	0	2	2	4	*8*
4:15 PM	0	4	0	0	*4*	0	0	0	0	*0*	0	2	0	5	*7*
4:30 PM	**5**	**3**	**0**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**8**	*9*
4:45 PM	**2**	**2**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	*2*
5:00 PM	**5**	**3**	**0**	**0**	***8***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**3**	**1**	*4*
5:15 PM	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**2**	***3***
5:30 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	1	2	*3*
5:45 PM	2	4	0	0	*6*	1	0	0	0	*1*	0	1	0	2	*3*
Count Total	21	28	0	1	*50*	2	0	0	0	*2*	1	6	7	25	*39*
Peak Hour	**14**	**11**	**0**	**1**	***26***	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**4**	**12**	***18***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Trancas St Eastbound				Trancas St Westbound				Valle Verde Dr Northbound				Valle Verde Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	0	0	0	6	1	0	0	0	0	0	0	0	0	12	0
4:15 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0
4:30 PM	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	0
4:45 PM	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	29
5:00 PM	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	25
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**26**
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	20
5:45 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	21
Count Total	0	1	20	0	0	0	27	1	0	0	0	0	0	0	0	1	50	0
Peak Hour	**0**	**1**	**13**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**26**	**0**

Two-Hour Count Summaries - Bikes

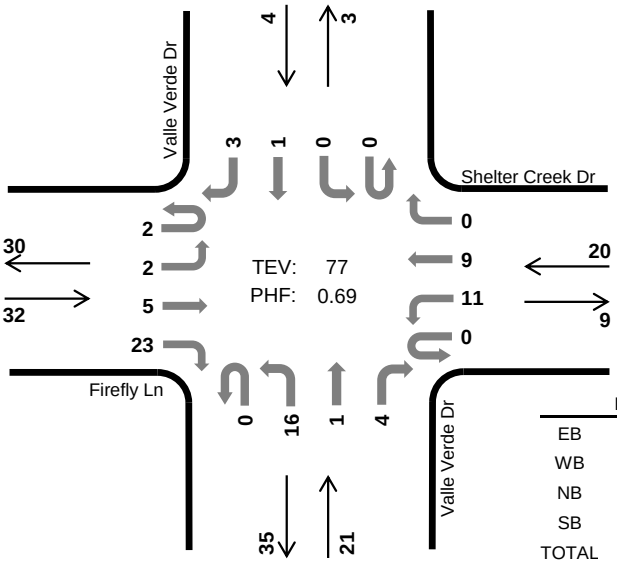
Interval Start	Trancas St Eastbound			Trancas St Westbound			Valle Verde Dr Northbound			Valle Verde Dr Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Count Total	0	2	0	0	0	0	0	0	0	0	0	0	2	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

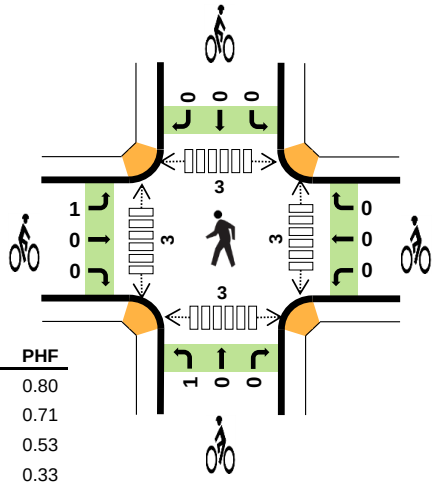
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Valle Verde Dr
Firefly Ln

Date: 05-22-2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	0.0%	0.80
WB	0.0%	0.71
NB	4.8%	0.53
SB	0.0%	0.33
TOTAL	1.3%	0.69

Two-Hour Count Summaries

Interval Start	Firefly Ln Eastbound				Shelter Creek Dr Westbound				Valle Verde Dr Northbound				Valle Verde Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	3	0	0	1	0	0	0	0	2	0	0	0	0	7	0
7:15 AM	0	0	0	5	0	2	1	0	0	3	0	1	0	0	0	1	13	0
7:30 AM	**0**	**1**	**3**	**5**	**0**	**4**	**3**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**20**	0
7:45 AM	**0**	**0**	**1**	**6**	**0**	**1**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**2**	**15**	55
8:00 AM	**1**	**0**	**1**	**8**	**0**	**4**	**3**	**0**	**0**	**9**	**0**	**1**	**0**	**0**	**0**	**1**	**28**	76
8:15 AM	**1**	**1**	**0**	**4**	**0**	**2**	**2**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**14**	**77**
8:30 AM	1	0	0	2	0	0	2	0	0	5	1	1	0	0	1	1	14	71
8:45 AM	1	0	0	10	0	3	0	0	0	5	0	2	0	0	0	0	21	77
Count Total	4	3	5	43	0	16	13	0	0	29	2	10	0	0	2	5	132	0
Peak Hour All	**2**	**2**	**5**	**23**	**0**	**11**	**9**	**0**	**0**	**16**	**1**	**4**	**0**	**0**	**1**	**3**	**77**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**
Peak Hour HV%	**0%**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**25%**	**-**	**-**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	0	0	*0*	1	0	0	0	*1*	1	1	1	1	*4*
7:30 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	*3*
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	*3*
8:00 AM	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	***2***	**0**	**1**	**2**	**1**	*4*
8:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
8:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	1	*2*
Count Total	0	0	1	0	*1*	2	0	1	0	*3*	4	4	6	5	*19*
Peak Hour	**0**	**0**	**1**	**0**	***1***	**1**	**0**	**1**	**0**	***2***	**3**	**3**	**3**	**3**	***12***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Firefly Ln				Shelter Creek Dr				Valle Verde Dr				Valle Verde Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Two-Hour Count Summaries - Bikes

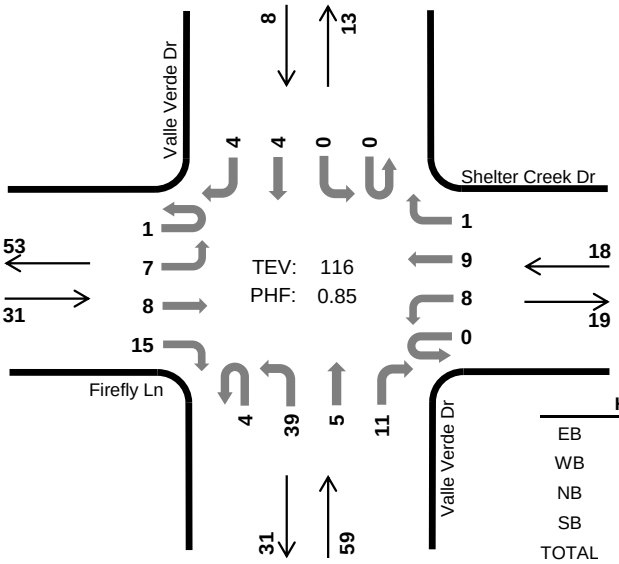
Interval Start	Firefly Ln			Shelter Creek Dr			Valle Verde Dr			Valle Verde Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	3
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	1	0	1	0	0	0	1	0	0	0	0	0	3	0
Peak Hour	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

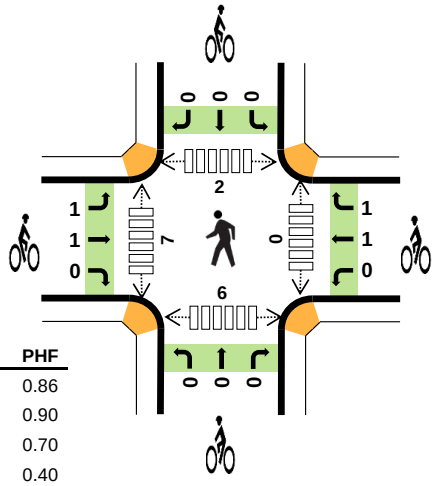
Valle Verde Dr
Firefly Ln

Date: 05-22-2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Peak Hour



	HV %:	PHF
EB	0.0%	0.86
WB	5.6%	0.90
NB	0.0%	0.70
SB	0.0%	0.40
TOTAL	0.9%	0.85



Two-Hour Count Summaries

Interval Start	Firefly Ln Eastbound				Shelter Creek Dr Westbound				Valle Verde Dr Northbound				Valle Verde Dr Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	1	0	0	2	0	1	8	2	2	0	0	0	0	18	0
4:15 PM	0	0	1	5	0	1	1	0	0	4	0	2	0	0	2	0	16	0
4:30 PM	0	0	3	2	0	2	1	0	0	13	0	2	0	0	0	0	23	0
4:45 PM	**1**	**1**	**4**	**3**	**0**	**2**	**3**	**0**	**3**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**23**	80
5:00 PM	**0**	**2**	**1**	**5**	**0**	**2**	**2**	**0**	**1**	**14**	**4**	**2**	**0**	**0**	**1**	**0**	**34**	96
5:15 PM	**0**	**2**	**1**	**3**	**0**	**2**	**2**	**1**	**0**	**8**	**1**	**3**	**0**	**0**	**2**	**3**	**28**	108
5:30 PM	**0**	**2**	**2**	**4**	**0**	**2**	**2**	**0**	**0**	**13**	**0**	**4**	**0**	**0**	**1**	**1**	**31**	**116**
5:45 PM	0	0	2	4	0	1	1	0	0	13	0	1	0	0	0	0	22	115
Count Total	1	7	16	27	0	12	14	1	5	77	7	18	0	0	6	4	195	0
Peak Hour All	**1**	**7**	**8**	**15**	**0**	**8**	**9**	**1**	**4**	**39**	**5**	**11**	**0**	**0**	**4**	**4**	**116**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Peak Hour HV%	**0%**	**0%**	**0%**	**0%**	**-**	**13%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	*1*	1	0	0	0	*1*	1	0	0	0	*1*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	1	*2*
4:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**0**	**1**	**0**	**0**	***1***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**0**	**0**	***3***	**0**	**2**	**1**	**0**	*3*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**4**	*7*
5:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**1**	**1**	***4***
5:45 PM	0	0	0	0	*0*	1	0	0	0	*1*	0	1	0	2	*3*
Count Total	0	1	1	0	*2*	4	2	0	0	*6*	1	9	2	9	*21*
Peak Hour	**0**	**1**	**0**	**0**	***1***	**2**	**2**	**0**	**0**	***4***	**0**	**7**	**2**	**6**	***15***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Firefly Ln				Shelter Creek Dr				Valle Verde Dr				Valle Verde Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Firefly Ln			Shelter Creek Dr			Valle Verde Dr			Valle Verde Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
5:00 PM	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	4
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	4
Count Total	2	1	1	0	1	1	0	0	0	0	0	0	6	0
Peak Hour	**1**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B
Volume Summary Tables

Intersection Number: 1
Traffix Node Number: 1
Intersection Name: Villa Lane and Trancas Street
Peak Hour: AM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**99**	**32**	**103**	**124**	**677**	**30**	**21**	**18**	**25**	**93**	**585**	**74**	**1881**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	0	1	3	0	3	1	0	0	8
Garfield / Griffen Lane Projects	0	0	0	0	3	0	0	0	0	0	1	0	4
Pietro Place	0	0	0	0	7	0	0	0	0	0	2	0	9
Tyson Court / 721 Trancas Street	0	0	0	0	1	0	0	0	0	0	0	0	1
Redwood Duets Amendment	0	0	0	0	1	0	0	0	0	0	3	0	4
Mayacamas Shop	0	0	0	0	0	0	0	0	0	0	0	0	0
Miliken Creek Inn Extension	0	0	0	0	1	0	0	0	0	0	1	0	2
Approved Project Trips	0	0	0	0	13	1	3	0	3	1	7	0	28
Background Conditions	**99**	**32**	**103**	**124**	**690**	**31**	**24**	**18**	**28**	**94**	**592**	**74**	**1909**
Project Trips	1	0	1	0	4	0	0	0	0	0	4	0	10
Existing Plus Project Conditions	**100**	**32**	**104**	**124**	**681**	**30**	**21**	**18**	**25**	**93**	**589**	**74**	**1891**
Background Plus Project Conditions	**100**	**32**	**104**	**124**	**694**	**31**	**24**	**18**	**28**	**94**	**596**	**74**	**1919**
Cumulative Conditions	**100**	**33**	**118**	**141**	**684**	**31**	**26**	**19**	**25**	**93**	**570**	**75**	**1915**
Cumulative Plus Project Conditions	**101**	**33**	**119**	**141**	**688**	**31**	**26**	**19**	**25**	**93**	**574**	**75**	**1925**

Intersection Number: 2
Traffix Node Number: 2
Intersection Name: Valle Verde Drive and Trancas Street
Peak Hour: AM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**28**	**0**	**22**	**47**	**785**	**0**	**0**	**0**	**1**	**0**	**675**	**64**	**1622**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	1	0	0	0	0	0	3	0	4
Garfield / Griffen Lane Projects	0	0	0	0	3	0	0	0	0	0	1	0	4
Pietro Place	0	0	0	0	7	0	0	0	0	0	2	0	9
Tyson Court / 721 Trancas Street	0	0	0	0	0	0	0	0	1	0	0	0	1
Redwood Duets Amendment	0	0	0	0	1	0	0	0	0	0	3	0	4
Mayacamas Shop	0	0	0	0	0	0	0	0	0	0	0	0	0
Miliken Creek Inn Extension	0	0	0	0	1	0	0	0	0	0	1	0	2
Approved Project Trips	0	0	0	0	13	0	0	0	1	0	10	0	24
Background Conditions	**28**	**0**	**22**	**47**	**798**	**0**	**0**	**0**	**2**	**0**	**685**	**64**	**1646**
Project Trips	4	0	2	2	0	0	0	0	0	0	1	4	13
Existing Plus Project Conditions	**32**	**0**	**24**	**49**	**785**	**0**	**0**	**0**	**1**	**0**	**676**	**68**	**1635**
Background Plus Project Conditions	**32**	**0**	**24**	**49**	**798**	**0**	**0**	**0**	**2**	**0**	**686**	**68**	**1659**
Cumulative Conditions	**27**	**0**	**32**	**49**	**814**	**0**	**0**	**0**	**1**	**0**	**698**	**53**	**1674**
Cumulative Plus Project Conditions	**31**	**0**	**34**	**51**	**814**	**0**	**0**	**0**	**1**	**0**	**699**	**57**	**1687**

Intersection Number: 3
Traffix Node Number: 3
Intersection Name: Valle Verde Drive and Firefly Lane
Peak Hour: AM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**3**	**1**	**0**	**0**	**9**	**11**	**4**	**1**	**16**	**23**	**5**	**4**	**77**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	0	0	0	0	0	0	0	0	0
Garfield / Griffen Lane Projects	0	0	0	0	0	0	0	0	0	0	0	0	0
Pietro Place	0	0	0	0	0	0	0	0	0	0	0	0	0
Tyson Court / 721 Trancas Street	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood Duets Amendment	0	0	0	0	0	0	0	0	0	0	0	0	0
Mayacamas Shop	0	0	0	0	0	0	0	0	0	0	0	0	0
Miliken Creek Inn Extension	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	**3**	**1**	**0**	**0**	**9**	**11**	**4**	**1**	**16**	**23**	**5**	**4**	**77**
Project Trips	2	6	0	0	0	0	0	6	0	0	0	0	14
Existing Plus Project Conditions	**5**	**7**	**0**	**0**	**9**	**11**	**4**	**7**	**16**	**23**	**5**	**4**	**91**
Background Plus Project Conditions	**5**	**7**	**0**	**0**	**9**	**11**	**4**	**7**	**16**	**23**	**5**	**4**	**91**
Cumulative Conditions	**3**	**1**	**0**	**0**	**14**	**11**	**4**	**1**	**16**	**23**	**17**	**4**	**94**
Cumulative Plus Project Conditions	**5**	**7**	**0**	**0**	**14**	**11**	**4**	**7**	**16**	**23**	**17**	**4**	**108**

Intersection Number: 1
Traffix Node Number: 1
Intersection Name: Villa Lane and Trancas Street
Peak Hour: PM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**131**	**25**	**135**	**70**	**891**	**25**	**61**	**27**	**82**	**58**	**841**	**64**	**2410**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	0	3	2	0	2	3	0	0	10
Garfield / Griffen Lane Projects	0	0	0	0	2	0	0	0	0	0	4	0	6
Pietro Place	0	0	0	0	4	0	0	0	0	0	7	0	11
Tyson Court / 721 Trancas Street	0	0	0	0	0	0	0	0	0	0	1	0	1
Redwood Duets Amendment	0	0	0	0	3	0	0	0	0	0	2	0	5
Mayacamas Shop	0	0	0	0	8	0	0	0	0	0	6	0	14
Miliken Creek Inn Extension	0	0	0	0	1	0	0	0	0	0	2	0	3
Approved Project Trips	0	0	0	0	18	3	2	0	2	3	22	0	50
Background Conditions	**131**	**25**	**135**	**70**	**909**	**28**	**63**	**27**	**84**	**61**	**863**	**64**	**2460**
Net Project Trips	1	0	2	0	5	0	0	0	0	0	7	1	16
Existing Plus Project Conditions	**132**	**25**	**137**	**70**	**896**	**25**	**61**	**27**	**82**	**58**	**848**	**65**	**2426**
Background Plus Project Conditions	**132**	**25**	**137**	**70**	**914**	**28**	**63**	**27**	**84**	**61**	**870**	**65**	**2476**
Cumulative Conditions	**131**	**26**	**161**	**88**	**880**	**32**	**69**	**29**	**82**	**61**	**871**	**65**	**2495**
Cumulative Plus Project Conditions	**132**	**26**	**163**	**88**	**885**	**32**	**69**	**29**	**82**	**61**	**878**	**66**	**2511**

Intersection Number: 2
Traffix Node Number: 2
Intersection Name: Valle Verde Drive and Trancas Street
Peak Hour: PM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**88**	**0**	**45**	**60**	**890**	**0**	**2**	**0**	**0**	**1**	**1004**	**42**	**2132**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	3	0	0	0	0	0	2	0	5
Garfield / Griffen Lane Projects	0	0	0	0	2	0	0	0	0	0	4	0	6
Pietro Place	0	0	0	0	4	0	0	0	0	0	7	0	11
Tyson Court / 721 Trancas Street	0	0	0	0	0	0	0	0	0	1	0	0	1
Redwood Duets Amendment	0	0	0	0	3	0	0	0	0	0	2	0	5
Mayacamas Shop	0	0	0	0	8	0	0	0	0	0	6	0	14
Miliken Creek Inn Extension	0	0	0	0	1	0	0	0	0	0	2	0	3
Approved Project Trips	0	0	0	0	21	0	0	0	0	1	23	0	45
Background Conditions	**88**	**0**	**45**	**60**	**911**	**0**	**2**	**0**	**0**	**2**	**1027**	**42**	**2177**
Net Project Trips	5	0	2	5	0	0	0	0	0	0	2	7	21
Existing Plus Project Conditions	**93**	**0**	**47**	**65**	**890**	**0**	**2**	**0**	**0**	**1**	**1006**	**49**	**2153**
Background Plus Project Conditions	**93**	**0**	**47**	**65**	**911**	**0**	**2**	**0**	**0**	**2**	**1029**	**49**	**2198**
Cumulative Conditions	**68**	**0**	**52**	**80**	**920**	**0**	**2**	**0**	**0**	**1**	**1076**	**32**	**2231**
Cumulative Plus Project Conditions	**73**	**0**	**54**	**85**	**920**	**0**	**2**	**0**	**0**	**1**	**1078**	**39**	**2252**

Intersection Number: 3
Traffix Node Number: 3
Intersection Name: Valle Verde Drive and Firefly Lane
Peak Hour: PM
Count Date: 5/22/2018

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**4**	**4**	**0**	**1**	**9**	**8**	**11**	**5**	**43**	**15**	**8**	**8**	**116**
Approved Project Trips													
Pear Tree Terrace	0	0	0	0	0	0	0	0	0	0	0	0	0
Garfield / Griffen Lane Projects	0	0	0	0	0	0	0	0	0	0	0	0	0
Pietro Place	0	0	0	0	0	0	0	0	0	0	0	0	0
Tyson Court / 721 Trancas Street	0	0	0	0	0	0	0	0	0	0	0	0	0
Redwood Duets Amendment	0	0	0	0	0	0	0	0	0	0	0	0	0
Mayacamas Shop	0	0	0	0	0	0	0	0	0	0	0	0	0
Miliken Creek Inn Extension	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved Project Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
Background Conditions	**4**	**4**	**0**	**1**	**9**	**8**	**11**	**5**	**43**	**15**	**8**	**8**	**116**
Net Project Trips	3	7	0	0	0	0	0	12	0	0	0	1	23
Existing Plus Project Conditions	**7**	**11**	**0**	**1**	**9**	**8**	**11**	**17**	**43**	**15**	**8**	**9**	**139**
Background Plus Project Conditions	**7**	**11**	**0**	**1**	**9**	**8**	**11**	**17**	**43**	**15**	**8**	**9**	**139**
Cumulative Conditions	**4**	**4**	**0**	**1**	**23**	**8**	**11**	**5**	**43**	**15**	**15**	**8**	**137**
Cumulative Plus Project Conditions	**7**	**11**	**0**	**1**	**23**	**8**	**11**	**17**	**43**	**15**	**15**	**9**	**160**

Appendix C
Intersection Level of Service Calculations

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	585	93	30	677	124	25	18	21	103	32	99
Future Volume (veh/h)	74	585	93	30	677	124	25	18	21	103	32	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	80	636	101	33	736	135	27	20	23	112	35	108
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1285	204	58	1178	216	480	296	340	576	149	458
Arrive On Green	0.06	0.42	0.42	0.03	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1774	3058	485	1774	2984	547	1233	788	906	1348	396	1221
Grp Volume(v), veh/h	80	368	369	33	436	435	27	0	43	112	0	143
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1762	1233	0	1694	1348	0	1616
Q Serve(g_s), s	3.5	11.9	12.0	1.4	15.6	15.6	1.2	0.0	1.3	4.6	0.0	4.8
Cycle Q Clear(g_c), s	3.5	11.9	12.0	1.4	15.6	15.6	6.0	0.0	1.3	5.8	0.0	4.8
Prop In Lane	1.00		0.27	1.00		0.31	1.00		0.53	1.00		0.76
Lane Grp Cap(c), veh/h	103	744	745	58	699	696	480	0	636	576	0	607
V/C Ratio(X)	0.78	0.49	0.50	0.57	0.62	0.62	0.06	0.00	0.07	0.19	0.00	0.24
Avail Cap(c_a), veh/h	169	1115	1117	169	1115	1110	480	0	636	576	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.5	16.7	16.7	37.5	19.1	19.1	18.9	0.0	15.7	17.6	0.0	16.8
Incr Delay (d2), s/veh	11.8	0.5	0.5	8.5	0.9	0.9	0.2	0.0	0.2	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.9	6.0	0.8	7.7	7.7	0.4	0.0	0.6	1.8	0.0	2.3
LnGrp Delay(d),s/veh	48.3	17.2	17.2	46.0	20.0	20.0	19.1	0.0	15.9	18.4	0.0	17.7
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		817			904			70			255	
Approach Delay, s/veh		20.2			21.0			17.2			18.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	37.5		34.0	9.1	35.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.0	3.4	14.0		7.8	5.5	17.6
Green Ext Time (p_c), s		1.6	0.0	14.0		1.6	0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	675	0	0	785	47	1	0	0	22	0	28
Future Vol, veh/h	64	675	0	0	785	47	1	0	0	22	0	28
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	734	0	0	853	51	1	0	0	24	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	905	0	0	-	-	0	1309	-	375	1386	-	454
Stage 1	-	-	-	-	-	-	881	-	-	880	-	-
Stage 2	-	-	-	-	-	-	428	-	-	506	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	747	-	-	0	-	-	117	0	623	102	0	553
Stage 1	-	-	-	0	-	-	308	0	-	308	0	-
Stage 2	-	-	-	0	-	-	575	0	-	517	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	746	-	-	-	-	-	102	-	618	95	-	552
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	-	-	199	-	-
Stage 1	-	-	-	-	-	-	277	-	-	279	-	-
Stage 2	-	-	-	-	-	-	543	-	-	468	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	22.9	17.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	202	-	746	-	-	-	-	199	552
HCM Lane V/C Ratio	0.005	-	0.093	-	-	-	-	0.12	0.055
HCM Control Delay (s)	22.9	0	10.3	-	-	-	-	25.5	11.9
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	5	23	11	9	0	16	1	4	0	1	3
Future Vol, veh/h	4	5	23	11	9	0	16	1	4	0	1	3
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	5	25	12	10	0	17	1	4	0	1	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	52	49	9	62	48	9	7	0	0	8	0	0
Stage 1	6	6	-	41	41	-	-	-	-	-	-	-
Stage 2	46	43	-	21	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	947	843	1073	933	844	1073	1614	-	-	1612	-	-
Stage 1	1016	891	-	974	861	-	-	-	-	-	-	-
Stage 2	968	859	-	998	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	925	829	1067	894	830	1067	1609	-	-	1607	-	-
Mov Cap-2 Maneuver	925	829	-	894	830	-	-	-	-	-	-	-
Stage 1	1002	888	-	961	849	-	-	-	-	-	-	-
Stage 2	944	847	-	966	887	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.3	5.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1609	-	-	1003	864	1607	-	-
HCM Lane V/C Ratio	0.011	-	-	0.035	0.025	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9.3	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	841	58	25	891	70	82	27	61	135	25	131
Future Volume (veh/h)	64	841	58	25	891	70	82	27	61	135	25	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	914	63	27	968	76	89	29	66	147	27	142
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1539	106	49	1446	114	424	178	406	493	92	484
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1774	3353	231	1774	3317	260	1210	501	1141	1294	259	1361
Grp Volume(v), veh/h	70	482	495	27	516	528	89	0	95	147	0	169
Grp Sat Flow(s),veh/h/ln	1774	1770	1814	1774	1770	1808	1210	0	1642	1294	0	1620
Q Serve(g_s), s	3.3	17.4	17.4	1.3	19.9	19.9	4.9	0.0	3.4	7.5	0.0	6.4
Cycle Q Clear(g_c), s	3.3	17.4	17.4	1.3	19.9	19.9	11.3	0.0	3.4	10.9	0.0	6.4
Prop In Lane	1.00		0.13	1.00		0.14	1.00		0.69	1.00		0.84
Lane Grp Cap(c), veh/h	90	812	833	49	771	788	424	0	584	493	0	576
V/C Ratio(X)	0.77	0.59	0.59	0.55	0.67	0.67	0.21	0.00	0.16	0.30	0.00	0.29
Avail Cap(c_a), veh/h	197	960	984	197	960	981	424	0	584	493	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.2	17.2	17.2	41.2	19.3	19.3	23.9	0.0	18.9	22.6	0.0	19.9
Incr Delay (d2), s/veh	13.1	0.7	0.7	9.3	1.3	1.3	1.1	0.0	0.6	1.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.6	8.8	0.8	9.9	10.1	1.8	0.0	1.6	2.9	0.0	3.1
LnGrp Delay(d),s/veh	53.3	18.0	17.9	50.4	20.6	20.5	25.1	0.0	19.5	24.2	0.0	21.2
LnGrp LOS	D	B	B	D	C	C	C		B	C		C
Approach Vol, veh/h		1047			1071			184			316	
Approach Delay, s/veh		20.3			21.3			22.2			22.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	6.9	43.9		35.0	8.9	41.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.3	3.3	19.4		12.9	5.3	21.9
Green Ext Time (p_c), s		2.4	0.0	16.4		2.4	0.0	15.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	1004	1	0	890	60	0	0	2	45	0	88
Future Vol, veh/h	42	1004	1	0	890	60	0	0	2	45	0	88
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1091	1	0	967	65	0	0	2	49	0	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1037	0	0	-	-	0	1680	-	559	1642	-	521
Stage 1	-	-	-	-	-	-	1195	-	-	1004	-	-
Stage 2	-	-	-	-	-	-	485	-	-	638	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	666	-	-	0	-	-	62	0	472	66	0	500
Stage 1	-	-	-	0	-	-	198	0	-	259	0	-
Stage 2	-	-	-	0	-	-	532	0	-	431	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	665	-	-	-	-	-	47	-	466	62	-	498
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	-	-	163	-	-
Stage 1	-	-	-	-	-	-	182	-	-	240	-	-
Stage 2	-	-	-	-	-	-	429	-	-	399	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	12.8	21.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	466	665	-	-	-	-	163	498
HCM Lane V/C Ratio	-	0.005	0.069	-	-	-	-	0.3	0.192
HCM Control Delay (s)	0	12.8	10.8	-	-	-	-	36.3	13.9
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.2	-	-	-	-	1.2	0.7

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	8	15	8	9	1	43	5	11	0	4	4
Future Vol, veh/h	8	8	15	8	9	1	43	5	11	0	4	4
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	9	16	9	10	1	47	5	12	0	4	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	126	125	20	130	121	13	16	0	0	17	0	0
Stage 1	14	14	-	105	105	-	-	-	-	-	-	-
Stage 2	112	111	-	25	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	848	765	1058	843	769	1067	1602	-	-	1600	-	-
Stage 1	1006	884	-	901	808	-	-	-	-	-	-	-
Stage 2	893	804	-	993	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	812	737	1045	799	741	1065	1593	-	-	1597	-	-
Mov Cap-2 Maneuver	812	737	-	799	741	-	-	-	-	-	-	-
Stage 1	969	878	-	874	784	-	-	-	-	-	-	-
Stage 2	853	780	-	962	876	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9.7	5.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	884	779	1597	-	-
HCM Lane V/C Ratio	0.029	-	-	0.038	0.025	-	-	-
HCM Control Delay (s)	7.3	0	-	9.2	9.7	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	589	93	30	681	124	25	18	21	104	32	100
Future Volume (veh/h)	74	589	93	30	681	124	25	18	21	104	32	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	80	640	101	33	740	135	27	20	23	113	35	109
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1290	203	58	1183	216	477	295	339	574	147	458
Arrive On Green	0.06	0.42	0.42	0.03	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	3061	482	1774	2987	545	1232	788	906	1348	393	1223
Grp Volume(v), veh/h	80	370	371	33	438	437	27	0	43	113	0	144
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1763	1232	0	1694	1348	0	1616
Q Serve(g_s), s	3.5	12.0	12.1	1.4	15.7	15.7	1.2	0.0	1.3	4.6	0.0	4.8
Cycle Q Clear(g_c), s	3.5	12.0	12.1	1.4	15.7	15.7	6.0	0.0	1.3	5.9	0.0	4.8
Prop In Lane	1.00		0.27	1.00		0.31	1.00		0.53	1.00		0.76
Lane Grp Cap(c), veh/h	103	746	748	58	701	698	477	0	635	574	0	605
V/C Ratio(X)	0.78	0.50	0.50	0.57	0.63	0.63	0.06	0.00	0.07	0.20	0.00	0.24
Avail Cap(c_a), veh/h	169	1112	1115	169	1112	1108	477	0	635	574	0	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.6	16.7	16.7	37.6	19.1	19.1	19.0	0.0	15.8	17.7	0.0	16.9
Incr Delay (d2), s/veh	11.8	0.5	0.5	8.5	0.9	0.9	0.2	0.0	0.2	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.0	6.0	0.8	7.7	7.7	0.4	0.0	0.6	1.8	0.0	2.3
LnGrp Delay(d),s/veh	48.4	17.2	17.2	46.1	20.0	20.0	19.2	0.0	16.0	18.5	0.0	17.8
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		821			908			70			257	
Approach Delay, s/veh		20.2			21.0			17.2			18.1	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	37.7		34.0	9.1	35.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.0	3.4	14.1		7.9	5.5	17.7
Green Ext Time (p_c), s		1.6	0.0	14.1		1.6	0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	676	0	0	785	49	1	0	0	24	0	32
Future Vol, veh/h	68	676	0	0	785	49	1	0	0	24	0	32
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	735	0	0	853	53	1	0	0	26	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	908	0	0	-	-	0	1319	-	375	1396	-	455
Stage 1	-	-	-	-	-	-	891	-	-	881	-	-
Stage 2	-	-	-	-	-	-	428	-	-	515	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	745	-	-	0	-	-	115	0	623	101	0	552
Stage 1	-	-	-	0	-	-	304	0	-	308	0	-
Stage 2	-	-	-	0	-	-	575	0	-	511	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	744	-	-	-	-	-	99	-	618	93	-	551
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	-	-	197	-	-
Stage 1	-	-	-	-	-	-	272	-	-	277	-	-
Stage 2	-	-	-	-	-	-	538	-	-	460	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	23.3	18
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	198	-	744	-	-	-	-	197	551
HCM Lane V/C Ratio	0.005	-	0.099	-	-	-	-	0.132	0.063
HCM Control Delay (s)	23.3	0	10.4	-	-	-	-	26	12
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	5	23	11	9	0	16	7	4	0	7	5
Future Vol, veh/h	4	5	23	11	9	0	16	7	4	0	7	5
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	5	25	12	10	0	17	8	4	0	8	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	65	63	16	77	64	16	16	0	0	15	0	0
Stage 1	13	13	-	48	48	-	-	-	-	-	-	-
Stage 2	52	50	-	29	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	929	828	1063	912	827	1063	1602	-	-	1603	-	-
Stage 1	1007	885	-	965	855	-	-	-	-	-	-	-
Stage 2	961	853	-	988	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	908	814	1057	873	813	1057	1597	-	-	1598	-	-
Mov Cap-2 Maneuver	908	814	-	873	813	-	-	-	-	-	-	-
Stage 1	993	882	-	952	843	-	-	-	-	-	-	-
Stage 2	937	841	-	956	879	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.4	4.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	990	845	1598	-	-
HCM Lane V/C Ratio	0.011	-	-	0.035	0.026	-	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.4	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	848	58	25	896	70	82	27	61	137	25	132
Future Volume (veh/h)	65	848	58	25	896	70	82	27	61	137	25	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	71	922	63	27	974	76	89	29	66	149	27	143
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	1547	106	49	1450	113	421	178	404	491	91	483
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3355	229	1774	3319	259	1209	501	1141	1294	257	1362
Grp Volume(v), veh/h	71	486	499	27	519	531	89	0	95	149	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1815	1774	1770	1808	1209	0	1642	1294	0	1620
Q Serve(g_s), s	3.4	17.6	17.6	1.3	20.1	20.1	4.9	0.0	3.4	7.7	0.0	6.5
Cycle Q Clear(g_c), s	3.4	17.6	17.6	1.3	20.1	20.1	11.4	0.0	3.4	11.1	0.0	6.5
Prop In Lane	1.00		0.13	1.00		0.14	1.00		0.69	1.00		0.84
Lane Grp Cap(c), veh/h	92	816	837	49	773	790	421	0	582	491	0	574
V/C Ratio(X)	0.77	0.60	0.60	0.55	0.67	0.67	0.21	0.00	0.16	0.30	0.00	0.30
Avail Cap(c_a), veh/h	196	956	981	196	956	977	421	0	582	491	0	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	17.2	17.2	41.3	19.3	19.3	24.2	0.0	19.0	22.8	0.0	20.0
Incr Delay (d2), s/veh	12.9	0.7	0.7	9.3	1.3	1.3	1.1	0.0	0.6	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.7	8.9	0.8	10.1	10.3	1.8	0.0	1.6	2.9	0.0	3.1
LnGrp Delay(d),s/veh	53.2	18.0	18.0	50.6	20.6	20.6	25.3	0.0	19.6	24.4	0.0	21.3
LnGrp LOS	D	B	B	D	C	C	C		B	C		C
Approach Vol, veh/h		1056			1077			184			319	
Approach Delay, s/veh		20.3			21.4			22.4			22.8	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	6.9	44.2		35.0	8.9	42.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.4	3.3	19.6		13.1	5.4	22.1
Green Ext Time (p_c), s		2.4	0.0	16.5		2.4	0.0	15.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1006	1	0	890	65	0	0	2	47	0	93
Future Vol, veh/h	49	1006	1	0	890	65	0	0	2	47	0	93
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1093	1	0	967	71	0	0	2	51	0	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1042	0	0	-	-	0	1698	-	560	1661	-	524
Stage 1	-	-	-	-	-	-	1213	-	-	1007	-	-
Stage 2	-	-	-	-	-	-	485	-	-	654	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	663	-	-	0	-	-	60	0	472	64	0	498
Stage 1	-	-	-	0	-	-	193	0	-	258	0	-
Stage 2	-	-	-	0	-	-	532	0	-	422	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	662	-	-	-	-	-	44	-	466	60	-	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	-	-	159	-	-
Stage 1	-	-	-	-	-	-	176	-	-	236	-	-
Stage 2	-	-	-	-	-	-	423	-	-	386	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	12.8	22.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	466	662	-	-	-	-	159	496
HCM Lane V/C Ratio	-	0.005	0.08	-	-	-	-	0.321	0.204
HCM Control Delay (s)	0	12.8	10.9	-	-	-	-	38	14.1
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.3	-	-	-	-	1.3	0.8

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	8	15	8	9	1	43	17	11	0	11	7
Future Vol, veh/h	9	8	15	8	9	1	43	17	11	0	11	7
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	9	16	9	10	1	47	18	12	0	12	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	148	147	29	152	145	26	27	0	0	30	0	0
Stage 1	23	23	-	118	118	-	-	-	-	-	-	-
Stage 2	125	124	-	34	27	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	820	744	1046	815	746	1050	1587	-	-	1583	-	-
Stage 1	995	876	-	887	798	-	-	-	-	-	-	-
Stage 2	879	793	-	982	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	785	717	1033	772	719	1048	1578	-	-	1580	-	-
Mov Cap-2 Maneuver	785	717	-	772	719	-	-	-	-	-	-	-
Stage 1	959	870	-	860	774	-	-	-	-	-	-	-
Stage 2	839	769	-	951	867	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.9	4.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	862	755	1580	-	-
HCM Lane V/C Ratio	0.03	-	-	0.04	0.026	-	-	-
HCM Control Delay (s)	7.4	0	-	9.4	9.9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	592	94	31	690	124	28	18	24	103	32	99
Future Volume (veh/h)	74	592	94	31	690	124	28	18	24	103	32	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	80	643	102	34	750	135	30	20	26	112	35	108
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1295	205	59	1194	215	475	273	355	568	147	455
Arrive On Green	0.06	0.42	0.42	0.03	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	3059	485	1774	2994	539	1233	733	953	1344	396	1221
Grp Volume(v), veh/h	80	372	373	34	443	442	30	0	46	112	0	143
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1764	1233	0	1686	1344	0	1616
Q Serve(g_s), s	3.5	12.1	12.2	1.5	15.9	15.9	1.4	0.0	1.4	4.6	0.0	4.8
Cycle Q Clear(g_c), s	3.5	12.1	12.2	1.5	15.9	15.9	6.2	0.0	1.4	6.0	0.0	4.8
Prop In Lane	1.00		0.27	1.00		0.31	1.00		0.57	1.00		0.76
Lane Grp Cap(c), veh/h	103	749	751	59	706	703	475	0	628	568	0	602
V/C Ratio(X)	0.78	0.50	0.50	0.58	0.63	0.63	0.06	0.00	0.07	0.20	0.00	0.24
Avail Cap(c_a), veh/h	168	1107	1109	168	1107	1103	475	0	628	568	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.8	16.7	16.7	37.7	19.1	19.1	19.2	0.0	16.0	18.0	0.0	17.1
Incr Delay (d2), s/veh	11.8	0.5	0.5	8.6	0.9	0.9	0.3	0.0	0.2	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.0	6.0	0.9	7.9	7.9	0.5	0.0	0.7	1.8	0.0	2.3
LnGrp Delay(d),s/veh	48.6	17.2	17.2	46.3	20.0	20.0	19.5	0.0	16.2	18.7	0.0	18.0
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		825			919			76			255	
Approach Delay, s/veh		20.2			21.0			17.5			18.3	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	38.0		34.0	9.1	36.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.2	3.5	14.2		8.0	5.5	17.9
Green Ext Time (p_c), s		1.6	0.0	14.3		1.6	0.0	13.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	685	0	0	798	47	2	0	0	22	0	28
Future Vol, veh/h	64	685	0	0	798	47	2	0	0	22	0	28
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	745	0	0	867	51	2	0	0	24	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	919	0	0	-	-	0	1327	-	380	1405	-	461
Stage 1	-	-	-	-	-	-	892	-	-	894	-	-
Stage 2	-	-	-	-	-	-	435	-	-	511	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	738	-	-	0	-	-	113	0	618	99	0	547
Stage 1	-	-	-	0	-	-	303	0	-	302	0	-
Stage 2	-	-	-	0	-	-	570	0	-	514	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	737	-	-	-	-	-	98	-	613	92	-	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	197	-	-	195	-	-
Stage 1	-	-	-	-	-	-	272	-	-	273	-	-
Stage 2	-	-	-	-	-	-	538	-	-	465	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	23.5	18.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	197	-	737	-	-	-	-	195	546
HCM Lane V/C Ratio	0.011	-	0.094	-	-	-	-	0.123	0.056
HCM Control Delay (s)	23.5	0	10.4	-	-	-	-	26	12
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	5	23	11	9	0	16	1	4	0	1	3
Future Vol, veh/h	4	5	23	11	9	0	16	1	4	0	1	3
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	5	25	12	10	0	17	1	4	0	1	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	52	49	9	62	48	9	7	0	0	8	0	0
Stage 1	6	6	-	41	41	-	-	-	-	-	-	-
Stage 2	46	43	-	21	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	947	843	1073	933	844	1073	1614	-	-	1612	-	-
Stage 1	1016	891	-	974	861	-	-	-	-	-	-	-
Stage 2	968	859	-	998	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	925	829	1067	894	830	1067	1609	-	-	1607	-	-
Mov Cap-2 Maneuver	925	829	-	894	830	-	-	-	-	-	-	-
Stage 1	1002	888	-	961	849	-	-	-	-	-	-	-
Stage 2	944	847	-	966	887	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9.3	5.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1609	-	-	1003	864	1607	-	-
HCM Lane V/C Ratio	0.011	-	-	0.035	0.025	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7	9.3	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	863	61	28	909	70	84	27	63	135	25	131
Future Volume (veh/h)	64	863	61	28	909	70	84	27	63	135	25	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	70	938	66	30	988	76	91	29	68	147	27	142
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1545	109	53	1463	113	419	173	406	486	91	480
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3348	236	1774	3323	256	1210	490	1150	1291	259	1361
Grp Volume(v), veh/h	70	496	508	30	526	538	91	0	97	147	0	169
Grp Sat Flow(s),veh/h/ln	1774	1770	1813	1774	1770	1809	1210	0	1640	1291	0	1620
Q Serve(g_s), s	3.4	18.1	18.1	1.4	20.5	20.5	5.1	0.0	3.5	7.6	0.0	6.5
Cycle Q Clear(g_c), s	3.4	18.1	18.1	1.4	20.5	20.5	11.6	0.0	3.5	11.2	0.0	6.5
Prop In Lane	1.00		0.13	1.00		0.14	1.00		0.70	1.00		0.84
Lane Grp Cap(c), veh/h	90	817	837	53	779	796	419	0	579	486	0	571
V/C Ratio(X)	0.77	0.61	0.61	0.57	0.68	0.68	0.22	0.00	0.17	0.30	0.00	0.30
Avail Cap(c_a), veh/h	195	952	975	195	952	973	419	0	579	486	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	17.4	17.4	41.4	19.3	19.3	24.4	0.0	19.3	23.1	0.0	20.2
Incr Delay (d2), s/veh	13.1	0.8	0.8	9.3	1.4	1.4	1.2	0.0	0.6	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.0	9.2	0.8	10.2	10.5	1.8	0.0	1.7	3.0	0.0	3.1
LnGrp Delay(d),s/veh	53.6	18.3	18.2	50.7	20.7	20.7	25.6	0.0	19.9	24.7	0.0	21.5
LnGrp LOS	D	B	B	D	C	C	C		B	C		C
Approach Vol, veh/h		1074			1094			188			316	
Approach Delay, s/veh		20.6			21.5			22.7			23.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	7.1	44.4		35.0	8.9	42.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.6	3.4	20.1		13.2	5.4	22.5
Green Ext Time (p_c), s		2.4	0.0	16.6		2.4	0.0	15.6

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	1027	2	0	911	60	0	0	2	45	0	88
Future Vol, veh/h	42	1027	2	0	911	60	0	0	2	45	0	88
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	1116	2	0	990	65	0	0	2	49	0	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1059	0	0	-	-	0	1717	-	572	1677	-	533
Stage 1	-	-	-	-	-	-	1221	-	-	1027	-	-
Stage 2	-	-	-	-	-	-	496	-	-	650	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	653	-	-	0	-	-	58	0	463	62	0	491
Stage 1	-	-	-	0	-	-	191	0	-	251	0	-
Stage 2	-	-	-	0	-	-	524	0	-	424	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	652	-	-	-	-	-	44	-	457	58	-	489
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	-	-	157	-	-
Stage 1	-	-	-	-	-	-	175	-	-	232	-	-
Stage 2	-	-	-	-	-	-	421	-	-	392	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	12.9	22.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	457	652	-	-	-	-	157	489
HCM Lane V/C Ratio	-	0.005	0.07	-	-	-	-	0.312	0.196
HCM Control Delay (s)	0	12.9	10.9	-	-	-	-	38	14.1
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.2	-	-	-	-	1.2	0.7

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	8	15	8	9	1	43	5	11	0	4	4
Future Vol, veh/h	8	8	15	8	9	1	43	5	11	0	4	4
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	9	16	9	10	1	47	5	12	0	4	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	126	125	20	130	121	13	16	0	0	17	0	0
Stage 1	14	14	-	105	105	-	-	-	-	-	-	-
Stage 2	112	111	-	25	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	848	765	1058	843	769	1067	1602	-	-	1600	-	-
Stage 1	1006	884	-	901	808	-	-	-	-	-	-	-
Stage 2	893	804	-	993	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	812	737	1045	799	741	1065	1593	-	-	1597	-	-
Mov Cap-2 Maneuver	812	737	-	799	741	-	-	-	-	-	-	-
Stage 1	969	878	-	874	784	-	-	-	-	-	-	-
Stage 2	853	780	-	962	876	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9.7	5.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	884	779	1597	-	-
HCM Lane V/C Ratio	0.029	-	-	0.038	0.025	-	-	-
HCM Control Delay (s)	7.3	0	-	9.2	9.7	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	596	94	31	694	124	28	18	24	104	32	100
Future Volume (veh/h)	74	596	94	31	694	124	28	18	24	104	32	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	80	648	102	34	754	135	30	20	26	113	35	109
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	1301	204	59	1199	215	473	272	354	567	146	455
Arrive On Green	0.06	0.42	0.42	0.03	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	3063	481	1774	2997	537	1232	733	953	1344	393	1223
Grp Volume(v), veh/h	80	374	376	34	445	444	30	0	46	113	0	144
Grp Sat Flow(s),veh/h/ln	1774	1770	1774	1774	1770	1764	1232	0	1686	1344	0	1616
Q Serve(g_s), s	3.5	12.2	12.3	1.5	16.0	16.0	1.4	0.0	1.4	4.7	0.0	4.9
Cycle Q Clear(g_c), s	3.5	12.2	12.3	1.5	16.0	16.0	6.2	0.0	1.4	6.1	0.0	4.9
Prop In Lane	1.00		0.27	1.00		0.30	1.00		0.57	1.00		0.76
Lane Grp Cap(c), veh/h	103	752	754	59	708	706	473	0	627	567	0	601
V/C Ratio(X)	0.78	0.50	0.50	0.58	0.63	0.63	0.06	0.00	0.07	0.20	0.00	0.24
Avail Cap(c_a), veh/h	168	1104	1107	168	1104	1101	473	0	627	567	0	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	16.6	16.7	37.8	19.1	19.1	19.3	0.0	16.1	18.1	0.0	17.2
Incr Delay (d2), s/veh	11.8	0.5	0.5	8.6	0.9	0.9	0.3	0.0	0.2	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.0	6.1	0.9	8.0	8.0	0.5	0.0	0.7	1.9	0.0	2.3
LnGrp Delay(d),s/veh	48.7	17.2	17.2	46.4	20.0	20.0	19.6	0.0	16.3	18.9	0.0	18.1
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		830			923			76			257	
Approach Delay, s/veh		20.2			21.0			17.6			18.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	38.2		34.0	9.1	36.2
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.2	3.5	14.3		8.1	5.5	18.0
Green Ext Time (p_c), s		1.6	0.0	14.4		1.6	0.0	13.7

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	686	0	0	798	49	2	0	0	24	0	32
Future Vol, veh/h	68	686	0	0	798	49	2	0	0	24	0	32
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	746	0	0	867	53	2	0	0	26	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	922	0	0	-	-	0	1336	-	381	1416	-	462
Stage 1	-	-	-	-	-	-	901	-	-	895	-	-
Stage 2	-	-	-	-	-	-	435	-	-	521	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	736	-	-	0	-	-	112	0	617	97	0	547
Stage 1	-	-	-	0	-	-	299	0	-	302	0	-
Stage 2	-	-	-	0	-	-	570	0	-	507	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	735	-	-	-	-	-	96	-	612	89	-	546
Mov Cap-2 Maneuver	-	-	-	-	-	-	194	-	-	192	-	-
Stage 1	-	-	-	-	-	-	267	-	-	271	-	-
Stage 2	-	-	-	-	-	-	533	-	-	456	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0	23.8	18.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	194	-	735	-	-	-	-	192	546
HCM Lane V/C Ratio	0.011	-	0.101	-	-	-	-	0.136	0.064
HCM Control Delay (s)	23.8	0	10.4	-	-	-	-	26.7	12
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.5	0.2

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	5	23	11	9	0	16	7	4	0	7	5
Future Vol, veh/h	4	5	23	11	9	0	16	7	4	0	7	5
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	5	25	12	10	0	17	8	4	0	8	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	65	63	16	77	64	16	16	0	0	15	0	0
Stage 1	13	13	-	48	48	-	-	-	-	-	-	-
Stage 2	52	50	-	29	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	929	828	1063	912	827	1063	1602	-	-	1603	-	-
Stage 1	1007	885	-	965	855	-	-	-	-	-	-	-
Stage 2	961	853	-	988	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	908	814	1057	873	813	1057	1597	-	-	1598	-	-
Mov Cap-2 Maneuver	908	814	-	873	813	-	-	-	-	-	-	-
Stage 1	993	882	-	952	843	-	-	-	-	-	-	-
Stage 2	937	841	-	956	879	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.4	4.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	990	845	1598	-	-
HCM Lane V/C Ratio	0.011	-	-	0.035	0.026	-	-	-
HCM Control Delay (s)	7.3	0	-	8.8	9.4	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	870	61	28	914	70	84	27	63	137	25	132
Future Volume (veh/h)	65	870	61	28	914	70	84	27	63	137	25	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	71	946	66	30	993	76	91	29	68	149	27	143
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	1551	108	53	1467	112	416	172	404	484	90	479
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3350	234	1774	3325	254	1209	490	1150	1291	257	1362
Grp Volume(v), veh/h	71	500	512	30	528	541	91	0	97	149	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1814	1774	1770	1809	1209	0	1640	1291	0	1620
Q Serve(g_s), s	3.4	18.3	18.3	1.4	20.6	20.7	5.1	0.0	3.5	7.8	0.0	6.6
Cycle Q Clear(g_c), s	3.4	18.3	18.3	1.4	20.6	20.7	11.7	0.0	3.5	11.3	0.0	6.6
Prop In Lane	1.00		0.13	1.00		0.14	1.00		0.70	1.00		0.84
Lane Grp Cap(c), veh/h	92	820	840	53	781	798	416	0	577	484	0	569
V/C Ratio(X)	0.77	0.61	0.61	0.57	0.68	0.68	0.22	0.00	0.17	0.31	0.00	0.30
Avail Cap(c_a), veh/h	194	949	972	194	949	970	416	0	577	484	0	569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	17.4	17.4	41.5	19.3	19.3	24.6	0.0	19.4	23.3	0.0	20.4
Incr Delay (d2), s/veh	12.9	0.9	0.9	9.3	1.5	1.4	1.2	0.0	0.6	1.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.1	9.3	0.8	10.3	10.5	1.8	0.0	1.7	3.0	0.0	3.1
LnGrp Delay(d),s/veh	53.6	18.3	18.3	50.9	20.8	20.8	25.8	0.0	20.0	24.9	0.0	21.7
LnGrp LOS	D	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		1083			1099			188			319	
Approach Delay, s/veh		20.6			21.6			22.8			23.2	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	7.1	44.7		35.0	9.0	42.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.7	3.4	20.3		13.3	5.4	22.7
Green Ext Time (p_c), s		2.4	0.0	16.6		2.4	0.0	15.6

Intersection Summary	
HCM 2010 Ctrl Delay	21.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1029	2	0	911	65	0	0	2	47	0	93
Future Vol, veh/h	49	1029	2	0	911	65	0	0	2	47	0	93
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1118	2	0	990	71	0	0	2	51	0	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1065	0	0	-	-	0	1734	-	573	1697	-	535
Stage 1	-	-	-	-	-	-	1238	-	-	1030	-	-
Stage 2	-	-	-	-	-	-	496	-	-	667	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	650	-	-	0	-	-	56	0	463	60	0	490
Stage 1	-	-	-	0	-	-	186	0	-	250	0	-
Stage 2	-	-	-	0	-	-	524	0	-	414	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	649	-	-	-	-	-	41	-	457	56	-	488
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	-	-	154	-	-
Stage 1	-	-	-	-	-	-	169	-	-	229	-	-
Stage 2	-	-	-	-	-	-	415	-	-	378	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	12.9	22.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	457	649	-	-	-	-	154	488
HCM Lane V/C Ratio	-	0.005	0.082	-	-	-	-	0.332	0.207
HCM Control Delay (s)	0	12.9	11	-	-	-	-	39.6	14.3
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.3	-	-	-	-	1.3	0.8

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	8	15	8	9	1	43	17	11	0	11	7
Future Vol, veh/h	9	8	15	8	9	1	43	17	11	0	11	7
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	9	16	9	10	1	47	18	12	0	12	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	148	147	29	152	145	26	27	0	0	30	0	0
Stage 1	23	23	-	118	118	-	-	-	-	-	-	-
Stage 2	125	124	-	34	27	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	820	744	1046	815	746	1050	1587	-	-	1583	-	-
Stage 1	995	876	-	887	798	-	-	-	-	-	-	-
Stage 2	879	793	-	982	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	785	717	1033	772	719	1048	1578	-	-	1580	-	-
Mov Cap-2 Maneuver	785	717	-	772	719	-	-	-	-	-	-	-
Stage 1	959	870	-	860	774	-	-	-	-	-	-	-
Stage 2	839	769	-	951	867	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.9	4.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	862	755	1580	-	-
HCM Lane V/C Ratio	0.03	-	-	0.04	0.026	-	-	-
HCM Control Delay (s)	7.4	0	-	9.4	9.9	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	570	93	31	684	141	25	19	26	118	33	100
Future Volume (veh/h)	75	570	93	31	684	141	25	19	26	118	33	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	620	101	34	743	153	27	21	28	128	36	109
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1297	211	59	1167	240	471	268	357	563	149	451
Arrive On Green	0.06	0.43	0.43	0.03	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	3046	495	1774	2921	601	1231	722	962	1341	402	1216
Grp Volume(v), veh/h	82	360	361	34	450	446	27	0	49	128	0	145
Grp Sat Flow(s),veh/h/ln	1774	1770	1772	1774	1770	1752	1231	0	1684	1341	0	1617
Q Serve(g_s), s	3.6	11.6	11.7	1.5	16.3	16.3	1.2	0.0	1.5	5.4	0.0	4.9
Cycle Q Clear(g_c), s	3.6	11.6	11.7	1.5	16.3	16.3	6.2	0.0	1.5	6.9	0.0	4.9
Prop In Lane	1.00		0.28	1.00		0.34	1.00		0.57	1.00		0.75
Lane Grp Cap(c), veh/h	105	753	754	59	707	700	471	0	625	563	0	600
V/C Ratio(X)	0.78	0.48	0.48	0.58	0.64	0.64	0.06	0.00	0.08	0.23	0.00	0.24
Avail Cap(c_a), veh/h	167	1102	1104	167	1102	1091	471	0	625	563	0	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	16.4	16.5	37.9	19.2	19.2	19.4	0.0	16.2	18.4	0.0	17.3
Incr Delay (d2), s/veh	11.6	0.5	0.5	8.6	1.0	1.0	0.2	0.0	0.2	0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.8	5.8	0.9	8.1	8.0	0.5	0.0	0.7	2.1	0.0	2.3
LnGrp Delay(d),s/veh	48.4	16.9	16.9	46.5	20.2	20.2	19.6	0.0	16.4	19.4	0.0	18.2
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		803			930			76			273	
Approach Delay, s/veh		20.1			21.1			17.6			18.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	38.3		34.0	9.2	36.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.2	3.5	13.7		8.9	5.6	18.3
Green Ext Time (p_c), s		1.7	0.0	14.2		1.7	0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	698	0	0	814	49	1	0	0	32	0	27
Future Vol, veh/h	53	698	0	0	814	49	1	0	0	32	0	27
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	759	0	0	885	53	1	0	0	35	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	939	0	0	-	-	0	1325	-	387	1407	-	471
Stage 1	-	-	-	-	-	-	882	-	-	912	-	-
Stage 2	-	-	-	-	-	-	443	-	-	495	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	726	-	-	0	-	-	114	0	611	99	0	539
Stage 1	-	-	-	0	-	-	307	0	-	295	0	-
Stage 2	-	-	-	0	-	-	564	0	-	525	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	725	-	-	-	-	-	100	-	606	93	-	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	-	-	196	-	-
Stage 1	-	-	-	-	-	-	280	-	-	271	-	-
Stage 2	-	-	-	-	-	-	533	-	-	483	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	22.9	20.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	202	-	725	-	-	-	-	196	538
HCM Lane V/C Ratio	0.005	-	0.079	-	-	-	-	0.177	0.055
HCM Control Delay (s)	22.9	0	10.4	-	-	-	-	27.3	12.1
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.6	0.2

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	17	23	11	14	0	16	1	4	0	1	3
Future Vol, veh/h	4	17	23	11	14	0	16	1	4	0	1	3
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	18	25	12	15	0	17	1	4	0	1	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	55	49	9	68	48	9	7	0	0	8	0	0
Stage 1	6	6	-	41	41	-	-	-	-	-	-	-
Stage 2	49	43	-	27	7	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	943	843	1073	925	844	1073	1614	-	-	1612	-	-
Stage 1	1016	891	-	974	861	-	-	-	-	-	-	-
Stage 2	964	859	-	990	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	917	829	1067	876	830	1067	1609	-	-	1607	-	-
Mov Cap-2 Maneuver	917	829	-	876	830	-	-	-	-	-	-	-
Stage 1	1002	888	-	961	849	-	-	-	-	-	-	-
Stage 2	934	847	-	944	887	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.4	5.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1609	-	-	948	850	1607	-	-
HCM Lane V/C Ratio	0.011	-	-	0.05	0.032	-	-	-
HCM Control Delay (s)	7.3	0	-	9	9.4	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	871	61	32	880	88	82	29	69	161	26	131
Future Volume (veh/h)	65	871	61	32	880	88	82	29	69	161	26	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	71	947	66	35	957	96	89	32	75	175	28	142
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	1535	107	58	1423	143	418	173	406	477	94	478
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3350	233	1774	3239	325	1209	491	1150	1280	267	1354
Grp Volume(v), veh/h	71	500	513	35	523	530	89	0	107	175	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1814	1774	1770	1795	1209	0	1640	1280	0	1621
Q Serve(g_s), s	3.4	18.5	18.5	1.7	20.3	20.3	5.0	0.0	3.9	9.5	0.0	6.6
Cycle Q Clear(g_c), s	3.4	18.5	18.5	1.7	20.3	20.3	11.5	0.0	3.9	13.4	0.0	6.6
Prop In Lane	1.00		0.13	1.00		0.18	1.00		0.70	1.00		0.84
Lane Grp Cap(c), veh/h	92	811	831	58	777	788	418	0	579	477	0	572
V/C Ratio(X)	0.77	0.62	0.62	0.60	0.67	0.67	0.21	0.00	0.18	0.37	0.00	0.30
Avail Cap(c_a), veh/h	195	952	976	195	952	965	418	0	579	477	0	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	17.7	17.7	41.2	19.3	19.3	24.4	0.0	19.4	24.0	0.0	20.2
Incr Delay (d2), s/veh	12.9	0.9	0.9	9.5	1.4	1.4	1.2	0.0	0.7	2.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.1	9.3	1.0	10.2	10.3	1.8	0.0	1.9	3.6	0.0	3.1
LnGrp Delay(d),s/veh	53.4	18.6	18.6	50.7	20.7	20.6	25.6	0.0	20.1	26.2	0.0	21.6
LnGrp LOS	D	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		1084			1088			196			345	
Approach Delay, s/veh		20.9			21.6			22.6			23.9	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	7.3	44.1		35.0	9.0	42.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.5	3.7	20.5		15.4	5.4	22.3
Green Ext Time (p_c), s		2.5	0.0	16.4		2.4	0.0	15.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	1076	1	0	920	80	0	0	2	52	0	68
Future Vol, veh/h	32	1076	1	0	920	80	0	0	2	52	0	68
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	1170	1	0	1000	87	0	0	2	57	0	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1091	0	0	-	-	0	1753	-	598	1702	-	548
Stage 1	-	-	-	-	-	-	1252	-	-	1047	-	-
Stage 2	-	-	-	-	-	-	501	-	-	655	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	635	-	-	0	-	-	54	0	445	59	0	480
Stage 1	-	-	-	0	-	-	182	0	-	244	0	-
Stage 2	-	-	-	0	-	-	521	0	-	421	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	634	-	-	-	-	-	43	-	439	~ 56	-	478
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	-	-	156	-	-
Stage 1	-	-	-	-	-	-	170	-	-	230	-	-
Stage 2	-	-	-	-	-	-	440	-	-	395	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	13.2	25.5
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	439	634	-	-	-	-	156	478
HCM Lane V/C Ratio	-	0.005	0.055	-	-	-	-	0.362	0.155
HCM Control Delay (s)	0	13.2	11	-	-	-	-	40.6	13.9
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.2	-	-	-	-	1.5	0.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	15	15	8	23	1	43	5	11	0	4	4
Future Vol, veh/h	8	15	15	8	23	1	43	5	11	0	4	4
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	16	16	9	25	1	47	5	12	0	4	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	125	20	134	121	13	16	0	0	17	0	0
Stage 1	14	14	-	105	105	-	-	-	-	-	-	-
Stage 2	120	111	-	29	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	838	765	1058	838	769	1067	1602	-	-	1600	-	-
Stage 1	1006	884	-	901	808	-	-	-	-	-	-	-
Stage 2	884	804	-	988	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	790	737	1045	788	741	1065	1593	-	-	1597	-	-
Mov Cap-2 Maneuver	790	737	-	788	741	-	-	-	-	-	-	-
Stage 1	969	878	-	874	784	-	-	-	-	-	-	-
Stage 2	828	780	-	949	876	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10	5.3	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	848	760	1597	-	-
HCM Lane V/C Ratio	0.029	-	-	0.049	0.046	-	-	-
HCM Control Delay (s)	7.3	0	-	9.5	10	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	574	93	31	688	141	25	19	26	119	33	101
Future Volume (veh/h)	75	574	93	31	688	141	25	19	26	119	33	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.98
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	624	101	34	748	153	27	21	28	129	36	110
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1303	210	59	1173	240	469	267	356	561	148	451
Arrive On Green	0.06	0.43	0.43	0.03	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1774	3049	493	1774	2924	598	1229	722	962	1341	399	1218
Grp Volume(v), veh/h	82	362	363	34	453	448	27	0	49	129	0	146
Grp Sat Flow(s),veh/h/ln	1774	1770	1772	1774	1770	1753	1229	0	1684	1341	0	1617
Q Serve(g_s), s	3.6	11.7	11.8	1.5	16.4	16.4	1.2	0.0	1.5	5.5	0.0	5.0
Cycle Q Clear(g_c), s	3.6	11.7	11.8	1.5	16.4	16.4	6.2	0.0	1.5	7.0	0.0	5.0
Prop In Lane	1.00		0.28	1.00		0.34	1.00		0.57	1.00		0.75
Lane Grp Cap(c), veh/h	105	756	757	59	710	703	469	0	623	561	0	599
V/C Ratio(X)	0.78	0.48	0.48	0.58	0.64	0.64	0.06	0.00	0.08	0.23	0.00	0.24
Avail Cap(c_a), veh/h	167	1099	1101	167	1099	1089	469	0	623	561	0	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	16.4	16.4	38.0	19.2	19.2	19.5	0.0	16.3	18.6	0.0	17.4
Incr Delay (d2), s/veh	11.6	0.5	0.5	8.6	1.0	1.0	0.2	0.0	0.2	1.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.8	5.9	0.9	8.1	8.0	0.5	0.0	0.7	2.2	0.0	2.4
LnGrp Delay(d),s/veh	48.5	16.9	16.9	46.6	20.2	20.2	19.8	0.0	16.5	19.5	0.0	18.3
LnGrp LOS	D	B	B	D	C	C	B		B	B		B
Approach Vol, veh/h		807			935			76			275	
Approach Delay, s/veh		20.1			21.1			17.7			18.9	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	7.1	38.5		34.0	9.2	36.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	7.5	49.5		29.5	7.5	49.5
Max Q Clear Time (g_c+I1), s		8.2	3.5	13.8		9.0	5.6	18.4
Green Ext Time (p_c), s		1.7	0.0	14.3		1.7	0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	699	0	0	814	51	1	0	0	34	0	31
Future Vol, veh/h	57	699	0	0	814	51	1	0	0	34	0	31
Conflicting Peds, #/hr	1	0	8	8	0	1	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	760	0	0	885	55	1	0	0	37	0	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	941	0	0	-	-	0	1335	-	388	1418	-	472
Stage 1	-	-	-	-	-	-	892	-	-	914	-	-
Stage 2	-	-	-	-	-	-	443	-	-	504	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	724	-	-	0	-	-	112	0	611	97	0	538
Stage 1	-	-	-	0	-	-	303	0	-	294	0	-
Stage 2	-	-	-	0	-	-	564	0	-	518	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	723	-	-	-	-	-	97	-	606	91	-	537
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	-	-	194	-	-
Stage 1	-	-	-	-	-	-	275	-	-	269	-	-
Stage 2	-	-	-	-	-	-	528	-	-	474	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0	23.3	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	198	-	723	-	-	-	-	194	537
HCM Lane V/C Ratio	0.005	-	0.086	-	-	-	-	0.19	0.063
HCM Control Delay (s)	23.3	0	10.4	-	-	-	-	27.9	12.2
HCM Lane LOS	C	A	B	-	-	-	-	D	B
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-	-	0.7	0.2

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	17	23	11	14	0	16	7	4	0	7	5
Future Vol, veh/h	4	17	23	11	14	0	16	7	4	0	7	5
Conflicting Peds, #/hr	3	0	3	3	0	3	3	0	3	3	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	18	25	12	15	0	17	8	4	0	8	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	68	63	16	83	64	16	16	0	0	15	0	0
Stage 1	13	13	-	48	48	-	-	-	-	-	-	-
Stage 2	55	50	-	35	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	925	828	1063	904	827	1063	1602	-	-	1603	-	-
Stage 1	1007	885	-	965	855	-	-	-	-	-	-	-
Stage 2	957	853	-	981	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	899	814	1057	855	813	1057	1597	-	-	1598	-	-
Mov Cap-2 Maneuver	899	814	-	855	813	-	-	-	-	-	-	-
Stage 1	993	882	-	952	843	-	-	-	-	-	-	-
Stage 2	927	841	-	935	879	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9.5	4.3	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	934	831	1598	-	-
HCM Lane V/C Ratio	0.011	-	-	0.051	0.033	-	-	-
HCM Control Delay (s)	7.3	0	-	9.1	9.5	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	878	61	32	885	88	82	29	69	163	25	132
Future Volume (veh/h)	66	878	61	32	885	88	82	29	69	163	25	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.99	1.00		1.00
Parking Bus, 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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	72	954	66	35	962	96	89	32	75	177	27	143
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	1541	107	58	1427	142	416	173	404	475	90	479
Arrive On Green	0.05	0.46	0.46	0.03	0.44	0.44	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1774	3352	232	1774	3241	323	1209	491	1150	1280	257	1362
Grp Volume(v), veh/h	72	504	516	35	525	533	89	0	107	177	0	170
Grp Sat Flow(s),veh/h/ln	1774	1770	1814	1774	1770	1795	1209	0	1640	1280	0	1620
Q Serve(g_s), s	3.5	18.6	18.6	1.7	20.5	20.5	5.0	0.0	3.9	9.7	0.0	6.6
Cycle Q Clear(g_c), s	3.5	18.6	18.6	1.7	20.5	20.5	11.6	0.0	3.9	13.6	0.0	6.6
Prop In Lane	1.00		0.13	1.00		0.18	1.00		0.70	1.00		0.84
Lane Grp Cap(c), veh/h	93	814	834	58	779	790	416	0	577	475	0	570
V/C Ratio(X)	0.77	0.62	0.62	0.60	0.67	0.67	0.21	0.00	0.19	0.37	0.00	0.30
Avail Cap(c_a), veh/h	194	949	973	194	949	963	416	0	577	475	0	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.6	17.7	17.7	41.4	19.3	19.3	24.6	0.0	19.5	24.2	0.0	20.4
Incr Delay (d2), s/veh	12.8	0.9	0.9	9.5	1.4	1.4	1.2	0.0	0.7	2.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.3	9.5	1.0	10.2	10.4	1.8	0.0	1.9	3.7	0.0	3.1
LnGrp Delay(d),s/veh	53.3	18.6	18.6	50.9	20.7	20.7	25.7	0.0	20.2	26.4	0.0	21.7
LnGrp LOS	D	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		1092			1093			196			347	
Approach Delay, s/veh		20.9			21.7			22.7			24.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.0	7.3	44.4		35.0	9.0	42.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.5	9.5	46.5		30.5	9.5	46.5
Max Q Clear Time (g_c+I1), s		13.6	3.7	20.6		15.6	5.5	22.5
Green Ext Time (p_c), s		2.5	0.0	16.5		2.4	0.0	15.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	1078	1	0	920	85	0	0	2	54	0	73
Future Vol, veh/h	39	1078	1	0	920	85	0	0	2	54	0	73
Conflicting Peds, #/hr	4	0	12	12	0	4	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	130	-	-	-	-	-	50	-	0	0	-	60
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	1172	1	0	1000	92	0	0	2	59	0	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1096	0	0	-	-	0	1770	-	599	1722	-	551
Stage 1	-	-	-	-	-	-	1269	-	-	1050	-	-
Stage 2	-	-	-	-	-	-	501	-	-	672	-	-
Critical Hdwy	4.14	-	-	-	-	-	7.54	-	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.52	-	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	633	-	-	0	-	-	53	0	445	~ 57	0	478
Stage 1	-	-	-	0	-	-	178	0	-	243	0	-
Stage 2	-	-	-	0	-	-	521	0	-	412	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	632	-	-	-	-	-	41	-	439	~ 54	-	476
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	-	-	152	-	-
Stage 1	-	-	-	-	-	-	164	-	-	226	-	-
Stage 2	-	-	-	-	-	-	434	-	-	382	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	13.2	26.3
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	439	632	-	-	-	-	152	476
HCM Lane V/C Ratio	-	0.005	0.067	-	-	-	-	0.386	0.167
HCM Control Delay (s)	0	13.2	11.1	-	-	-	-	42.9	14.1
HCM Lane LOS	A	B	B	-	-	-	-	E	B
HCM 95th %tile Q(veh)	-	0	0.2	-	-	-	-	1.7	0.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	15	15	8	23	1	43	17	11	0	11	7
Future Vol, veh/h	9	15	15	8	23	1	43	17	11	0	11	7
Conflicting Peds, #/hr	2	0	6	6	0	2	7	0	0	0	0	7
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	16	16	9	25	1	47	18	12	0	12	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	156	147	29	156	145	26	27	0	0	30	0	0
Stage 1	23	23	-	118	118	-	-	-	-	-	-	-
Stage 2	133	124	-	38	27	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	810	744	1046	810	746	1050	1587	-	-	1583	-	-
Stage 1	995	876	-	887	798	-	-	-	-	-	-	-
Stage 2	870	793	-	977	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	763	717	1033	761	719	1048	1578	-	-	1580	-	-
Mov Cap-2 Maneuver	763	717	-	761	719	-	-	-	-	-	-	-
Stage 1	959	870	-	860	774	-	-	-	-	-	-	-
Stage 2	814	769	-	938	867	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	10.1	4.5	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	826	736	1580	-	-
HCM Lane V/C Ratio	0.03	-	-	0.051	0.047	-	-	-
HCM Control Delay (s)	7.4	0	-	9.6	10.1	0	-	-
HCM Lane LOS	A	A	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Appendix D
Signal Warrant Worksheets

Valle Verde Drive and Trancas Street

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SS date: 9/26/18

Major Street: Trancas Street — Critical Approach Speed* (mph) 30

Minor Street: Valle Verde Drive — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐ or ☐ **Rural (R)**

In built up area of isolated community of < 10,000 population…… ☑ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Minor Street Approach Direction w/ Highest Delay	NB	NB	NB	NB	NB	NB		
Highest Minor Street Average Delay (sec/veh)	22.9	23.5	23.3	23.8	22.9	23.3		
Corresponding Minor Street Approach Volume (veh/hr)	1	2	1	2	1	1		
Minor Street Total Delay (veh-hrs)	0.0	0.0	0.0	0.0	0.0	0.0		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No	No	No		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes	Yes	Yes		
Signal Warranted based on Part A?	No	No	No	No	No	No		

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Trancas Street		X	1571	1594	1578	1601	1614	1621		
Minor Street - Highest Approach	Valle Verde Drive		X	50	50	56	56	59	65		
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**No**	**No**		

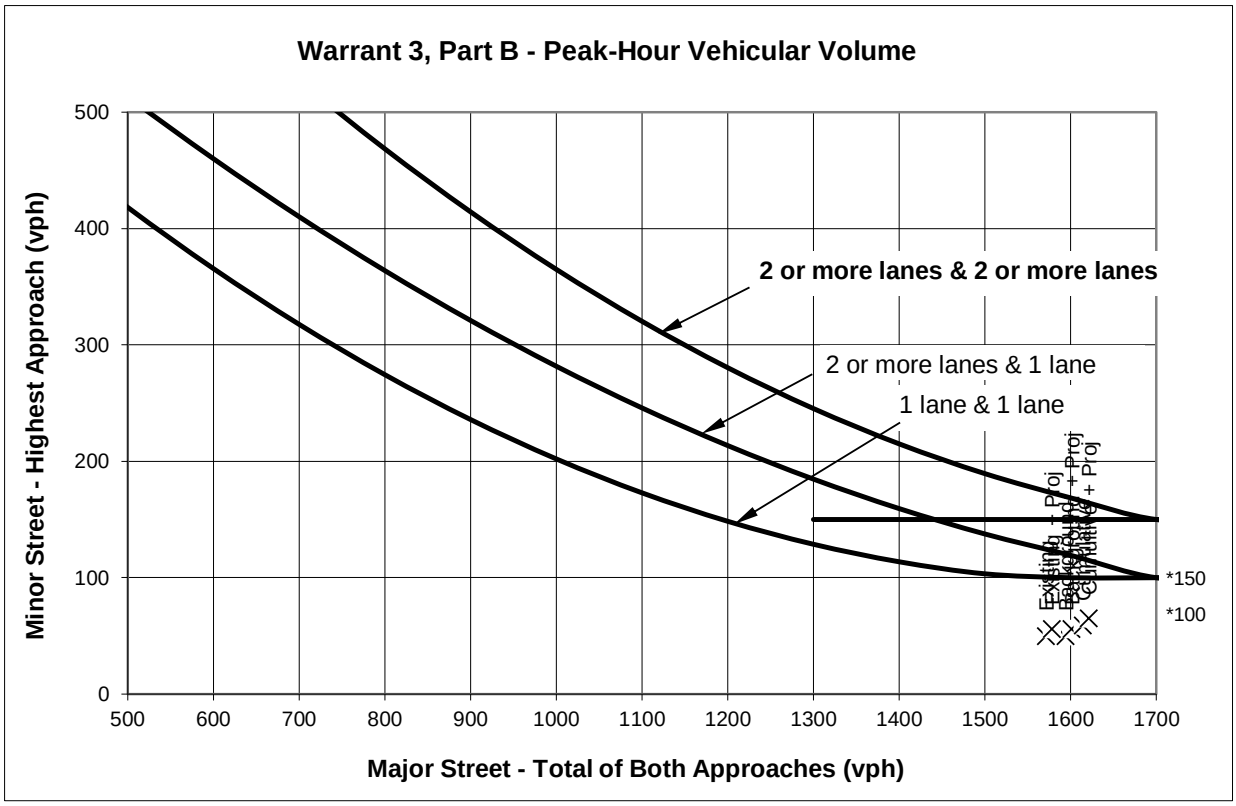
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Valle Verde Drive and Trancas Street

Valle Verde Drive and Trancas Street **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Trancas Street		X	1571	1594	1578	1601	1614	1621		
Minor Street - Highest Approach	Valle Verde Drive		X	50	50	56	56	59	65		
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**No**		

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Valle Verde Drive and Trancas Street

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SS date: 9/26/18

Major Street: Trancas Street — Critical Approach Speed* (mph) 30

Minor Street: Valle Verde Drive — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐ or ☐ **Rural (R)**

In built up area of isolated community of < 10,000 population…… ☑ **Urban (U)**

PM PEAK HOUR

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB		
Highest Minor Street Average Delay (sec/veh)	21.5	22.2	22.1	22.8	25.5	26.3		
Corresponding Minor Street Approach Volume (veh/hr)	133	133	140	140	120	127		
Minor Street Total Delay (veh-hrs)	0.8	0.8	0.9	0.9	0.9	0.9		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No	No	No		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes	Yes	Yes		
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**	**No**	**No**		

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Trancas Street		X	1997	2042	2011	2056	2109	2123		
Minor Street - Highest Approach	Valle Verde Drive		X	133	133	140	140	120	127		
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**No**	**No**		

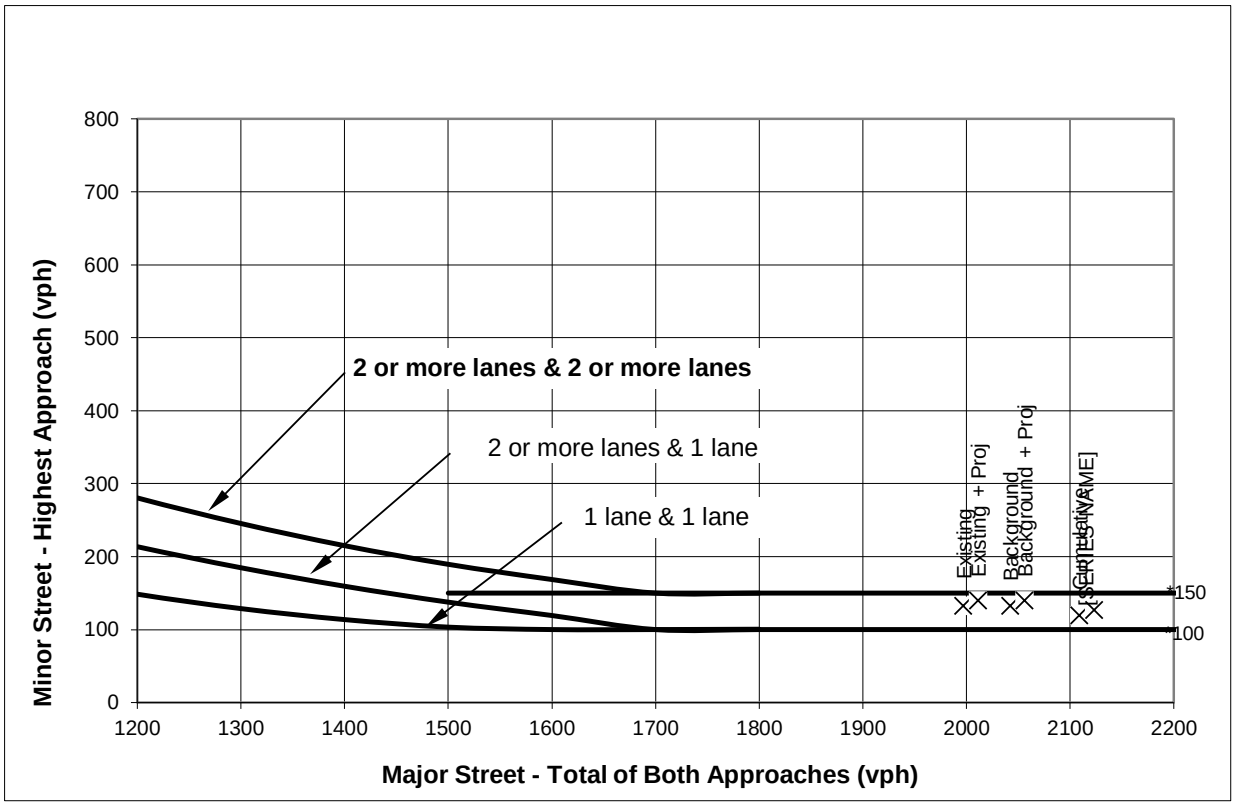
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Valle Verde Drive and Trancas Street

Valle Verde Drive and Trancas Street **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

	Approach Lanes		PM PEAK HOUR							
	One	2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches Trancas Street		X	1997	2042	2011	2056	2109	2123		
Minor Street - Highest Approach Valle Verde Drive		X	133	133	140	140	120	127		
Signal Warranted Based on Part B - Peak-Hour Volumes?			**No**	**No**	**No**	**No**	**No**	**No**		

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Valle Verde Drive and Firefly Lane

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SS date: 9/26/18

Major Street: Firefly Lane — Critical Approach Speed* (mph): 25

Minor Street: Valle Verde Drive — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐

In built up area of isolated community of < 10,000 population…… ☐ } or **Rural (R)**

☑ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB		
Highest Minor Street Average Delay (sec/veh)	9.3	9.3	9.4	9.4	9.4	9.5		
Corresponding Minor Street Approach Volume (veh/hr)	20	20	20	20	25	25		
Minor Street Total Delay (veh-hrs)	0.1	0.1	0.1	0.1	0.1	0.1		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No	No	No		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	No		
Signal Warranted based on Part A?	No	No	No	No	No	No		

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Firefly Lane	X		52	52	52	52	69	69		
Minor Street - Highest Approach	Valle Verde Drive	X		21	21	27	27	21	27		
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**No**	**No**		

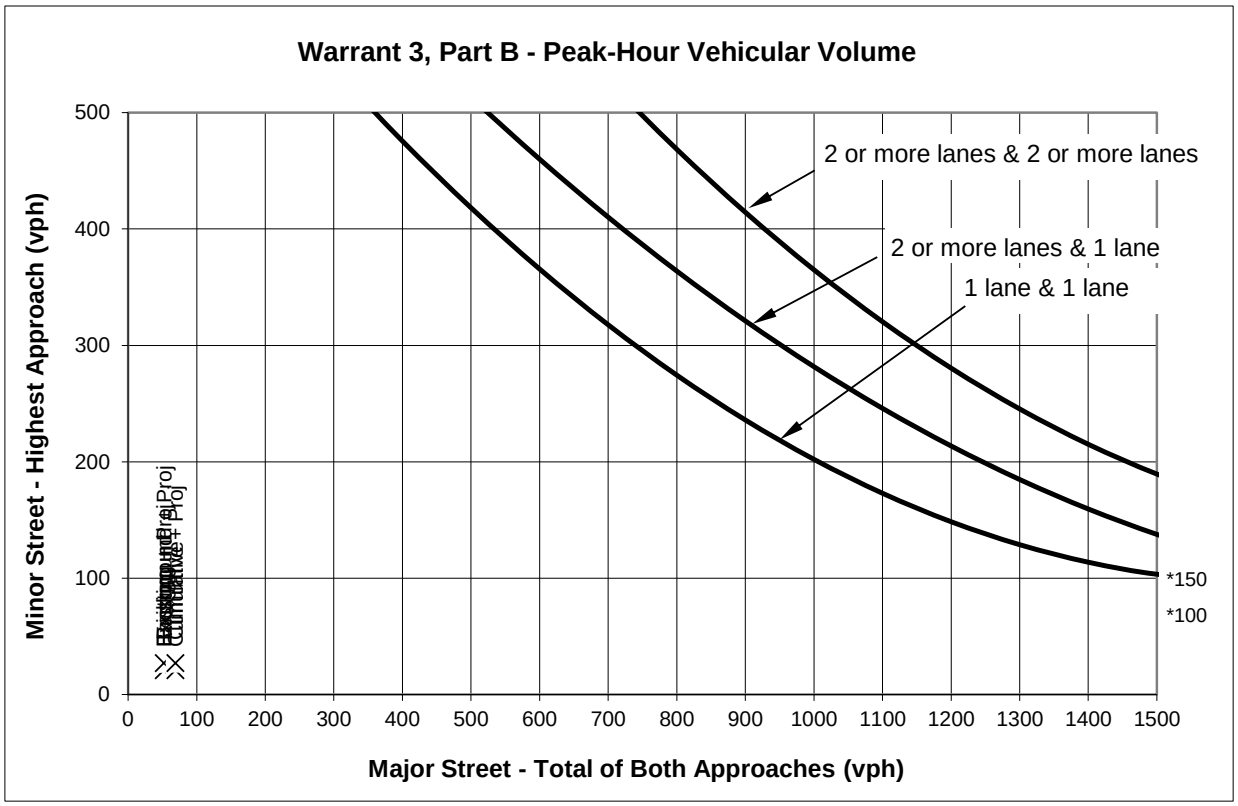
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Valle Verde Drive and Firefly Lane

Valle Verde Drive and Firefly Lane **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Firefly Lane	X		52	52	52	52	69	69		
Minor Street - Highest Approach	Valle Verde Drive	X		21	21	27	27	21	27		
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**No**		

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Valle Verde Drive and Firefly Lane

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SS date: 9/26/18

Major Street: Firefly Lane — Critical Approach Speed* (mph) 25

Minor Street: Valle Verde Drive — Critical Approach Speed* (mph) 25

*Posted Speed.

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐

or

In built up area of isolated community of < 10,000 population…… ☐ **Rural (R)**

☑ **Urban (U)**

PM PEAK HOUR

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB		
Highest Minor Street Average Delay (sec/veh)	9.7	9.7	9.9	9.9	10.0	10.1		
Corresponding Minor Street Approach Volume (veh/hr)	18	18	18	18	32	32		
Minor Street Total Delay (veh-hrs)	0.0	0.0	0.0	0.0	0.1	0.1		
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	No	No		
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No	No	No		
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	No	No	No	No		
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**	**No**	**No**		

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Firefly Lane	X		49	49	50	50	70	71		
Minor Street - Highest Approach	Valle Verde Drive	X		59	59	71	71	59	71		
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**No**	**No**		

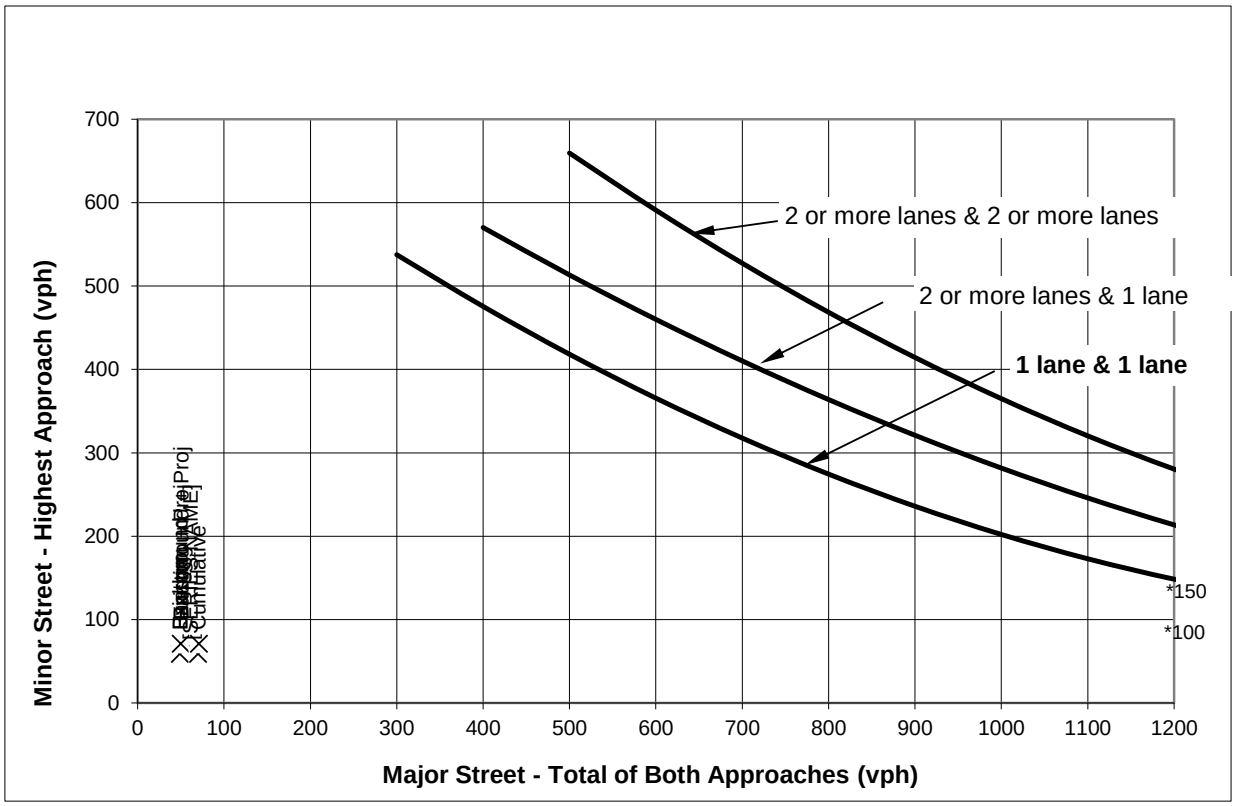
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Valle Verde Drive and Firefly Lane

Valle Verde Drive and Firefly Lane **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	Existing	Background	Existing + Proj	Background + Proj	Cumulative	Cumultive + Proj		
Major Street - Both Approaches	Firefly Lane	X		49	49	50	50	70	71		
Minor Street - Highest Approach	Valle Verde Drive	X		59	59	71	71	59	71		
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**No**	**No**		

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Appendix E
City of Napa Approved Project List

City of Napa Background Projects

Sr. No.	Address	Applicant	Project Description	Status
1	Pear Tree Terrace 1151-1187 1080-1180 Pear Tree	Cresson	71 condo units on 4 ac w loop road; remove 4 existing homes	Subm 7/06;CC appr 11/07 (TM OK to 11/20/16)
2	Rubenstein Subdivision 47 Garfield Lane	David Rubenstein	Divide 1.42 ac into 8 SF lots	Subm 5/13; incomp 6/13; resub 11/13; PC 03/14; CC aprv 04/14; FM 06/15
3	Wood Residence 121 Griffen Lane	Geoffrey Wood	New SFD	Subm 6/13; appr 8/13; bp 05/15
4	Lambrix Residence 133 Griffen Lane & 1132 Serendipity Way	Chris Craiker	Merge lots, new SFD	Subm 01/14; subm 05/14; PC appr 08/14; bp 12/14
5	Riva Reserve House Plans (Big Ranch Road Subdivision) 2091 & 2097 Big Ranch Road	Nikkany LLC	17 SF lots on 5.79 acres	Approved 10/10; TM OK to 10/16; 2014 app for house plans (BP for 13 finaled 10/16)
6	Old Vine Way Subdivision 40 Garfield Lane	RSA+	Divide 1.01 ac parcel into 6 SF lots	Subm 9/14; 2nd subm 11/14; PC 01/15; CC aprv 02/15
7	Pietro Place 725 & 737 Central Avenue and 2269 & 2263 Soscol Avenue	Wayne O'Connell	New 171 MF on 6.71 ac (11 Affordable)	PC App 12/17/15 CC App 1/19/16
8	Tyson Court Parcel Map 721 Trancas Street	Paul Bartelt	Divide 3.28 ac into 1 MF lot & remainder lot for church	App 4/21/16
9	Redwood Duets Amendment 2033 Redwood Road	Jocelyn Lin	34 unit townhouse	App 10/03/2017
10	Jaeger Guest House 1835 Sierra	Robert Jaeger	Acessory Second Unit	App 11/17/16
11	Mayacamas Shops 1685 Permanente Way	Michael Brady	14,564 sf retail	Sub 03/15; incomp 04/15; 2nd subm 04/15; incomp 04/15; 3rd subm 05/15; comp 06/15; PC aprv 08/15
12	Miliken Creek Inn Extension 1815 Silverado Trail	Christian Oakes	2-year extension of approval to add 16-rooms and 12,800 sf	Subm 6/13; aprv 07/13

Appendix F
Parking Counts on Valle Verde Drive

Napa - Parking Study
5/23/2018 and 5/27/2018
IDAX Data Solutions

Wed	
Time	Cars Parked
0:00	18
0:30	17
1:00	18
1:30	18
2:00	18
2:30	18
3:00	18
3:30	18
4:00	18
4:30	18
5:00	18
5:30	17
6:00	18
6:30	16
7:00	16
7:30	15
8:00	12
8:30	12
9:00	10
9:30	9
10:00	10
10:30	11
11:00	9
11:30	9
12:00	9
12:30	9
13:00	9
13:30	9
14:00	10
14:30	8
15:00	8
15:30	9
16:00	9
16:30	11
17:00	12
17:30	12
18:00	12
18:30	14
19:00	15
19:30	16
20:00	15
20:30	16
21:00	14
21:30	14
22:00	13
22:30	13
23:00	13
23:30	13

Sun	
Time	Cars Parked
0:00	15
0:30	17
1:00	17
1:30	17
2:00	17
2:30	18
3:00	17
3:30	17
4:00	17
4:30	17
5:00	17
5:30	18
6:00	18
6:30	18
7:00	17
7:30	17
8:00	17
8:30	18
9:00	20
9:30	18
10:00	17
10:30	15
11:00	16
11:30	14
12:00	15
12:30	16
13:00	14
13:30	14
14:00	15
14:30	17
15:00	17
15:30	17
16:00	16
16:30	19
17:00	19
17:30	19
18:00	20
18:30	20
19:00	18
19:30	19
20:00	17
20:30	16
21:00	16
21:30	15
22:00	15
22:30	13
23:00	13
23:30	13

Appendix G
Tube Counts

All Traffic Data Services, Inc.

www.alltrafficdata.net

Site Code: 1
Station ID:
TRANCES E.O VILLA

Start	10/29/2018		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	*	*	47	48	64	67	90	62	67	59
01:00	*	*	*	*	*	*	*	*	28	31	43	40	51	42	41	38
02:00	*	*	*	*	*	*	*	*	13	23	22	31	22	13	19	22
03:00	*	*	*	*	*	*	*	*	18	25	22	19	16	11	19	18
04:00	*	*	*	*	*	*	*	*	49	38	28	32	23	22	33	31
05:00	*	*	*	*	*	*	*	*	141	126	98	60	55	42	98	76
06:00	*	*	*	*	*	*	*	*	383	291	179	114	107	104	223	170
07:00	*	*	*	*	*	*	*	*	488	554	243	233	176	248	302	345
08:00	*	*	*	*	*	*	*	*	636	658	396	360	334	385	455	468
09:00	*	*	*	*	*	*	*	*	637	592	489	452	468	439	531	494
10:00	*	*	*	*	*	*	*	*	634	694	603	607	524	527	587	609
11:00	*	*	*	*	*	*	*	*	**670**	**744**	**686**	**608**	**594**	**586**	**650**	**646**
12:00 PM	*	*	*	*	*	*	*	*	733	705	**709**	**646**	**596**	520	**679**	624
01:00	*	*	*	*	*	*	*	*	761	**733**	667	619	590	558	673	637
02:00	*	*	*	*	*	*	*	*	734	728	586	628	545	**571**	622	**642**
03:00	*	*	*	*	*	*	*	*	757	730	606	595	521	527	628	617
04:00	*	*	*	*	*	*	*	*	**769**	658	574	621	521	518	621	599
05:00	*	*	*	*	*	*	*	*	750	709	523	621	465	533	579	621
06:00	*	*	*	*	*	*	*	*	579	579	460	507	399	360	479	482
07:00	*	*	*	*	*	*	*	*	437	439	345	339	263	254	348	344
08:00	*	*	*	*	*	*	*	*	326	344	272	224	200	169	266	246
09:00	*	*	*	*	*	*	*	*	240	214	206	194	145	136	197	181
10:00	*	*	*	*	*	*	*	*	148	194	182	181	81	103	137	159
11:00	*	*	*	*	*	*	*	*	93	110	107	162	61	65	87	112
Lane	0	0	0	0	0	0	0	0	10071	9967	8110	7960	6847	6795	8341	8240
Day	0		0		0		0		20038		16070		13642		16581	
AM Peak	-	-	-	-	-	-	-	-	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	-	-	670	744	686	608	594	586	650	646
PM Peak	-	-	-	-	-	-	-	-	16:00	13:00	12:00	12:00	12:00	14:00	12:00	14:00
Vol.	-	-	-	-	-	-	-	-	769	733	709	646	596	571	679	642

All Traffic Data Services, Inc.

www.alltrafficdata.net

Site Code: 1
Station ID:
TRANCES E.O VILLA

Start	11/5/2018		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	37	37	39	35	26	39	36	40	*	*	*	*	*	*	34	38
01:00	25	25	19	13	24	22	24	17	*	*	*	*	*	*	23	19
02:00	11	12	12	9	13	18	15	20	*	*	*	*	*	*	13	15
03:00	22	22	13	20	17	22	16	27	*	*	*	*	*	*	17	23
04:00	53	43	55	56	47	50	45	58	*	*	*	*	*	*	50	52
05:00	168	144	151	156	165	136	165	129	*	*	*	*	*	*	162	141
06:00	401	289	415	263	407	298	404	287	*	*	*	*	*	*	407	284
07:00	489	561	479	611	490	561	492	567	*	*	*	*	*	*	488	575
08:00	636	**727**	664	**709**	632	**674**	**682**	627	*	*	*	*	*	*	654	**684**
09:00	624	636	603	619	607	579	597	602	*	*	*	*	*	*	608	609
10:00	659	668	677	679	641	613	637	698	*	*	*	*	*	*	654	664
11:00	**673**	660	**682**	701	**698**	623	669	**744**	*	*	*	*	*	*	**680**	682
12:00 PM	**711**	649	**752**	663	**782**	611	**742**	677	*	*	*	*	*	*	**747**	650
01:00	661	676	677	**710**	713	604	677	696	*	*	*	*	*	*	682	672
02:00	662	693	696	705	735	560	607	704	*	*	*	*	*	*	675	666
03:00	702	637	655	666	744	591	716	670	*	*	*	*	*	*	704	641
04:00	692	**698**	683	677	681	618	720	**708**	*	*	*	*	*	*	694	**675**
05:00	671	685	721	633	721	**638**	736	685	*	*	*	*	*	*	712	660
06:00	520	529	498	532	521	497	569	592	*	*	*	*	*	*	527	538
07:00	376	313	387	301	408	337	445	364	*	*	*	*	*	*	404	329
08:00	228	209	275	210	257	226	318	278	*	*	*	*	*	*	270	231
09:00	180	162	180	166	156	167	181	172	*	*	*	*	*	*	174	167
10:00	80	107	105	117	112	118	129	119	*	*	*	*	*	*	106	115
11:00	60	56	54	75	66	72	74	87	*	*	*	*	*	*	64	72
Lane	9341	9238	9492	9326	9663	8674	9696	9568	0	0	0	0	0	0	9549	9202
Day	18579		18818		18337		19264		0		0		0		18751	
AM Peak	11:00	08:00	11:00	08:00	11:00	08:00	08:00	11:00	-	-	-	-	-	-	11:00	08:00
Vol.	673	727	682	709	698	674	682	744	-	-	-	-	-	-	680	684
PM Peak	12:00	16:00	12:00	13:00	12:00	17:00	12:00	16:00	-	-	-	-	-	-	12:00	16:00
Vol.	711	698	752	710	782	638	742	708	-	-	-	-	-	-	747	675

Comb. Total	18579	18818	18337	19264	20038	16070	13642	35332

ADT ADT 17,821 AADT 17,821

All Traffic Data Services, Inc.

www.alltrafficdata.net

Site Code: 2
Station ID:
VILLA LN N.O TRANCAS

Start	10/29/2018		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	3	7	6	7	13	16	7	10
01:00	*	*	*	*	*	*	*	*	6	5	11	6	3	4	7	5
02:00	*	*	*	*	*	*	*	*	2	2	8	7	1	5	4	5
03:00	*	*	*	*	*	*	*	*	2	7	4	4	2	0	3	4
04:00	*	*	*	*	*	*	*	*	4	6	4	6	1	2	3	5
05:00	*	*	*	*	*	*	*	*	36	28	5	8	7	8	16	15
06:00	*	*	*	*	*	*	*	*	75	46	26	24	26	31	42	34
07:00	*	*	*	*	*	*	*	*	149	164	59	45	55	28	88	79
08:00	*	*	*	*	*	*	*	*	171	**198**	54	96	69	78	98	124
09:00	*	*	*	*	*	*	*	*	154	154	92	116	64	92	103	121
10:00	*	*	*	*	*	*	*	*	179	185	**104**	**146**	71	100	118	144
11:00	*	*	*	*	*	*	*	*	**180**	191	97	133	**99**	**116**	**125**	**147**
12:00 PM	*	*	*	*	*	*	*	*	158	203	87	**124**	74	102	106	143
01:00	*	*	*	*	*	*	*	*	172	175	96	124	91	97	120	132
02:00	*	*	*	*	*	*	*	*	159	196	100	105	79	**113**	113	138
03:00	*	*	*	*	*	*	*	*	**194**	**251**	92	121	87	77	**124**	**150**
04:00	*	*	*	*	*	*	*	*	180	232	**105**	82	75	95	120	136
05:00	*	*	*	*	*	*	*	*	162	202	74	96	79	104	105	134
06:00	*	*	*	*	*	*	*	*	94	118	78	85	**93**	58	88	87
07:00	*	*	*	*	*	*	*	*	109	98	60	76	60	69	76	81
08:00	*	*	*	*	*	*	*	*	68	68	51	46	38	36	52	50
09:00	*	*	*	*	*	*	*	*	44	44	30	30	28	23	34	32
10:00	*	*	*	*	*	*	*	*	48	32	32	20	24	23	35	25
11:00	*	*	*	*	*	*	*	*	18	12	24	12	8	5	17	10
Lane	0	0	0	0	0	0	0	0	2367	2624	1299	1519	1147	1282	1604	1811
Day	0		0		0		0		4991		2818		2429		3415	
AM Peak	-	-	-	-	-	-	-	-	11:00	08:00	10:00	10:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	-	-	180	198	104	146	99	116	125	147
PM Peak	-	-	-	-	-	-	-	-	15:00	15:00	16:00	12:00	18:00	14:00	15:00	15:00
Vol.	-	-	-	-	-	-	-	-	194	251	105	124	93	113	124	150

All Traffic Data Services, Inc.

www.alltrafficdata.net

Site Code: 2
Station ID:
VILLA LN N.O TRANCAS

Start Time	11/5/2018 NB	11/5/2018 SB	Tue NB	Tue SB	Wed NB	Wed SB	Thu NB	Thu SB	Fri NB	Fri SB	Sat NB	Sat SB	Sun NB	Sun SB	Week Average NB	Week Average SB
12:00 AM	4	4	3	6	4	3	5	5	*	*	*	*	*	*	4	4
01:00	4	4	2	2	4	2	1	4	*	*	*	*	*	*	3	3
02:00	1	1	1	1	1	0	1	1	*	*	*	*	*	*	1	1
03:00	1	2	1	6	1	6	2	6	*	*	*	*	*	*	1	5
04:00	3	8	6	11	7	8	4	10	*	*	*	*	*	*	5	9
05:00	34	35	46	33	41	24	33	21	*	*	*	*	*	*	38	28
06:00	74	73	89	61	90	69	70	66	*	*	*	*	*	*	81	67
07:00	154	172	166	203	159	176	151	183	*	*	*	*	*	*	158	184
08:00	204	191	207	212	**206**	186	191	191	*	*	*	*	*	*	**202**	195
09:00	**221**	174	**223**	175	137	151	167	137	*	*	*	*	*	*	187	159
10:00	183	**194**	201	**246**	188	**199**	191	175	*	*	*	*	*	*	191	**204**
11:00	160	193	194	226	165	174	**202**	**200**	*	*	*	*	*	*	180	198
12:00 PM	185	222	168	214	171	213	182	215	*	*	*	*	*	*	176	216
01:00	183	227	174	214	204	205	158	194	*	*	*	*	*	*	180	210
02:00	163	205	191	227	178	228	173	194	*	*	*	*	*	*	176	214
03:00	**211**	251	**212**	258	**226**	**309**	**198**	**282**	*	*	*	*	*	*	**212**	**275**
04:00	211	**263**	189	**293**	176	251	169	241	*	*	*	*	*	*	186	262
05:00	193	220	209	208	167	205	148	221	*	*	*	*	*	*	179	214
06:00	114	115	137	145	104	124	134	152	*	*	*	*	*	*	122	134
07:00	72	85	80	88	71	70	80	89	*	*	*	*	*	*	76	83
08:00	46	50	58	46	68	53	66	64	*	*	*	*	*	*	60	53
09:00	40	26	45	32	39	33	51	35	*	*	*	*	*	*	44	32
10:00	19	16	22	24	28	15	22	13	*	*	*	*	*	*	23	17
11:00	14	13	10	12	17	14	10	14	*	*	*	*	*	*	13	13
Lane	2494	2744	2634	2943	2452	2718	2409	2713	0	0	0	0	0	0	2498	2780
Day	5238		5577		5170		5122		0		0		0		5278	
AM Peak	09:00	10:00	09:00	10:00	08:00	10:00	11:00	11:00	-	-	-	-	-	-	08:00	10:00
Vol.	221	194	223	246	206	199	202	200	-	-	-	-	-	-	202	204
PM Peak	15:00	16:00	15:00	16:00	15:00	15:00	15:00	15:00	-	-	-	-	-	-	15:00	15:00
Vol.	211	263	212	293	226	309	198	282	-	-	-	-	-	-	212	275

Comb. Total	5238	5577	5170	5122	4991	2818	2429	8693

ADT ADT 4,478 AADT 4,478

All Traffic Data Services, Inc.

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Site Code: 3
Station ID:
VALLE VERDE N.O TRANCAS

Start	10/29/2018		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	8	3	13	3	14	7	12	4
01:00	*	*	*	*	*	*	*	*	3	2	4	3	6	2	4	2
02:00	*	*	*	*	*	*	*	*	1	0	5	4	6	0	4	1
03:00	*	*	*	*	*	*	*	*	1	3	1	3	0	0	1	2
04:00	*	*	*	*	*	*	*	*	1	2	2	5	2	3	2	3
05:00	*	*	*	*	*	*	*	*	2	18	3	13	2	9	2	13
06:00	*	*	*	*	*	*	*	*	15	41	7	16	7	9	10	22
07:00	*	*	*	*	*	*	*	*	56	**64**	9	24	10	30	25	39
08:00	*	*	*	*	*	*	*	*	**62**	58	12	29	20	29	31	39
09:00	*	*	*	*	*	*	*	*	56	57	30	**35**	25	33	37	**42**
10:00	*	*	*	*	*	*	*	*	44	49	33	33	20	**34**	32	39
11:00	*	*	*	*	*	*	*	*	61	54	**38**	29	**37**	33	**45**	39
12:00 PM	*	*	*	*	*	*	*	*	71	**64**	39	31	32	25	47	40
01:00	*	*	*	*	*	*	*	*	**82**	64	43	36	35	18	53	39
02:00	*	*	*	*	*	*	*	*	60	60	**47**	**38**	35	**39**	47	**46**
03:00	*	*	*	*	*	*	*	*	60	49	43	30	41	29	48	36
04:00	*	*	*	*	*	*	*	*	73	44	44	30	47	22	55	32
05:00	*	*	*	*	*	*	*	*	76	49	45	29	**50**	22	**57**	33
06:00	*	*	*	*	*	*	*	*	55	36	39	29	34	23	43	29
07:00	*	*	*	*	*	*	*	*	53	33	36	21	40	30	43	28
08:00	*	*	*	*	*	*	*	*	38	18	21	12	24	13	28	14
09:00	*	*	*	*	*	*	*	*	36	24	25	17	26	9	29	17
10:00	*	*	*	*	*	*	*	*	20	13	20	17	11	5	17	12
11:00	*	*	*	*	*	*	*	*	13	5	16	5	5	1	11	4
Lane	0	0	0	0	0	0	0	0	947	810	575	492	529	425	683	575
Day	0		0		0		0		1757		1067		954		1258	
AM Peak	-	-	-	-	-	-	-	-	08:00	07:00	11:00	09:00	11:00	10:00	11:00	09:00
Vol.	-	-	-	-	-	-	-	-	62	64	38	35	37	34	45	42
PM Peak	-	-	-	-	-	-	-	-	13:00	12:00	14:00	14:00	17:00	14:00	17:00	14:00
Vol.	-	-	-	-	-	-	-	-	82	64	47	38	50	39	57	46

All Traffic Data Services, Inc.

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Site Code: 3
Station ID:
VALLE VERDE N.O TRANCAS

Start	11/5/2018		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	5	3	2	5	3	6	5	1	*	*	*	*	*	*	4	4
01:00	2	0	1	1	2	2	3	3	*	*	*	*	*	*	2	2
02:00	1	0	0	1	1	3	3	2	*	*	*	*	*	*	1	2
03:00	1	4	1	2	0	1	1	3	*	*	*	*	*	*	1	2
04:00	4	3	1	5	2	5	1	8	*	*	*	*	*	*	2	5
05:00	4	24	3	31	3	28	6	24	*	*	*	*	*	*	4	27
06:00	13	46	15	39	18	42	8	31	*	*	*	*	*	*	14	40
07:00	60	56	**72**	**80**	**64**	**78**	64	71	*	*	*	*	*	*	65	**71**
08:00	71	64	72	62	59	54	**70**	68	*	*	*	*	*	*	**68**	62
09:00	55	53	50	66	48	51	55	52	*	*	*	*	*	*	52	56
10:00	71	75	51	58	48	53	50	59	*	*	*	*	*	*	55	61
11:00	**80**	**85**	68	57	57	53	56	**78**	*	*	*	*	*	*	65	68
12:00 PM	107	69	77	**68**	78	**78**	96	59	*	*	*	*	*	*	90	68
01:00	**113**	65	79	54	**94**	54	90	73	*	*	*	*	*	*	**94**	62
02:00	100	71	65	59	76	58	80	52	*	*	*	*	*	*	80	60
03:00	85	69	68	48	76	64	**109**	60	*	*	*	*	*	*	84	60
04:00	77	73	**82**	67	89	56	79	75	*	*	*	*	*	*	82	68
05:00	80	**82**	69	54	67	67	77	**76**	*	*	*	*	*	*	73	**70**
06:00	51	46	42	32	37	35	47	42	*	*	*	*	*	*	44	39
07:00	36	16	37	18	41	23	45	23	*	*	*	*	*	*	40	20
08:00	28	15	39	16	46	18	34	22	*	*	*	*	*	*	37	18
09:00	23	16	28	11	25	9	25	16	*	*	*	*	*	*	25	13
10:00	13	9	14	6	17	8	17	7	*	*	*	*	*	*	15	8
11:00	5	1	14	2	6	4	8	5	*	*	*	*	*	*	8	3
Lane	1085	945	950	842	957	850	1029	910	0	0	0	0	0	0	1005	889
Day	2030		1792		1807		1939		0		0		0		1894	
AM Peak	11:00	11:00	07:00	07:00	07:00	07:00	08:00	11:00	-	-	-	-	-	-	08:00	07:00
Vol.	80	85	72	80	64	78	70	78	-	-	-	-	-	-	68	71
PM Peak	13:00	17:00	16:00	12:00	13:00	12:00	15:00	17:00	-	-	-	-	-	-	13:00	17:00
Vol.	113	82	82	68	94	78	109	76	-	-	-	-	-	-	94	70

Comb. Total	2030	1792	1807	1939	1757	1067	954	3152
ADT	ADT 1,621	AADT 1,621						