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# **APPENDIX D**

## TRAFFIC IMPACT ANALYSIS

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# HEXAGON TRANSPORTATION CONSULTANTS, INC.

## 18840 Saratoga-Los Gatos Road Residential Development

### Transportation Impact Analysis

Prepared for:

**EMC Planning Group Inc.**

March 23, 2018



#### **Hexagon Transportation Consultants, Inc.**

Hexagon Office: 4 North Second Street, Suite 400  
San Jose, CA 95113

Phone: 408.971.6100

Hexagon Job Number: 18KK02

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## Executive Summary

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This report presents the results of the transportation impact analysis (TIA) conducted for the proposed residential development project located at 18840 Saratoga-Los Gatos Road in Monte Sereno, California. The project proposes to build up to 36 housing units with 27 single-family homes and 9 townhomes. The existing uses on the site, including a restaurant and a bar, would be removed. Vehicular access to the project site is provided by an existing driveway on Saratoga-Los Gatos Road.

### Project Trip Estimates

Project trip generation was estimated by applying to the size and use of the proposed project the appropriate trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, 10th edition (2017). After applying the ITE trip generation rates for single-family detached housing (Land Use 210) and existing use trip credits, the project would not generate new vehicle trips during either the AM or PM peak hours.

The project would generate 71 fewer daily trips and 11 fewer PM peak-hour trips than the existing uses. Therefore, the project's impact on intersection level of service and traffic operations during the PM peak-hour was not further studied.

During the AM peak hour, although the project would not increase the total driveway trips, the project would add 5 outbound trips and reduce 5 inbound trips. Therefore, the project's impact on intersection level of service and traffic operations was evaluated for the AM peak hour.

### Intersection Levels of Service

Traffic conditions at the study intersections were evaluated using a concept called "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 results of the intersection level of service analysis (Table ES-1) show that under existing plus project conditions, the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection would continue to operate at LOS E during the AM peak hour, which is considered unacceptable measured against the Town of Los Gatos standard (LOS D) but is considered acceptable measured against the CMP standard (LOS E). At the intersection, although the project would slightly increase the eastbound traffic in the AM peak hour, the westbound traffic (peak travel direction) would be reduced slightly, and there would be no net traffic increase as a result of the project. Therefore, the increase in average delay (0.1 second per vehicle), average critical-movement delay (0 second), and critical-movement v/c (-0.001) at the intersection are negligible. Since the level of service would remain unchanged under existing plus project conditions and the project would not add any new trips, the project would not have a significant impact at the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection.

At both unsignalized intersections, the level of service results show that the worst approaches would experience delays corresponding to LOS D or better, which is generally considered an acceptable level of delay. Because there would be no net traffic increase as a result of the project, the project would not cause a noticeable increase in vehicle delay for the northbound and southbound traffic on El Camino Grande, Austin Way, and the project driveway.

## Other Transportation Issues

The two unsignalized study intersections operate well during the AM and PM peak hours, and the project is not expected to degrade the current traffic operations at these intersections.

The site plan shows adequate site access and on-site circulation, and no significant operational issues are expected to occur as a result of the project. The project would not have an adverse effect on the existing bicycle, pedestrian, transit facilities in the study area. Thus, no project sponsored improvements would be necessary.

Hexagon has provided the following recommendations resulting from the site access and circulation analysis.

### Recommendations:

- The driveway width should be reduced to 26 feet, or a median should be installed to separate inbound and outbound traffic.
- The project should provide a pedestrian walkway across its frontage.

**Table ES 1  
Intersection Level of Service Summary**

ID	Intersection	Jurisdiction	LOS Standard	Existing Control <sup>1</sup>	Peak Hour	Existing		Existing+Project			
						Avg. Delay <sup>2</sup>	LOS	Avg. Delay <sup>2</sup>	LOS	Incr. In Crit. Del.	Incr. In Crit. V/C
1	Fruitvale Ave and Saratoga-Los Gatos Rd	Saratoga	D	Signal	AM PM	10.0 15.4	A B	9.9	A	-0.1 0.000 Same or better than existing conditions	
2	El Camino Grande/Austin Wy and Saratoga-Los Gatos Rd	Saratoga	N/A <sup>3</sup>	TWSC	AM PM	27.5 26.9	D D	27.5	D	N/A <sup>3</sup> N/A <sup>3</sup> Same or better than existing conditions	
3	Austin Wy/Project Driveway and Saratoga-Los Gatos Rd	Monte Sereno	N/A <sup>3</sup>	TWSC	AM PM	22.4 17.3	C C	22.0	C	N/A <sup>3</sup> N/A <sup>3</sup> Same or better than existing conditions	
4	Quito Rd and Saratoga-Los Gatos Rd*	Monte Sereno	B	Signal	AM PM	6.4 12.6	A B	6.4	A	0.0	-0.001
5	Santa Cruz Rd and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM PM	<b>66.9</b> 47.9	<b>E</b> D	<b>67.0</b>	<b>E</b>	0.0	-0.001
6	University Ave and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM PM	48.3 42.5	D D	48.3	D	0.0	-0.001

Notes:

\* Denotes VTA CMP intersection

1. Intersection control under existing conditions.

- Signal = signalized Intersection
- TWSC = two-way stop-controlled intersection

2. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections.

Worst stop-controlled movement/approach delay (seconds per vehicle) is reported for TWSC intersections.

3. Intersection level of service standard and changes in critical delay and v/c are not applicable to unsignalized intersections.

**Bold** indicates a substandard level of service.

# 1. Introduction

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This report presents the results of the transportation impact analysis (TIA) conducted for the proposed residential development project located at 18840 Saratoga-Los Gatos Road in Monte Sereno, California. The project proposes to build up to 36 housing units with 27 single-family homes and 9 townhomes. The existing uses on the site, including a restaurant and a bar, would be removed. Vehicular access to the project site is provided by an existing driveway on Saratoga-Los Gatos Road. The project site and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

## Scope of Study

This study was conducted for the purpose of identifying the potential traffic impacts related to the proposed project. The impacts of the project were evaluated following the standards and methodologies set forth by the cities of Monte Sereno and Saratoga, the Town of Los Gatos, and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the County Congestion Management Program (CMP). Because the project would generate fewer than 100 peak-hour trips, a CMP analysis is not required.

The traffic analysis is based on peak-hour levels of service for signalized and unsignalized intersections. The study intersections are identified below. The CMP intersections are denoted with an asterisk (\*).

- Fruitvale Avenue and Saratoga-Los Gatos Road<sup>1</sup>
- El Camino Grande/Austin Way and Saratoga-Los Gatos Road<sup>1</sup> (unsignalized)
- Austin Way/Project Driveway and Saratoga-Los Gatos Road<sup>2</sup> (unsignalized)
- Quito Road and Saratoga-Los Gatos Road<sup>2</sup>
- N. Santa Cruz Avenue and Saratoga-Los Gatos Road<sup>\*3</sup>
- University Avenue and Saratoga-Los Gatos Road<sup>\*3</sup>

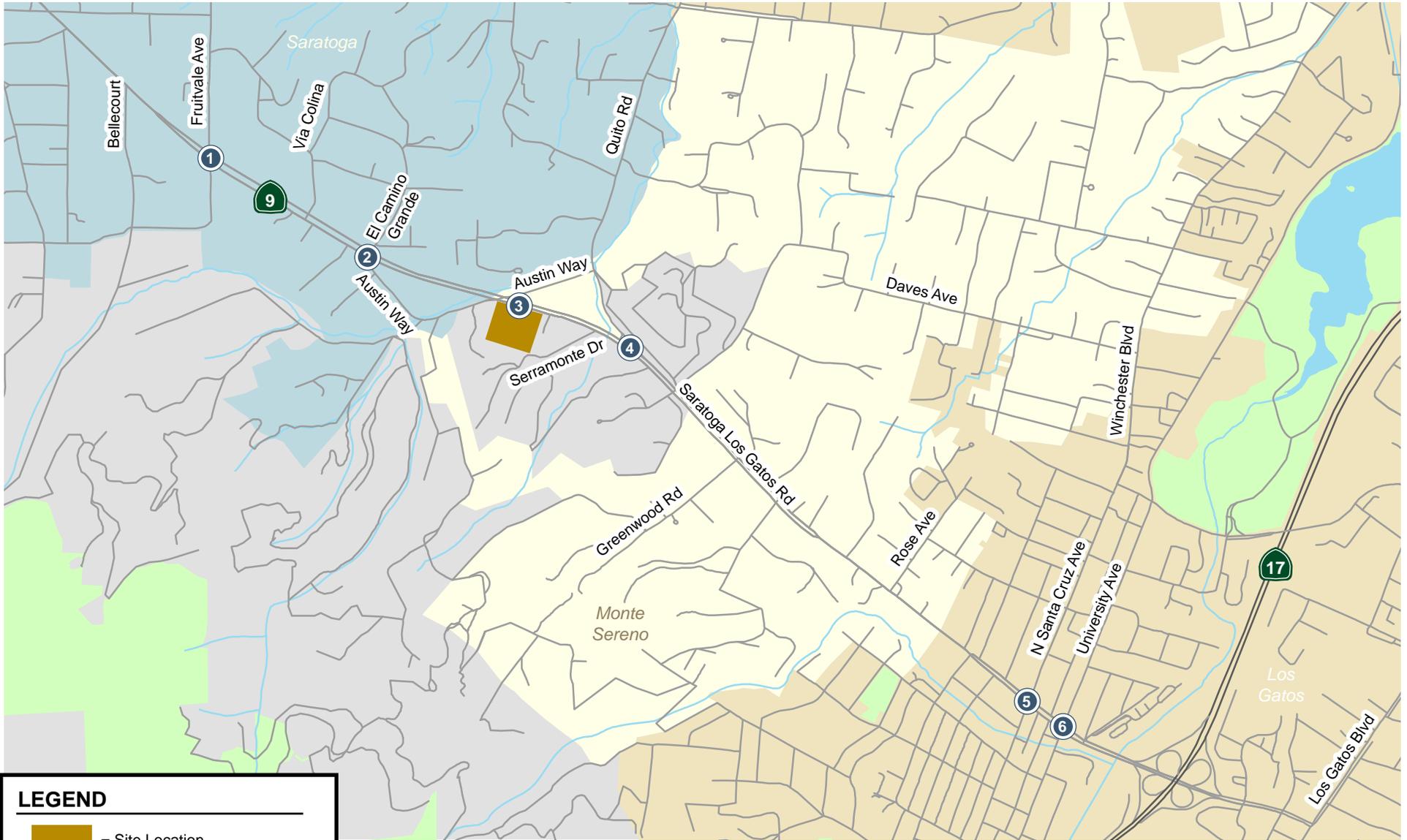
Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours of traffic. Locally, the AM peak hour of traffic is between 7:00 and 9:00 AM. The PM peak hour is between 4:00 and 6:00 PM. It is during these periods that the highest traffic volume occurs on an average day.

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<sup>1</sup> Intersections located in the City of Saratoga.

<sup>2</sup> Intersection located in the City of Monte Sereno.

<sup>3</sup> Intersections located in the Town of Los Gatos.



**LEGEND**

-  = Site Location
-  = Study Intersection

**Figure 1**  
**Site Location and Study Intersections**

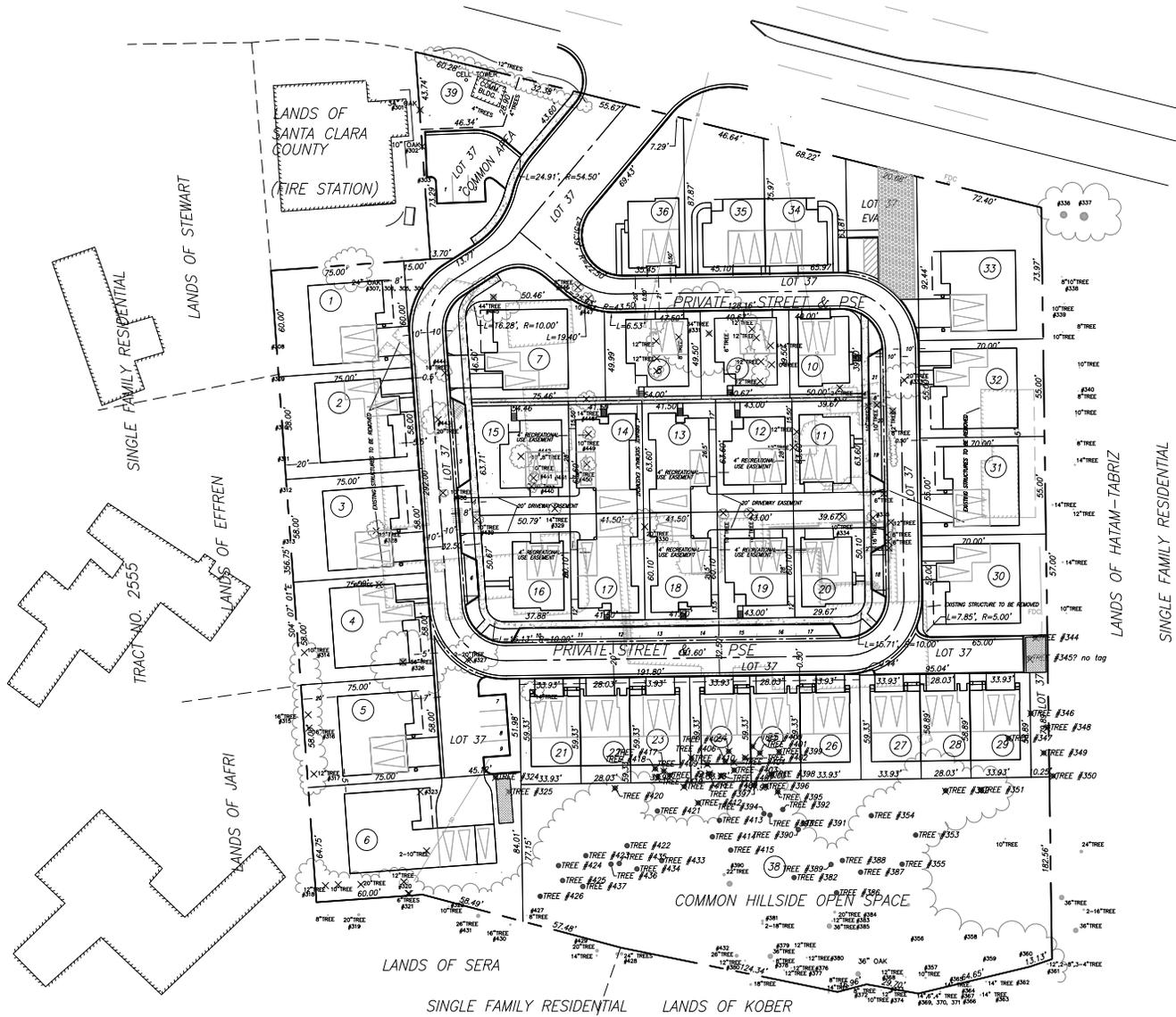


Figure 2  
Proposed Site Plan

The study also includes an operations analysis for unsignalized intersections, an evaluation of potential impacts to bicycle, pedestrian, and transit facilities, and a review of site access and on-site circulation.

Traffic conditions were evaluated for the following scenarios:

- **Existing Conditions.** Existing AM and PM peak-hour traffic volumes were obtained from new turning-movement counts conducted in 2018. For the CMP intersections, the PM peak-hour counts were obtained from the 2016 CMP Annual Monitoring Report.
- **Existing Plus Project Conditions.** Existing plus project traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions reflect projected traffic volumes on the existing roadway network with completion of the proposed project. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

## Methodology

This section presents the methods used to determine traffic conditions at the study intersections and the traffic impacts of the project. 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 new traffic counts, the CMP Annual Monitoring Report, and field observations. The following data were collected from these sources:

- Intersection traffic volumes,
- Lane configurations,
- Signal timing and phasing.

### 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 analysis method is described below. The study intersections were evaluated against the standards of the cities of Monte Sereno and Saratoga, Town of Los Gatos, and the County CMP, where applicable.

### Signalized Intersections

Four of the study intersections are signalized: one intersection is located in the City of Saratoga, one CMP intersection is located in the City of Monte Sereno, and two CMP intersections are located in the Town of Los Gatos. The City of Monte Sereno level of service standard for signalized intersections is LOS B or better. The City of Saratoga and Town of Los Gatos level of service standard for signalized intersections is LOS D or better. The CMP level of service standard for signalized intersections is LOS E or better. However, CMP intersections within Monte Sereno and Los Gatos are evaluated according to Monte Sereno and Los Gatos local level of service standards.

The cities and town evaluate level of service at signalized intersections based on the *2000 Highway Capacity Manual* (HCM) level of service methodology using TRAFFIX software. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Since TRAFFIX also is the CMP-designated intersection level of service methodology, the cities of Monte Sereno and Saratoga, and the Town of Los Gatos methodology employs the CMP default values for the analysis parameters. The correlation between average delay and level of service is shown in Table 1.

**Table 1**  
**Signalized Intersection Level of Service Definitions Based on Average Control 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 12.0
B		12.1 to 18.0
B-		18.1 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 may still pass through the intersection without stopping.	20.1 to 23.0
C		23.1 to 32.0
C-		32.1 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 39.0
D		39.1 to 51.0
D-		51.1 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 60.0
E		60.1 to 75.0
E-		75.1 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, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16. VTA Traffic Level of Service Analysis Guidelines (June 2003), Table 2.

### Unsignalized Intersections

Two of the study intersections are unsignalized: one intersection is located in the City of Saratoga and the other intersection is located in the City of Monte Sereno. Both the cities of Monte Sereno and Saratoga do not have a level of service standard or a definition of significant impact for unsignalized intersections. Level of service analysis at unsignalized intersections is generally used to determine the need for modification in the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes, delays, and traffic signal warrants are evaluated to determine if the existing intersection control is appropriate.

Level of service at unsignalized intersections is analyzed based on the *2000 Highway Capacity Manual* (HCM) method, using TRAFFIX software. This method evaluates unsignalized intersection operations based the average delay experienced by vehicles on the stop-controlled approaches. The delay and corresponding level of service at unsignalized, stop-controlled intersections are presented in Table 2.

For all-way stop controlled intersections, level of service is determined by the average delay for all movements through the intersection. For side street stop-controlled intersections (two-way or T-intersections), operations are defined by the average control delay experienced by vehicles entering the intersection from the stop-controlled approaches on minor streets or from left-turn approaches on major streets. For two-way or T-intersections, the level of service is reported based on the average delay for the worst stop-controlled approach.

**Table 2**  
**Unsignalized Intersection Level of Service Definitions Based on Average Delay**

Level of Service	Description	Average 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, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p17-2.

### **Significant Impact Criteria for Signalized Intersections**

Significance criteria are used to establish what constitutes an impact. Impacts on signalized intersections are based on the significance criteria and level of service standards of the jurisdiction in which the intersection is located.

#### **City of Monte Sereno Definition of Significant Intersection Impacts**

According to the City of Monte Sereno level of service guidelines, a proposed project is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS B or better under no-project conditions to an unacceptable LOS C or worse under project conditions.

#### **Town of Los Gatos Definition of Significant Intersection Impacts**

A proposed project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the Town of Los Gatos if for either peak hour:

1. The addition of project traffic causes an intersection operating at LOS A, B, or C under no-project conditions to degrade more than one letter grade under with-project conditions, or
2. The level of service at an intersection is LOS D or worse under no-project conditions and the addition of project trips causes a degradation of level of service to LOS E or F.

The project shall mitigate any intersection project impact so that the level of service will remain at an acceptable level (LOS D) or, if it is already at LOS E, to the level of service without project conditions or better.

### **City of Saratoga Definition of Significant Intersection Impacts**

According to the City of Saratoga level of service guidelines, a proposed project is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under no-project conditions to an unacceptable LOS E or F under with-project conditions, or
2. The level of service at the intersection is an unacceptable LOS E or LOS F under no-project conditions and the addition of project trips causes the average critical-movement delay to increase by four (4) or more seconds and causes the critical-movement volume-to-capacity ratio (v/c) to increase by one percent (.01) or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical v/c value by 0.01 or more.

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection operations back to no-project conditions or better.

### **CMP Definition of Significant Intersection LOS Impacts**

The definition of a significant impact at a CMP intersection is the same as for the City of Saratoga, except that the CMP standard for acceptable level of service at a CMP intersection is LOS E or better. A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to no-project conditions or better.

### **Traffic Signal Warrant**

An assessment of the need for signalization was conducted for the unsignalized intersections. For this study, the need for signalization is assessed on the basis of the peak-hour volume signal warrant (Warrant #3 – Part B) described in the *2014 California Manual on Uniform Traffic Control Devices (CA MUTCD)*. This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify installation of a traffic signal. Note that this is just one tool used to evaluate whether installation of a traffic signal would be justified. Intersections that meet the peak-hour warrant are subject to further analysis before determining that a traffic signal is necessary. Additional analysis is recommended and may include unsignalized level of service analysis and/or operational analysis such as evaluating vehicle queuing and delay. Other types of traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

## **Report Organization**

This report has a total of five chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 describes the method used to estimate project traffic, the intersection operations under existing plus project conditions, and the project's impact on the existing roadway network. Chapter 4 presents the analysis of other transportation-related issues, including traffic operations at unsignalized intersections, site access and on-site circulation, and potential impacts on bicycle, pedestrian, and transit facilities. Chapter 5 presents the conclusions of the transportation impact analysis.

## 2. Existing Conditions

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This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, bicycle and pedestrian facilities, and transit services.

### Existing Roadway Network

**SR 17** is a north/south freeway providing regional access from Santa Cruz to San Jose, where it becomes I-880 and extends into the east bay cities. Within the project vicinity, SR 17 is primarily a four-lane freeway. Access to and from the project site with SR 17 is via its interchange at Saratoga-Los Gatos Road.

**Saratoga-Los Gatos Road (SR 9)** is a two-to four-lane major arterial extending between Big Basin Way in Saratoga and SR 17 in Los Gatos. Within the project vicinity, Saratoga-Los Gatos Road is primarily a four-lane roadway with a median and left turn pockets. Saratoga-Los Gatos Road is designated as SR 9 and is under the jurisdiction of Caltrans. SR 9 is designated as a State Scenic Highway Corridor from Los Gatos through Monte Sereno and Saratoga, to SR 35/Skyline Boulevard at the Santa Cruz County Line. Saratoga-Los Gatos Road provides direct access to the project site.

**Austin Way** is a two-lane collector that runs southwest from Quito Road to Saratoga-Los Gatos Road, it continues southwest and then turns northwest and intersects with Saratoga-Los Gatos Road again, where it becomes El Camino Grande north of the intersection. Austin Way provides access to the project site via its intersection with Saratoga-Los Gatos Road.

**Fruitvale Avenue** is a north-south oriented minor arterial that runs adjacent to West Valley College. Fruitvale Avenue connects SR 9 with Saratoga Avenue. Fruitvale Avenue is four lanes between Saratoga Avenue and Burgundy Way, and narrows to two lanes between Burgundy Way and SR 9. South of SR 9, Fruitvale Avenue becomes Glen Una Drive, a local collector street.

**Quito Road** is a two- to four-lane minor arterial aligned in a north-south orientation. Quito Road begins at SR-9 and extends northward, where it transitions into Lawrence Expressway just south of Saratoga Avenue. Quito Road is a narrow, curvy road with no shoulders in the project area.

### Existing Bicycle and Pedestrian Facilities

Bicycle facilities in the study area include the Los Gatos Creek Trail (Class I bikeway) and striped bike lanes on Saratoga-Los Gatos Road. The Los Gatos Creek Trail is a multi-use trail or bike path (Class I bikeway) that runs in a north-south direction from the Lexington Dam in the Santa Cruz mountains to San Jose. It is shared between pedestrians and bicyclists and separated from motor vehicle traffic. Bike

lanes (Class II bikeway) on Saratoga-Los Gatos Road extends westward from University Avenue, in downtown Los Gatos, to Saratoga Avenue in downtown Saratoga. Saratoga-Los Gatos Road becomes Saratoga-Sunnyvale Road north of downtown Saratoga where bike lanes continue to the north. Bike lanes are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage.

It should be noted that Fruitvale Avenue and Quito Road do not provide bicycle facilities but are frequently used by bicyclists. These roadways have moderate traffic volume and speed with medium-width travel areas for bicycles and should only be used by experienced cyclists.

Within the project vicinity, none of the roadways have sidewalks, which is typical for the area. While it is always preferable to separate vehicular and pedestrian traffic, the low traffic volume on most of the roadways make shared use between pedestrians and motor vehicles feasible. However, Saratoga-Los Gatos Road is not suitable for pedestrians. Crosswalks are present at all signalized intersections in the study area, except at the Quito Road/Saratoga-Los Gatos Road intersection.

## Existing Transit Service

There is no transit service available along Saratoga-Los Gatos Road near the project site. The closest transit service is the VTA bus line 48 that stops at the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection. The bus line provides service between the Los Gatos Civic Center and the Winchester Transit Center via Santa Cruz Avenue and University Avenue, with approximately 30-minute commute hour headways.

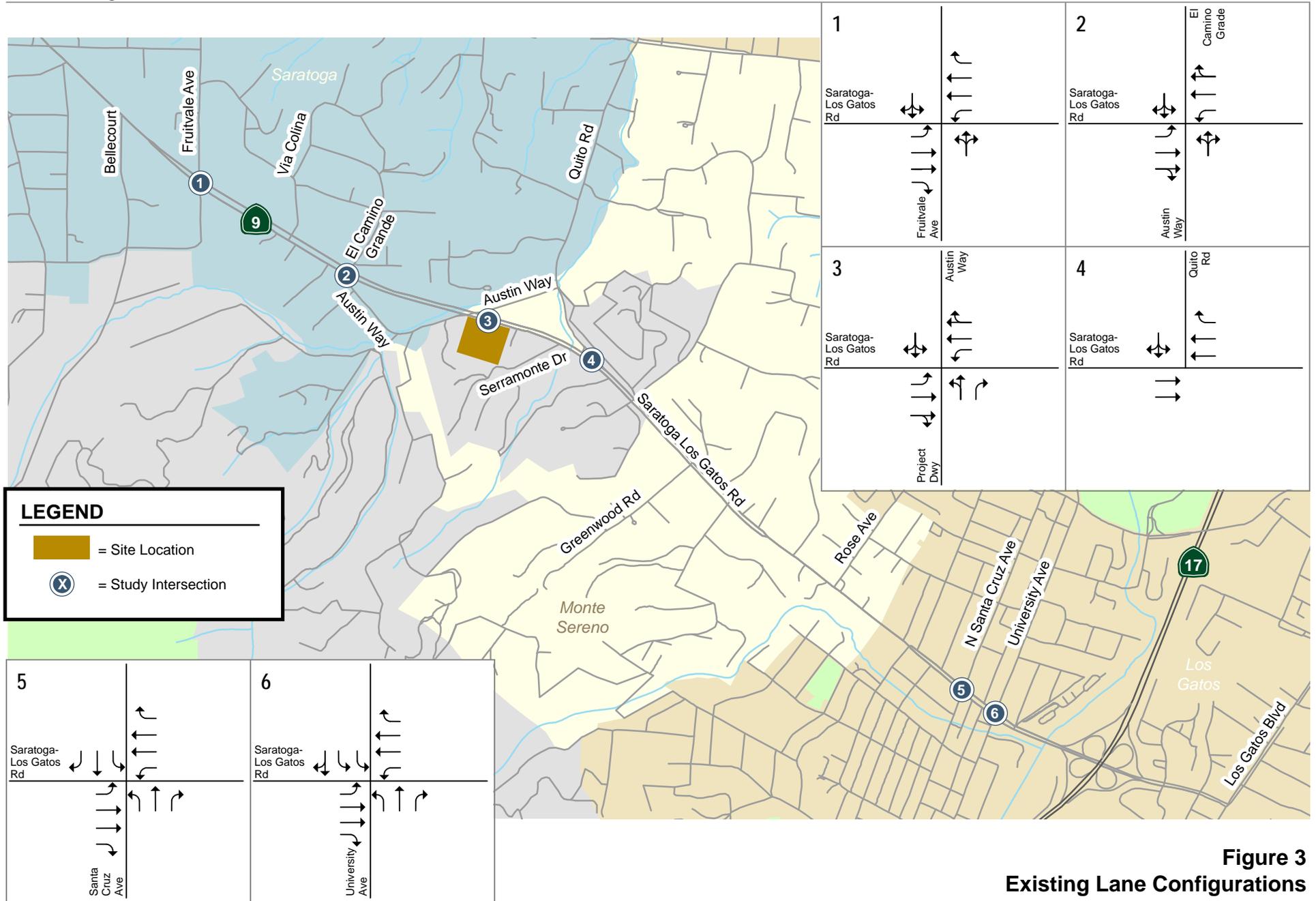
## Existing Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were confirmed by observations in the field and are shown on Figure 3.

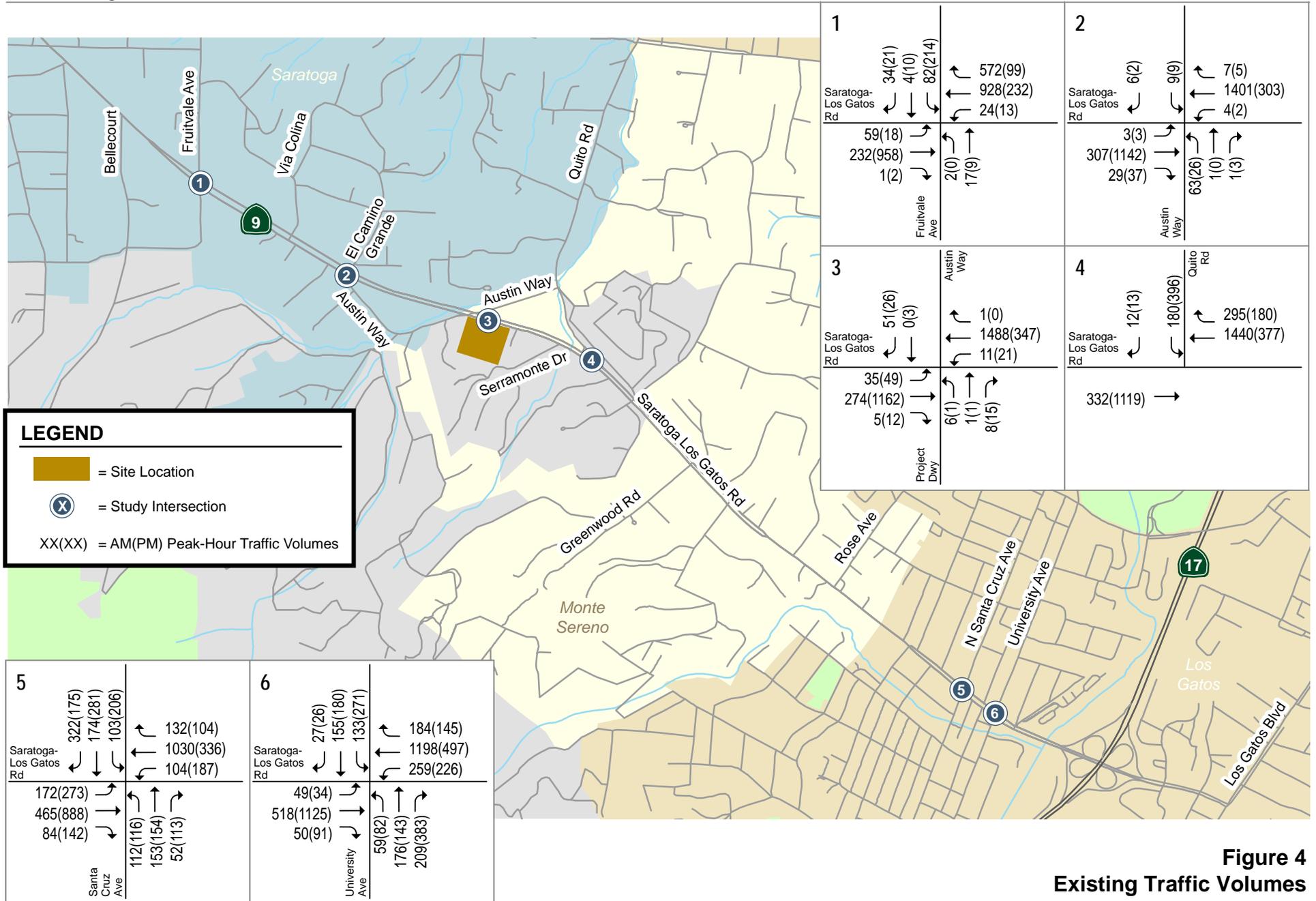
Existing weekday AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak-hour traffic volumes were obtained from new intersection turn-movement counts conducted in January, February, and March 2018 and the 2016 CMP Annual Monitoring Report. The existing peak-hour intersection volumes are shown on Figure 4. The new intersection count data are included in Appendix A.

Three of the signalized study intersections are CMP intersections. Typically, a TIA uses PM peak-hour traffic volumes for CMP intersections from the most recent CMP database. The counts for the most recent CMP database were conducted in late 2016. Therefore, for the Quito Road/Saratoga-Los Gatos Road intersection, the 2016 PM peak-hour traffic volume from the CMP database was used in this study because the traffic volumes are higher than the recent count conducted in February 2018.

For the CMP intersections on SR 9 at N. Santa Cruz Avenue and at University Avenue, the most recent counts conducted in January 2018 were used in the study because of local concerns that traffic on SR 9 has increased recently in the peak commute periods.



**Figure 3**  
Existing Lane Configurations



**Figure 4**  
Existing Traffic Volumes

## Existing Intersection Levels of Service

Intersection levels of service were evaluated against the Cities of Monte Sereno and Saratoga, the Town of Los Gatos, and CMP standards. The results of the intersection level of service analysis (see Table 3) show that the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection currently operates at LOS E during the AM peak hour, which is considered unacceptable measured against the Town of Los Gatos standard (LOS D) but is considered acceptable measured against the CMP standard (LOS E). All other signalized study intersections currently operate at acceptable levels of service during both the AM and PM peak hours of traffic. The level of service calculation sheets are included in Appendix B.

**Table 3**  
**Existing Intersection Levels of Service**

ID	Intersection	Jurisdiction	LOS Standard	Existing Control <sup>1</sup>	Peak Hour	Count Date	Avg. Delay <sup>2</sup>	LOS
1	Fruitvale Ave and Saratoga-Los Gatos Rd	Saratoga	D	Signal	AM PM	02/27/18 02/27/18	10.0 15.4	A B
2	El Camino Grande/Austin Wy and Saratoga-Los Gatos Rd	Saratoga	NA <sup>3</sup>	TWSC	AM PM	02/27/18 02/27/18	27.5 26.9	D D
3	Austin Wy/Project Driveway and Saratoga-Los Gatos Rd	Monte Sereno	NA <sup>3</sup>	TWSC	AM PM	03/07/18 03/07/18	22.4 17.3	C C
4	Quito Rd and Saratoga-Los Gatos Rd*	Monte Sereno	B	Signal	AM PM	02/27/18 11/29/16	6.4 12.6	A B
5	Santa Cruz Rd and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM PM	01/30/18 01/30/18	<b>66.9</b> 47.9	<b>E</b> D
6	University Ave and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM PM	01/30/18 01/30/18	48.3 42.5	D D

### Notes:

\* Denotes VTA CMP intersection

1. Intersection control under existing conditions.

- Signal = signalized Intersection
- TWSC = two-way stop-controlled intersection

2. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections.

Worst stop-controlled movement/approach delay (seconds per vehicle) is reported for TWSC intersections.

3. Intersection level of service standard is not applicable to unsignalized intersections.

**Bold** indicates a substandard level of service.

Both of the intersections on SR 9 at N. Santa Cruz Avenue and at University Avenue have a signal cycle length of four minutes (240 seconds) during the AM peak hour. The unacceptable level of service at the N. Santa Cruz Avenue intersection is primarily due to this extremely long cycle length (240 seconds). If the cycle length were shortened to, for example, three minutes (180 seconds), the level of service at this intersection would improve to LOS D. Interestingly, even though the total volume at this intersection is slightly higher in the PM peak hour than in the AM peak hour, it operates at LOS D during the PM peak hour, when the cycle length is approximately 160 seconds. Other consequences of the extremely long cycle length at these intersections are described further in the section below regarding Hexagon's field observations.

For the unsignalized study intersections, because Saratoga and Monte Sereno do not have a level of service standard for unsignalized intersections, this level of service results are shown for information purposes only. The level of service results show that the worst approaches (northbound or southbound stop-controlled approach) at both unsignalized intersections are experiencing delays corresponding to LOS D or better, which is generally considered an acceptable level of delay. Field observations indicate that there are a sufficient number of gaps in traffic on Saratoga-Los Gatos Road for cars to make a turn from the minor streets.

## Observed Traffic Conditions

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

Overall, the level of service analysis appears to accurately reflect actual existing traffic conditions. Field observations showed that some operational problems currently occur at the following study intersections.

### **N. Santa Cruz Avenue and Saratoga-Los Gatos Road (SR 9)**

During the AM peak hour, there is very heavy traffic flow in the westbound direction on Saratoga-Los Gatos Road. Because the intersections at N. Santa Cruz Avenue and at University Avenue are only approximately 500 feet apart, there is potential for westbound spillback from N. Santa Cruz Avenue at the University Avenue intersection during the AM peak hour. Spillback can occur between closely spaced intersections when there is insufficient storage space for all the queued vehicles at a downstream intersection, thereby preventing vehicles from an upstream intersection from proceeding during their green phase.

Both this intersection and the intersection at University Avenue currently have a signal cycle length of four minutes during the AM peak hour, with a very long green phase for the westbound through movement. Just west of this intersection, the two westbound through lanes merge into a single lane. Because of this lane merge, the high volume of westbound traffic in the morning commute period slows down where the two lanes converge. A substantial amount of spillback from this lane convergence was observed throughout the morning commute period. Because of the long green phase for westbound traffic, the “bottleneck” is not at the intersection itself, but is at the lane merge just west of the intersection. As a result, there were times when westbound traffic could not proceed through the intersection during its extended green phase, because both westbound lanes were completely blocked. This resulted in significant amounts of “wasted” green time, when westbound traffic could not proceed, but the north and south approaches had to wait for over two minutes to receive a green phase.

In addition, there is a pedestrian crosswalk that requires traffic to stop when activated by a pedestrian wishing to cross SR 9 at Massol Avenue, 850 feet west of N. Santa Cruz Avenue. When pedestrians activate the flashing lights at Massol Avenue and westbound traffic flow stops completely, the spillback at the N. Santa Cruz intersection becomes more severe. This further contributes to the amount of wasted green time for the westbound through movement at the N. Santa Cruz intersection.

During the PM peak period, there is very heavy traffic flow in the eastbound direction, heading towards SR 17, on Saratoga-Los Gatos Road. Because the intersections at University Avenue and at N. Santa Cruz Avenue are so closely spaced, there is potential for eastbound spillback from University Avenue at the N. Santa Cruz Avenue intersection during the PM peak hour. The signal cycle length during the PM peak hour is approximately 160 seconds.

During our field observations, there were times when the signals at N. Santa Cruz Avenue and at University Avenue were sufficiently well-timed that no spillback issues occurred. However, there were also times when the two signals were not synchronized well enough, and eastbound traffic flow could only proceed during a small part of its green phase. There were also times when these eastbound lanes were blocked during the protected left-turn phase for southbound left-turns. Repeated cycles of spillback preventing more than a couple of southbound left-turns from proceeding onto eastbound SR 9 resulted in an extremely long queue on southbound N. Santa Cruz Avenue.

### **University Avenue and Saratoga-Los Gatos Road (SR 9)**

As noted above, the intersection of University Avenue and Saratoga-Los Gatos Road has a signal cycle length of four minutes in the AM peak hour, with a very long green phase for the westbound through movement. For much of the morning commute period, the westbound traffic flow was free-flowing through the University Avenue intersection during the extended green phase, but there were a few times when spillback from further west was observed. At those times, westbound traffic was unable to proceed through the intersection during the latter part of its green phase because of spillback in the westbound lanes.

### 3.

## Existing Plus Project Conditions

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This chapter describes the existing plus project traffic conditions. It includes a description of the roadway network under existing plus project conditions, the method by which project traffic is estimated, and any traffic impacts caused by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

### Roadway Network under Existing Plus Project Conditions

The roadway network under existing plus project conditions would be the same as the existing roadway network because the project would not alter the existing intersection lane configurations.

### Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were 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 traveling to and from the proposed satellite parking facility was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

#### Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by common land uses. Thus, for the most common land uses 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 magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. Trip generation resulting from new development typically is estimated using the trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th edition (2017). Trips that would be generated by the proposed housing units were estimated using the ITE trip rates for single-family detached housing (Land Use 210). The trip rates for single-family housing were applied also to the townhome units.

Because the project would replace the existing uses on the site, trips associated with the existing restaurant and bar were subtracted from the project-generated traffic to derive the net trips. The peak-hour trips generated by the existing uses were obtained from counts conducted in March 2018 at the project driveway.

After applying the existing trip credits, Table 4 shows that the project would not generate new vehicle trips during either the AM or PM peak hours. The project would reduce daily trips by 71 and PM peak-hour trips by 11. Therefore, the project’s impact on intersection level of service and traffic operations during the PM peak-hour was not further studied.

During the AM peak hour, although the project would not increase the total driveway trips, the project would add 5 outbound trips and reduce 5 inbound trips. Therefore, the project’s impact on intersection level of service and traffic operations was evaluated for the AM peak hour.

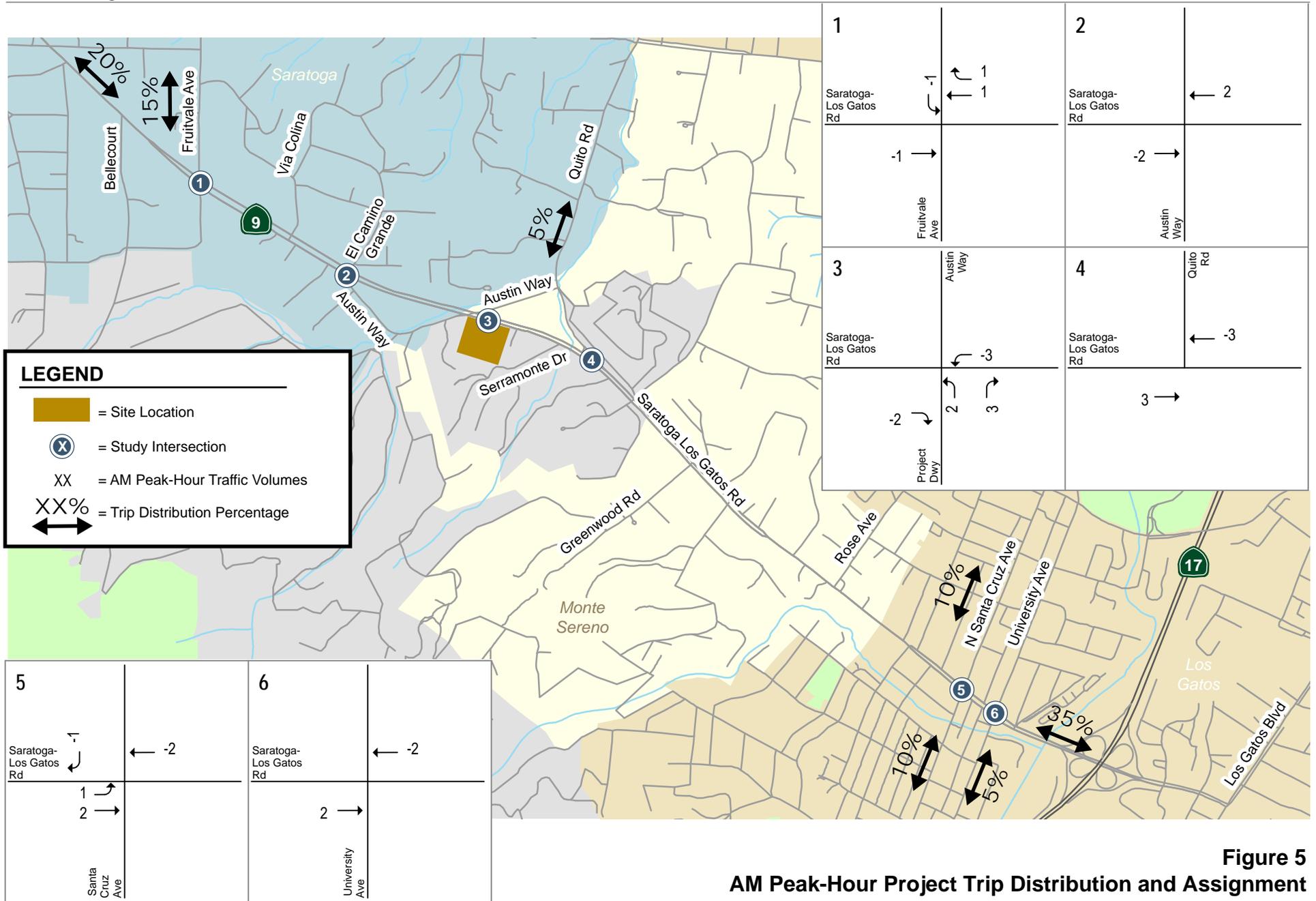
**Table 4  
Project Trip Generation Estimates**

Land Use	Size	Unit	Daily		AM Peak Hour				PM Peak Hour			
			Trip Rate	Trips	Trip Rate	Trips In	Trips Out	Total Trips	Trip Rate	Trips In	Trips Out	Total Trips
<b>Proposed Project</b>												
Single Family and Townhome <sup>1</sup>	36	unit	9.44	340	0.74	7	20	27	0.99	23	13	36
<b>Existing Uses</b>												
Restaurant and Bar <sup>2</sup>	-		-	-411	-	-12	-15	-27	-	-30	-17	-47
<b>Net Project Trips</b>				<b>-71</b>		<b>-5</b>	<b>5</b>	<b>0</b>		<b>-7</b>	<b>-4</b>	<b>-11</b>

Notes:  
 Trip rates are from Institute of Transportation Engineers, *Trip Generation Manual*, 10th Edition.  
 1. Average trip rates, in trips per unit, for Single-Family Detached Housing (Land Use 210) are used.  
 2. Peak-hour trip generation for the existing uses is based on driveway counts conducted on 3/7/2018. Daily trip generation is derived by multiplying the counted PM peak-hour trips the ratio of ITE daily trip rate to the ITE PM peak-hour trip rate available in ITE *Trip Generation Manual* for Quality Restaurant (Land Use 931) and Drinking Place (Land Use 320).

**Trip Distribution and Assignment**

The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour trips generated by the proposed project were assigned to the roadway system in accordance with the distribution pattern discussed above. The project trip distribution pattern and net project trip assignment for the AM peak hour are shown on Figure 5.



**Figure 5**  
AM Peak-Hour Project Trip Distribution and Assignment

## Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes (see Figure 6).

## Existing Plus Project Intersection Levels of Service

Intersection levels of service under existing plus project conditions were evaluated against the Cities of Monte Sereno and Saratoga, the Town of Los Gatos, and CMP standards and significant impact criteria. The results of the intersection level of service analysis (see Table 5) show that the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection would continue to operate at LOS E during the AM peak hour, which is considered unacceptable measured against the Town of Los Gatos standard (LOS D) but is considered acceptable measured against the CMP standard (LOS E). All other signalized study intersections would continue to operate at acceptable levels of service during both the AM and PM peak hours of traffic. The level of service calculation sheets are included in Appendix B.

**Table 5**  
**Existing Plus Project Intersection Levels of Service**

ID	Intersection	Jurisdiction	LOS		Peak Hour	Existing		Existing+Project			
			Standard	Control <sup>1</sup>		Avg. Delay <sup>2</sup>	LOS	Avg. Delay <sup>2</sup>	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Fruitvale Ave and Saratoga-Los Gatos Rd	Saratoga	D	Signal	AM	10.0	A	9.9	A	-0.1	0.000
2	El Camino Grande/Austin Wy and Saratoga-Los Gatos Rd	Saratoga	N/A <sup>3</sup>	TWSC	AM	27.5	D	27.5	D	N/A <sup>3</sup>	N/A <sup>3</sup>
					PM	26.9	D	Same or better than existing conditions			
3	Austin Wy/Project Driveway and Saratoga-Los Gatos Rd	Monte Sereno	N/A <sup>3</sup>	TWSC	AM	22.4	C	22.0	C	N/A <sup>3</sup>	N/A <sup>3</sup>
					PM	17.3	C	Same or better than existing conditions			
4	Quito Rd and Saratoga-Los Gatos Rd*	Monte Sereno	B	Signal	AM	6.4	A	6.4	A	0.0	-0.001
					PM	12.6	B	Same or better than existing conditions			
5	Santa Cruz Rd and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM	<b>66.9</b>	<b>E</b>	<b>67.0</b>	<b>E</b>	0.0	-0.001
					PM	47.9	D	Same or better than existing conditions			
6	University Ave and Saratoga-Los Gatos Rd*	Los Gatos	D	Signal	AM	48.3	D	48.3	D	0.0	-0.001
					PM	42.5	D	Same or better than existing conditions			

**Notes:**

\* Denotes VTA CMP intersection

1. Intersection control under existing conditions.

- Signal = signalized Intersection

- TWSC = two-way stop-controlled intersection

2. Overall weighted average control delay (seconds per vehicle) is reported for signalized intersections.

Worst stop-controlled movement/approach delay (seconds per vehicle) is reported for TWSC intersections.

3. Intersection level of service standard and changes in critical delay and v/c are not applicable to unsignalized intersections.

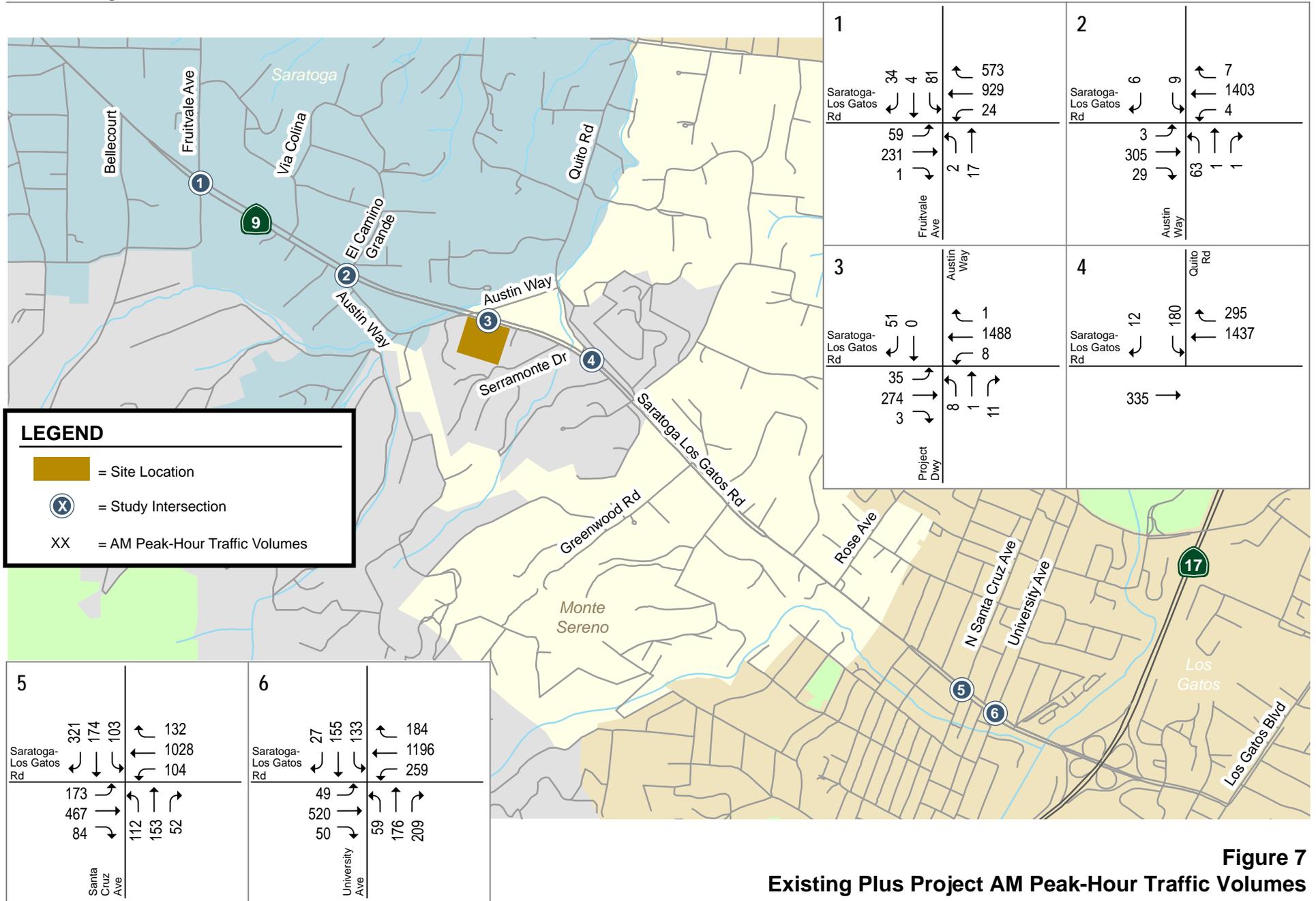
**Bold** indicates a substandard level of service.

At the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection, although the project would slightly increase the eastbound traffic in the AM peak hour, the westbound traffic (peak travel direction) would be reduced slightly, and there would be no net traffic increase as a result of the project. Therefore, the increase in average delay (0.1 second per vehicle), average critical-movement delay (0 second), and critical-movement v/c (-0.001) at the intersection are negligible.

Under the Los Gatos significant impact criteria as presented in Chapter 1, for intersections where the level of service is at LOS D or worse under no project conditions, there would be a significant impact if

the addition of project traffic causes a degradation of level of service to LOS E or F. The addition of project traffic would not cause the level of service to degrade further (i.e., from LOS E to LOS F). Therefore, since the level of service would remain unchanged under existing plus project conditions and the project would not add any new trips, the project would not have a significant impact at the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection.

At both unsignalized intersections, the level of service results show that the worst approaches would experience delays corresponding to LOS D or better, which is generally considered an acceptable level of delay. Because there would be no net traffic increase as a result of the project, the project would not cause a noticeable increase in vehicle delay for the northbound and southbound traffic on El Camino Grande, Austin Way, and the project driveway.



**Figure 7**  
Existing Plus Project AM Peak-Hour Traffic Volumes

## 4. Other Transportation Issues

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This chapter presents other transportation issues associated with the project. These include an analysis of:

- Traffic operations at unsignalized intersections
- Site access and circulation
- Potential impacts to bicycle, pedestrian, and transit facilities

Although traffic operational issues are not considered transportation impacts under the California Environmental Quality Act, they do describe traffic conditions that are relevant to describing the project environment.

### Traffic Operations at Unsignalized Intersections

The study analyzed two unsignalized intersections on Saratoga-Los Gatos Road: El Camino Grande/Austin Way and Austin Way/project driveway. Because there would be no net traffic increase as a result of the project, the project would not cause a noticeable increase in vehicle delay at these intersections. Field observations confirmed that there are a sufficient number of gaps in traffic on Saratoga-Los Gatos Road for cars to make a turn from the minor streets. Due to low traffic volumes and vehicle delay on minor streets, the peak-hour volumes at both intersections would not warrant signalization.

### Site Access and Circulation

The site access and circulation evaluation is based on the February 16, 2018 site plan prepared by Charles W. Davidson Co. (see Figure 2). On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards.

#### Site Access

Vehicular access is shown to be provided by a modified driveway on Saratoga-Los Gatos Road. The driveway would be located approximately where the inbound lanes of the existing driveway are. The proposed driveway is shown to be 50 feet wide. This driveway width is excessive for two-lane traffic and would confuse drivers as to where vehicles should enter and/or exit the site. It is recommended that the driveway width be reduced to 26 feet, or a median should be installed to separate inbound and outbound traffic.

The Santa Clara County Fire Standards (CFMO – A1) require a minimum width of 18 feet with a 3-foot shoulder on each side for access roads, and require a secondary access road to be provided. The project driveway is more than 24 feet wide, so it is adequate for emergency vehicle access (EVA). The site plan shows a secondary EVA access would be provided on Saratoga-Los Gatos Road to the east of the project driveway, which complies with the Santa Clara County requirement.

**Recommendation:** The driveway width should be reduced to 26 feet, or a median should be installed to separate inbound and outbound traffic.

### Sight Distance

Based on the site plan provided and field observations, the project driveway would be free and clear of obstructions, thereby ensuring that vehicles can see vehicles and bicycles travelling along Saratoga-Los Gatos Road.

Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For the driveway on Saratoga-Los Gatos Road, which has a posted speed limit of 45 mph, the Caltrans stopping sight distance is 430 feet (based on a design speed of 50 mph). This means that a driver must be able to see 430 feet down Saratoga-Los Gatos Road to locate a sufficient gap to turn out of the project driveway. There are no roadway curves or landscaping features shown on the site plan that would obstruct the vision of exiting drivers.

### Onsite Circulation

Within the site, a two-way loop road would be provided to access the individual residential units. The internal access road would be 20 feet wide, which is adequate for two-way circulation and meets the Santa Clara County requirement for EVA access. The site plan shows adequate turn radii along the internal access road for fire trucks to maneuver within the project site.

### Bicycle, Pedestrian, and Transit Facilities

The site plan shows that sidewalks/pedestrian paths would be provided within the project. Though the bicycle, pedestrian, and transit facilities in the immediate vicinity of the project site are limited, enhancing the facilities is not necessary because the project is expected to cause little to no increase in the demand on the facilities. However, the project should provide a pedestrian walkway across its frontage.

**Recommendation:** The project should provide a pedestrian walkway across its frontage.

## 5. Conclusions

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The potential impacts of the project were evaluated in accordance with the standards set forth by the cities of Monte Sereno and Saratoga, the Town of Los Gatos, and the VTA. The traffic study analyzed AM and PM peak-hour traffic conditions for six intersections. Project impacts on site access, on-site circulation, and other transportation facilities, such as bicycle facilities and transit service, were determined on the basis of engineering judgment.

### Intersection Level of Service Analysis

The results of the intersection level of service analysis show that under existing plus project conditions, the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection would continue to operate at LOS E during the AM peak hour, which is considered unacceptable measured against the Town of Los Gatos standard (LOS D) but is considered acceptable measured against the CMP standard (LOS E). At the intersection, although the project would slightly increase the eastbound traffic in the AM peak hour, the westbound traffic (peak travel direction) would be reduced slightly and there would be no net traffic increase as a result of the project. Therefore, the increase in average delay (0.1 second per vehicle), average critical-movement delay (0 second), and critical-movement v/c (-0.001) at the intersection are negligible. Since the level of service would remain unchanged under existing plus project conditions and the project would not add any new trip, the project would not have a significant impact at the N. Santa Cruz Avenue/Saratoga-Los Gatos Road intersection.

At both unsignalized intersections, the level of service results show that the worst approaches would experience delays corresponding to LOS D or better, which is generally considered an acceptable level of delay. Because there would be no net traffic increase as a result of the project, the project would not cause a noticeable increase in vehicle delay for the northbound and southbound traffic on El Camino Grande, Austin Way, and the project driveway.

### Other Transportation Issues

The two unsignalized study intersections operate well during the AM and PM peak hours and the project is not expected to degrade the current traffic operations at these intersections.

The site plan shows adequate site access and on-site circulation, and no significant operational issues are expected to occur as a result of the project. The project would not have an adverse effect on the existing bicycle, pedestrian, transit facilities in the study area. Thus, no project sponsored improvements would be necessary.

Hexagon has provided the following recommendations resulting from the site access and circulation analysis.

**Recommendations:**

- The driveway width should be reduced to 26 feet, or a median should be installed to separate inbound and outbound traffic.
- The project should provide a pedestrian walkway across its frontage.

**18840 Saratoga-Los Gatos Road  
Residential Development TIA**

**Technical Appendices**

March 23, 2018

## **Appendix A**

### **Traffic Counts**



(303) 216-2439  
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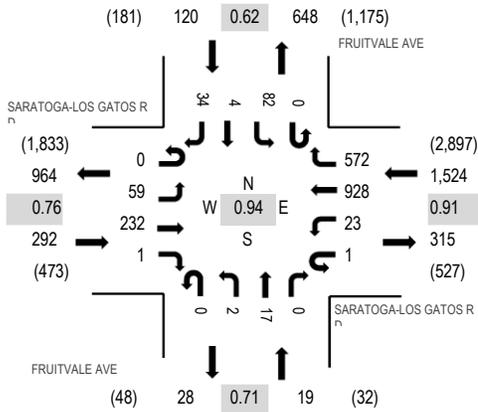
Location: 1 FRUITVALE AVE & SARATOGA-LOS GATOS RD AM

Date and Start Time: Tuesday, February 27, 2018

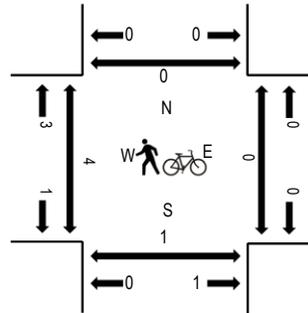
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



### Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

### Traffic Counts

Interval Start Time	SARATOGA-LOS GATOS RD Eastbound				SARATOGA-LOS GATOS RD Westbound				FRUITVALE AVE Northbound				FRUITVALE AVE Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
7:00 AM	0	2	15	1	0	3	223	102	0	0	2	0	0	0	5	1	1	355	1,771	0	0	0	0
7:15 AM	0	3	32	0	0	1	235	123	0	2	4	0	0	14	0	3	417	1,912	0	0	0	0	
7:30 AM	0	6	39	0	0	6	245	169	0	0	2	0	0	12	1	0	480	1,955	2	0	0	0	
7:45 AM	0	17	46	1	0	5	271	153	0	1	4	0	0	20	0	1	519	1,900	0	0	0	0	
8:00 AM	0	25	56	0	0	6	226	126	0	0	7	0	0	25	2	23	496	1,812	0	0	1	0	
8:15 AM	0	11	91	0	1	6	186	124	0	1	4	0	0	25	1	10	460		2	0	0	0	
8:30 AM	0	5	58	1	1	5	217	125	0	0	1	0	0	10	0	2	425		0	0	1	0	
8:45 AM	0	7	56	1	0	5	184	149	0	0	4	0	0	21	2	2	431		0	0	0	0	

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	1	1	2	0	0	0	0	0	1	0	0	6
Lights	0	59	225	1	1	22	915	569	0	2	17	0	0	79	4	33	1,927
Mediums	0	0	6	0	0	0	12	1	0	0	0	0	0	2	0	1	22
Total	0	59	232	1	1	23	928	572	0	2	17	0	0	82	4	34	1,955



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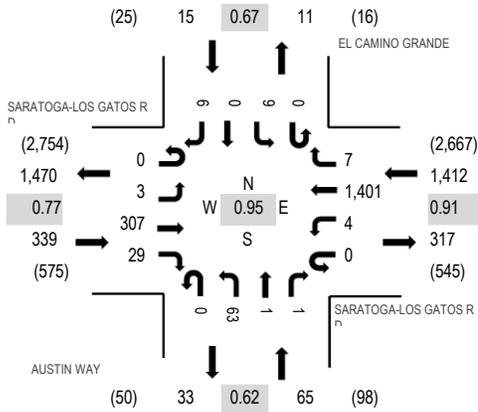
Location: 2 AUSTIN WAY & SARATOGA-LOS GATOS RD AM

Date and Start Time: Tuesday, February 27, 2018

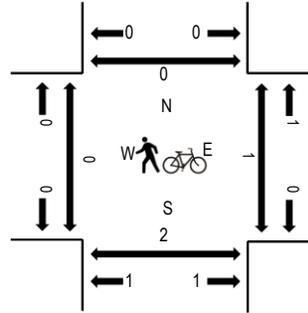
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS RD Eastbound				SARATOGA-LOS GATOS RD Westbound				AUSTIN WAY Northbound				EL CAMINO GRANDE Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
	7:00 AM	0	0	22	1	0	1	290	3	0	11	0	1	0	1	0			0	0	330	1,672	0
7:15 AM	0	1	40	3	0	1	329	0	0	11	0	0	0	2	0	0	0	387	1,795	0	0	0	0
7:30 AM	0	0	59	4	0	0	398	1	0	8	0	0	0	3	0	0	0	473	1,831	0	1	0	0
7:45 AM	0	0	63	5	0	0	381	3	0	27	0	0	0	1	0	2	482	1,764	0	0	0	0	
8:00 AM	0	0	78	7	0	2	339	1	0	20	1	0	0	3	0	2	453	1,693	0	0	1	0	
8:15 AM	0	3	107	13	0	2	283	2	0	8	0	1	0	2	0	2	423		0	0	1	0	
8:30 AM	1	0	69	6	0	1	325	0	0	3	0	0	0	1	0	0	406		0	0	0	0	
8:45 AM	0	0	89	4	0	0	304	1	0	7	0	0	0	3	0	3	411		0	0	0	0	

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5
Lights	0	3	296	29	0	4	1,382	7	0	63	1	1	0	9	0	6	1,801
Mediums	0	0	8	0	0	0	17	0	0	0	0	0	0	0	0	0	25
Total	0	3	307	29	0	4	1,401	7	0	63	1	1	0	9	0	6	1,831



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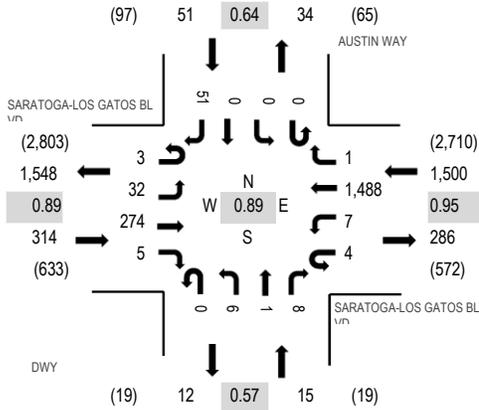
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Date and Start Time: Wednesday, March 7, 2018

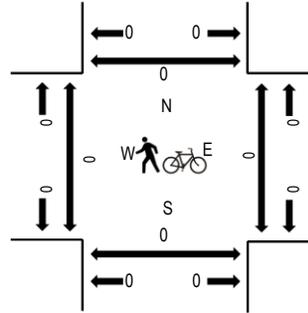
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS Eastbound				SARATOGA-LOS GATOS Westbound				DWY Northbound				AUSTIN WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	8	25	1	0	1	307	0	0	0	0	1	0	0	0	11	354	1,789	0	0	0	0
7:15 AM	0	2	43	0	1	3	376	0	0	2	0	4	0	0	0	2	433	1,880	0	0	0	0
7:30 AM	1	12	53	4	0	1	392	0	0	3	1	3	0	0	0	3	473	1,879	0	0	0	0
7:45 AM	2	9	95	0	2	2	389	1	0	1	0	1	0	0	0	27	529	1,788	0	0	0	0
8:00 AM	0	9	83	1	1	1	331	0	0	0	0	0	0	0	0	19	445	1,670	0	0	0	0
8:15 AM	1	16	93	1	0	0	309	0	0	1	0	0	0	0	0	11	432		0	0	0	0
8:30 AM	0	4	79	0	1	1	284	0	0	0	1	0	0	0	0	12	382		0	0	0	0
8:45 AM	0	2	86	3	0	0	307	0	0	0	0	1	0	0	0	12	411		0	0	1	0

**Peak Rolling Hour Flow Rates**

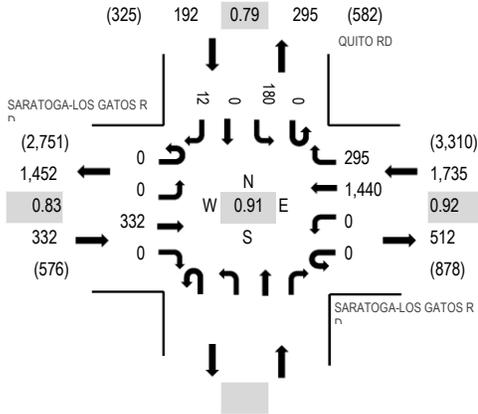
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	8
Lights	3	32	265	4	4	7	1,457	0	0	6	1	7	0	0	0	51	1,837
Mediums	0	0	9	1	0	0	24	0	0	0	0	1	0	0	0	0	35
Total	3	32	274	5	4	7	1,488	1	0	6	1	8	0	0	0	51	1,880



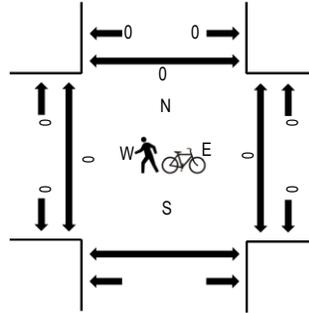
(303) 216-2439  
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Location: 4 QUITO RD & SARATOGA-LOS GATOS RD AM  
Date and Start Time: Tuesday, February 27, 2018  
Peak Hour: 07:30 AM - 08:30 AM  
Peak 15-Minutes: 07:45 AM - 08:00 AM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS RD Eastbound				SARATOGA-LOS GATOS RD Westbound				Northbound			QUITO RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	0	0	32	0	0	0	0	306	84	0	20	0	0	2			444	2,133	0	0
7:15 AM	0	0	45	0	0	0	0	336	73	0	28	0	0	3	485	2,212	0	0	0	0	
7:30 AM	0	0	66	0	0	0	0	420	58	0	41	0	0	1	586	2,259	0	0	0	0	
7:45 AM	0	0	76	0	0	0	0	407	74	0	57	0	0	4	618	2,187	0	0	0	0	
8:00 AM	0	0	82	0	0	0	0	315	84	0	38	0	0	4	523	2,078	0	0	0	0	
8:15 AM	0	0	108	0	0	0	0	298	79	0	44	0	0	3	532		0	0	0	0	
8:30 AM	0	0	74	0	0	0	0	337	71	0	29	0	0	3	514		0	0	0	0	
8:45 AM	0	0	93	0	0	0	0	309	59	0	45	0	0	3	509		0	0	0	0	

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	4
Lights	0	0	322	0	0	0	0	1,415	287	0	180	0	12	0	0	0	2,216
Mediums	0	0	8	0	0	0	0	24	7	0	0	0	0	0	0	0	39
Total	0	0	332	0	0	0	0	1,440	295	0	180	0	12	0	0	0	2,259



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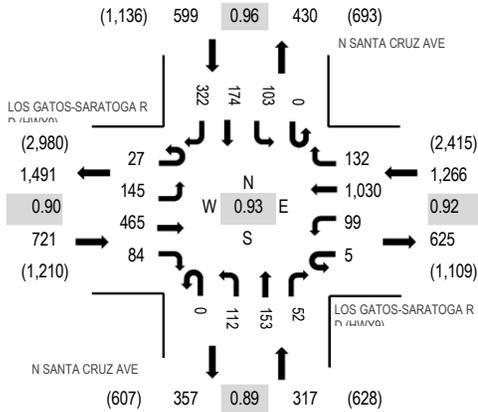
Location: 2 N SANTA CRUZ AVE & LOS GATOS-SARATOGA RD (HWY9) AM

Date and Start Time: Tuesday, January 30, 2018

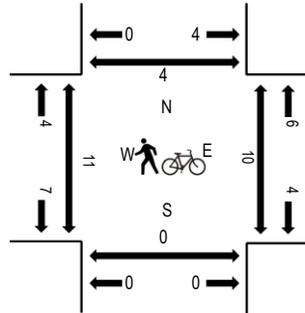
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	LOS GATOS-SARATOGA RD (HWY9) Eastbound				LOS GATOS-SARATOGA RD (HWY9) Westbound				N SANTA CRUZ AVE Northbound				N SANTA CRUZ AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	3	18	49	10	1	12	228	16	0	54	28	7	0	16	30			75	547	2,519	3
7:15 AM	3	17	85	10	2	20	288	14	0	35	26	14	0	23	29	80	646	2,749	0	0	0	0
7:30 AM	4	28	75	11	0	11	244	19	0	32	17	16	0	25	35	77	594	2,819	1	2	0	0
7:45 AM	10	28	136	25	1	21	255	22	0	22	42	15	0	21	57	77	732	2,903	4	3	0	0
8:00 AM	8	44	122	26	3	19	262	42	0	31	44	18	0	29	52	77	777	2,870	1	4	0	0
8:15 AM	1	36	111	22	1	26	240	30	0	34	46	13	0	25	39	92	716		2	1	0	0
8:30 AM	8	37	96	11	0	33	273	38	0	25	21	6	0	28	26	76	678		2	1	0	1
8:45 AM	0	22	132	22	1	19	254	20	0	33	38	11	0	27	41	79	699		3	2	2	0

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	2	5	2	0	0	0	0	0	0	0	1	11
Lights	27	140	457	84	5	95	999	127	0	108	152	52	0	102	169	319	2,836
Mediums	0	5	7	0	0	2	26	3	0	4	1	0	0	1	5	2	56
Total	27	145	465	84	5	99	1,030	132	0	112	153	52	0	103	174	322	2,903



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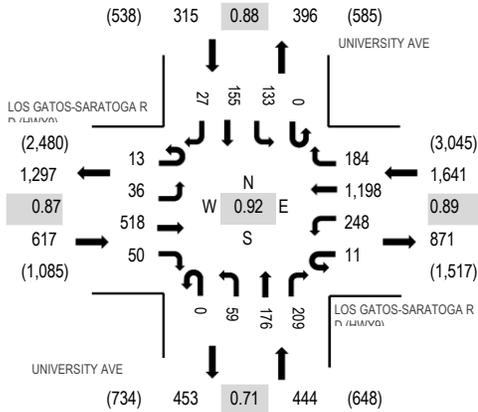
Location: 1 UNIVERSITY AVE & LOS GATOS-SARATOGA RD (HWY9) AM

Date and Start Time: Tuesday, January 30, 2018

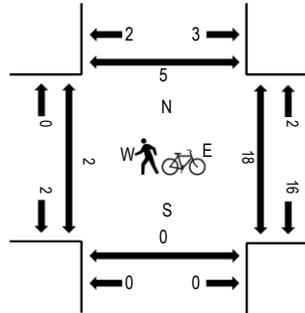
Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	LOS GATOS-SARATOGA RD (HWY9) Eastbound				LOS GATOS-SARATOGA RD (HWY9) Westbound				UNIVERSITY AVE Northbound				UNIVERSITY AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	0	2	66	7	4	41	265	22	0	14	7	18	0	12	7			4	469	2,357	2
7:15 AM	0	1	107	5	3	39	312	20	0	9	14	24	0	35	17	4	590	2,712	1	1	0	0
7:30 AM	4	3	90	9	1	23	256	25	0	14	19	33	0	40	35	3	555	2,839	0	3	0	0
7:45 AM	1	8	151	17	3	42	282	40	0	13	38	57	0	30	52	9	743	3,017	0	9	0	1
8:00 AM	6	13	138	16	3	62	283	60	0	18	71	69	0	33	48	4	824	2,959	0	3	0	0
8:15 AM	2	12	110	10	2	67	290	41	0	21	50	46	0	27	31	8	717		0	5	0	1
8:30 AM	4	3	119	7	3	77	343	43	0	7	17	37	0	43	24	6	733		0	1	0	0
8:45 AM	2	2	153	17	3	55	276	59	0	12	15	25	0	32	26	8	685		0	2	0	1

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	7	0	0	0	0	0	0	2	0	0	9
Lights	13	36	509	49	11	239	1,163	183	0	56	174	204	0	124	153	26	2,940
Mediums	0	0	9	1	0	9	28	1	0	3	2	5	0	7	2	1	68
Total	13	36	518	50	11	248	1,198	184	0	59	176	209	0	133	155	27	3,017



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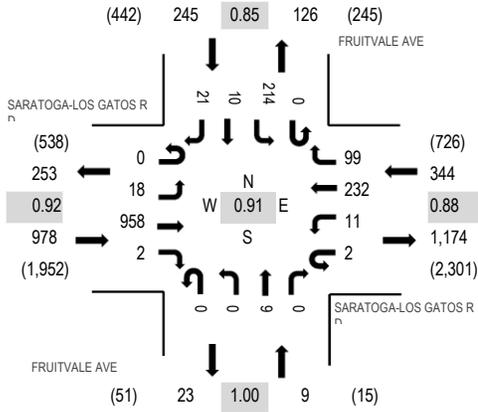
Location: 1 FRUITVALE AVE & SARATOGA-LOS GATOS RD PM

Date and Start Time: Tuesday, February 27, 2018

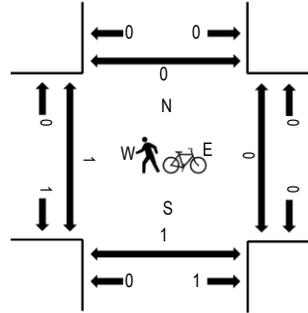
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS RD Eastbound				SARATOGA-LOS GATOS RD Westbound				FRUITVALE AVE Northbound				FRUITVALE AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	4	257	0	0	3	62	32	0	0	1	0	0	63	1	8	431	1,576	0	0	0	0
4:15 PM	0	4	261	1	1	4	46	18	0	0	2	0	0	43	2	4	386	1,529	1	0	1	0
4:30 PM	0	7	220	0	0	1	68	25	0	0	3	0	0	60	2	3	389	1,528	0	0	0	0
4:45 PM	0	3	220	1	1	3	56	24	0	0	3	0	0	48	5	6	370	1,525	0	0	0	0
5:00 PM	0	6	246	0	1	8	56	25	0	1	2	0	0	34	3	2	384	1,559	0	0	0	0
5:15 PM	0	2	228	0	0	3	69	21	0	1	2	0	0	52	2	5	385		0	0	0	0
5:30 PM	0	1	227	1	0	3	76	29	0	0	0	0	0	36	3	10	386		0	0	0	0
5:45 PM	0	7	256	0	1	4	62	24	0	0	0	0	0	46	1	3	404		0	0	0	0

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	17	952	2	2	11	230	97	0	0	9	0	0	212	10	21	1,563	
Mediums	0	1	6	0	0	0	2	2	0	0	0	0	0	2	0	0	13	
<b>Total</b>	<b>0</b>	<b>18</b>	<b>958</b>	<b>2</b>	<b>2</b>	<b>11</b>	<b>232</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>214</b>	<b>10</b>	<b>21</b>	<b>1,576</b>	



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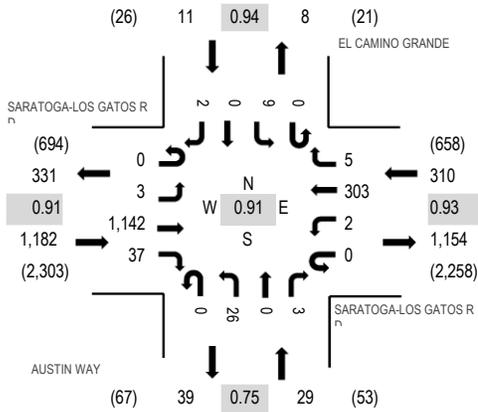
Location: 2 AUSTIN WAY & SARATOGA-LOS GATOS RD PM

Date and Start Time: Tuesday, February 27, 2018

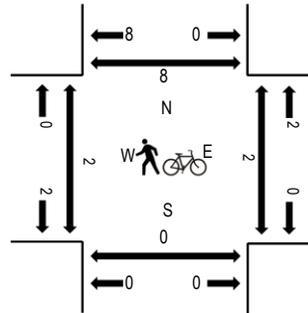
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS RD Eastbound				SARATOGA-LOS GATOS RD Westbound				AUSTIN WAY Northbound				EL CAMINO GRANDE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	312	10	0	1	86	2	0	6	0	2	0	3	0	0	423	1,532	0	0	0	1
4:15 PM	0	1	298	8	0	0	65	3	0	3	0	0	0	2	0	0	380	1,487	0	0	0	4
4:30 PM	0	0	274	12	0	1	83	0	0	9	0	1	0	2	0	2	384	1,477	0	2	0	2
4:45 PM	0	1	258	7	0	0	69	0	0	8	0	0	0	2	0	0	345	1,456	2	0	0	1
5:00 PM	0	0	276	6	0	0	82	4	0	6	1	0	0	3	0	0	378	1,508	0	0	0	0
5:15 PM	0	1	272	7	0	0	81	0	0	5	0	0	0	3	0	1	370		0	0	0	0
5:30 PM	0	1	252	6	0	0	93	1	0	6	0	0	0	3	0	1	363		0	0	0	0
5:45 PM	0	1	291	8	0	0	83	4	0	5	0	1	0	3	1	0	397		0	0	0	0

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	3	1,128	37	0	1	300	5	0	26	0	3	0	8	0	2	1,513
Mediums	0	0	14	0	0	1	3	0	0	0	0	0	0	1	0	0	19
Total	0	3	1,142	37	0	2	303	5	0	26	0	3	0	9	0	2	1,532



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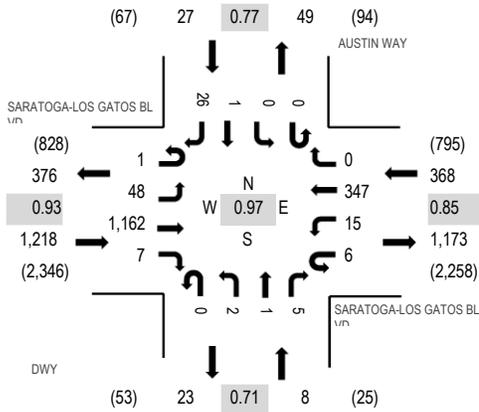
Location: 3 DWY & SARATOGA-LOS GATOS BLVD PM

Date and Start Time: Wednesday, March 7, 2018

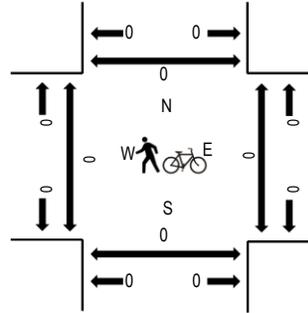
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:15 PM - 04:30 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	SARATOGA-LOS GATOS Eastbound				SARATOGA-LOS GATOS Westbound				DWY Northbound				AUSTIN WAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	14	314	1	1	2	74	0	0	1	0	2	0	0	0	7	416	1,621	0	0	0	0
4:15 PM	0	16	296	2	1	5	96	0	0	0	0	0	0	0	0	3	419	1,581	0	0	0	0
4:30 PM	1	6	283	3	0	4	88	0	0	0	0	1	0	0	1	5	392	1,545	0	0	0	0
4:45 PM	0	12	269	1	4	4	89	0	0	1	1	2	0	0	0	11	394	1,616	0	0	0	0
5:00 PM	1	7	244	6	0	2	104	0	0	0	1	4	0	0	2	5	376	1,612	0	0	0	0
5:15 PM	0	15	258	0	0	4	96	0	0	0	0	1	0	0	0	9	383		0	0	1	0
5:30 PM	2	11	304	3	0	7	120	0	0	0	0	5	0	0	0	11	463		0	0	0	0
5:45 PM	1	10	263	3	0	2	91	1	0	1	0	5	0	1	1	11	390		0	0	0	0

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	1	45	1,154	7	6	15	344	0	0	2	1	5	0	0	1	26	1,607
Mediums	0	3	7	0	0	0	3	0	0	0	0	0	0	0	0	0	13
Total	1	48	1,162	7	6	15	347	0	0	2	1	5	0	0	1	26	1,621



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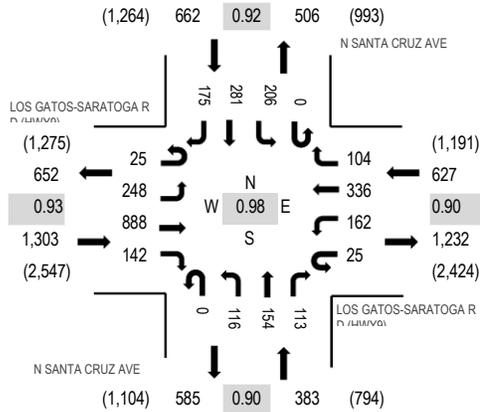
Location: 2 N SANTA CRUZ AVE & LOS GATOS-SARATOGA RD (HWY9) PM

Date and Start Time: Tuesday, January 30, 2018

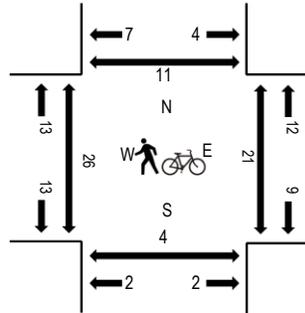
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	LOS GATOS-SARATOGA RD (HWY9) Eastbound				LOS GATOS-SARATOGA RD (HWY9) Westbound				N SANTA CRUZ AVE Northbound				N SANTA CRUZ AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	4:00 PM	5	43	231	25	6	29	70	40	0	29	40	41	0	32	66			40	697	2,880	5
4:15 PM	4	52	222	34	8	37	75	23	0	40	38	24	0	51	74	52	734	2,945	5	6	1	1
4:30 PM	7	53	203	48	4	22	63	36	0	39	53	25	0	40	71	44	708	2,967	6	12	2	5
4:45 PM	7	55	222	51	9	35	78	31	0	28	38	25	0	48	64	50	741	2,975	3	7	0	1
5:00 PM	4	70	249	28	5	30	94	24	0	33	37	30	0	45	64	49	762	2,916	10	7	1	6
5:15 PM	6	58	207	35	6	48	92	28	0	29	39	29	0	57	86	36	756		4	2	2	2
5:30 PM	8	65	210	28	5	49	72	21	0	26	40	29	0	56	67	40	716		7	3	1	1
5:45 PM	8	44	233	32	4	26	90	31	0	19	34	29	0	39	55	38	682		3	4	0	1

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	2	0	0	0	1	1	0	0	1	0	0	0	0	0	6
Lights	25	245	880	141	25	162	334	100	0	116	152	113	0	205	279	172	2,949
Mediums	0	2	6	1	0	0	1	3	0	0	1	0	0	1	2	3	20
Total	25	248	888	142	25	162	336	104	0	116	154	113	0	206	281	175	2,975



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www.alltrafficdata.net

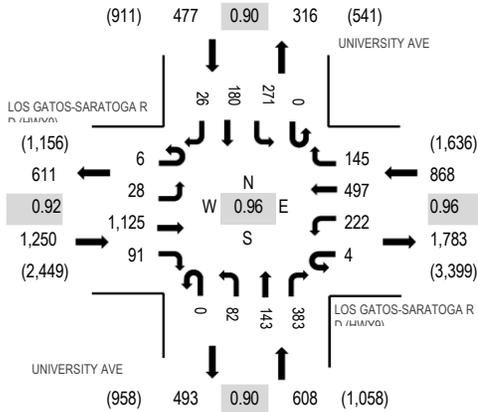
Location: 1 UNIVERSITY AVE & LOS GATOS-SARATOGA RD (HWY9) PM

Date and Start Time: Tuesday, January 30, 2018

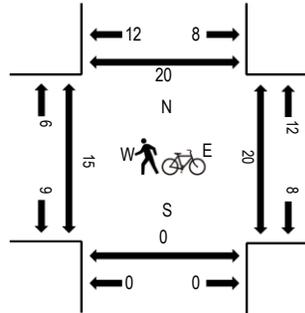
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

**Peak Hour - All Vehicles**



**Peak Hour - Pedestrians/Bicycles in Crosswalk**



Note: Total study counts contained in parentheses.

**Traffic Counts**

Interval Start Time	LOS GATOS-SARATOGA RD Eastbound (HWY9)				LOS GATOS-SARATOGA RD Westbound (HWY9)				UNIVERSITY AVE Northbound				UNIVERSITY AVE Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	4:00 PM	0	8	302	19	1	43	115	22	0	16	20	82	0	45	44			14	731	2,851	1
4:15 PM	0	7	270	23	0	59	117	21	0	15	23	73	0	67	44	12	731	2,956	1	4	0	3
4:30 PM	2	10	247	17	3	65	103	23	0	18	25	73	0	61	49	4	700	3,040	5	6	0	6
4:45 PM	1	8	265	20	5	52	109	30	0	12	28	65	0	57	30	7	689	3,109	3	5	0	3
5:00 PM	0	7	308	22	0	52	122	28	0	19	44	106	0	76	44	8	836	3,203	4	3	0	3
5:15 PM	3	6	259	26	2	44	141	39	0	23	45	95	0	63	63	6	815		1	6	0	4
5:30 PM	0	6	257	17	1	71	111	41	0	23	29	94	0	70	43	6	769		5	5	0	9
5:45 PM	3	9	301	26	1	55	123	37	0	17	25	88	0	62	30	6	783		5	5	0	4

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	6	28	1,116	91	4	222	493	144	0	81	142	382	0	271	180	25	3,185
Mediums	0	0	8	0	0	0	3	1	0	1	1	1	0	0	0	1	16
Total	6	28	1,125	91	4	222	497	145	0	82	143	383	0	271	180	26	3,203

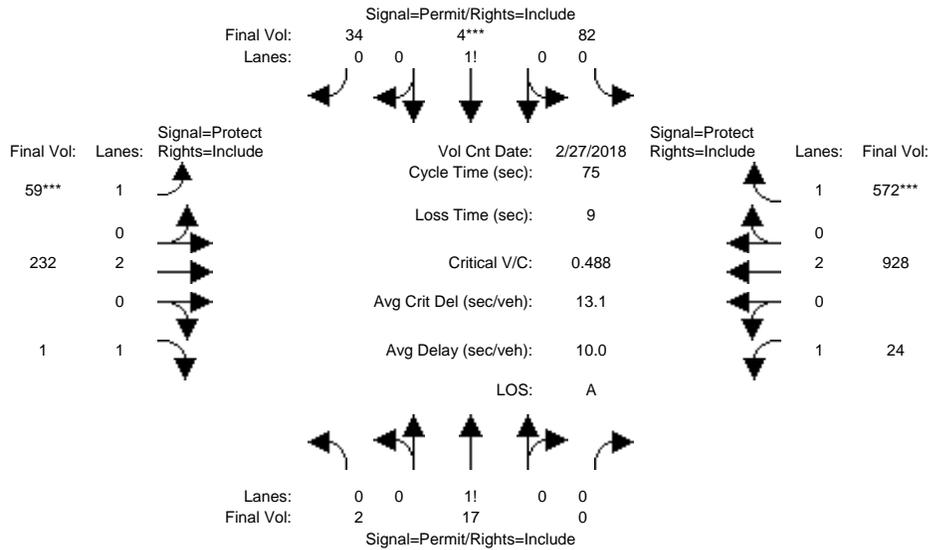
## **Appendix B**

### **Level of Service Calculations**

18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing AM

Intersection #1: Fruitvale Ave & Saratoga-Los Gatos Rd



Street Name:	Fruitvale Ave						Saratoga-Los Gatos Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	27 Feb 2018	<<	7:30-8:30 AM						
Base Vol:	2	17	0	82	4	34	59	232	1	24	928	572
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	17	0	82	4	34	59	232	1	24	928	572
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	17	0	82	4	34	59	232	1	24	928	572
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	17	0	82	4	34	59	232	1	24	928	572
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	17	0	82	4	34	59	232	1	24	928	572
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	17	0	82	4	34	59	232	1	24	928	572

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.11	0.89	0.00	0.69	0.03	0.28	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	189	1611	0	1196	58	496	1750	3800	1750	1750	3800	1750

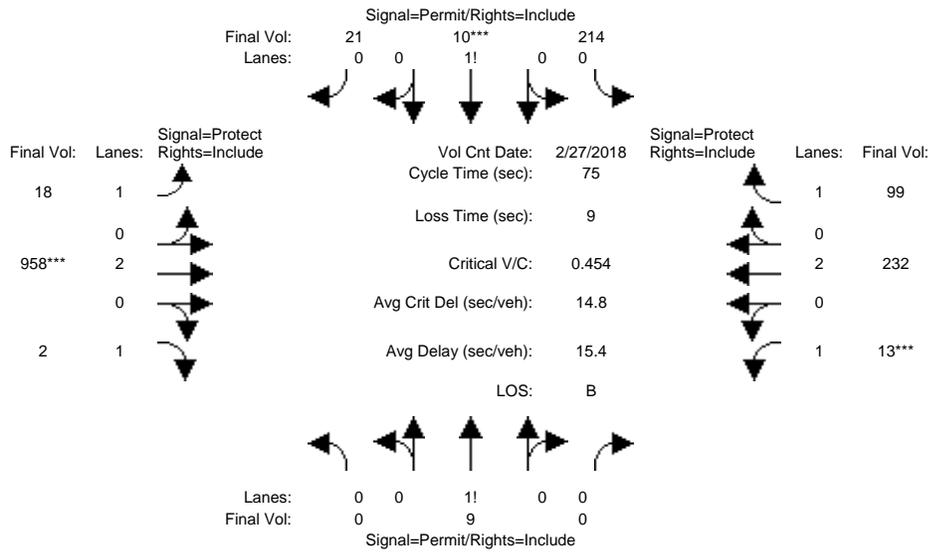
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.07	0.07	0.07	0.03	0.06	0.00	0.01	0.24	0.33
Crit Moves:				****	****	****	****	****	****	****	****	****
Green Time:	10.2	10.2	0.0	10.2	10.2	10.2	7.0	32.8	32.8	23.0	48.8	48.8
Volume/Cap:	0.08	0.08	0.00	0.50	0.50	0.50	0.36	0.14	0.00	0.04	0.38	0.50
Delay/Veh:	28.4	28.4	0.0	31.7	31.7	31.7	33.3	12.7	11.9	18.3	6.2	7.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.4	28.4	0.0	31.7	31.7	31.7	33.3	12.7	11.9	18.3	6.2	7.2
LOS by Move:	C	C	A	C	C	C	C-	B	B+	B-	A	A
HCM2k95thQ:	1	1	0	7	7	7	4	3	0	1	10	15

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

18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing PM

Intersection #1: Fruitvale Ave & Saratoga-Los Gatos Rd



Street Name:	Fruitvale Ave						Saratoga-Los Gatos Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	27 Feb 2018	<<	4:00-5:00 PM						
Base Vol:	0	9	0	214	10	21	18	958	2	13	232	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	9	0	214	10	21	18	958	2	13	232	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	9	0	214	10	21	18	958	2	13	232	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	9	0	214	10	21	18	958	2	13	232	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	9	0	214	10	21	18	958	2	13	232	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	9	0	214	10	21	18	958	2	13	232	99

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	1.00	0.00	0.87	0.04	0.09	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	0	1900	0	1529	71	150	1750	3800	1750	1750	3800	1750

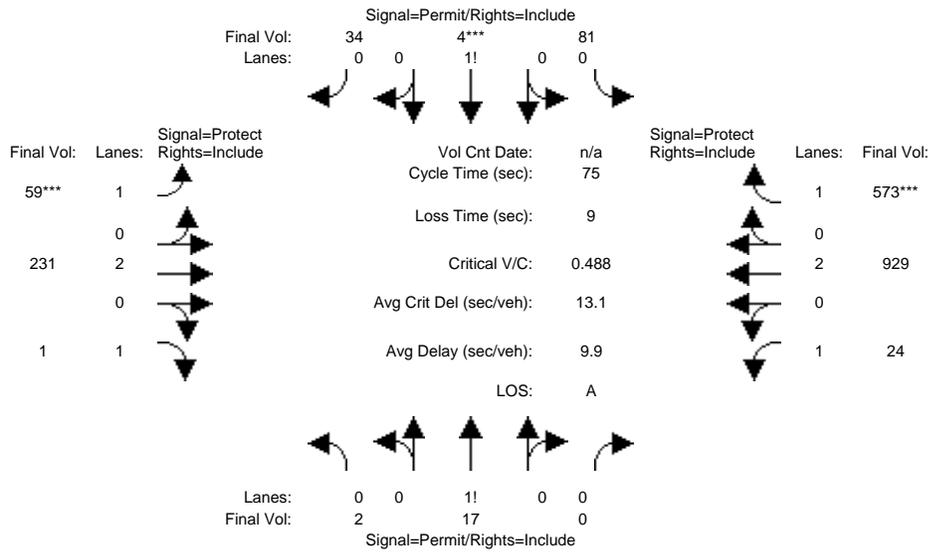
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.14	0.01	0.25	0.00	0.01	0.06	0.06
Crit Moves:				****			****			****		
Green Time:	0.0	21.1	0.0	21.1	21.1	21.1	18.5	37.9	37.9	7.0	26.4	26.4
Volume/Cap:	0.00	0.02	0.00	0.50	0.50	0.50	0.04	0.50	0.00	0.08	0.17	0.16
Delay/Veh:	0.0	19.5	0.0	23.3	23.3	23.3	21.5	12.5	9.2	31.3	16.8	16.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.5	0.0	23.3	23.3	23.3	21.5	12.5	9.2	31.3	16.8	16.8
LOS by Move:	A	B-	A	C	C	C	C+	B	A	C	B	B
HCM2k95thQ:	0	0	0	11	11	11	1	14	0	1	4	4

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

18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Ex+Proj AM

Intersection #1: Fruitvale Ave & Saratoga-Los Gatos Rd



Street Name:	Fruitvale Ave						Saratoga-Los Gatos Rd					
	North Bound			South Bound			East Bound			West Bound		
Approach:												
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:												
	2	17	0	81	4	34	59	231	1	24	929	573
Base Vol:	2	17	0	81	4	34	59	231	1	24	929	573
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	17	0	81	4	34	59	231	1	24	929	573
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	17	0	81	4	34	59	231	1	24	929	573
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	17	0	81	4	34	59	231	1	24	929	573
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	17	0	81	4	34	59	231	1	24	929	573
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	2	17	0	81	4	34	59	231	1	24	929	573

Saturation Flow Module:												
	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.11	0.89	0.00	0.68	0.03	0.29	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	189	1611	0	1191	59	500	1750	3800	1750	1750	3800	1750

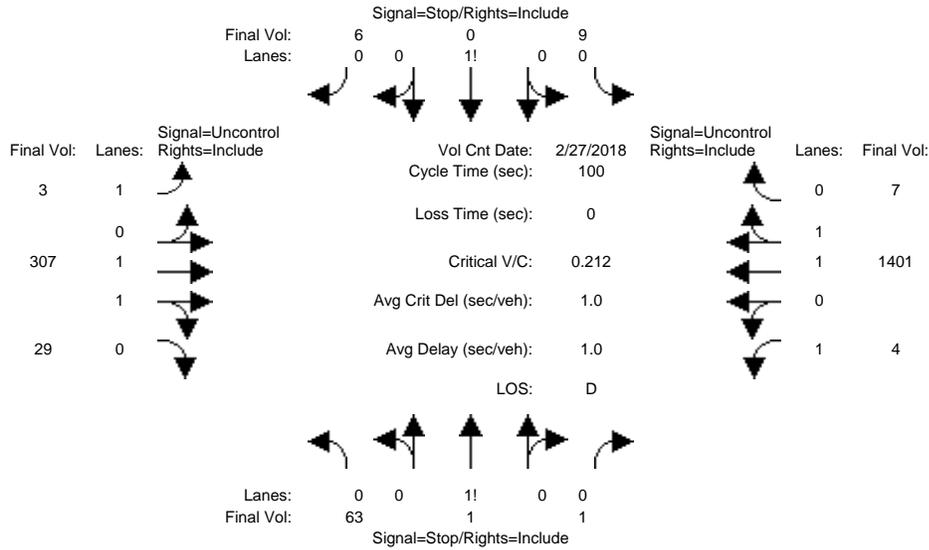
Capacity Analysis Module:												
	0.01	0.01	0.00	0.07	0.07	0.07	0.03	0.06	0.00	0.01	0.24	0.33
Vol/Sat:	0.01	0.01	0.00	0.07	0.07	0.07	0.03	0.06	0.00	0.01	0.24	0.33
Crit Moves:					****		****					****
Green Time:	10.1	10.1	0.0	10.1	10.1	10.1	7.0	32.9	32.9	23.0	48.9	48.9
Volume/Cap:	0.08	0.08	0.00	0.50	0.50	0.50	0.36	0.14	0.00	0.04	0.38	0.50
Delay/Veh:	28.5	28.5	0.0	31.8	31.8	31.8	33.3	12.6	11.8	18.3	6.1	7.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.5	28.5	0.0	31.8	31.8	31.8	33.3	12.6	11.8	18.3	6.1	7.1
LOS by Move:	C	C	A	C	C	C	C-	B	B+	B-	A	A
HCM2k95thQ:	1	1	0	7	7	7	4	3	0	1	10	15

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

18840 Saratoga-Los Gatos Road Residential TIA
Monte Sereno, CA
Hexagon Transportation Consultants, Inc.

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

Intersection #2: El Camino Grande/Austin Way & Saratoga-Los Gatos Rd



Street Name: El Camino Grande/Austin Way Saratoga-Los Gatos Rd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with columns for Volume Module, Count, Date (27 Feb 2018), and time (7:30-8:30 AM). Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table for Critical Gap Module showing Critical Gp and FollowUpTim values for different movements.

Table for Capacity Module showing Cnflct Vol, Potent Cap., Move Cap., Total Cap, and Volume/Cap for various movements.

Table for Level Of Service Module showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

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

Peak Hour Delay Signal Warrant Report

\*\*\*\*\*
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	63 1 1	9 0 6	3 307 29	4 1401 7
ApproachDel:	20.5	27.5	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=65]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1831]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=15]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1831]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

\*\*\*\*\*  
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd  
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	63 1 1	9 0 6	3 307 29	4 1401 7

Major Street Volume: 1751

Minor Approach Volume: 65

Minor Approach Volume Threshold: 92 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

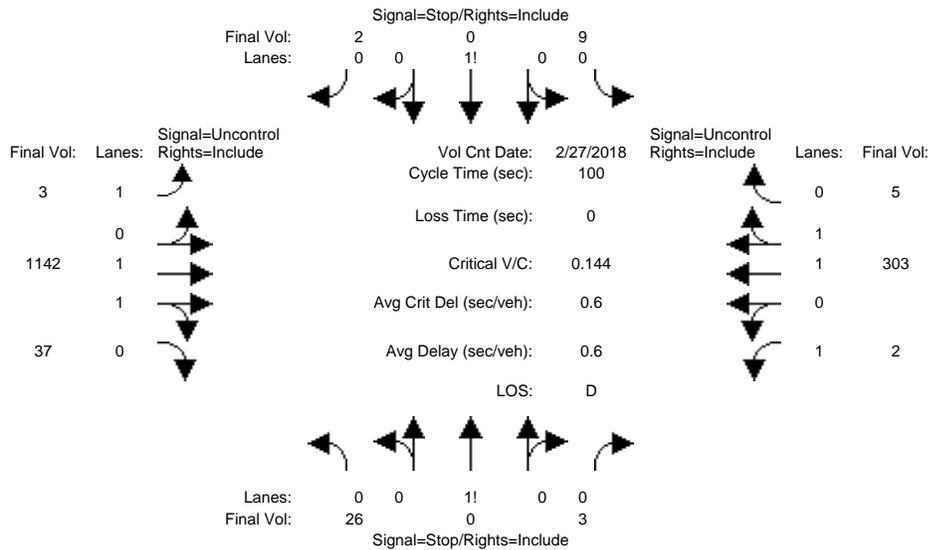
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

18840 Saratoga-Los Gatos Road Residential TIA
Monte Sereno, CA
Hexagon Transportation Consultants, Inc.

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

Intersection #2: El Camino Grande/Austin Way & Saratoga-Los Gatos Rd



Street Name: El Camino Grande/Austin Way Saratoga-Los Gatos Rd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with columns for Volume Module, Count, Date (27 Feb 2018), and various volume metrics (Base Vol, Growth Adj, Initial Bse, etc.) for each approach and movement.

Table for Critical Gap Module showing Critical Gap and FollowUpTim values for each approach and movement.

Table for Capacity Module showing Cnflct Vol, Potent Cap., Move Cap., Total Cap., and Volume/Cap. ratios for each approach and movement.

Table for Level Of Service Module showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS for each approach and movement.

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

Peak Hour Delay Signal Warrant Report

\*\*\*\*\*
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	26 0 3	9 0 2	3 1142 37	2 303 5
ApproachDel:	26.9	14.3	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=29]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1532]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=11]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1532]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

\*\*\*\*\*  
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd  
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	26 0 3	9 0 2	3 1142 37	2 303 5

Major Street Volume: 1492

Minor Approach Volume: 29

Minor Approach Volume Threshold: 147

SIGNAL WARRANT DISCLAIMER

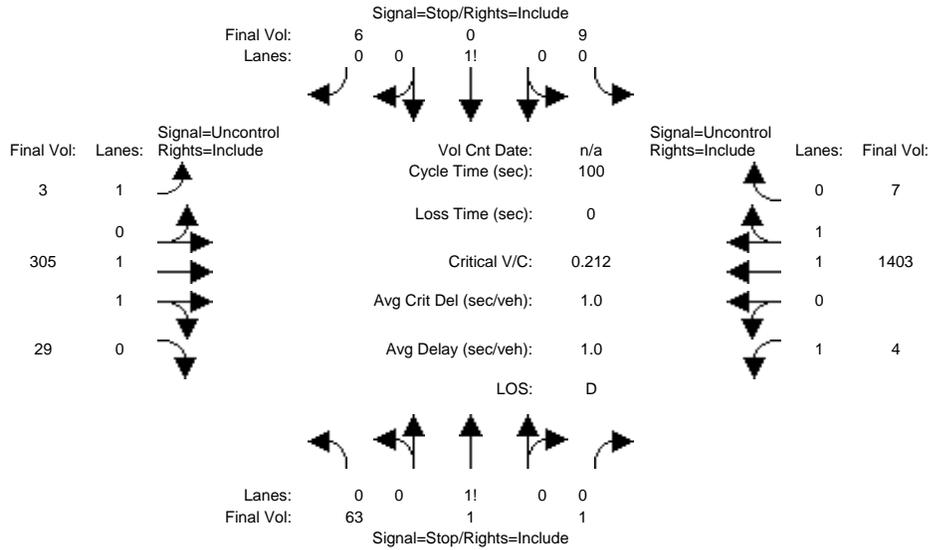
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18840 Saratoga-Los Gatos Road Residential TIA
Monte Sereno, CA
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Ex+Proj AM

Intersection #2: El Camino Grande/Austin Way & Saratoga-Los Gatos Rd



Street Name: El Camino Grande/Austin Way Saratoga-Los Gatos Rd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with 13 columns representing movements and 13 rows representing volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Table with 13 columns representing movements and 13 rows representing critical gap metrics: Critical Gap, FollowUpTim.

Table with 13 columns representing movements and 13 rows representing capacity metrics: Cnflct Vol, Potent Cap., Move Cap., Total Cap, Volume/Cap.

Table with 13 columns representing movements and 13 rows representing level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.
Peak Hour Delay Signal Warrant Report

\*\*\*\*\*
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	63 1 1	9 0 6	3 305 29	4 1403 7
ApproachDel:	20.5	27.5	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=65]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1831]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=15]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1831]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

\*\*\*\*\*  
Intersection #2 El Camino Grande/Austin Way & Saratoga-Los Gatos Rd  
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	63 1 1	9 0 6	3 305 29	4 1403 7

Major Street Volume: 1751

Minor Approach Volume: 65

Minor Approach Volume Threshold: 92 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

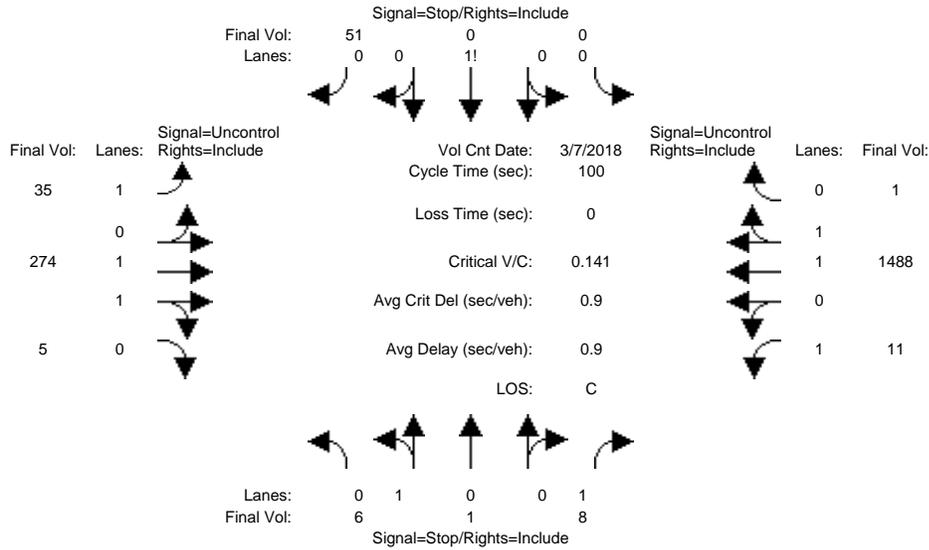
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18840 Saratoga-Los Gatos Road Residential TIA
Monte Sereno, CA
Hexagon Transportation Consultants, Inc.

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

Intersection #3: Austin Way/Project Driveway & Saratoga-Los Gatos Rd



Street Name: Austin Way/Project Driveway Saratoga-Los Gatos Rd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with columns for Volume Module, Count, Date (7 Mar 2018), and various volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) for each approach.

Table for Critical Gap Module showing Critical Gap (7.5, 6.5, 6.9, 6.9, 4.1, 4.1) and FollowUpTim (3.5, 4.0, 3.3, 3.3, 2.2, 2.2) for different movements.

Table for Capacity Module showing Cnflct Vol (1113, 1858, 140, 745, 1489, 279), Potent Cap. (166, 74, 889, 361, 457, 1295), Move Cap. (133, 68, 889, 361, 457, 1295), and Volume/Cap. (0.05, 0.01, 0.01, 0.14, 0.08, 0.01).

Table for Level Of Service Module showing 2Way95thQ (xxxx, 0.0, 0.5, 0.2, 0.0), Control Del (9.1, 16.6, 13.5, 7.8), LOS by Move (\*, A, C, B, A), Shared Cap. (117, xxxxx), SharedQueue (0.2, xxxxx), Shrd ConDel (37.7, xxxxx), Shared LOS (E, \*), ApproachDel (22.4, 16.6), and ApproachLOS (C, C).

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

Peak Hour Delay Signal Warrant Report

\*\*\*\*\*
Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd
\*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 1 0 0 1	0 0 0 0 1	1 0 1 1 0	1 0 1 1 0
Initial Vol:	6 1 8	0 0 51	35 274 5	11 1488 1
ApproachDel:	22.4	16.6	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop Sign]  
 Signal Warrant Rule #1: [vehicle-hours=0.1]  
 FAIL - Vehicle-hours less than 5 for two or more lane approach.  
 Signal Warrant Rule #2: [approach volume=15]  
 FAIL - Approach volume less than 150 for two or more lane approach.  
 Signal Warrant Rule #3: [approach count=4][total volume=1880]  
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]  
 Signal Warrant Rule #1: [vehicle-hours=0.2]  
 FAIL - Vehicle-hours less than 4 for one lane approach.  
 Signal Warrant Rule #2: [approach volume=51]  
 FAIL - Approach volume less than 100 for one lane approach.  
 Signal Warrant Rule #3: [approach count=4][total volume=1880]  
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

\*\*\*\*\*  
 Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd  
 \*\*\*\*\*  
 Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 1 0 0 1	0 0 0 0 1	1 0 1 1 0	1 0 1 1 0
Initial Vol:	6 1 8	0 0 51	35 274 5	11 1488 1

Major Street Volume: 1814  
 Minor Approach Volume: 51  
 Minor Approach Volume Threshold: 80 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

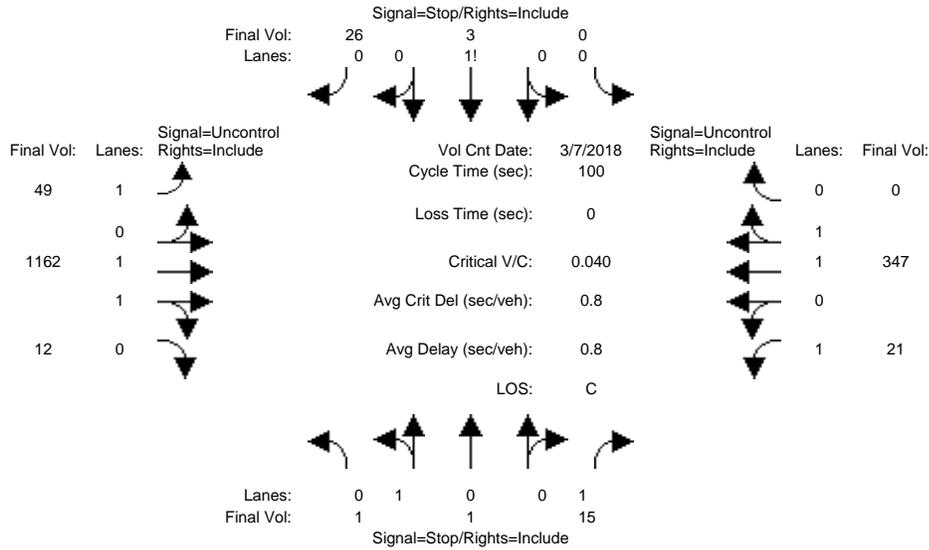
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18840 Saratoga-Los Gatos Road Residential TIA
Monte Sereno, CA
Hexagon Transportation Consultants, Inc.

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

Intersection #3: Austin Way/Project Driveway & Saratoga-Los Gatos Rd



Street Name: Austin Way/Project Driveway Saratoga-Los Gatos Rd
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with columns for Volume Module, Count, Date (7 Mar 2018), and various volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) for each approach.

Table for Critical Gap Module showing Critical Gap (e.g., 7.5, 6.5, 6.9) and FollowUpTim (e.g., 3.5, 4.0, 3.3) for each movement.

Table for Capacity Module showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. for each movement.

Table for Level Of Service Module showing 2Way95thQ, Control Del, LOS by Move, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS for each approach.

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

Peak Hour Delay Signal Warrant Report

\*\*\*\*\*
Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd
\*\*\*\*\*
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 1 0 0 1	0 0 0 1 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	1 1 15	0 3 26	49 1162 12	21 347 0
ApproachDel:	17.3	13.4	xxxxxx	xxxxxx

Approach[northbound][lanes=2][control=Stop Sign]  
Signal Warrant Rule #1: [vehicle-hours=0.1]  
FAIL - Vehicle-hours less than 5 for two or more lane approach.  
Signal Warrant Rule #2: [approach volume=17]  
FAIL - Approach volume less than 150 for two or more lane approach.  
Signal Warrant Rule #3: [approach count=4][total volume=1637]  
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]  
Signal Warrant Rule #1: [vehicle-hours=0.1]  
FAIL - Vehicle-hours less than 4 for one lane approach.  
Signal Warrant Rule #2: [approach volume=29]  
FAIL - Approach volume less than 100 for one lane approach.  
Signal Warrant Rule #3: [approach count=4][total volume=1637]  
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER  
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Peak Hour Volume Signal Warrant Report [Urban]  
\*\*\*\*\*  
Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd  
\*\*\*\*\*  
Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 1 0 0 1	0 0 0 1 0	1 0 1 1 0	1 0 1 1 0
Initial Vol:	1 1 15	0 3 26	49 1162 12	21 347 0
Major Street Volume:	1591			
Minor Approach Volume:	29			
Minor Approach Volume Threshold:	125			

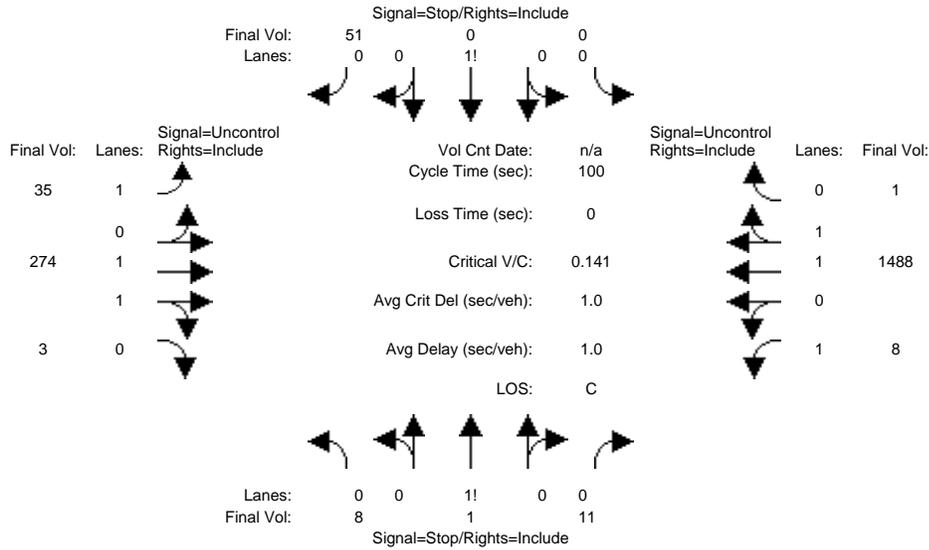
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18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Unsignalized (Future Volume Alternative)  
 Ex+Proj AM

Intersection #3: Austin Way/Project Driveway & Saratoga-Los Gatos Rd



Street Name: Austin Way/Project Driveway Saratoga-Los Gatos Rd  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Volume Module:

Base Vol:	8	1	11	0	0	51	35	274	3	8	1488	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	1	11	0	0	51	35	274	3	8	1488	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	1	11	0	0	51	35	274	3	8	1488	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	1	11	0	0	51	35	274	3	8	1488	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	1	11	0	0	51	35	274	3	8	1488	1

Critical Gap Module:

Critical Gp:	7.5	6.5	6.9	xxxxx	xxxx	6.9	4.1	xxxx	xxxxxx	4.1	xxxx	xxxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxxx	xxxx	3.3	2.2	xxxx	xxxxxx	2.2	xxxx	xxxxxx

Capacity Module:

Cnflct Vol:	1106	1851	139	xxxx	xxxx	745	1489	xxxx	xxxxxx	277	xxxx	xxxxxx
Potent Cap.:	168	75	891	xxxx	xxxx	361	457	xxxx	xxxxxx	1298	xxxx	xxxxxx
Move Cap.:	135	69	891	xxxx	xxxx	361	457	xxxx	xxxxxx	1298	xxxx	xxxxxx
Volume/Cap:	0.06	0.01	0.01	xxxx	xxxx	0.14	0.08	xxxx	xxxx	0.01	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxxx	xxxx	xxxx	0.5	0.2	xxxx	xxxxxx	0.0	xxxx	xxxxxx
Control Del:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	16.6	13.5	xxxx	xxxxxx	7.8	xxxx	xxxxxx
LOS by Move:	*	*	*	*	*	C	B	*	*	A	*	*
Movement:	LT - LTR - RT											
Shared Cap.:	xxxx	232	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx
SharedQueue:	xxxxxx	0.3	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
Shrd ConDel:	xxxxxx	22.0	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		22.0				16.6		xxxxxxx			xxxxxxx	
ApproachLOS:		C				C		*			*	

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

Peak Hour Delay Signal Warrant Report

\*\*\*\*\*  
 Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd  
 \*\*\*\*\*

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 0 0 1	1 0 1 1 0	1 0 1 1 0
Initial Vol:	8 1 11	0 0 51	35 274 3	8 1488 1
ApproachDel:	22.0	16.6	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop Sign]  
 Signal Warrant Rule #1: [vehicle-hours=0.1]  
 FAIL - Vehicle-hours less than 4 for one lane approach.  
 Signal Warrant Rule #2: [approach volume=20]  
 FAIL - Approach volume less than 100 for one lane approach.  
 Signal Warrant Rule #3: [approach count=4][total volume=1880]  
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]  
 Signal Warrant Rule #1: [vehicle-hours=0.2]  
 FAIL - Vehicle-hours less than 4 for one lane approach.  
 Signal Warrant Rule #2: [approach volume=51]  
 FAIL - Approach volume less than 100 for one lane approach.  
 Signal Warrant Rule #3: [approach count=4][total volume=1880]  
 SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

\*\*\*\*\*  
 Intersection #3 Austin Way/Project Driveway & Saratoga-Los Gatos Rd  
 \*\*\*\*\*  
 Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 0 0 1	1 0 1 1 0	1 0 1 1 0
Initial Vol:	8 1 11	0 0 51	35 274 3	8 1488 1

Major Street Volume: 1809  
 Minor Approach Volume: 51  
 Minor Approach Volume Threshold: 81 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

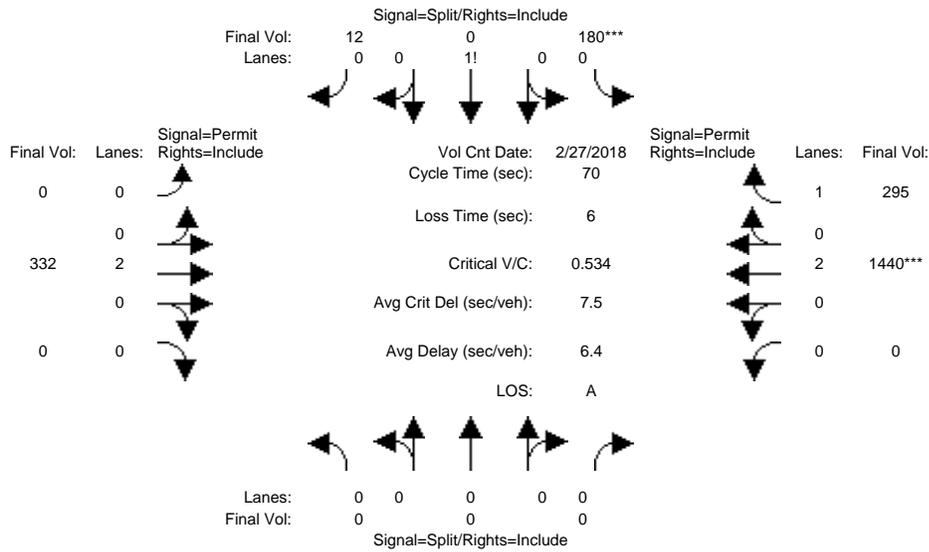
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18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing AM

Intersection #4: Quito Rd & Saratoga-Los Gatos Rd



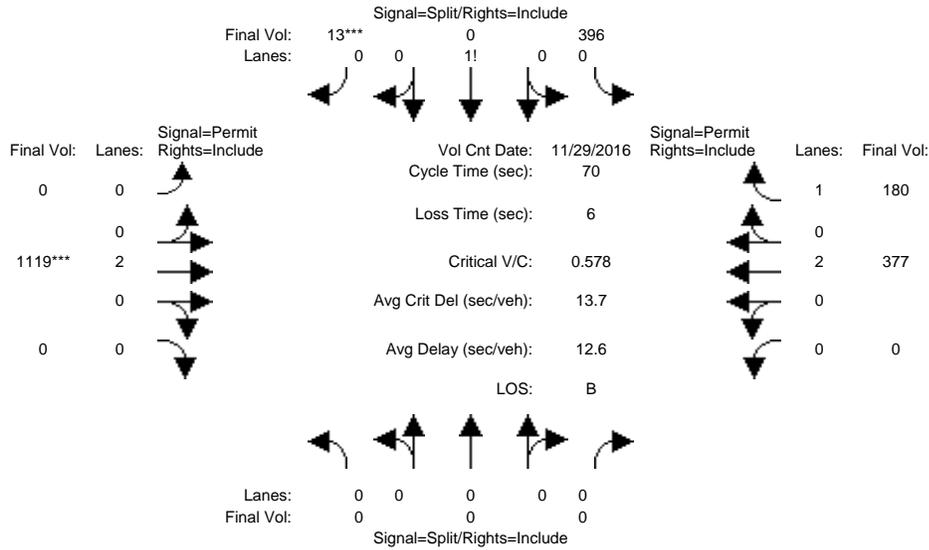
Street Name:	Quito Rd						Saratoga-Los Gatos Rd						
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Min. Green:	0	0	0	10	0	10	0	10	0	0	10	10	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Volume Module: >> Count Date: 27 Feb 2018 << 7:30-8:30 AM													
Base Vol:	0	0	0	180	0	12	0	332	0	0	1440	295	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	0	0	0	180	0	12	0	332	0	0	1440	295	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	0	0	0	180	0	12	0	332	0	0	1440	295	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Volume:	0	0	0	180	0	12	0	332	0	0	1440	295	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	0	0	0	180	0	12	0	332	0	0	1440	295	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Final Volume:	0	0	0	180	0	12	0	332	0	0	1440	295	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92	
Lanes:	0.00	0.00	0.00	0.94	0.00	0.06	0.00	2.00	0.00	0.00	2.00	1.00	
Final Sat.:	0	0	0	1641	0	109	0	3800	0	0	3800	1750	
Capacity Analysis Module:													
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.09	0.00	0.00	0.38	0.17	
Crit Moves:				****							****		
Green Time:	0.0	0.0	0.0	14.4	0.0	14.4	0.0	49.6	0.0	0.0	49.6	49.6	
Volume/Cap:	0.00	0.00	0.00	0.53	0.00	0.53	0.00	0.12	0.00	0.00	0.53	0.24	
Delay/Veh:	0.0	0.0	0.0	26.4	0.0	26.4	0.0	3.3	0.0	0.0	5.0	3.7	
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0	26.4	0.0	26.4	0.0	3.3	0.0	0.0	5.0	3.7	
LOS by Move:	A	A	A	C	A	C	A	A	A	A	A	A	
HCM2k95thQ:	0	0	0	9	0	9	0	2	0	0	15	5	

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

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 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

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 Existing PM

Intersection #4: Quito Rd & Saratoga-Los Gatos Rd



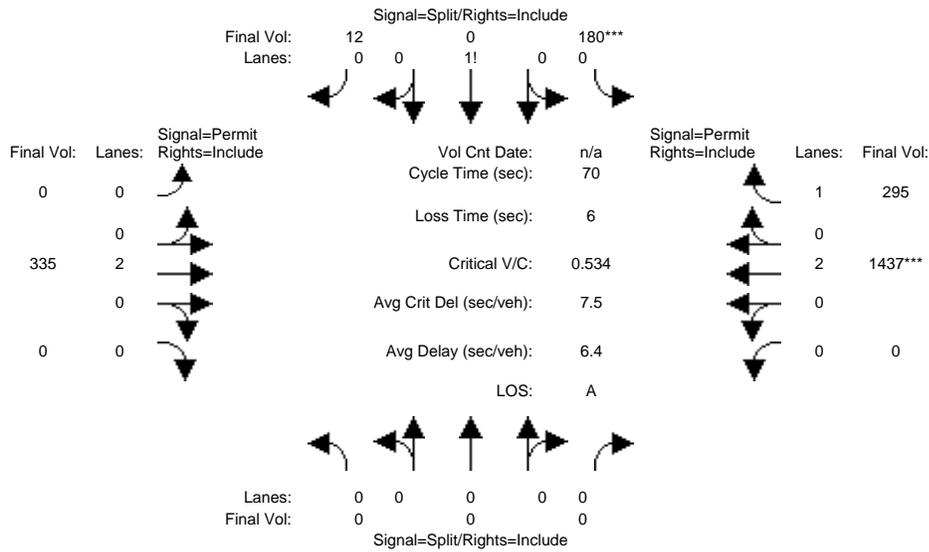
Street Name:	Quito Rd						Saratoga-Los Gatos Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 29 Nov 2016 << 4:00-5:00 PM												
Base Vol:	0	0	0	396	0	13	0	1119	0	0	377	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	396	0	13	0	1119	0	0	377	180
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	396	0	13	0	1119	0	0	377	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	396	0	13	0	1119	0	0	377	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	396	0	13	0	1119	0	0	377	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	0	396	0	13	0	1119	0	0	377	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.97	0.00	0.03	0.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1694	0	56	0	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.23	0.00	0.29	0.00	0.00	0.10	0.10
Crit Moves:				****			****					
Green Time:	0.0	0.0	0.0	28.3	0.0	28.3	0.0	35.7	0.0	0.0	35.7	35.7
Volume/Cap:	0.00	0.00	0.00	0.58	0.00	0.58	0.00	0.58	0.00	0.00	0.19	0.20
Delay/Veh:	0.0	0.0	0.0	17.4	0.0	17.4	0.0	12.4	0.0	0.0	9.4	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	17.4	0.0	17.4	0.0	12.4	0.0	0.0	9.4	9.5
LOS by Move:	A	A	A	B	A	B	A	B	A	A	A	A
HCM2k95thQ:	0	0	0	15	0	15	0	17	0	0	5	5

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

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Intersection #4: Quito Rd & Saratoga-Los Gatos Rd



Street Name:	Quito Rd						Saratoga-Los Gatos Rd					
	North Bound			South Bound			East Bound			West Bound		
Approach:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:												
Base Vol:	0	0	0	180	0	12	0	335	0	0	1437	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	180	0	12	0	335	0	0	1437	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	180	0	12	0	335	0	0	1437	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	180	0	12	0	335	0	0	1437	295
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	180	0	12	0	335	0	0	1437	295
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	180	0	12	0	335	0	0	1437	295

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.94	0.00	0.06	0.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1641	0	109	0	3800	0	0	3800	1750

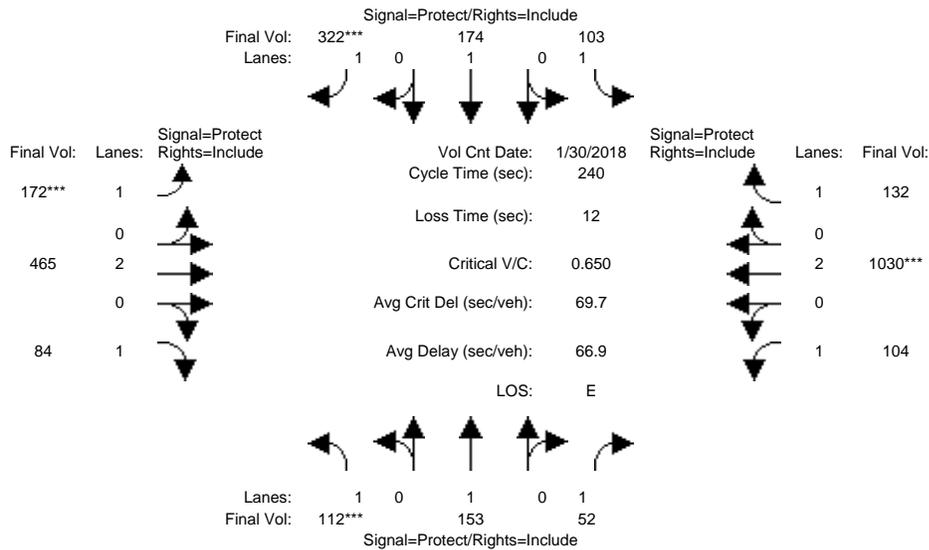
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.09	0.00	0.00	0.38	0.17
Crit Moves:				****						****		
Green Time:	0.0	0.0	0.0	14.4	0.0	14.4	0.0	49.6	0.0	0.0	49.6	49.6
Volume/Cap:	0.00	0.00	0.00	0.53	0.00	0.53	0.00	0.12	0.00	0.00	0.53	0.24
Delay/Veh:	0.0	0.0	0.0	26.4	0.0	26.4	0.0	3.3	0.0	0.0	5.0	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.4	0.0	26.4	0.0	3.3	0.0	0.0	5.0	3.7
LOS by Move:	A	A	A	C	A	C	A	A	A	A	A	A
HCM2k95thQ:	0	0	0	9	0	9	0	2	0	0	15	5

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

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 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

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Intersection #5: Santa Cruz Rd & Saratoga-Los Gatos Rd



Street Name:	N Santa Cruz Rd						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	30 Jan 2018	<<	7:45 - 8:45						
Base Vol:	112	153	52	103	174	322	172	465	84	104	1030	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	153	52	103	174	322	172	465	84	104	1030	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	153	52	103	174	322	172	465	84	104	1030	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	153	52	103	174	322	172	465	84	104	1030	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	153	52	103	174	322	172	465	84	104	1030	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	112	153	52	103	174	322	172	465	84	104	1030	132

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750

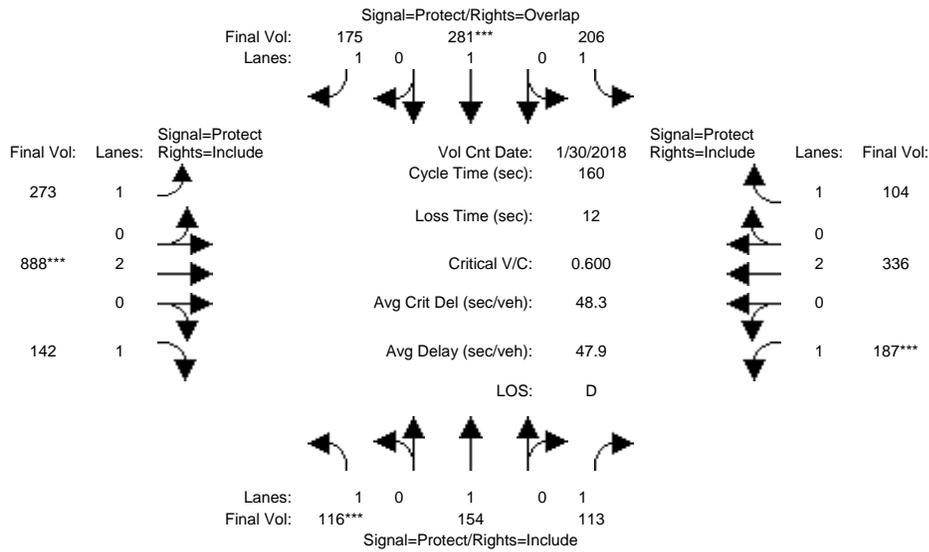
Capacity Analysis Module:												
Vol/Sat:	0.06	0.08	0.03	0.06	0.09	0.18	0.10	0.12	0.05	0.06	0.27	0.08
Crit Moves:	***					***	***				***	
Green Time:	23.6	52.9	52.9	38.7	68.0	68.0	36.3	91.8	91.8	44.6	100	100.1
Volume/Cap:	0.65	0.37	0.13	0.37	0.32	0.65	0.65	0.32	0.13	0.32	0.65	0.18
Delay/Veh:	112.7	79.8	75.3	90.5	68.2	78.6	101.5	52.3	48.1	85.1	56.9	44.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	112.7	79.8	75.3	90.5	68.2	78.6	101.5	52.3	48.1	85.1	56.9	44.2
LOS by Move:	F	E-	E-	F	E	E-	F	D-	D	F	E+	D
HCM2k95thQ:	17	17	6	14	18	37	24	21	8	13	47	12

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

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 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

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Intersection #5: Santa Cruz Rd & Saratoga-Los Gatos Rd



Street Name:	N Santa Cruz Rd						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	30 Jan 2018	<<	4:45-5:45PM						
Base Vol:	116	154	113	206	281	175	273	888	142	187	336	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	116	154	113	206	281	175	273	888	142	187	336	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	116	154	113	206	281	175	273	888	142	187	336	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	154	113	206	281	175	273	888	142	187	336	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	154	113	206	281	175	273	888	142	187	336	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	116	154	113	206	281	175	273	888	142	187	336	104

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750

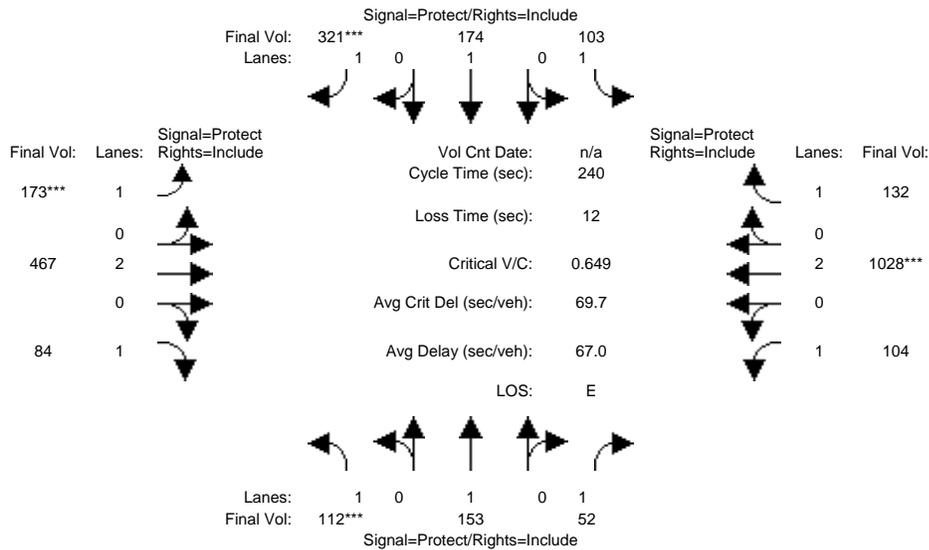
Capacity Analysis Module:												
Vol/Sat:	0.07	0.08	0.06	0.12	0.15	0.10	0.16	0.23	0.08	0.11	0.09	0.06
Crit Moves:	***				***			***			***	
Green Time:	17.7	23.3	23.3	33.8	39.5	97.4	58.0	62.3	62.3	28.5	32.9	32.9
Volume/Cap:	0.60	0.56	0.44	0.56	0.60	0.16	0.43	0.60	0.21	0.60	0.43	0.29
Delay/Veh:	72.9	66.0	63.7	58.3	55.4	13.7	39.0	39.6	32.6	63.7	55.8	54.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.9	66.0	63.7	58.3	55.4	13.7	39.0	39.6	32.6	63.7	55.8	54.1
LOS by Move:	E	E	E	E+	E+	B	D	D	C-	E	E+	D-
HCM2k95thQ:	13	14	11	19	22	8	20	30	9	18	14	9

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

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 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

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Intersection #5: Santa Cruz Rd & Saratoga-Los Gatos Rd



Street Name:	N Santa Cruz Rd						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	112	153	52	103	174	321	173	467	84	104	1028	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	153	52	103	174	321	173	467	84	104	1028	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	153	52	103	174	321	173	467	84	104	1028	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	153	52	103	174	321	173	467	84	104	1028	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	153	52	103	174	321	173	467	84	104	1028	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	112	153	52	103	174	321	173	467	84	104	1028	132

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750

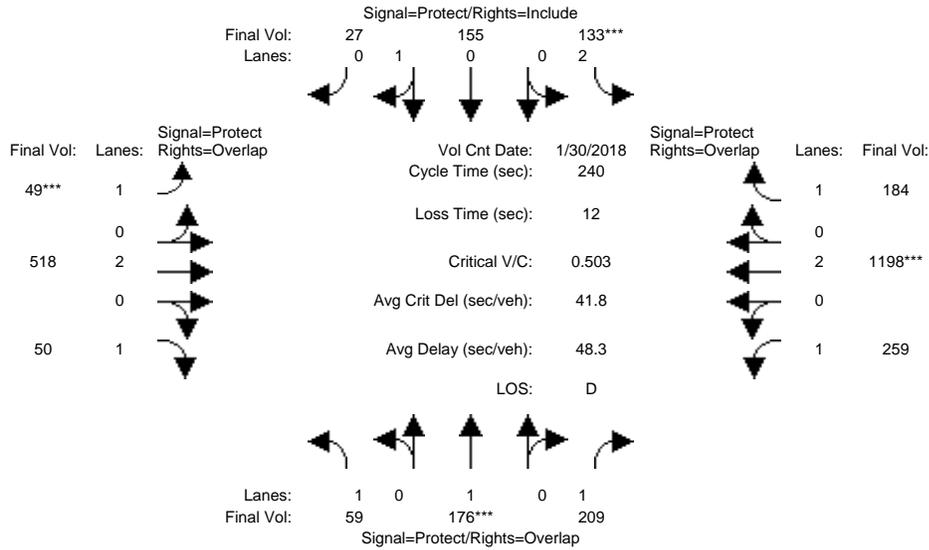
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.06	0.08	0.03	0.06	0.09	0.18	0.10	0.12	0.05	0.06	0.27	0.08
Crit Moves:	***					***	***				***	
Green Time:	23.7	52.8	52.8	38.6	67.8	67.8	36.5	92.0	92.0	44.5	xxxx	100.0
Volume/Cap:	0.65	0.37	0.13	0.37	0.32	0.65	0.65	0.32	0.13	0.32	0.65	0.18
Delay/Veh:	112.6	79.9	75.4	90.6	68.4	78.7	101.2	52.1	48.0	85.2	56.9	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	112.6	79.9	75.4	90.6	68.4	78.7	101.2	52.1	48.0	85.2	56.9	44.3
LOS by Move:	F	E-	E-	F	E	E-	F	D-	D	F	E+	D
HCM2k95thQ:	17	17	6	14	18	37	24	21	8	13	47	12

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

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 Monte Sereno, CA  
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Intersection #6: University Av & Saratoga-Los Gatos Rd



Street Name:	University Av						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	30 Jan 2018	<<	7:45 - 8:45 AM						
Base Vol:	59	176	209	133	155	27	49	518	50	259	1198	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	176	209	133	155	27	49	518	50	259	1198	184
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	176	209	133	155	27	49	518	50	259	1198	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	176	209	133	155	27	49	518	50	259	1198	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	176	209	133	155	27	49	518	50	259	1198	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	59	176	209	133	155	27	49	518	50	259	1198	184

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.85	0.15	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	3150	1533	267	1750	3800	1750	1750	3800	1750

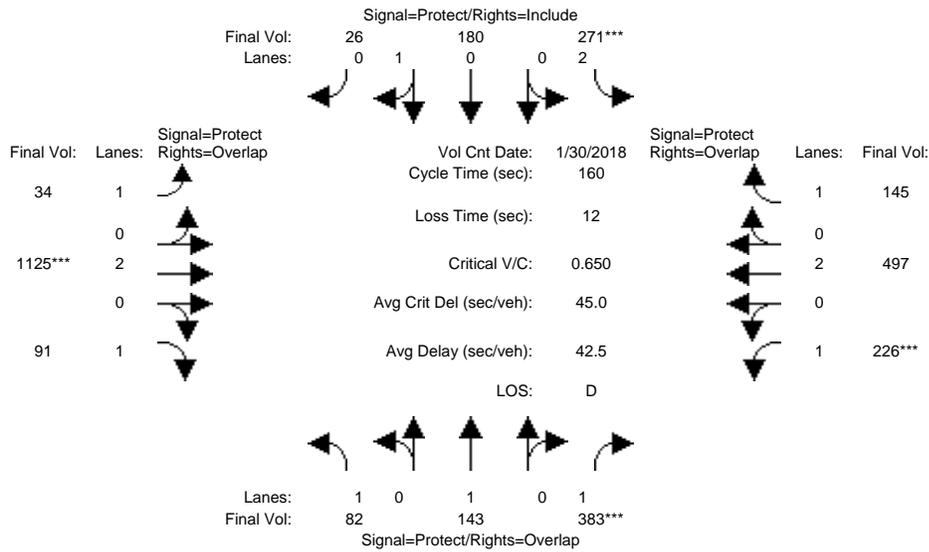
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.12	0.04	0.10	0.10	0.03	0.14	0.03	0.15	0.32	0.11
Crit Moves:	****			****			****			****		
Green Time:	16.1	44.2	129.4	20.1	48.2	48.2	13.4	78.5	94.6	85.2	150	170.5
Volume/Cap:	0.50	0.50	0.22	0.50	0.50	0.50	0.50	0.42	0.07	0.42	0.50	0.15
Delay/Veh:	111.5	89.2	29.1	106.7	86.4	86.4	114.2	63.2	45.4	59.0	24.6	11.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	89.2	29.1	106.7	86.4	86.4	114.2	63.2	45.4	59.0	24.6	11.3
LOS by Move:	F	F	C	F	F	F	F	E	D	E+	C	B+
HCM2k95thQ:	10	21	15	12	22	22	9	25	5	26	38	9

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

18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing PM

Intersection #6: University Av & Saratoga-Los Gatos Rd



Street Name:	University Av						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	30 Jan 2018	<<	5:00-6:00PM						
Base Vol:	82	143	383	271	180	26	34	1125	91	226	497	145
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	143	383	271	180	26	34	1125	91	226	497	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	143	383	271	180	26	34	1125	91	226	497	145
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	143	383	271	180	26	34	1125	91	226	497	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	143	383	271	180	26	34	1125	91	226	497	145
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	82	143	383	271	180	26	34	1125	91	226	497	145

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.87	0.13	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	3150	1573	227	1750	3800	1750	1750	3800	1750

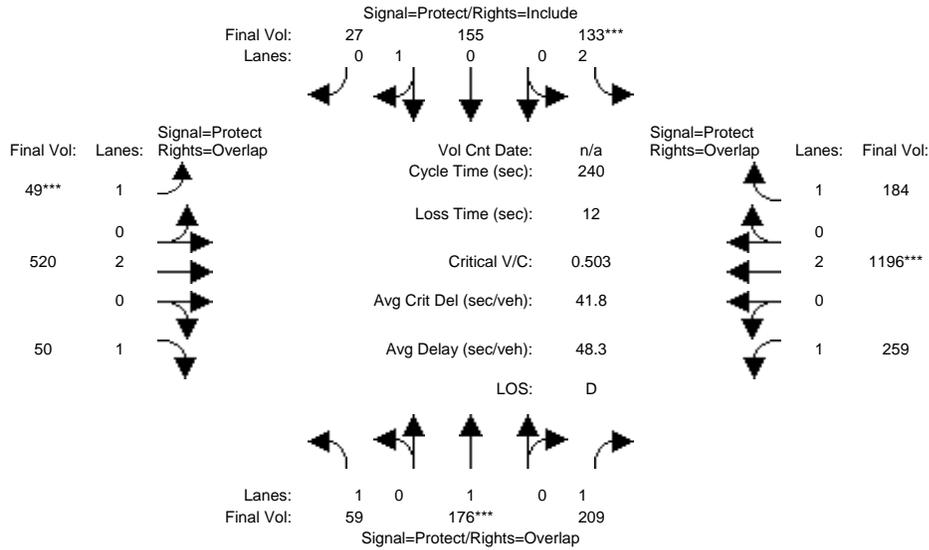
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.22	0.09	0.11	0.11	0.02	0.30	0.05	0.13	0.13	0.08
Crit Moves:			****	****			****			****		
Green Time:	12.6	22.1	53.9	21.2	30.7	30.7	26.2	72.9	85.5	31.8	78.5	99.7
Volume/Cap:	0.60	0.55	0.65	0.65	0.60	0.60	0.12	0.65	0.10	0.65	0.27	0.13
Delay/Veh:	78.2	66.6	47.6	69.5	61.8	61.8	57.2	34.5	18.3	63.3	24.0	12.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.2	66.6	47.6	69.5	61.8	61.8	57.2	34.5	18.3	63.3	24.0	12.5
LOS by Move:	E-	E	D	E	E	E	E+	C-	B-	E	C	B
HCM2k95thQ:	10	13	30	16	19	19	3	36	5	21	13	6

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

18840 Saratoga-Los Gatos Road Residential TIA  
 Monte Sereno, CA  
 Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Ex+Proj AM

Intersection #6: University Av & Saratoga-Los Gatos Rd



Street Name:	University Av						SR 9					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	59	176	209	133	155	27	49	520	50	259	1196	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	176	209	133	155	27	49	520	50	259	1196	184
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	59	176	209	133	155	27	49	520	50	259	1196	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	176	209	133	155	27	49	520	50	259	1196	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	176	209	133	155	27	49	520	50	259	1196	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	59	176	209	133	155	27	49	520	50	259	1196	184

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.85	0.15	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	3150	1533	267	1750	3800	1750	1750	3800	1750

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.03	0.09	0.12	0.04	0.10	0.10	0.03	0.14	0.03	0.15	0.31	0.11
Crit Moves:	****			****			****			****		
Green Time:	16.1	44.2	129.2	20.2	48.3	48.3	13.4	78.6	94.7	85.0	150	170.4
Volume/Cap:	0.50	0.50	0.22	0.50	0.50	0.50	0.50	0.42	0.07	0.42	0.50	0.15
Delay/Veh:	111.5	89.2	29.1	106.7	86.3	86.3	114.2	63.1	45.3	59.2	24.7	11.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	89.2	29.1	106.7	86.3	86.3	114.2	63.1	45.3	59.2	24.7	11.3
LOS by Move:	F	F	C	F	F	F	F	E	D	E+	C	B+
HCM2k95thQ:	10	21	15	12	22	22	9	25	5	26	38	9

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