



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Roosevelt Park Affordable Housing Mixed-Use Development

Traffic Impact Analysis

Prepared for:

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February 20, 2018



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Document Name: RooseveltParkAffordableMixed-UseTIA_20Feb2018

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Executive Summary

This report presents the results of the traffic impact analysis conducted for the proposed new residential/mixed-use project at 21 N. 21st Street in San Jose, California. The project site is currently vacant and is located just north of E. Santa Clara Street. The site is surrounded by an indoor batting cage business, Roosevelt Park, and Roosevelt Community Center. The project proposes to construct 80 affordable residential apartments consisting of a mix of studios, 1-bedroom, 2-bedroom and 3-bedroom units within an 8-story building. The project also includes 10,224 square feet (s.f.) of neighborhood commercial space, out of which 1,708 s.f. of retail space would be located on the first floor, and 8,516 s.f. of office space would be located on the eighth floor. Access to the project site would be provided via one driveway on N. 21st Street.

The project is located within the Roosevelt Park Urban Village per the Envision San Jose 2040 General Plan. The Urban Village land use designation allows residential uses in a mixed-use format with commercial uses. Per requirements of the Urban Village Plan, a minimum of 10,195 s.f (0.5 FAR) is required to be designated as commercial. The proposed project is consistent with the Roosevelt Park Urban Village Plan.

Scope of Study

This traffic study was conducted for the purpose of identifying potential traffic impacts related to the project. The potential impacts of the project were evaluated in accordance with the standards and methodologies set forth by the City of San Jose. The project is subject to the City's Transportation Level of Service Policy (Council Policy 5-3). An analysis in accordance with the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program (CMP) requirements was not necessary because the project would generate fewer than 100 net peak hour vehicle trips.

The traffic study analyzed AM and PM peak-hour traffic conditions for 4 signalized intersections. The study intersections were selected in accordance with VTA's TIA Guidelines (October 2014) and in consultation with City of San Jose staff. The study includes those intersections that provide primary access to the project site, and intersections that would experience a traffic increase of 5 trips per lane or more as a result of the project. The study also includes an operations analysis, based on vehicle-storage requirements, at selected intersections, and a review of site access and on-site circulation.

Project Trip Generation

The trip generation rates detailed in the *San Jose Traffic Impact Analysis Handbook* (November 2009) and the trip rates published in the Institute of Transportation Engineers' (ITE) manual entitled *Trip Generation, 10th Edition* (2017) were used to estimate the project trip generation. Trips that would be generated by the proposed affordable apartments were estimated using the ITE trip rates for

“Multifamily Housing Mid-Rise” (Land Use 221). Trips that would be generated by the proposed neighborhood commercial space were estimated using the trip rates for “Specialty Retail/Strip Commercial” contained in the *San Jose TIA Handbook*. Note that of the 10,224 s.f. of commercial space being proposed, the site plan shows 1,708 s.f. of retail space would be located on the 1st floor, and the remaining 8,516 s.f. would be office space located on the 8th floor (top floor) of the building to be occupied by First Community Housing employees. The trip generation estimates contained in this traffic study are conservative estimates, therefore, since the commercial trip rates that were used are higher than office trip rates.

After applying the ITE and City of San Jose trip generation rates to the proposed residential and neighborhood retail/commercial uses, and applying the appropriate trip reductions, the project would generate 683 new daily vehicle trips, with 35 new trips occurring during the AM peak hour and 56 new trips occurring during the PM peak hour. Using the inbound/outbound splits contained in the ITE *Trip Generation Manual* and the *San Jose Traffic Impact Analysis Handbook*, the project would produce 14 inbound and 21 outbound trips during the AM peak hour, and 31 inbound and 25 outbound trips during the PM peak hour.

Intersection Levels of Service

The results of the intersection level of service analysis show that, based on the City of San Jose significant impact criteria, none of the signalized study intersections would be significantly impacted by the project (see Table ES-1).

Other Transportation Issues

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

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

Project Recommendations

- No parking zones should be established immediately adjacent to the project driveway to ensure that exiting vehicles can see pedestrians on the sidewalk, as well as bikes and vehicles traveling on 21st Street. Appropriate visible and audible warning signals should be provided at the project driveway to alert pedestrians and bicyclists of vehicles exiting the parking garage.
- Parking spaces should be assigned to minimize the on-site vehicular circulation problems associated with dead-end drive aisles.
- Adequate space should be provided at the end of the dead-end drive aisles adjacent to the last parking stalls to enable vehicles to back out of these stalls. All parking stalls situated adjacent to supporting walls with no buffer space provided should be labeled compact spaces.
- Hexagon recommends either adding an on-street freight loading zone near the lobby on 21st Street or providing timed parking along the 21st Street project frontage to provide an area for general freight loading activities. The project applicant should consult with City staff to determine which freight loading option would best serve the project.
- The curb segments adjacent to the project driveway should be painted red to prohibit parking and provide the 32-foot width necessary to comply with the City’s fire code.

- The project should provide one additional motorcycle parking space in order to meet the City's parking requirement.
- Relocate the external bike racks along the N. 21st Street project frontage to back of curb.

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

ID	Intersection	Peak Hour	Existing		Existing+Project		Background		Background+Project			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. In Crit. Delay (sec)	Incr. In Crit. V/C
1	21st Street and Santa Clara Street	AM	4.8	A	5.2	A	4.8	A	5.2	A	0.0	0.004
		PM	4.4	A	5.0	A	4.4	A	5.0	A	0.7	0.017
2	24th Street and Santa Clara Street	AM	19.4	B	19.5	B	19.4	B	19.5	B	0.1	0.005
		PM	19.6	B	19.8	B	19.9	B	20.0	C	0.1	0.008
3	US 101 SB Ramps and Santa Clara Street*	AM	10.6	B	10.6	B	10.7	B	10.7	B	0.0	0.001
		PM	15.2	B	15.2	B	15.3	B	15.3	B	0.0	0.001
4	US 101 NB Ramps and Alum Rock Avenue*	AM	12.9	B	12.9	B	12.9	B	12.9	B	0.0	0.003
		PM	12.8	B	12.8	B	12.9	B	12.9	B	0.0	0.003

Notes:
* Denotes VTA CMP intersection

1. Introduction

This report presents the results of the traffic impact analysis conducted for the proposed new residential/mixed-use project at 21 N. 21st Street in San Jose, California. The project site is currently vacant and is located just north of E. Santa Clara Street. The site is surrounded by an indoor batting cage business, Roosevelt Park, and Roosevelt Community Center (see Figure 1). The project proposes to construct 80 affordable residential apartments consisting of a mix of studios, 1-bedroom, 2-bedroom and 3-bedroom units within an 8-story building (see Figure 2). The project also includes 10,224 square feet (s.f.) of neighborhood commercial space, out of which 1,708 s.f. of retail space would be located on the first floor, and 8,516 s.f. of office space would be located on the eighth floor. Access to the project site would be provided via one driveway on N. 21st Street.

The project is located within the Roosevelt Park Urban Village per the Envision San Jose 2040 General Plan. Urban villages are walkable, bicycle-friendly, transit-oriented, mixed-use settings that provide both housing and jobs, thus supporting the General Plan's environmental goals. The urban village strategy fosters:

- Mixed residential and employment activities that are attractive to an innovative workforce;
- Revitalization of underutilized properties that have access to existing infrastructure;
- Densities that support transit use, bicycling, and walking; and
- High-quality urban design.

The Urban Village land use designation allows residential uses in a mixed-use format with commercial uses. Per requirements of the Urban Village Plan, a minimum of 10,195 s.f (0.5 FAR) is required to be designated as commercial. The proposed project is consistent with the Roosevelt Park Urban Village Plan.

Scope of Study

This traffic study was conducted for the purpose of identifying potential traffic impacts related to the project. The potential impacts of the project were evaluated in accordance with the standards and methodologies set forth by the City of San Jose. The project is subject to the City's Transportation Level of Service Policy (Council Policy 5-3). An analysis in accordance with the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program (CMP) requirements was not necessary because the project would generate fewer than 100 net peak hour vehicle trips.

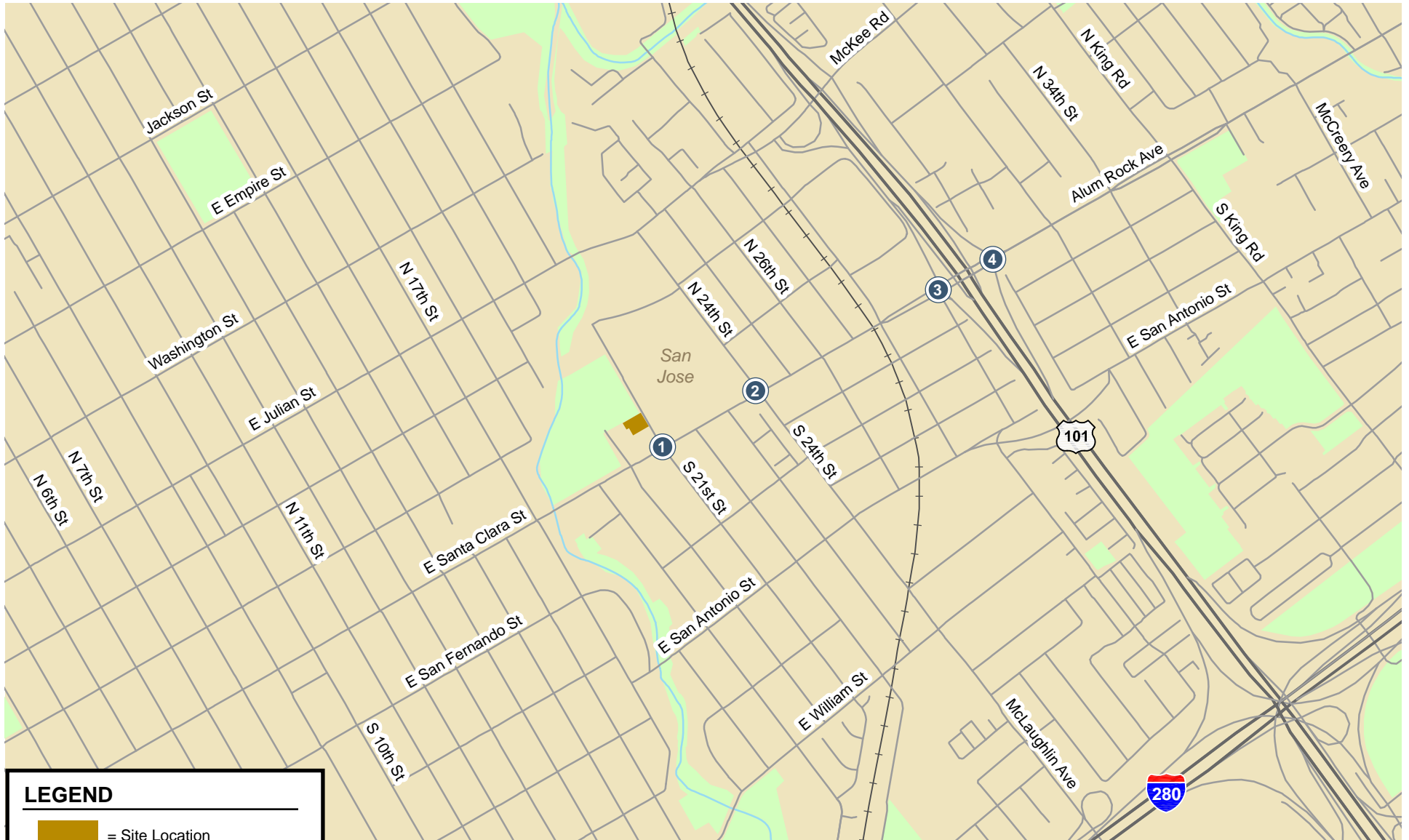
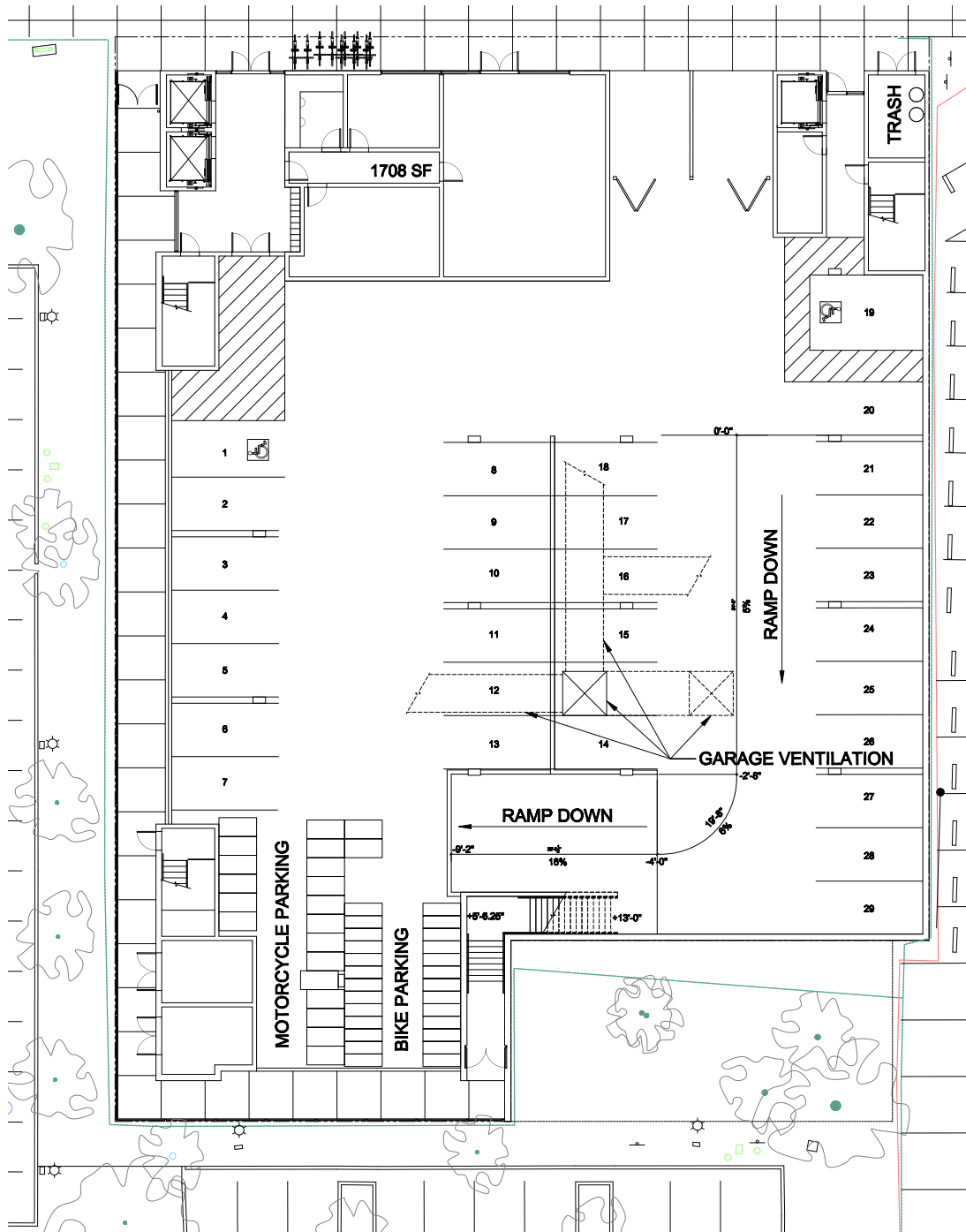


Figure 1
Site Location and Study Intersections



1 STREET LEVEL PLAN
SCALE: 1/16" = 1'-0"

Figure 2
Conceptual Site Plan

The traffic study analyzed AM and PM peak-hour traffic conditions for 4 signalized intersections. The study intersections were selected in accordance with VTA's TIA Guidelines (October 2014) and in consultation with City of San Jose staff. The study includes those intersections that provide primary access to the project site, and intersections that would experience a traffic increase of 5 trips per lane or more as a result of the project. The study intersections are listed below and shown on Figure 1. Two of the four study intersections are part of the CMP roadway network.

1. E. Santa Clara Street and N. 21st Street
2. E. Santa Clara Street and N. 24th Street
3. E. Santa Clara Street and US 101 (West)*
4. Alum Rock Avenue and US 101 (East)*

An asterisk (*) denotes a CMP intersection.

Traffic conditions at all four study intersections were analyzed for the weekday AM and PM peak hours of traffic. Locally, the AM peak hour of traffic is usually between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday. The peak hours of traffic generated by the proposed project would coincide with the AM and PM peak hours of commute traffic.

Per VTA's 2014 TIA Guidelines, a freeway segment level of service analysis is required when a project would add trips equal to or greater than 1% of a segment's capacity. The percentage of traffic projected to be added by the project to freeway segments in the vicinity is far less than 1% of capacity of the freeway segments in the area. Thus, a freeway segment level of service analysis was not prepared.

The study also includes an evaluation of potential impacts to bicycle, pedestrian, and transit facilities, and a review of site access, on-site circulation, and parking demand.

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 September 2017, and from the 2016 CMP Annual Monitoring Report. The new intersection count data are included in Appendix A.
- **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.
- **Background Conditions.** Background traffic volumes reflect traffic added by nearby approved projects that are not yet completed or occupied. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the approved trips inventory (ATI). The ATI sheets are included in Appendix B.
- **Background Plus Project Conditions.** Background plus project conditions reflect projected traffic volumes on the planned roadway network with completion of the project and approved developments. Background plus project traffic volumes were estimated by adding to background traffic volumes the additional traffic generated by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts.

Methodology

This section presents the methods used to determine traffic conditions at 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, field observations, the City of San Jose, and the CMP Annual Monitoring Report. The following data were collected from these sources:

- Existing traffic volumes,
- Intersection lane geometries,
- Signal timing and phasing, and
- Approved trip inventory.

Intersection Level of Service Standards and Analysis Methodologies

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

City of San Jose Signalized Intersections

The City of San Jose evaluates intersection levels of service using the TRAFFIX software, which is based on the Highway Capacity Manual (HCM) 2000 method for signalized intersections. Since TRAFFIX is the level of service methodology for the CMP-designated intersections, the City of San Jose's methodology employs the CMP default values for the analysis parameters. This HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the City of San Jose methodology employs the CMP default values for the analysis parameters. The City of San Jose level of service standard for signalized intersection is LOS D or better. The correlation between average control delay and level of service is shown in Table 1.

Intersection Operations Analysis

The analysis of intersection level of service was supplemented with an analysis of traffic operations for intersections where the project would add a significant number of left turns. The operations analysis is based on vehicle queuing for high-demand left-turn movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-\lambda}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane

n = number of vehicles in the queue per lane

λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during

the peak hour for a signal with a 60-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement.

**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 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 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16.

General Plan Transportation Policies

The Circulation Element of the Envision San Jose 2040 General Plan includes a set of balanced, long-range, multi-modal transportation goals and policies that provide for a transportation network that is safe, efficient, and sustainable (minimizes environmental, financial, and neighborhood impacts). These transportation goals and policies are intended to improve multi-modal accessibility to all land uses and create a city where people are less reliant on driving to meet their daily needs. San Jose’s Transportation Goals, Policies, and Actions aim to:

- Establish circulation policies that increase bicycle, pedestrian, and transit travel while reducing motor vehicle trips to increase the City’s share of travel by alternative transportation modes.
- Promote San Jose as a walking and bicycling-first city by providing and prioritizing funding for projects that enhance and improve bicycle and pedestrian facilities.

Report Organization

This report has a total of seven chapters. Chapter 2 describes existing conditions including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 presents the intersection operations under existing plus project conditions and describes the method used to estimate project traffic. Chapter 4 presents the intersection operations under background conditions. Chapter 5 presents the intersection operations under background plus project conditions, and describes the project's impact on the near-term transportation system. Chapter 6 presents the analysis of other transportation-related issues, including left-turn vehicle queuing at selected intersections, site access and on-site circulation, parking, and potential project impacts to bicycle, pedestrian, and transit facilities. Chapter 7 presents the conclusions of the traffic impact analysis.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, pedestrian and bicycle facilities, and the existing levels of service of the key intersections in the study area.

Roadway Network

Regional access to the project site is provided by US 101 and I-680. Local access to the site is provided via Alum Rock Avenue, Santa Clara Street, 24th Street, and 21st Street. These roadways are described below.

US 101 is an eight-lane Freeway (three mixed-flow lanes and one HOV lane in each direction) in the vicinity of the site. US 101 extends northward through San Francisco and southward through Gilroy. Access to and from the site is provided via the Santa Clara Street/Alum Rock Avenue interchange.

I-680 is a north-south Freeway that begins at US 101 in San Jose, where I-280 transitions to I-680, and ends at I-80 in Solano County. I-680 provides access to the project site via the Alum Rock Avenue interchange. The section of I-680 in the project vicinity is an eight-lane freeway, with four mixed-flow lanes in each direction.

Alum Rock Avenue is an east-west Grand Boulevard that extends from US 101 to Alum Rock Park near the foothills in East San Jose with interchanges at US 101 and at I-680. Alum Rock Avenue has a posted speed limit of 25 mph and consists of four travel lanes with median transit lanes within the study area. West of US 101, Alum Rock Avenue becomes Santa Clara Street and extends westward through downtown San Jose. Alum Rock Avenue provides access to and from the project site via its transition to Santa Clara Street.

Santa Clara Street is a four-lane east-west Grand Boulevard that extends from US 101 westward through Downtown San Jose. West of Montgomery/Autumn Street, Santa Clara Street becomes The Alameda and extends into the City of Santa Clara. East of US 101, Santa Clara Street becomes Alum Rock Avenue. Alum Rock Avenue is an east-west roadway with a diamond interchange at US 101 and a partial cloverleaf interchange at I-680. Santa Clara Street has a posted speed limit of 25 mph and provides access to and from the project site via 21st Street.

24th Street is a two-lane north-south roadway with a General Plan designation of On-Street Primary Bicycle Facility. 24th Street has a posted speed limit of 25 mph and extends from Julian Street southward to William Street, where it becomes McLaughlin Avenue. McLaughlin Avenue is a four-lane north-south roadway that begins at William Street and extends southward to Tuers Road, just south of

Yerba Buena Road. McLaughlin Avenue provides access to westbound I-280 and from eastbound I-280 via a partial interchange. 24th Street provides access to the project via Santa Clara Street.

21st Street is a north-south two-lane roadway with a posted speed limit of 25 mph and a General Plan designation of On-Street Primary Bicycle Facility. 21st Street extends from 19th Street northward to E. Santa Clara Street, and dead-ends at San Jose High School 500 feet north of E. Santa Clara Street. The proposed project site is located on the west side of 21st Street approximately 200 feet north of Santa Clara Street. 21st Street would provide direct access to the project site via one full-access driveway.

Pedestrian and Bicycle Facilities

Pedestrian facilities in the project area consist primarily of sidewalks along streets and crosswalks with pedestrian signal heads at intersections. Sidewalks are found along all previously described streets in the study area. The signalized intersections in the vicinity of the project site have crosswalks on all or most of the legs of the intersections, combined with pedestrian push buttons and pedestrian signal heads. Overall, the existing network of sidewalks and crosswalks have good connectivity and provide pedestrians with adequate routes to the project site and transit stops.

Bicycle facilities in the study area include striped bike lanes (Class II bikeway) and bike routes (Class III bikeway), as shown on Figure 3. Bike lanes are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes are existing streets that accommodate bicycles but are not separate from the existing travel lanes. Bike routes are typically designated only with signage or with painted shared lane markings (Sharrows) on a road that indicate to motorists that bicyclists may use the full travel lane.

Currently, striped bike lanes are provided on the following roadway segments:

- 21st Street between East Santa Clara Street and East William Street, and between East Julian Street and East Taylor Street
- 17th Street between East Santa Clara Street and East Hedding Street
- 11th Street between East Hedding Street and Story Road
- 10th Street between Old Bayshore Highway and Tully Road
- McLaughlin Avenue between East William Street and Story Road
- King Road between McKee Road and I-280/I-680

Bike routes/Sharrows are provided on the following roadway segments:

- 17th Street between East Santa Clara Street and San Antonio Street
- 24th Street between Julian Street and E William Street
- San Antonio between 17th Street and Bonita Avenue, and between 33rd Street and King Road
- East William Street between 16th Street and McLaughlin Avenue
- St. John Street between 17th Street and Almaden Avenue

24th Street carries low traffic volumes and is conducive to bicyclists. Alum Rock Avenue and Santa Clara Street are arterial streets with high traffic volume and vehicle speeds. Bicyclists need to ride with caution on these streets.

Transit Services

Existing transit service to the study area is provided by the VTA (see Figure 4). Three local bus routes (Routes 22, 23 and 64) and one limited stop bus route (Route 522) provide service in the study area, as described below. The bus stops closest to the project site are located within walking distance at the Santa Clara Street/21st Street intersection, with bus services provided by Routes 22, 23 and 522.

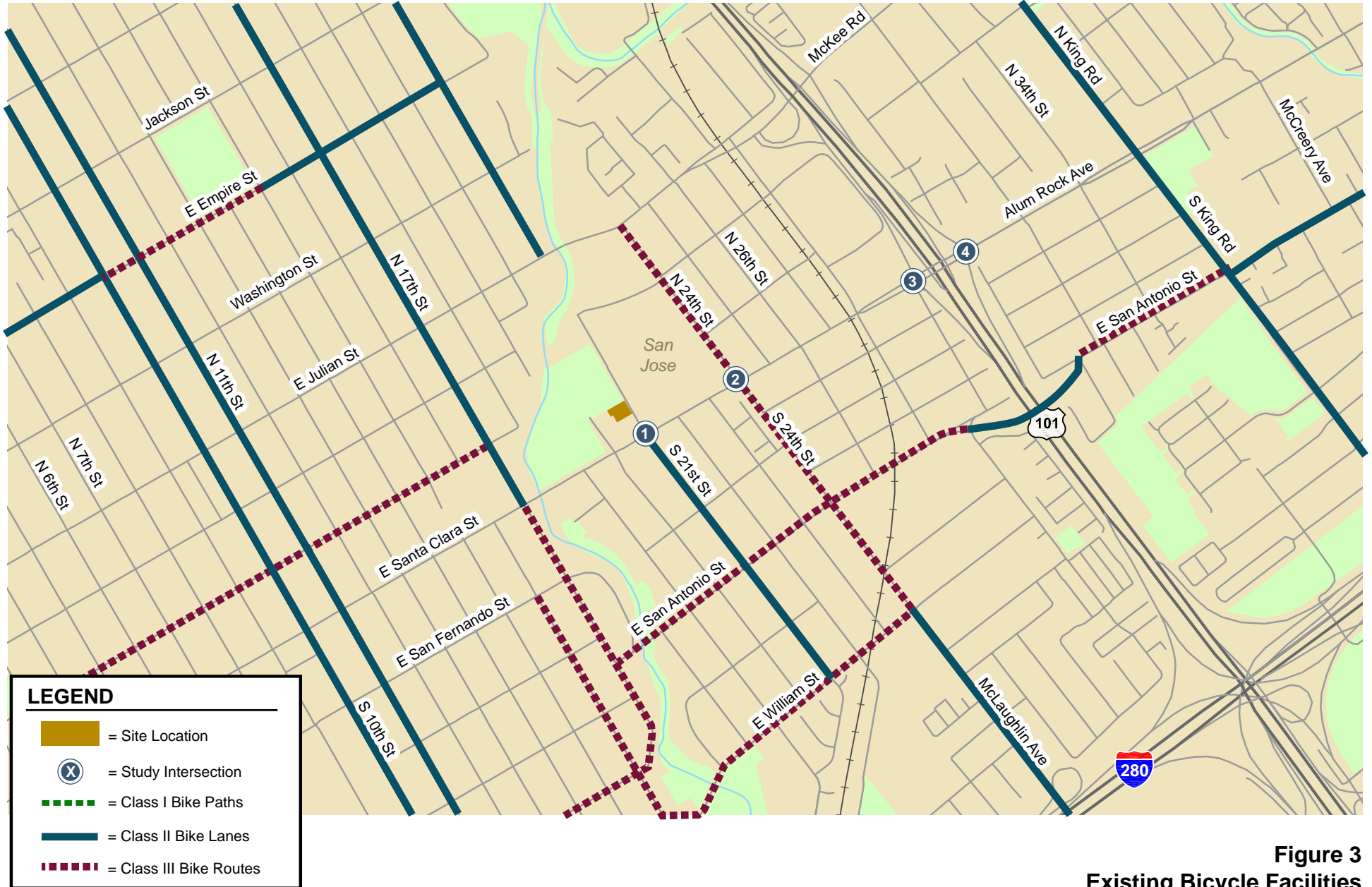


Figure 3
Existing Bicycle Facilities

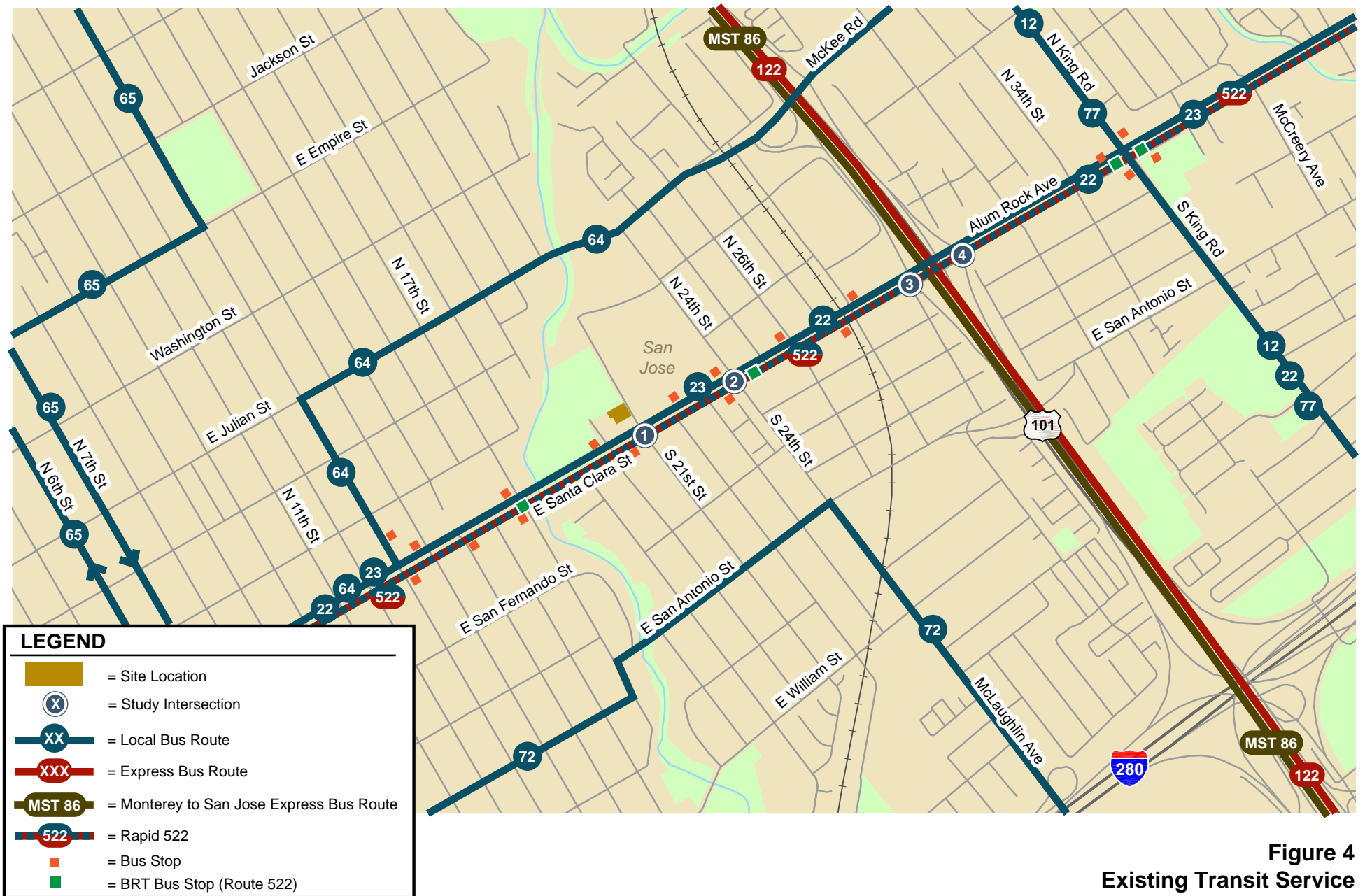


Figure 4
Existing Transit Service

Local Route 22 provides service between the Palo Alto Transit Center and the Eastridge Transit Center. Route 22 operates along E. Santa Clara Street in the project study area, with 15-minute headways during the weekday peak commute hours. The closest bus stops are located at the Santa Clara Street/21st Street intersection, within 500 feet of the project site.

Local Route 23 provides service between De Anza College and the Alum Rock Transit Center. Route 23 operates along Santa Clara Street in the project study area, with 12-minute headways during the weekday peak commute hours. The closest bus stops are located at the Santa Clara Street/21st Street intersection, within 500 feet of the project site.

Local Route 64 provides service between Almaden LRT Station and McKee Road & White Road intersection. Route 64 operates along 13th Street in the project study area, with 30-minute headways during the weekday commute hours. The closest bus stops are located at the Santa Clara Street/13th Street intersection, located approximately ½ mile west of the project site.

Rapid Route 522 provides Bus Rapid Transit (BRT) service between the Palo Alto Transit Center and the Eastridge Transit Center. In the project study area, Route 522 runs within the median transit lanes along Alum Rock Avenue, with 12-minute headways during the weekday peak commute hours. The closest bus stops are located at the 24th Street/Santa Clara Street intersection, about 1,200 feet east of the project site.

Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were provided by City of San Jose staff and confirmed by observations in the field. The existing intersection lane configurations are shown on Figure 5.

Existing peak-hour traffic volumes were obtained from new traffic counts conducted in September 2017 and the 2016 CMP Annual Monitoring Report. The existing peak-hour intersection volumes are shown on Figure 6. New intersection turning-movement counts conducted for this analysis are presented in Appendix A. Traffic volumes for all components of traffic are tabulated in Appendix C.

Intersection Levels of Service

The results of the intersection level of service analysis (see Table 2) show that all four signalized study intersections currently operate at acceptable levels (LOS D or better) during both the AM and PM peak hours of traffic. The level of service calculation sheets are included in Appendix D.

Observed Traffic Conditions

Traffic conditions were observed in the field during the AM and PM peak commute periods in order to identify any existing operational deficiencies at and around the project site. AM and PM peak hour field observations at the study intersections are described below.

E. Santa Clara Street and 21st Street – This intersection operates with a permitted signal phasing for the east/west approaches on E. Santa Clara Street and north/south approaches on 21st Street. No significant traffic-related issues were observed during either of the peak periods. The left-turning traffic, both to and from 21st Street, was able to find adequate gaps in the through traffic on E. Santa Clara Street with very little delay. Occasionally, a queue of 1 car was observed in the inner eastbound through lane waiting to find a gap in westbound traffic, and a queue of 3 to 4 cars were observed in the inner westbound through waiting to find a gap in the eastbound traffic. These queues did not cause any significant delays to the through traffic. Traffic on all approaches was able to clear in one cycle length. Due to low traffic volumes on 21st Street, E. Santa Clara Street receives most of the green time, unless there is a vehicle detected on 21st Street or a pedestrian call across E. Santa Clara Street.

Roosevelt Park Low-Income Residential Mixed-Use Development

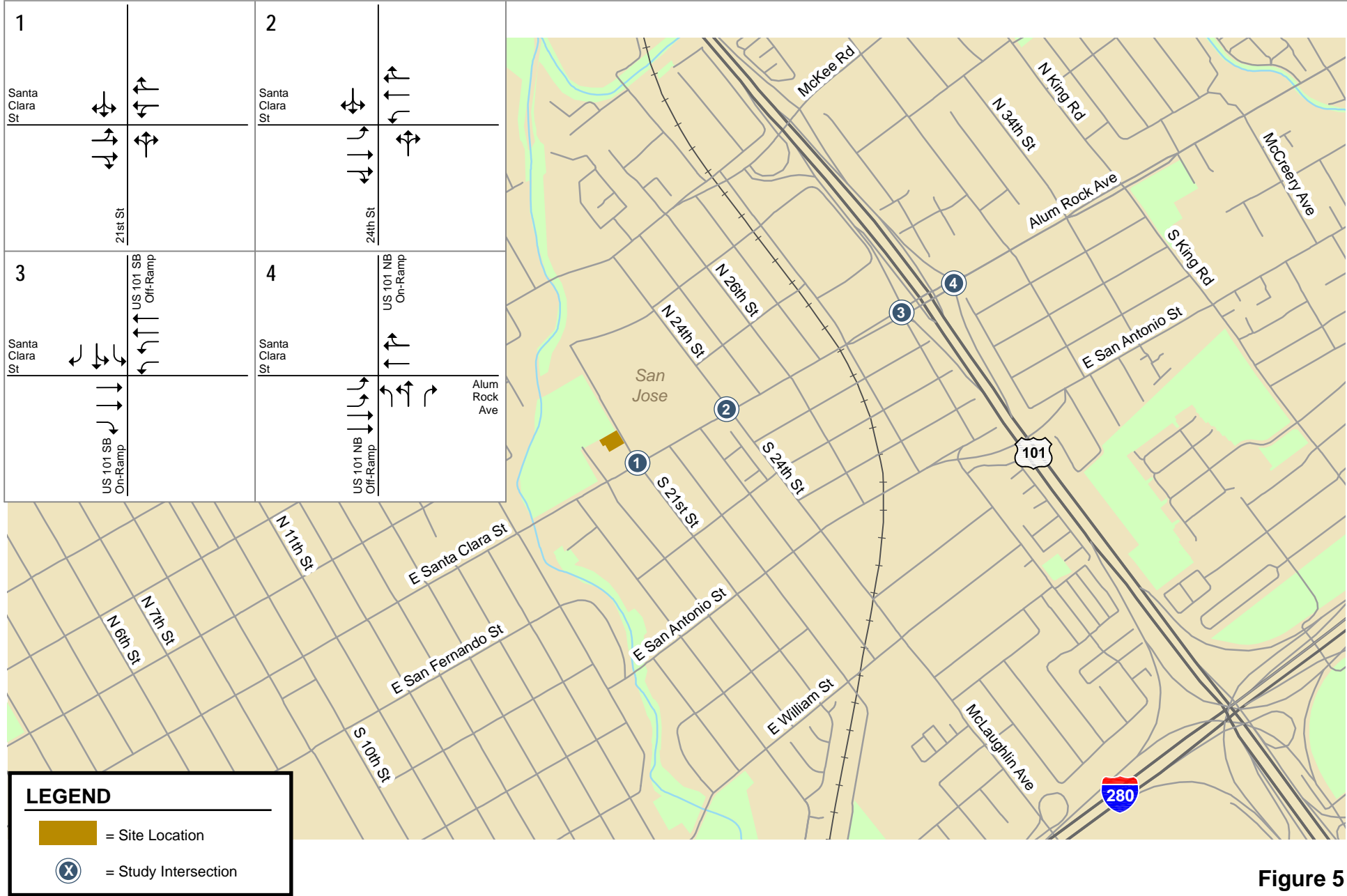
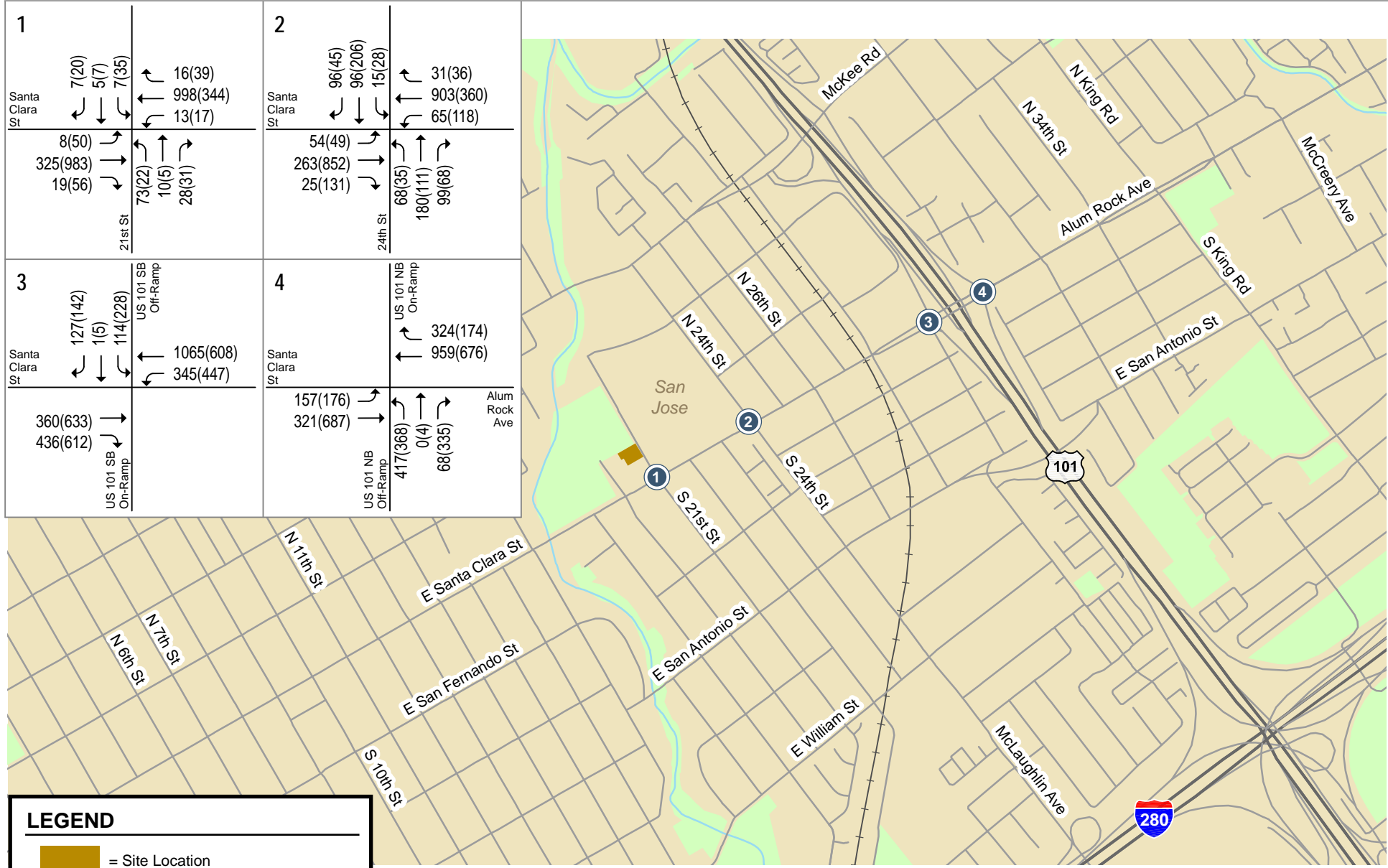


Figure 5
Existing Lane Configurations

Roosevelt Park Low-Income Residential Mixed-Use Development



LEGEND

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

Figure 6
Existing Traffic Volumes

Table 2
Existing Intersection Levels of Service

ID	Intersection	Peak Hour	Count Date	Avg. Delay (sec)	LOS
1	21st Street and Santa Clara Street	AM	09/20/17	4.8	A
		PM	09/20/17	4.4	A
2	24th Street and Santa Clara Street	AM	09/20/17	19.4	B
		PM	09/20/17	19.6	B
3	US 101 SB Ramps and Santa Clara Street*	AM	09/20/17	10.6	B
		PM	11/29/16	15.2	B
4	US 101 NB Ramps and Alum Rock Avenue*	AM	09/20/17	12.9	B
		PM	11/29/16	12.8	B

Notes:
 * Denotes VTA CMP intersection

E. Santa Clara Street and 24th Street – This intersection operates with protected left-turn phasing for the east/west approaches on Santa Clara Street and permitted phasing for the north/south approaches on 24th Street. Occasionally, long queues were observed during the AM peak hour for the northbound approach on 24th Street due to the shared lane configuration. All vehicles on the northbound approach could not clear in one signal cycle. However, due to the short cycle length (80 seconds), the northbound traffic did not experience significantly long delays.

Field observation during the PM peak hour showed that occasionally the southbound traffic on N. 24th Street and the westbound left-turn traffic on E. Santa Clara Street could not clear in one cycle length. However, due to the short cycle length, these vehicles did not experience significantly long delays.

E. Santa Clara Street and US 101 (West) – No significant traffic-related issues were observed during either of the peak periods at this intersection. Field observations showed that occasionally the eastbound traffic on E. Santa Clara Street extended past the 28th Street intersection during the PM peak hour. The 28th Street intersection is located approximately 600 feet to the west. However, traffic on all approaches was able to clear in one signal cycle length.

Alum Rock and US 101 (East) - No significant traffic-related issues were observed during either of the peak periods at this intersection. Field observations showed that occasionally the westbound traffic on Alum Rock extended past 33rd Street during the AM peak hour. The 33rd Street intersection is located approximately 600 feet to the east. However, traffic on all approaches was able to clear in one signal cycle length.

3.

Existing Plus Project Conditions

This chapter describes the existing plus project traffic conditions, including the method by which project traffic is estimated. Existing plus project traffic conditions could potentially occur if the project were to be occupied prior to the other approved projects in the area. It is unlikely that this traffic condition would occur, since other approved projects expected to add traffic to the study area would likely be built and occupied during the time the project is going through the development review process.

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

Trip Generation

Through empirical research, data have been collected that 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 proposed within the City of San Jose typically is estimated using either the trip rates detailed in the *San Jose Traffic Impact Analysis Handbook* (November 2009), or 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 affordable apartments were estimated using the ITE trip rates for "Multifamily Housing Mid-Rise" (Land Use 221). Trips that would be generated by the proposed neighborhood commercial space were estimated using the trip rates for "Specialty Retail/Strip Commercial" contained in the *San Jose TIA Handbook*. Note that of the 10,224 s.f. of commercial space being proposed, the site plan shows 1,708 s.f. of retail space would be located on the 1st floor, and the remaining 8,516 s.f. would be office space located on the 8th floor of the building to be occupied by First Community Housing employees. The trip estimates contained in this study are conservative estimates, therefore, since the commercial trip rates that were used are higher than office trip rates.

Trip Reductions

According to the Santa Clara VTA’s *Congestion Management Program Transportation Impact Analysis Guidelines* (October 2014), a trip reduction of up to 9 percent can be subtracted from the gross project trip generation estimates due to a project site’s proximity to light rail transit and/or major bus stops. Accordingly, a 9 percent transit reduction was applied to the residential component of the project, since the project site is located within a 1,000-foot walk of a BRT stop on Santa Clara Street at 24th Street.

A mixed-use development with complementary land uses such as residential and retail will generate and attract trips internally between the uses. Thus, the number of vehicle trips generated for each use may be reduced, since a portion of the trips would not require entering or exiting the site. The VTA’s TIA Guidelines indicates a trip reduction of up to 15 percent is allowed for residential and retail mixed-use developments. The reduction is first applied to the smaller of the two complimentary trip generators (retail use), and the same number of trips is then subtracted from the larger trip generator (residential use) to account for both trip ends.

Net Project Trips

After applying the ITE and City of San Jose trip generation rates to the proposed residential and retail/commercial uses, and applying the trip reductions, the project would generate 683 new daily vehicle trips, with 35 new trips occurring during the AM peak hour and 56 new trips occurring during the PM peak hour. Using the inbound/outbound splits contained in the ITE *Trip Generation Manual* and the *San Jose Traffic Impact Analysis Handbook*, the project would produce 14 inbound and 21 outbound trips during the AM peak hour, and 31 inbound and 25 outbound trips during the PM peak hour (see Table 3).

**Table 3
Project Trip Generation Estimates**

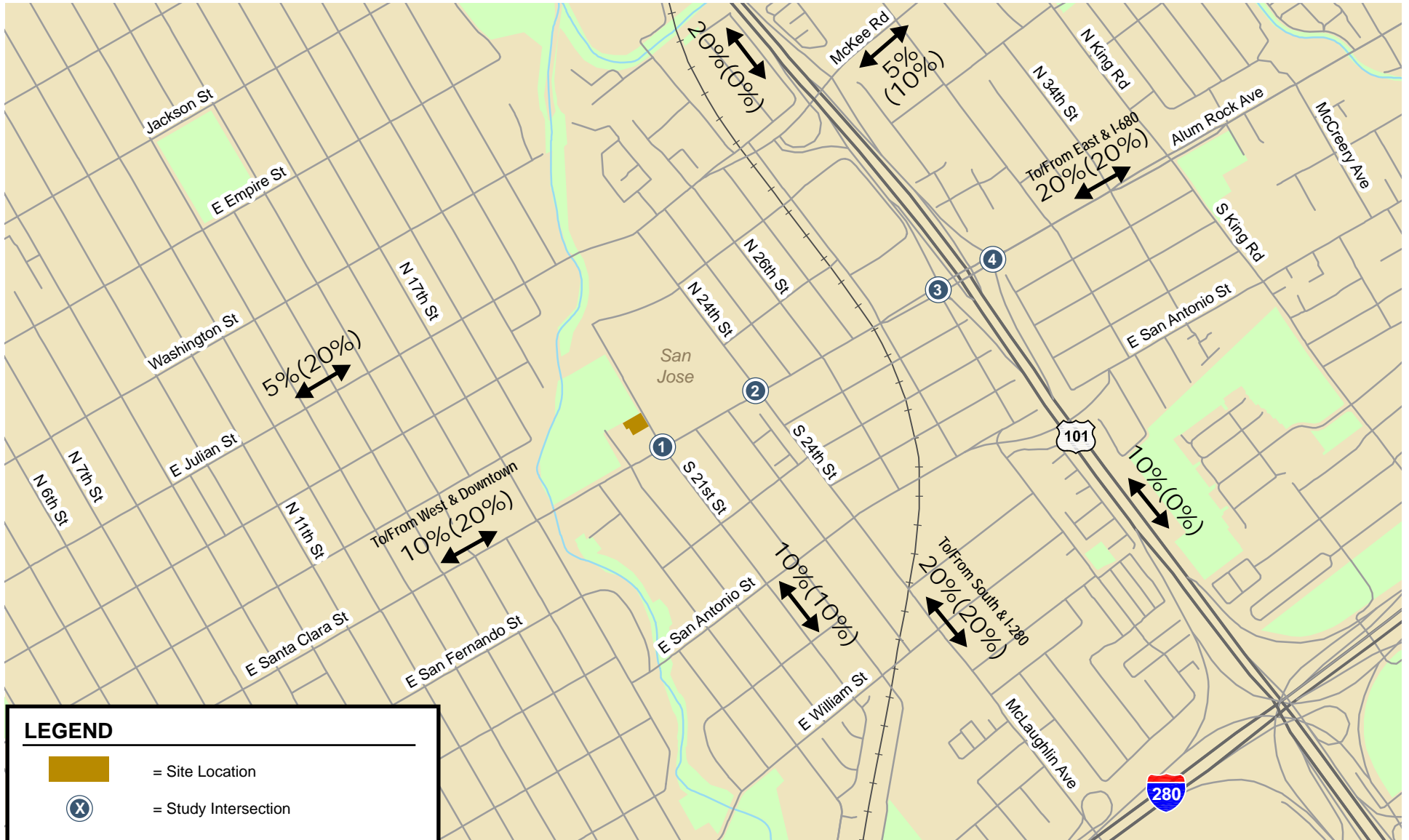
Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour			PM Peak Hour				
				Pk-Hr Rate	In	Out	Total	Pk-Hr Rate	In	Out	Total
Apartments ¹	80 units	5.44	435	0.36	8	21	29	0.44	21	14	35
<i>Transit Trip Reduction for Residential (9%)</i> ²			(39)	(1)	(2)	(3)	(2)	(1)	(3)		
<i>Residential & Retail Internal Capture (15%)</i> ³			(61)	(1)	(1)	(2)	(3)	(3)	(6)		
Strip Retail / Commercial ⁴	10,224 s.f.	40.00	409	1.20	9	4	13	3.60	18	18	36
<i>Residential & Retail Internal Capture (15%)</i> ³			(61)	(1)	(1)	(2)	(3)	(3)	(6)		
Net New Trips:			683	14	21	35	31	25	56		

Notes:

- ¹ Trip generation based on average rates contained in the ITE Trip Generation Manual, 10th Edition, for Multifamily Housing Mid-Rise (Land Use 221) located in a General Urban/Suburban setting. Rates are expressed in trips per unit.
- ² A 9% transit reduction was applied to the residential component of the project, since the project site is located within a 2,000-foot walk of a BRT stop on Santa Clara Street at 24th Street. (Santa Clara VTA TIA Guidelines, October 2014)
- ³ A 15% residential/retail mixed-use trip reduction was applied to the project per the 2014 Santa Clara VTA TIA Guidelines. The 15% reduction was first applied to the smaller generator (retail). The same number of trips were subtracted from the larger generator (residential) to account for both trip ends.
- ⁴ Trip generation based on "Specialty Retail/Strip Commercial" rates contained in the *San Jose Traffic Impact Analysis Handbook*, August 2009.

Trip Distribution and Assignment

The trip distribution patterns for the proposed residential and retail uses were estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses (see Figure 7). The site-generated traffic was assigned to the roadway network based on the trip distribution patterns, taking into consideration the project driveway locations and freeway access points. The net project trip assignment at the study intersections is shown graphically on Figure 8.

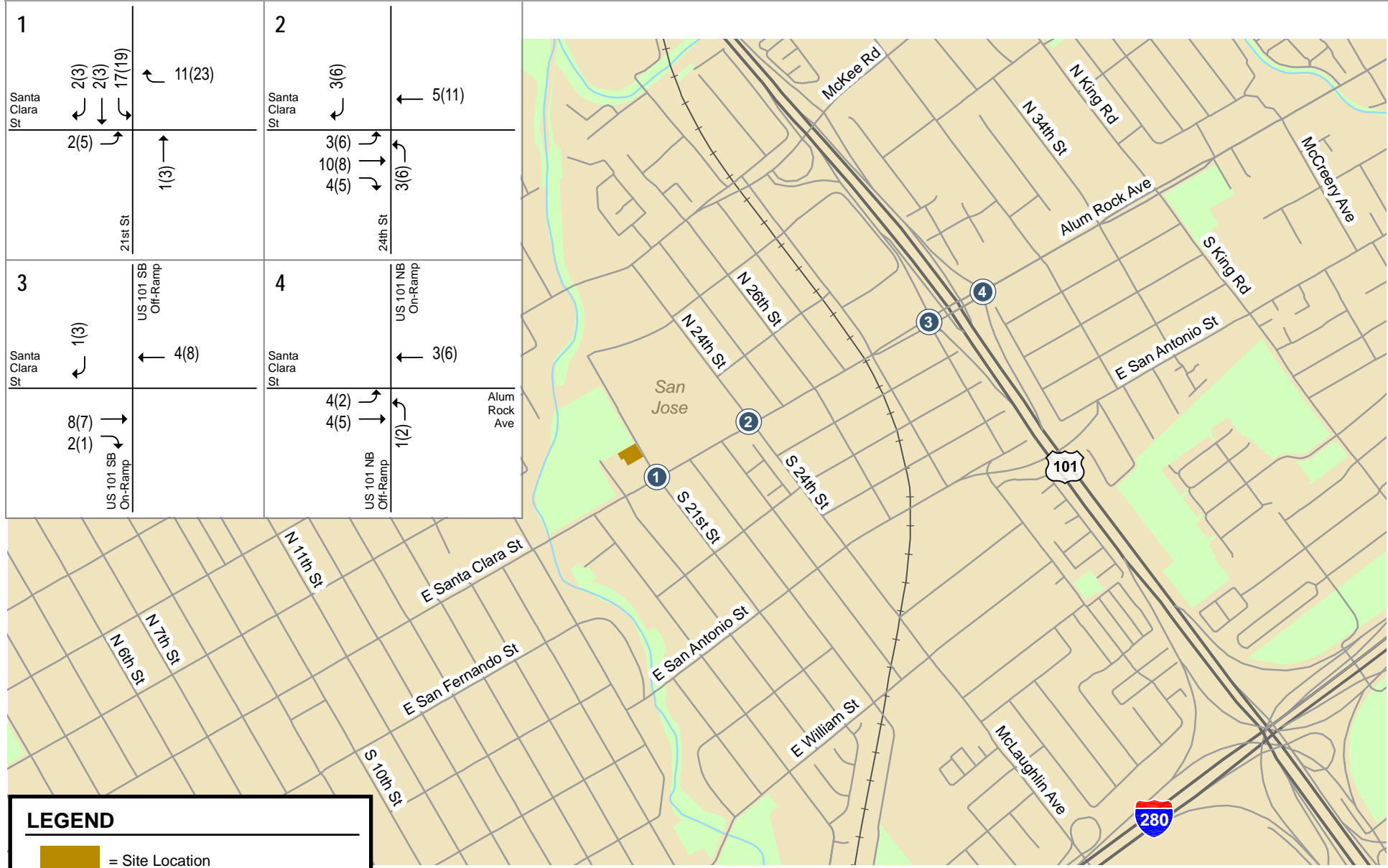


LEGEND

- = Site Location
- X = Study Intersection
- XX%(XX%) = Residential (Retail) Trip Distribution
-

Figure 7
Project Trip Distribution Patterns

Roosevelt Park Low-Income Residential Mixed-Use Development



LEGEND

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

Figure 8
Net Project Trip 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 9). Traffic volumes for all components of traffic are tabulated in Appendix C.

Existing Plus Project Intersection Analysis

The results of the intersection level of service analysis under existing plus project conditions show that all the signalized study intersections would continue to operate at an acceptable LOS B or better during both the AM and PM peak hours of traffic (see Table 4).

The intersection level of service calculation sheets are included in Appendix D.

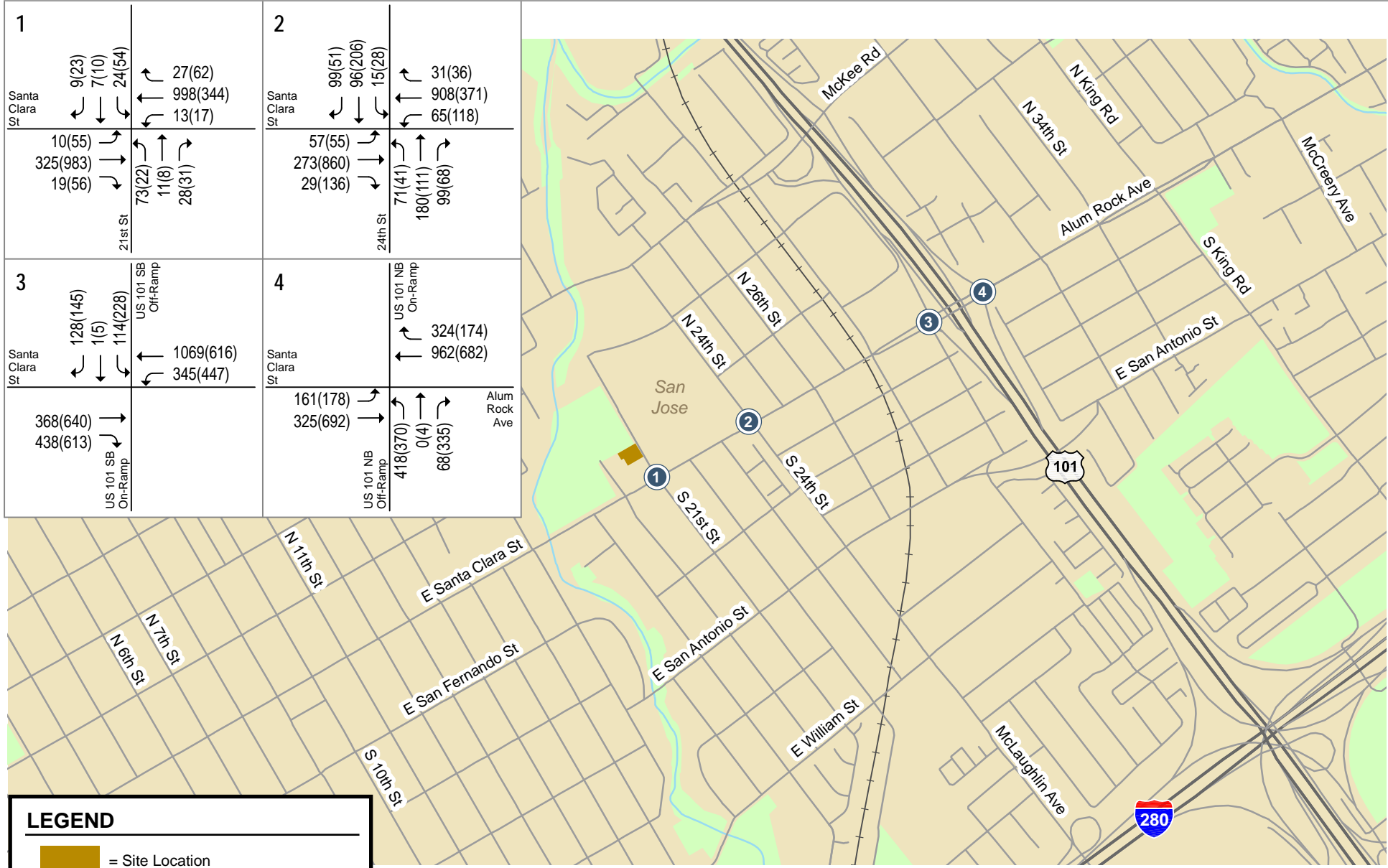
Note that the existing plus project condition intersection analysis is provided for informational purposes only. The City of San Jose's Transportation Level of Service Policy (Council Policy 5-3) does not include impact criteria for the existing plus project traffic scenario. Based on the Policy, traffic related impacts in the City of San Jose are determined based on comparing background plus project traffic conditions to background (baseline) traffic conditions (see Chapter 5).

Table 4
Existing Plus Project Intersection Levels of Service

ID	Intersection	Peak Hour	Existing		Existing+Project	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1	21st Street and Santa Clara Street	AM	4.8	A	5.2	A
		PM	4.4	A	5.0	A
2	24th Street and Santa Clara Street	AM	19.4	B	19.5	B
		PM	19.6	B	19.8	B
3	US 101 SB Ramps and Santa Clara Street*	AM	10.6	B	10.6	B
		PM	15.2	B	15.2	B
4	US 101 NB Ramps and Alum Rock Avenue*	AM	12.9	B	12.9	B
		PM	12.8	B	12.8	B

Notes:
* Denotes VTA CMP intersection

Roosevelt Park Low-Income Residential Mixed-Use Development



LEGEND

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

Figure 9
Existing Plus Project Traffic Volumes

4. Background Conditions

This chapter presents background traffic conditions, which are defined as conditions just prior to completion of the proposed project. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by approved but not yet constructed developments in the vicinity of the site. This chapter describes the planned roadway network, the procedure used to determine background traffic volumes, and the resulting traffic conditions. The background scenario predicts a realistic traffic condition that would occur as approved development gets built and occupied.

Roadway Network Under Background Conditions

The roadway network under background conditions would be the same as the existing roadway network because there are no planned and funded transportation improvements at the study intersections that would alter the existing intersection lane configurations.

Background Traffic Volumes

Background peak hour traffic volumes were estimated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The added traffic from approved but not yet constructed developments in the City of San Jose is obtained from the City's approved trips inventory (ATI) database (Appendix B).

Background traffic volumes are shown on Figure 10. Traffic volumes for all components of traffic are tabulated in Appendix C.

Roosevelt Park Low-Income Residential Mixed-Use Development

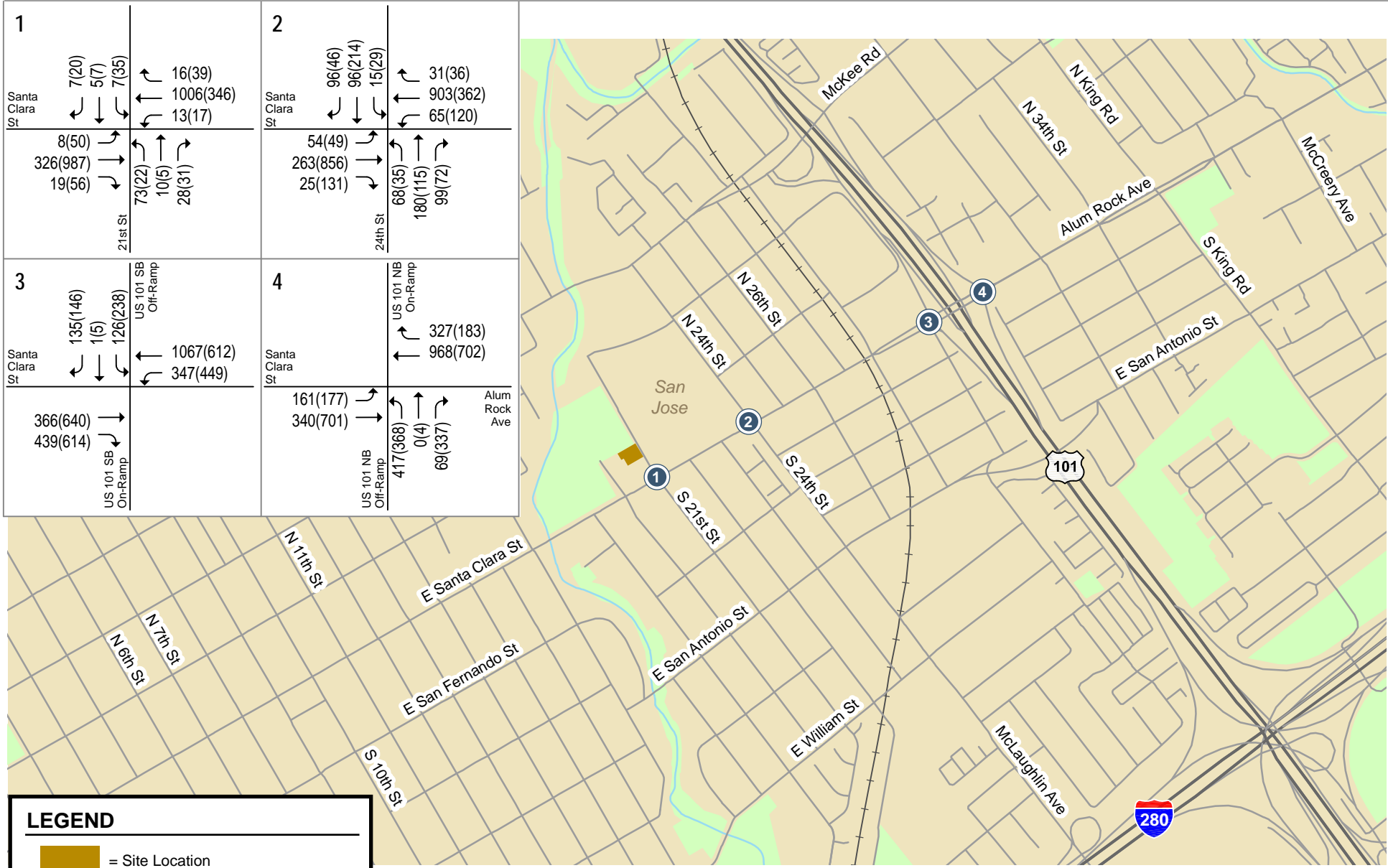


Figure 10
Background Traffic Volumes

Intersection Levels of Service

The results of the intersection level of service analysis under background conditions show that all the signalized study intersections would continue to operate at an acceptable LOS B or better during both the AM and PM peak hours of traffic (see Table 5).

The level of service calculation sheets are included in Appendix D.

Table 5
Background Intersection Levels of Service

ID	Intersection	Peak Hour	Existing		Background	
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1	21st Street and Santa Clara Street	AM	4.8	A	4.8	A
		PM	4.4	A	4.4	A
2	24th Street and Santa Clara Street	AM	19.4	B	19.4	B
		PM	19.6	B	19.9	B
3	US 101 SB Ramps and Santa Clara Street*	AM	10.6	B	10.7	B
		PM	15.2	B	15.3	B
4	US 101 NB Ramps and Alum Rock Avenue*	AM	12.9	B	12.9	B
		PM	12.8	B	12.9	B

Notes:
* Denotes VTA CMP intersection

5. Background Plus Project Conditions

This chapter describes near-term traffic conditions that most likely would occur when the project is complete. It includes a description of the significance impact criteria used to establish what constitutes a project impact, a description of the roadway network under background plus project conditions, the method by which project traffic is estimated, and any traffic impacts caused by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine impacts on signalized intersections are based on the thresholds established by the City of San Jose. The City of San Jose LOS Policy is the adopted threshold for CEQA.

The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of San Jose if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under background plus project conditions, or
2. The level of service at the intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one percent (0.01) or more.

An exception to Criteria 2 applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e., the change in average stopped 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 by City of San Jose standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

Roadway Network Under Background Plus Project Conditions

The roadway network under background 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

Since the project site is currently vacant, the estimated project trip generation, distribution and assignment are the same under background plus project conditions as previously described under existing plus project conditions.

Background Plus Project Traffic Volumes

Project trips were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 11). Traffic volumes for all components of traffic are tabulated in Appendix C.

Background Plus Project Intersection Analysis

The results of the intersection level of service analysis under background plus project conditions show that all the signalized study intersections would operate at an acceptable LOS C or better during both the AM and PM peak hours of traffic (see Table 6). Therefore, none of the study intersections would be significantly impacted by the project.

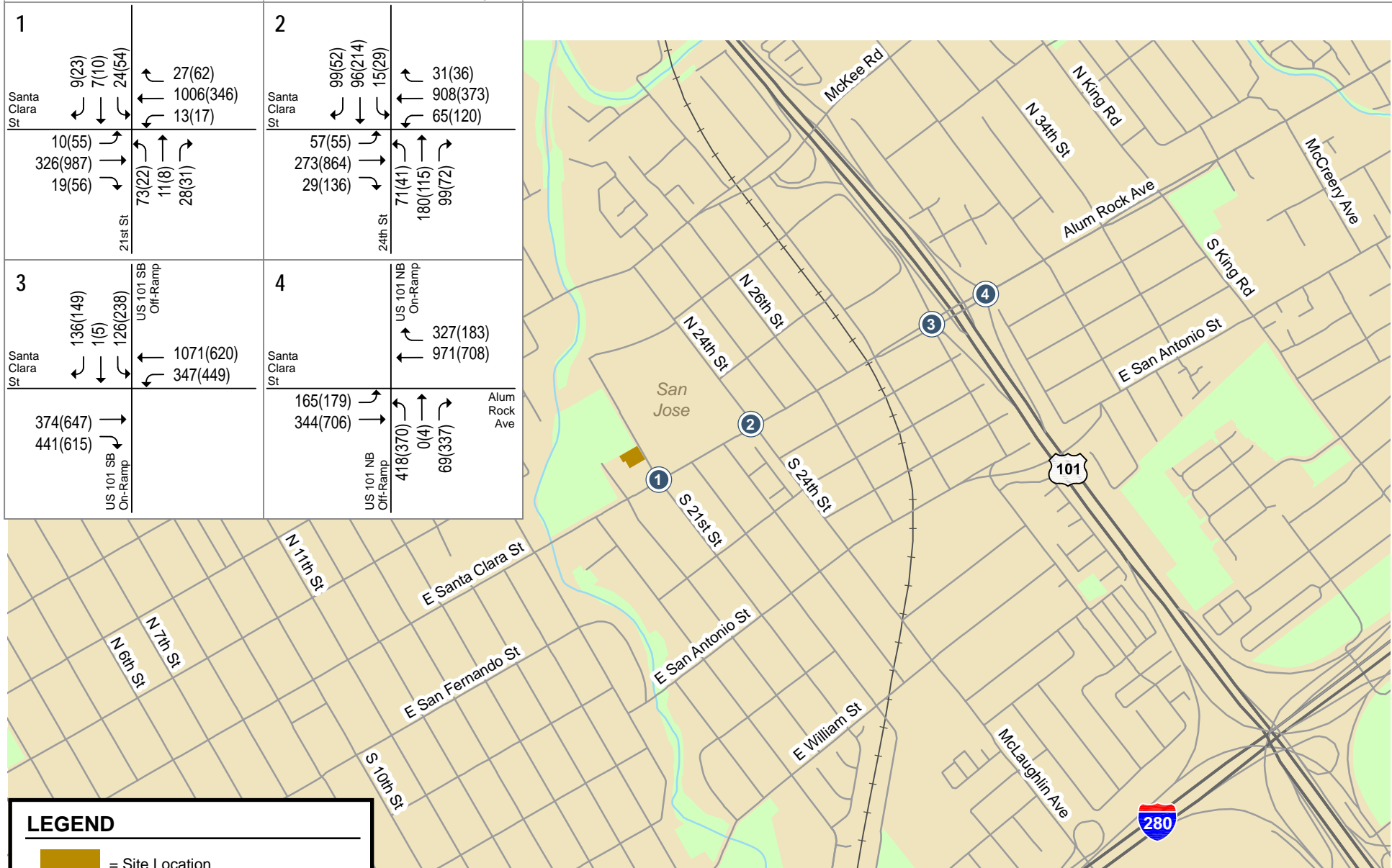
The intersection level of service calculation sheets are included in Appendix D.

Table 6
Background Plus Project Intersection Levels of Service

ID	Intersection	Peak Hour	Background		Background+Project			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. In Crit. Delay (sec)	Incr. In Crit. V/C
1	21st Street and Santa Clara Street	AM	4.8	A	5.2	A	0.0	0.004
		PM	4.4	A	5.0	A	0.7	0.017
2	24th Street and Santa Clara Street	AM	19.4	B	19.5	B	0.1	0.005
		PM	19.9	B	20.0	C	0.1	0.008
3	US 101 SB Ramps and Santa Clara Street*	AM	10.7	B	10.7	B	0.0	0.001
		PM	15.3	B	15.3	B	0.0	0.001
4	US 101 NB Ramps and Alum Rock Avenue*	AM	12.9	B	12.9	B	0.0	0.003
		PM	12.9	B	12.9	B	0.0	0.003

Notes:
* Denotes VTA CMP intersection

Roosevelt Park Low-Income Residential Mixed-Use Development



LEGEND



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

Figure 11
Background Plus Project Traffic Volumes

6. Other Transportation Issues

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

- Intersection operations – Left-turn vehicle queuing
- Site access and on-site circulation
- Potential impacts to pedestrians, bicycles, and transit services
- Parking supply

These other transportation issues were evaluated to determine if any deficiencies would exist under background plus project conditions that may not be specifically linked to environmental impact reporting. These may not be considered environmental issues, and may not be evaluated in an environmental assessment, but have been included in the traffic study to meet the requirements of the local jurisdiction. Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Intersection Operations Analysis

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for left-turn lanes at intersections where the project would add a substantial number of trips (defined as 5 trips or more for this traffic study) to the left-turn movements. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of “n” vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-\lambda}}{n!}$$

Where:

$P(x=n)$ = probability of “n” vehicles in queue per lane

n = number of vehicles in queue per lane

λ = average # of vehicles in queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Therefore, left-turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement. The vehicle queuing estimates and a tabulated summary of the findings for these left-turn movements are provided in Table 7.

**Table 7
Left-Turn Storage Queuing Analysis**

Measurement	21st Street & Santa Clara Street				24th Street & Santa Clara Street			
	Southbound L-T-R		Eastbound L-T		Northbound L-T-R		Eastbound Left	
	AM	PM	AM	PM	AM	PM	AM	PM
Existing Conditions								
Cycle/Delay ¹ (sec)	80	80	80	80	80	80	140	146
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	19	62	171	542	347	214	54	49
Volume (vphpl)	19	62	171	542	347	214	54	49
Avg. Queue (veh/ln.)	0.4	1.4	3.8	12.0	7.7	4.8	2.1	2.0
Avg. Queue ² (ft./ln)	11	34	95	301	193	119	53	50
95th % . Queue (veh/ln.)	2	4	7	18	13	9	5	5
95th % . Queue (ft./ln)	50	100	175	450	325	225	125	125
Storage (ft./ ln.) ³	125	125	575	575	300	300	125	125
Adequate (Y/N)	YES	YES	YES	YES	NO	YES	YES	YES
Background Conditions								
Cycle/Delay ¹ (sec)	80	80	80	80	80	80	140	146
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	19	62	171	544	347	222	54	49
Volume (vphpl)	19	62	171	544	347	222	54	49
Avg. Queue (veh/ln.)	0.4	1.4	3.8	12.1	7.7	4.9	2.1	2.0
Avg. Queue ² (ft./ln)	11	34	95	302	193	123	53	50
95th % . Queue (veh/ln.)	2	4	7	18	13	9	5	5
95th % . Queue (ft./ln)	50	100	175	450	325	225	125	125
Storage (ft./ ln.) ³	125	125	575	575	300	300	125	125
Adequate (Y/N)	YES	YES	YES	YES	NO	YES	YES	YES
Background Plus Project Conditions								
Cycle/Delay ¹ (sec)	80	80	80	80	80	80	140	146
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	40	87	173	549	350	228	57	55
Volume (vphpl)	40	87	173	549	350	228	57	55
Avg. Queue (veh/ln.)	0.9	1.9	3.8	12.2	7.8	5.1	2.2	2.2
Avg. Queue ² (ft./ln)	22	48	96	305	194	127	55	56
95th % . Queue (veh/ln.)	3	4	7	18	13	9	5	5
95th % . Queue (ft./ln)	75	100	175	450	325	225	125	125
Storage (ft./ ln.) ³	125	125	575	575	300	300	125	125
Adequate (Y/N)	YES	YES	YES	YES	NO	YES	YES	YES

Notes:

L = left, T = through, R = right.

¹ Vehicle queue calculations based on cycle length for signalized intersection and controlled delay for unsignalized intersection.

² Assumes 25 feet per vehicle queued

³ Storage represents the length of the left-turn pocket or the distance to the closest driveway or intersection.

For left-turn movements that do not have an exclusive turn lane, the queuing analysis was conducted for the shared through/left-turn lane. The available storage length for the shared lane was assumed to be the distance to the adjacent upstream intersection. The following left-turn movements were analyzed to which the project would add 5 trips or more during at least one of the peak hours.

- 21st Street/Santa Clara Street – SB approach: the project would add 17 trips during the AM peak hour and 19 trips during the PM peak to the southbound left-turn movement.
- 21st Street/Santa Clara Street – EB approach: the project would add 2 trips during the AM peak hour and 5 trips during the PM peak hour to the eastbound left-turn movement.
- 24th Street/Santa Clara Street – NB approach: the project would add 3 vehicles during the AM peak hour and 6 vehicles during the PM peak hour to the northbound left-turn movement.
- 24th Street/Santa Clara Street – EB Left-turn lane: the project would add 3 vehicles during the AM peak hour and 6 vehicles during the PM peak hour to this left-turn movement.

The analysis indicates that the estimated 95th percentile left-turn vehicle queues would exceed the vehicle storage capacity at the following intersection:

24th Street and E. Santa Clara Street – Northbound approach during the AM peak hour

The queuing analysis shows that during the AM peak hour the 95th percentile queue for the northbound approach is currently 325 feet, which exceeds the available storage distance of 300 feet from the upstream intersection of 24th Street/Shortridge Avenue. AM field observations showed that the vehicle queues that developed on northbound 24th Street at E. Santa Clara Street could not always clear the intersection in one signal cycle length. However, the project would add only 3 vehicles during the AM peak hour to the northbound left-turn movement and would not increase the 95th percentile queue. Therefore, it can be concluded that the project would not have a noticeable effect on vehicle queues at this intersection.

Vehicular Site Access and On-Site Circulation

The site access and circulation analysis is based on the January 31, 2017 site plans prepared by OJK Architecture and Planning (see Figure 2).

Project Driveway

Access to the project would be provided via a single full access driveway on N. 21st Street. The driveway would be located approximately 225 feet north of E. Santa Clara Street. The driveway would provide direct access to the project parking areas that would be provided on the street level and the basement level. The driveway measures 26 feet wide at the throat and conforms to the City's requirements for two-way residential driveway dimensions.

Driveway Operations

The project generated trips that are expected to occur at the project driveway are 14 inbound and 21 outbound trips during the AM peak hour and 31 inbound and 25 outbound trips during the PM peak hour. All inbound vehicles would make a left-turn into the project driveway and all outbound vehicles would make a right-turn out of the project driveway. 21st Street ends approximately 500 feet north of E. Santa Clara Street and carries very low traffic volumes north of E. Santa Clara. As a result, project inbound vehicles would have no difficulty turning into the project site. No queuing issues are anticipated to develop on-site or on 21st Street along the project frontage.

Sight Distance at the Driveway

In general, the project driveway should be free and clear of any obstructions to optimize sight distance. Providing the appropriate sight distance reduces the likelihood of a collision at the driveway and provides drivers with the ability to exit the driveway or locate sufficient gaps in traffic. No parking zones should be established immediately adjacent to the project driveway to ensure that exiting vehicles can see pedestrians on the sidewalk, as well as bikes and vehicles traveling on 21st Street. Appropriate visible and audible warning signals should also be provided at the project driveway to alert pedestrians and bicyclists of vehicles exiting the project. According to the site plan, it appears that sight distance at the project driveway would be adequate.

Vehicular On-Site Circulation

On-site vehicular circulation was reviewed for the project in accordance with generally accepted traffic engineering standards and City of San Jose design guidelines. Access to the parking garage would be provided via one driveway on 21st Street. All parking would be provided at a 90-degree angle and are shown to measure 8.5 feet wide by 18 feet long. This meets the City of San Jose off-street parking design standard for uniform-sized car spaces. The City's standard width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of parking spaces. According to the site plan, the drive aisles throughout the parking garage measure 26 feet wide and meet the City's standard.

The site plan shows adequate circulation within the parking garage with only one dead-end drive aisle on each of the two parking levels. On the street level parking garage, the site plan shows a dead-end drive aisle in the northwestern portion of the parking garage adjacent to the motorcycle and bicycle parking. In the basement level parking garage, the site plan shows a dead-end aisle in the southwestern portion of the parking garage. In general, dead-end aisles can be problematic if they contain unassigned parking spaces, since drivers can enter the aisle and upon discovering that there is no available parking must either back out or conduct three-point maneuvers. Dead-end aisles typically are less problematic and would not create any on-site circulation issues if the parking spaces are assigned to residents. Adequate space should be provided at the end of the dead-end drive aisles adjacent to the last parking stalls to enable vehicles to back out of these stalls. All parking stalls situated adjacent to supporting walls with no buffer space provided should be labeled compact spaces.

East Santa Clara Street & 21st Street Intersection Operations

The intersection of E. Santa Clara Street and 21st Street operates with a permissive left-turn phasing for the east-west approaches on Santa Clara Street and there are no left-turn pockets along these approaches. Since the project would add traffic to the eastbound left-turn movement, a gap analysis was conducted for the eastbound left-turning traffic on E. Santa Clara Street. Based on the AM and PM peak hour field observations of vehicle speeds and driver behavior, the minimum one-way gap time required for a vehicle to turn left from eastbound E. Santa Clara Street onto N. 21st Street is approximately 5 seconds.

During the AM peak hour, the peak direction of travel occurs on westbound Santa Clara Street (originating from US 101), and the existing AM peak hour traffic count shows an eastbound left-turn volume of 8 vehicles. A total of 101 gaps of 5 seconds or more were counted in the westbound traffic flow. Some of these gaps measured more than 10 seconds, which often provides adequate time for two vehicles to turn left onto N. 21st Street. The project would add only 2 vehicles during the AM peak hour to the eastbound left-turn movement. The project would not cause any significant delays to the eastbound through traffic flow on Santa Clara Street. Given the relatively low traffic volumes on eastbound Santa Clara Street during the AM peak hour and the roadway width, through vehicles on

eastbound Santa Clara Street can bypass a vehicle waiting to turn left onto N. 21st Street by using the outer through lane (curb lane) on Santa Clara Street.

During the PM peak hour, the peak direction of travel occurs on eastbound Santa Clara Street (toward US 101), and the existing traffic count shows an eastbound left-turn volume of 50 vehicles. A total of 130 gaps of 5 seconds or more were counted in the westbound traffic flow. Some of these gaps measured more than 10 seconds, which often provides adequate time for two vehicles to turn left onto N. 21st Street. Due to the relatively low traffic volumes on westbound Santa Clara Street during the PM peak hour, vehicles turning left from eastbound Santa Clara Street onto N 21st Street can easily find gaps in the westbound/opposing traffic flow. The project would add only 5 trips to the eastbound left-turn movement and would not cause any significant delays to the eastbound through traffic flow on Santa Clara Street.

Truck Access and Circulation

Loading Zones

The project is not proposing any off-street freight loading spaces. Hexagon recommends either adding an on-street freight loading zone near the lobby on 21st Street or providing timed parking along the 21st Street project frontage to provide an area for general freight loading activities. The project applicant should consult with City staff to determine which freight loading option would best serve the project.

Garbage Collection

The site plan shows a trash room would be located at the southeast corner of the project site, adjacent to the project driveway and 21st Street. Garbage collection activities for the project would not occur on-site due to restricted circulation for trucks, as well as height restrictions. The trash bins would be moved to the curb along N. 21st Street for street-side pick-up on garbage collection days. The trash bins should be removed from public the right-of-way and returned to the interior trash room immediately after pickup.

Emergency Vehicle Access

Fire code requires driveways to provide at least 32 feet for fire access. The project driveway would be 26 feet wide measured at the throat. As it currently exists, on-street parking is permitted along both sides of N. 21st Street adjacent to the project site. Following the development of this project, the curb segments adjacent to the new project driveway should be painted red to prohibit parking and provide additional width necessary to comply with the City's fire code.

The City of San Jose Fire Department additionally requires that all portions of the buildings be within 150 feet of a fire department access road, and requires a minimum of six feet clearance from the property line along all sides of the building. According to the project site plan, the project would meet the six-foot clearance requirement. The southern and western portions of the site are over 150 feet from E. Santa Clara Street and 17th Street respectively. However, there are driveways located within 25 feet on the south side and the west side of the project site serving existing uses that could be utilized by emergency vehicles. Thus, the project would meet the 150-foot fire access requirement.

Pedestrian, Bicycle, and Transit Facilities

Pedestrian and Bicycle Facilities

The project plans to build new sidewalk along its frontage on N. 21st Street to facilitate an inviting and comfortable pedestrian environment. The proposed sidewalk along the project frontage would provide pedestrian access to the proposed ground floor commercial space, residential lobby and associated

areas, including elevators, stairwells, leasing office, and bike storage rooms. The network of sidewalks and crosswalks in the study area has good connectivity and would provide residents with safe routes to bus stops and other points of interest in the urban village. Marked crosswalks are provided with pedestrian signal heads and push buttons on all legs of the signalized intersections near the project site.

In the immediate vicinity of the project site, there are Class II bike lanes along 21st Street between E. Taylor Street to the north and E. William Street to the south. Class II bike lanes also exist on N 17th Street north of E Santa Clara Street, 10th Street and 11th Street north and south of E Santa Clara Street, and along King Road north and south of Alum Rock Avenue. 24th Street carries low traffic volumes and has Sharrows, making it conducive to bicyclists. Santa Clara Street/Alum Rock Avenue is a Grand Boulevard with high traffic volume and vehicle speeds. Bicyclists need to ride with caution on these streets.

Pedestrian and Bicycle Access to Schools

San Jose High School, San Jose Community Middle School, and Olinder Elementary School are all part of the San Jose Unified School District (SJUSD) and are located within approximately a one-half-mile walk of the project site. The high school and middle school are located just north of the project site, and the elementary school is located south of the project site on William Street. Safe and direct pedestrian access to all three schools would be provided via a continuous network of sidewalks in the surrounding area. Crosswalks with pedestrian signal heads are provided at all signalized intersections. Crosswalks are also provided at some unsignalized intersections, and wheel chair ramps are provided at all corners of the intersections, though some do not meet the current ADA design standards. 21st Street contains striped bike lanes and would provide the safest option to access Olinder Elementary School if traveling by bicycle.

The project should work with these nearby schools to implement a Safe Routes to Schools program, if one does not already exist, since the project would add traffic to the area and some students attending these schools may reside at the project site. Safe Routes to Schools is designed to decrease traffic and pollution and increase the health of children and the community as a whole. The program promotes walking and biking to school through education and incentives. The program also addresses the safety concerns of parents by encouraging greater enforcement of traffic laws, educating the public, and exploring ways to create safer streets. A comprehensive Safe Routes to Schools program should identify a focused area surrounding the school, provide a map with the routes that children can take to and from school, and recommend improvements to routes if necessary. It should address such pedestrian safety issues as dangerous intersections and missing or ineffective crosswalks and sidewalks.

Transit Services

The project site is located within 250 feet of Santa Clara Street. Two local bus routes (Routes 22 and 23) and one limited stop bus route (Route 522) operate along Santa Clara Street. Route 522 provides BRT service and runs along the median transit lanes on Alum Rock Avenue in the project study area. The nearest bus stops for the local routes are located on Santa Clara Street, just west of 21st Street for the eastbound direction and between 22nd Street and 23rd Street for the westbound direction. The nearest BRT stops are located at the 24th Street/Santa Clara Street intersection, about 1,200 feet walking distance from the project site.

Due to the convenient locations of the bus stops, it is assumed that some residents and employees of the proposed development would utilize the existing transit service. Applying an estimated 9 percent transit mode share equates to approximately 3 new transit riders during the AM peak hour and 3 new riders during the PM peak hour. Assuming the existing transit service would remain unchanged with Routes 22 and 23 providing service with 12-minute headways during the peak commute periods at bus stops along Santa Clara Street, the estimated number of new transit riders using the bus stops located

near the project would equate to approximately 1 rider per bus during the peak hours. The small increase in new riders could be accommodated by the current available capacity of the bus service, and expansion of the existing transit service would not be necessary with the project.

To assess a project's effect on transit travel times, the delay experienced by a bus route can be estimated based on the average vehicle delay that is calculated as part of the intersection level of service analysis. According to the intersection level of service analysis, the project would increase the average vehicle delay at the study intersections by 0.6 seconds or less. Thus, it can be concluded that the addition of project-generated traffic is so minor that the delay increases experienced by the bus routes that operate within the study area would be imperceptible.

Parking

Vehicular Parking

The on-site parking was evaluated based on the City of San Jose parking standards (*San Jose Municipal Code Chapter 20.90*).

The City of San Jose standard vehicle parking requirements for multiple dwellings are as follows:

- 1.25 spaces per studio and one-bedroom unit
- 1.7 spaces per two-bedroom unit
- 2.0 spaces per three-bedroom unit

The project is proposing to provide 28 studio units, 12 one-bedroom units, 20 two-bedroom units, and 20 three-bedroom units. Based on this breakdown, the project would be required to provide a total of 124 parking spaces to serve the residential use.

Parking Reduction for Affordable Housing

On October 9, 2015 Assembly Bill 744 (AB 744) was signed by Governor Brown which prevents local jurisdictions from imposing vehicular parking requirements higher than those established by the legislation, upon the request of a developer, provided that the project includes enumerated percentages of affordable housing and is located near designated public transit. The project consists of 100% affordable dwelling units and would provide 24 units for households earning up to 30% Average Median Income (AMI), 55 units for households earning up to 60% AMI, and 1 unit reserved for on-site staff. The project is located less than one-half mile from the Rapid Bus 522 Corridor and local bus routes 22 and 23. AB 744 states that for 100% affordable projects located within one-half mile of a major transit stop, the parking requirement cannot exceed 0.5 spaces per unit. Based on this rate, the project should provide a minimum of 40 on-site parking spaces to serve the residential use.

The City of San Jose vehicle parking requirements for retail/commercial office uses located within Urban Villages are as follows:

- 1 space per 400 square feet for commercial retail uses (for 1,708 square feet ground-floor retail)
- 1 space per 250 square feet for commercial office uses (for 8,516 square feet commercial office space on the 8th floor)

The project is proposing 1,708 square feet for commercial retail use on the ground floor and 8,516 square feet of commercial office space on the 8th floor (top floor) to be occupied by First Community Housing employees. Based on the City's parking rates, the project is required to provide a total of 33 parking spaces to serve the proposed mix of commercial retail and office uses.

After applying the reduced residential parking requirement associated with AB 744, the project would be required to provide a total of 73 vehicular parking spaces: 40 spaces to serve the residential use and 33 spaces to serve the commercial uses. The project is proposing to provide a total of 80 parking spaces and, thus, would meet the City parking requirement.

Motorcycle and Bicycle Parking Requirement

The City requires one motorcycle parking space for every four residential units and one motorcycle parking space per 20 required auto parking spaces for commercial uses. Thus, the project should provide a total of 21 motorcycle parking spaces: 20 for the residential and 1 for the commercial use. The site plan shows 20 motorcycle parking stalls on the ground-floor garage, which falls short of the motorcycle parking requirement by 1 stall.

The City requires one bicycle parking space for every four residential units and one bicycle parking space for every 4,000 s.f. of retail/commercial space. For residential uses a minimum of 60 percent of bicycle parking should be long-term spaces, and for retail uses a minimum of 80 percent of bicycle parking should be short-term spaces. To meet the City's requirements, the project should provide 12 long-term and 8 short-term bicycle parking spaces for the residential use, and 2 short-term and 1 long-term bicycle parking spaces for the retail/commercial uses. The project would provide 26 long-term and 10 short-term bicycle parking spaces, which exceeds the required number of short-term and long-term bicycle parking spaces.

The site plan shows external bike racks would be provided along the project frontage on N. 21st Street. Since the bike racks are intended for public use, they should be relocated behind back of curb.

Transportation Demand Management

Per the City of San Jose Municipal Code, the project may reduce its off-street parking requirement with implementation of a transportation demand management (TDM) program. A TDM program, which includes various trip reduction measures, encourages the use of non-auto/multi-modal modes of travel and minimizes the demand for on-site vehicular parking. A TDM program should encourage the use of bus service and pedestrian/bicycle facilities to the maximum extent possible.

For projects such as this that are located within an Urban Village and provide adequate bicycle parking, up to a 50% parking reduction can be granted if the project provides a minimum of three TDM measures. However, based on the allowable parking reduction for the affordable housing component of the project, a further reduction in parking is not needed.

Although the project does not require an official TDM plan to meet the City's parking requirement, the project does plan to implement two TDM measures: Transit Eco Passes and Bicycle Sharing. Providing free VTA Eco Passes promotes transit usage and reduces a project's parking demand, particularly for affordable housing projects such as this that are located within walking distance of multiple transit stops, including BRT service. Eco Passes will give tenants unlimited rides on VTA Bus, LRT and Express Bus service seven days a week.

7. Conclusions

The study was conducted for the purpose of identifying the potential traffic impacts related to the proposed affordable housing mixed-use development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of San Jose. The study included the analysis of AM and PM peak hour traffic conditions for 4 signalized intersections. Project impacts on other transportation facilities, such as bicycle facilities and transit service, were determined on the basis of engineering judgment.

Intersection Levels of Service

The results of the intersection level of service analysis show that, based on the City of San Jose significant impact criteria, none of the signalized study intersections would be significantly impacted by the project.

Other Transportation Issues

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

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

Project Recommendations

- No parking zones should be established immediately adjacent to the project driveway to ensure that exiting vehicles can see pedestrians on the sidewalk, as well as bikes and vehicles traveling on 21st Street. Appropriate visible and audible warning signals should be provided at the project driveway to alert pedestrians and bicyclists of vehicles exiting the parking garage.
- Parking spaces should be assigned to minimize the on-site vehicular circulation problems associated with dead-end drive aisles.
- Adequate space should be provided at the end of the dead-end drive aisles adjacent to the last parking stalls to enable vehicles to back out of these stalls. All parking stalls situated adjacent to supporting walls with no buffer space provided should be labeled compact spaces.
- Hexagon recommends either adding an on-street freight loading zone near the lobby on 21st Street or providing timed parking along the 21st Street project frontage to provide an area for

general freight loading activities. The project applicant should consult with City staff to determine which freight loading option would best serve the project.

- The curb segments adjacent to the project driveway should be painted red to prohibit parking and provide the 32-foot width necessary to comply with the City's fire code.
- The project should provide one additional motorcycle parking space in order to meet the City's parking requirement.
- Relocate the external bike racks along the N. 21st Street project frontage to back of curb.

**Roosevelt Park Affordable Housing
Mixed-Use Development
Traffic impact Analysis**

Technical Appendices

February 20, 2018

Appendix A

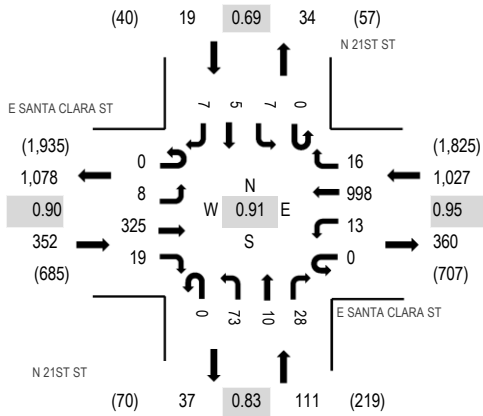
New Traffic Counts



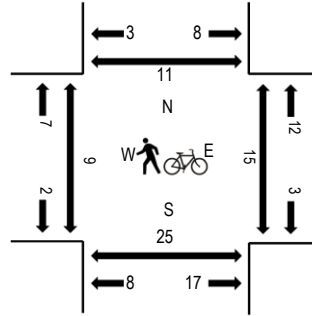
(303) 216-2439
www.alltrafficdata.net

Location: 1 N 21ST ST & E SANTA CLARA ST AM
Date and Start Time: Wednesday, September 20, 2017
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	E SANTA CLARA ST Eastbound				E SANTA CLARA ST Westbound				N 21ST ST Northbound				N 21ST ST 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	52	4	0	2	131	1	0	15	0	6	0	2	1	2	216	1,306	0	1	1	1
7:15 AM	0	4	77	2	0	2	179	3	0	21	0	5	0	3	0	0	296	1,455	1	0	3	1
7:30 AM	0	1	88	5	0	2	263	4	0	26	0	8	0	2	2	0	401	1,497	4	0	0	2
7:45 AM	0	3	82	6	0	3	260	1	0	25	1	9	0	1	2	0	393	1,509	2	6	6	0
8:00 AM	0	1	87	5	0	2	249	4	0	12	0	4	0	0	1	0	365	1,463	1	4	10	0
8:15 AM	0	1	66	5	0	2	233	4	0	16	2	3	0	3	0	3	338		1	5	5	7
8:30 AM	0	3	90	3	0	6	256	7	0	20	7	12	0	3	2	4	413		5	0	3	4
8:45 AM	0	2	93	5	0	5	199	7	0	18	1	8	0	3	3	3	347		19	0	2	12

Peak Rolling Hour Flow Rates

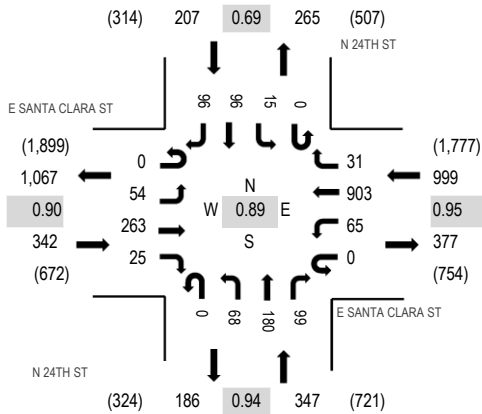
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	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7
Lights	0	7	300	17	0	12	969	16	0	73	10	28	0	7	4	6	1,449
Mediums	0	1	21	2	0	1	26	0	0	0	0	0	0	1	1	1	53
Total	0	8	325	19	0	13	998	16	0	73	10	28	0	7	5	7	1,509



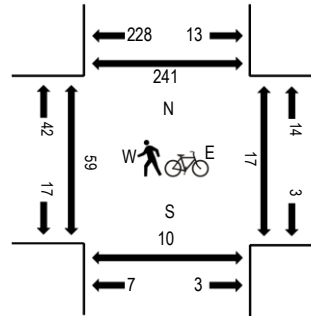
(303) 216-2439
www.alltrafficdata.net

Location: 2 N 24TH ST & E SANTA CLARA ST AM
Date and Start Time: Wednesday, September 20, 2017
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	E SANTA CLARA ST Eastbound				E SANTA CLARA ST Westbound				N 24TH ST Northbound				N 24TH ST 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	53	5	0	12	108	6	0	12	44	23	0	5	20	3	299	1,716	6	5	2	7
7:15 AM	0	12	75	5	0	12	153	6	0	13	58	27	0	1	15	13	390	1,868	12	1	0	3
7:30 AM	0	18	82	2	0	15	221	9	0	13	52	32	0	2	17	33	496	1,895	20	7	2	4
7:45 AM	0	22	68	4	0	18	237	10	0	12	53	29	0	5	37	36	531	1,872	20	7	5	8
8:00 AM	0	9	63	8	0	19	219	7	0	17	36	17	0	7	29	20	451	1,768	5	2	1	159
8:15 AM	0	5	50	11	0	13	226	5	0	26	39	21	0	1	13	7	417		10	1	2	65
8:30 AM	0	6	65	5	0	15	247	6	0	30	41	28	0	2	19	9	473		0	0	1	53
8:45 AM	0	6	81	9	0	8	196	9	0	41	40	17	0	0	13	7	427		3	2	0	212

Peak Rolling Hour Flow Rates

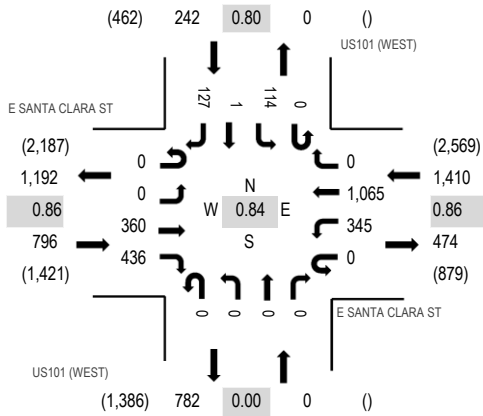
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	1	0	0	1	0	0	1	1	0	0	0	0	0	7
Lights	0	53	242	24	0	65	879	31	0	66	178	96	0	14	96	95	1,839
Mediums	0	1	18	0	0	0	23	0	0	1	1	3	0	1	0	1	49
Total	0	54	263	25	0	65	903	31	0	68	180	99	0	15	96	96	1,895



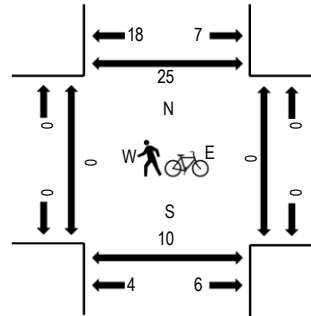
(303) 216-2439
www.alltrafficdata.net

Location: 3 US101 (WEST) & E SANTA CLARA ST AM
Date and Start Time: Wednesday, September 20, 2017
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	E SANTA CLARA ST Eastbound				E SANTA CLARA ST Westbound				US101 (WEST) Northbound				US101 (WEST) 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	78	87	0	85	165	0	0	0	0	0	0	0	26	0	24	465	2,367	1	0	5	3
7:15 AM	0	0	97	116	0	78	220	0	0	0	0	0	0	0	22	0	31	564	2,448	0	0	3	1
7:30 AM	0	0	89	142	0	106	309	0	0	0	0	0	0	0	38	1	42	727	2,402	0	0	2	12
7:45 AM	0	0	86	95	0	82	274	0	0	0	0	0	0	0	41	0	33	611	2,218	0	0	0	5
8:00 AM	0	0	88	83	0	79	262	0	0	0	0	0	0	0	13	0	21	546	2,085	0	0	3	2
8:15 AM	0	0	77	64	0	66	244	0	0	0	0	0	0	0	24	0	43	518		0	0	3	0
8:30 AM	0	0	76	83	0	86	249	0	0	0	0	0	0	0	12	0	37	543		0	0	0	0
8:45 AM	0	0	86	74	0	58	206	0	0	0	0	0	0	0	26	1	27	478		0	0	0	1

Peak Rolling Hour Flow Rates

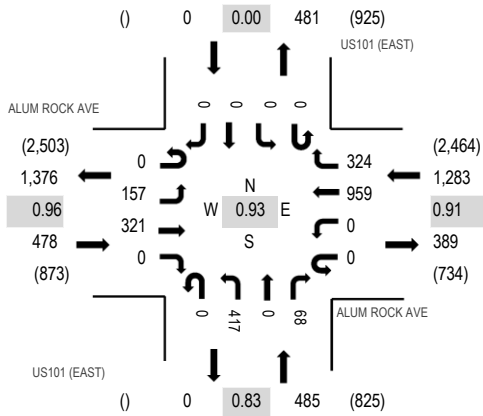
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	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	3
Lights	0	0	343	431	0	339	1,039	0	0	0	0	0	0	104	1	125	2,382
Mediums	0	0	17	5	0	6	24	0	0	0	0	0	0	9	0	2	63
Total	0	0	360	436	0	345	1,065	0	0	0	0	0	0	114	1	127	2,448



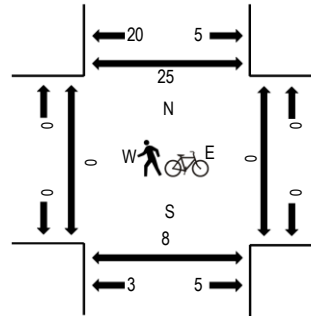
(303) 216-2439
www.alltrafficdata.net

Location: 4 US101 (EAST) & ALUM ROCK AVE AM
Date and Start Time: Wednesday, September 20, 2017
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	ALUM ROCK AVE Eastbound				ALUM ROCK AVE Westbound				US101 (EAST) Northbound				US101 (EAST) 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	1	44	59	0	0	0	182	88	0	52	0	19	0	0	0	0	445	2,147	0	0	2	2
7:15 AM	0	45	66	0	0	0	215	105	0	84	0	11	0	0	0	0	526	2,246	0	0	1	4
7:30 AM	0	40	85	0	0	0	274	77	0	119	0	11	0	0	0	0	606	2,213	0	0	3	9
7:45 AM	0	27	90	0	0	0	240	67	0	122	0	24	0	0	0	0	570	2,123	0	0	0	10
8:00 AM	0	45	80	0	0	0	230	75	0	92	0	22	0	0	0	0	544	2,015	0	0	2	1
8:15 AM	0	28	71	0	0	0	232	80	0	62	0	20	0	0	0	0	493		0	0	2	1
8:30 AM	0	29	50	0	0	0	275	74	0	67	0	21	0	0	0	0	516		0	0	0	2
8:45 AM	0	35	78	0	0	0	184	66	0	72	0	27	0	0	0	0	462		0	0	0	1

Peak Rolling Hour Flow Rates

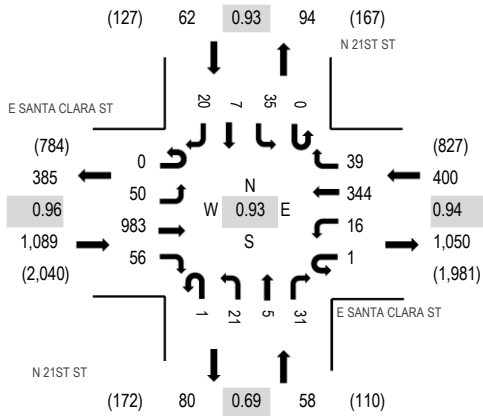
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	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	4	2	0	2	0	0	0	0	0	0	8
Lights	0	156	295	0	0	0	933	316	0	412	0	68	0	0	0	0	2,180
Mediums	0	1	26	0	0	0	22	6	0	3	0	0	0	0	0	0	58
Total	0	157	321	0	0	0	959	324	0	417	0	68	0	0	0	0	2,246



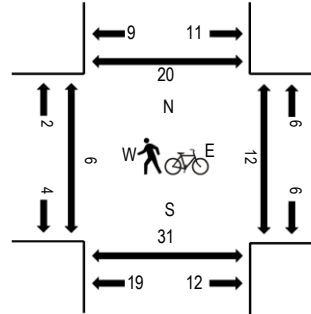
(303) 216-2439
www.alltrafficdata.net

Location: 1 N 21ST ST & E SANTA CLARA ST PM
Date and Start Time: Wednesday, September 20, 2017
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	E SANTA CLARA ST Eastbound				E SANTA CLARA ST Westbound				N 21ST ST Northbound				N 21ST ST 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	5	183	13	1	5	96	7	0	6	2	4	0	11	0	2	335	1,495	1	0	3	3
4:15 PM	0	4	205	15	1	4	90	19	0	7	2	4	0	9	2	7	369	1,532	3	2	6	6
4:30 PM	0	6	238	15	0	6	81	9	0	7	0	8	0	11	0	6	387	1,553	3	3	12	5
4:45 PM	0	6	239	22	0	10	85	13	0	5	0	7	0	10	0	7	404	1,599	5	4	12	6
5:00 PM	0	11	243	14	1	1	71	4	0	4	1	7	0	9	2	4	372	1,609	3	3	7	3
5:15 PM	0	15	229	12	0	4	95	11	0	4	0	5	0	6	1	8	390		1	5	6	2
5:30 PM	0	9	255	16	0	9	99	12	0	9	2	10	0	7	1	4	433		2	3	8	2
5:45 PM	0	15	256	14	0	2	79	12	1	4	2	9	0	13	3	4	414		0	1	3	5

Peak Rolling Hour Flow Rates

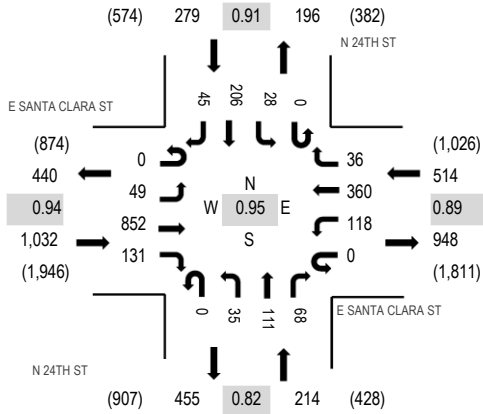
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	0	50	965	56	1	16	322	39	1	21	5	31	0	35	7	20	1,569
Mediums	0	0	18	0	0	0	21	0	0	0	0	0	0	0	0	0	39
Total	0	50	983	56	1	16	344	39	1	21	5	31	0	35	7	20	1,609



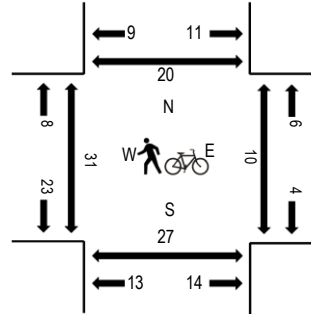
(303) 216-2439
www.alltrafficdata.net

Location: 2 N 24TH ST & E SANTA CLARA ST PM
Date and Start Time: Wednesday, September 20, 2017
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	E SANTA CLARA ST Eastbound				E SANTA CLARA ST Westbound				N 24TH ST Northbound				N 24TH ST 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	10	166	29	0	39	85	5	0	9	20	14	0	10	54	14	455	1,935	7	3	2	0
4:15 PM	0	9	192	25	0	33	98	7	0	13	20	22	0	2	52	14	487	1,968	12	3	10	8
4:30 PM	0	17	196	27	0	31	75	8	0	7	31	11	0	7	52	8	470	1,974	9	0	3	3
4:45 PM	0	17	224	33	0	30	85	11	0	11	30	19	0	3	52	8	523	2,039	8	1	9	6
5:00 PM	0	12	215	29	0	23	80	5	0	6	28	17	0	7	56	10	488	2,039	8	6	8	0
5:15 PM	0	15	191	29	0	34	92	8	0	12	30	14	0	8	46	14	493		5	0	3	2
5:30 PM	0	5	222	40	0	31	103	12	0	6	23	18	0	10	52	13	535		7	2	6	5
5:45 PM	0	14	212	17	0	31	86	14	0	12	31	24	0	7	62	13	523		1	4	10	2

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	49	834	131	0	116	340	36	0	35	111	64	0	28	205	45	1,994
Mediums	0	0	18	0	0	2	20	0	0	0	0	4	0	0	1	0	45
Total	0	49	852	131	0	118	360	36	0	35	111	68	0	28	206	45	2,039

Appendix B

City of San Jose Approved Trip Inventory

AM APPROVED TRIPS

09/22/2017

Intersection of: SANTA CLARA/TWENTY-FIRST

Page No: 1

Traffic Node Number: 3789

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
NSJ NORTH SAN JOSE	0	0	0	0	0	0	0	1	0	0	8	0

TOTAL: 0 0 0 0 0 0 0 1 0 0 8 0

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	8	0
SOUTH	0	0	0
WEST	0	1	0

PM APPROVED TRIPS

09/22/2017

Intersection of: SANTA CLARA/TWENTY-FIRST

Page No: 2

Traffic Node Number: 3789

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
NSJ NORTH SAN JOSE	0	0	0	0	0	0	0	4	0	0	2	0

TOTAL: 0 0 0 0 0 0 0 4 0 0 2 0

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	2	0
SOUTH	0	0	0
WEST	0	4	0

AM APPROVED TRIPS

09/22/2017

Intersection of: SANTA CLARA/TWENTY-FOURTH

Page No: 1

Traffic Node Number: 3790

Permit No. / Description / Location	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
NSJ NORTH SAN JOSE	4	9	2	0	0	0	0	0	0	0	5	0

PDC03-108 OFF BERRYESSA FLEA MKT (OFFICE) BOTH SIDES OF BERRYESSA RD WEST OF UNION PACIFIC	0	0	0	0	0	0	0	0	0	0	0	0

PDC03-108 RES BERRYESSA FLEA MKT (RESIDENTIAL) BOTH SIDES OF BERRYESSA, WEST OF UNION PACIFIC RR	0	1	2	0	2	0	0	0	0	3	0	0

PDC03-108 RET BERRYESSA FLEA MKT (RETAIL) BOTH SIDES OF BERRYESSA, WEST OF UNION PACIFIC RR	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL: 4 10 4 0 2 0 0 0 0 3 5 0

	LEFT	THRU	RIGHT
NORTH	0	2	0
EAST	3	5	0
SOUTH	4	10	4
WEST	0	0	0

PM APPROVED TRIPS

09/22/2017

Intersection of: SANTA CLARA/TWENTY-FOURTH

Page No: 2

Traffic Node Number: 3790

Permit No. / Description / Location	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
NSJ NORTH SAN JOSE	0	2	1	1	7	1	0	4	0	0	2	0

PDC03-108 OFF BERRYESSA FLEA MKT (OFFICE) BOTH SIDES OF BERRYESSA RD WEST OF UNION PACIFIC	0	0	0	0	0	0	0	0	0	0	0	0

PDC03-108 RES BERRYESSA FLEA MKT (RESIDENTIAL) BOTH SIDES OF BERRYESSA, WEST OF UNION PACIFIC RR	0	2	3	0	1	0	0	0	0	2	0	0

PDC03-108 RET BERRYESSA FLEA MKT (RETAIL) BOTH SIDES OF BERRYESSA, WEST OF UNION PACIFIC RR	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL: 0 4 4 1 8 1 0 4 0 2 2 0

	LEFT	THRU	RIGHT
NORTH	1	8	1
EAST	2	2	0
SOUTH	0	4	4
WEST	0	4	0

AM APPROVED TRIPS

09/22/2017

Intersection of: 101/SANTA CLARA

Page No: 1

Traffic Node Number: 3023

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
NSJ NORTH SAN JOSE	0	0	0	11	0	8	0	5	3	0	0	0

PDC02-082 BLACKWELL HOUSING ALUM ROCK & MCCREERY (SW/C)	0	0	0	1	0	0	0	1	0	2	2	0
TOTAL:	0	0	0	12	0	8	0	6	3	2	2	0

	LEFT	THRU	RIGHT
NORTH	12	0	8
EAST	2	2	0
SOUTH	0	0	0
WEST	0	6	3

PM APPROVED TRIPS

09/22/2017

Intersection of: 101/SANTA CLARA

Page No: 2

Traffic Node Number: 3023

Permit No. / Description / Location	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
NSJ NORTH SAN JOSE	0	0	0	8	0	4	0	5	2	1	3	0
----- PDC02-082 BLACKWELL HOUSING ALUM ROCK & MCCREERY (SW/C)	0	0	0	2	0	0	0	2	0	1	1	0
TOTAL:	0	0	0	10	0	4	0	7	2	2	4	0

	LEFT	THRU	RIGHT
NORTH	10	0	4
EAST	2	4	0
SOUTH	0	0	0
WEST	0	7	2

AM APPROVED TRIPS

09/22/2017

Intersection of: 101/ALUM ROCK

Page No: 1

Traffic Node Number: 3016

Permit No. / Description / Location	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
NSJ NORTH SAN JOSE	0	0	0	0	0	0	4	16	0	0	4	1

PDA97-01-004 SJ MED CENTR MCKEE RD & JACKSON AV (SW/C)	0	0	0	0	0	0	0	0	0	0	0	0

PDC02-082 BLACKWELL HOUSING ALUM ROCK & MCCREERY (SW/C)	0	0	1	0	0	0	0	3	0	0	5	2

TOTAL:	0	0	1	0	0	0	4	19	0	0	9	3
			LEFT	THRU	RIGHT							
			NORTH	0	0	0						
			EAST	0	9	3						
			SOUTH	0	0	1						
			WEST	4	19	0						

PM APPROVED TRIPS

09/22/2017

Intersection of: 101/ALUM ROCK

Page No: 2

Traffic Node Number: 3016

Permit No. / Description / Location	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
NSJ NORTH SAN JOSE	0	0	0	0	0	0	1	9	0	0	23	8

PDA97-01-004 SJ MED CENTR MCKEE RD & JACKSON AV (SW/C)	0	0	0	0	0	0	0	0	0	0	0	0

PDC02-082 BLACKWELL HOUSING ALUM ROCK & MCCREERY (SW/C)	0	0	2	0	0	0	0	5	0	0	3	1

TOTAL:	0	0	2	0	0	0	1	14	0	0	26	9

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	26	9
SOUTH	0	0	2
WEST	1	14	0

Appendix C

Volume Summary Tables

Intersection Number:	1
Traffic Node Number:	3789
Intersection Name:	21st Street and Santa Clara Street
Peak Hour:	AM
Count Date:	09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	7	5	7	16	998	13	28	10	73	19	325	8	1509
Approved Project Trips	San Jose ATI												9
Background Conditions	7	5	7	16	1006	13	28	10	73	19	326	8	1518
Proposed Project Trips	2	2	17	11	0	0	0	1	0	0	0	2	35
Existing + Project Conditions	9	7	24	27	998	13	28	11	73	19	325	10	1544
Background + Project Conditions	9	7	24	27	1006	13	28	11	73	19	326	10	1553

Intersection Number:	2
Traffic Node Number:	3790
Intersection Name:	24th Street and Santa Clara Street
Peak Hour:	AM
Count Date:	09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	96	96	15	31	903	65	99	180	68	25	263	54	1895
Approved Project Trips	San Jose ATI												28
Background Conditions	96	96	15	31	903	65	99	180	68	25	263	54	1895
Proposed Project Trips	3	0	0	0	5	0	0	0	3	4	10	3	28
Existing + Project Conditions	99	96	15	31	908	65	99	180	71	29	273	57	1923
Background + Project Conditions	99	96	15	31	908	65	99	180	71	29	273	57	1923

Intersection Number:	3
Traffic Node Number:	3023
Intersection Name:	US 101 SB Ramps and Santa Clara Street*
Peak Hour:	AM
Count Date:	09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	127	1	114	0	1065	345	0	0	0	436	360	0	2448
Approved Project Trips	San Jose ATI												33
Background Conditions	135	1	126	0	1067	347	0	0	0	439	366	0	2481
Proposed Project Trips	1	0	0	0	4	0	0	0	0	2	8	0	15
Existing + Project Conditions	128	1	114	0	1069	345	0	0	0	438	368	0	2463
Background + Project Conditions	136	1	126	0	1071	347	0	0	0	441	374	0	2496

Intersection Number:	4
Traffic Node Number:	3016
Intersection Name:	US 101 NB Ramps and Alum Rock Avenue*
Peak Hour:	AM
Count Date:	09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	0	0	0	324	959	0	68	0	417	0	321	157	2246
Approved Project Trips	San Jose ATI												36
Background Conditions	0	0	0	327	968	0	69	0	417	0	340	161	2282
Proposed Project Trips	0	0	0	0	3	0	0	0	1	0	4	4	12
Existing + Project Conditions	0	0	0	324	962	0	68	0	418	0	325	161	2258
Background + Project Conditions	0	0	0	327	971	0	69	0	418	0	344	165	2294

Intersection Number: 1
 Traffic Node Number: 3789
 Intersection Name: 21st Street and Santa Clara Street
 Peak Hour: PM
 Count Date: 09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	20	7	35	39	344	17	31	5	22	56	983	50	1609
Approved Project Trips	San Jose ATI												6
Background Conditions	20	7	35	39	346	17	31	5	22	56	987	50	1615
Proposed Project Trips	3	3	19	23	0	0	0	3	0	0	0	5	56
Existing + Project Conditions	23	10	54	62	344	17	31	8	22	56	983	55	1665
Background + Project Conditions	23	10	54	62	346	17	31	8	22	56	987	55	1671

Intersection Number: 2
 Traffic Node Number: 3790
 Intersection Name: 24th Street and Santa Clara Street
 Peak Hour: PM
 Count Date: 09/20/17

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	45	206	28	36	360	118	68	111	35	131	852	49	2039
Approved Project Trips	San Jose ATI												26
Background Conditions	46	214	29	36	362	120	72	115	35	131	856	49	2065
Proposed Project Trips	6	0	0	0	11	0	0	0	6	5	8	6	42
Existing + Project Conditions	51	206	28	36	371	118	68	111	41	136	860	55	2081
Background + Project Conditions	52	214	29	36	373	120	72	115	41	136	864	55	2107

Intersection Number: 3
 Traffic Node Number: 3023
 Intersection Name: US 101 SB Ramps and Santa Clara Street*
 Peak Hour: PM
 Count Date: 11/29/16

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	142	5	228	0	608	447	0	0	0	612	633	0	2675
Approved Project Trips	San Jose ATI												29
Background Conditions	146	5	238	0	612	449	0	0	0	614	640	0	2704
Proposed Project Trips	3	0	0	0	8	0	0	0	0	1	7	0	19
Existing + Project Conditions	145	5	228	0	616	447	0	0	0	613	640	0	2694
Background + Project Conditions	149	5	238	0	620	449	0	0	0	615	647	0	2723

Intersection Number: 4
 Traffic Node Number: 3016
 Intersection Name: US 101 NB Ramps and Alum Rock Avenue*
 Peak Hour: PM
 Count Date: 11/29/16

Scenario	Movements												Total
	Southbound Approach			Westbound Approach			Northbound Approach			Eastbound Approach			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Conditions	0	0	0	174	676	0	335	4	368	0	687	176	2420
Approved Project Trips	San Jose ATI												52
Background Conditions	0	0	0	183	702	0	337	4	368	0	701	177	2472
Proposed Project Trips	0	0	0	0	6	0	0	0	2	0	5	2	15
Existing + Project Conditions	0	0	0	174	682	0	335	4	370	0	692	178	2435
Background + Project Conditions	0	0	0	183	708	0	337	4	370	0	706	179	2487

Appendix D

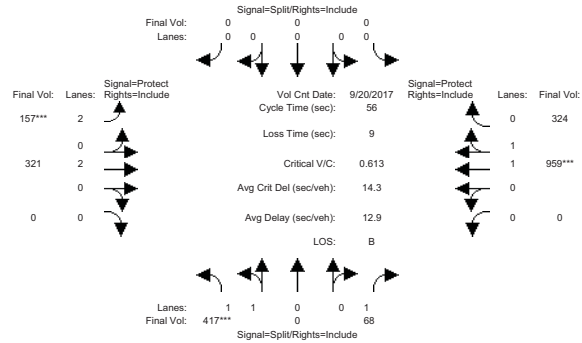
Intersection Level of Service Calculations

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3016: 101/ALUM ROCK



Approach: Movement:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	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: 20 Sep 2017 << 7:20-8:20AM												
Base Vol:	417	0	68	0	0	0	157	321	0	0	959	324
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:	417	0	68	0	0	0	157	321	0	0	959	324
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:	417	0	68	0	0	0	157	321	0	0	959	324
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:	417	0	68	0	0	0	157	321	0	0	959	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	417	0	68	0	0	0	157	321	0	0	959	324
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:	417	0	68	0	0	0	157	321	0	0	959	324

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.48	0.52
Final Sat.:	3550	0	1750	0	0	0	3150	3800	0	0	2765	934

Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.04	0.00	0.00	0.00	0.05	0.08	0.00	0.00	0.35	0.35
Crit Moves:	****						****				****	
Green Time:	10.1	0.0	10.1	0.0	0.0	0.0	7.0	36.9	0.0	0.0	29.9	29.9
Volume/Cap:	0.65	0.00	0.22	0.00	0.00	0.00	0.40	0.13	0.00	0.00	0.65	0.65
Delay/Veh:	23.7	0.0	19.9	0.0	0.0	0.0	23.2	3.6	0.0	0.0	10.1	10.1
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:	23.7	0.0	19.9	0.0	0.0	0.0	23.2	3.6	0.0	0.0	10.1	10.1
LOS by Move:	C	A	B	A	A	A	C	A	A	A	B	B
DesignQueue:	6	0	2	0	0	0	3	2	0	0	11	11

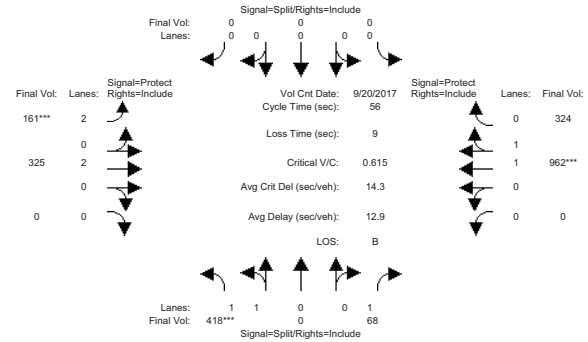
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ex*Prgr AM

Intersection #3016: 101/ALUM ROCK



Approach: Movement:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	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: 20 Sep 2017 << 7:20-8:20AM												
Base Vol:	418	0	68	0	0	0	161	325	0	0	962	324
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:	418	0	68	0	0	0	161	325	0	0	962	324
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:	418	0	68	0	0	0	161	325	0	0	962	324
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:	418	0	68	0	0	0	161	325	0	0	962	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	418	0	68	0	0	0	161	325	0	0	962	324
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:	418	0	68	0	0	0	161	325	0	0	962	324

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.48	0.52
Final Sat.:	3550	0	1750	0	0	0	3150	3800	0	0	2767	932

Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.04	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.35	0.35
Crit Moves:	****						****				****	
Green Time:	10.1	0.0	10.1	0.0	0.0	0.0	7.0	36.9	0.0	0.0	29.9	29.9
Volume/Cap:	0.65	0.00	0.22	0.00	0.00	0.00	0.41	0.13	0.00	0.00	0.65	0.65
Delay/Veh:	23.7	0.0	19.9	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1
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:	23.7	0.0	19.9	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1
LOS by Move:	C	A	B	A	A	A	C	A	A	A	B	B
DesignQueue:	6	0	2	0	0	0	3	2	0	0	11	11

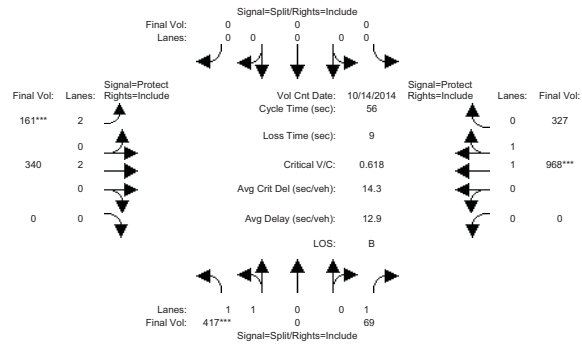
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3016: 101/ALUM ROCK



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	0	0	0	7	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:	14 Oct 2014	<<	7:20-8:20AM
Base Vol:	417	0	69	0	0	161 340 0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00 1.00 1.00
Initial Bse:	417	0	69	0	0	161 340 0
Added Vol:	0	0	0	0	0	0 0 0
PasserByVol:	0	0	0	0	0	0 0 0
Initial Fut:	417	0	69	0	0	161 340 0
User Adj:	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
PHF Volume:	417	0	69	0	0	161 340 0
Reduct Vol:	0	0	0	0	0	0 0 0
Reduced Vol:	417	0	69	0	0	161 340 0
PCE Adj:	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
Final Volume:	417	0	69	0	0	161 340 0

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95	
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.48	0.52	
Final Sat.:	3550	0	1750	0	0	0	3150	3800	0	0	2765	934	

Capacity Analysis Module:	Vol/Sat:	0.12	0.00	0.04	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.35	0.35
Crit Moves:	****							****					
Green Time:	10.0	0.0	10.0	0.0	0.0	0.0	7.0	37.0	0.0	0.0	30.0	30.0	
Volume/Cap:	0.65	0.00	0.22	0.00	0.00	0.00	0.41	0.14	0.00	0.00	0.65	0.65	
Delay/Veh:	23.8	0.0	20.0	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1	
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:	23.8	0.0	20.0	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1	
LOS by Move:	C	A	B	A	A	A	C	A	A	A	B	B	
DesignQueue:	6	0	2	0	0	0	3	2	0	0	11	11	

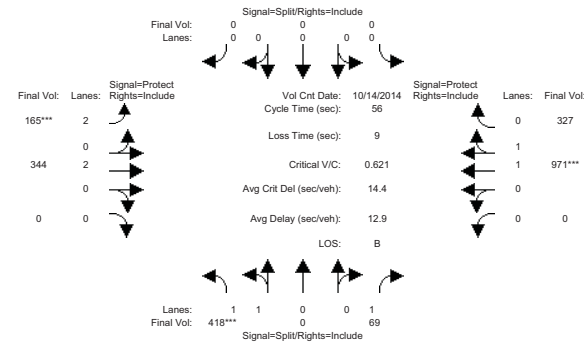
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3016: 101/ALUM ROCK



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	0	0	0	7	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:	14 Oct 2014	<<	7:20-8:20AM
Base Vol:	418	0	69	0	0	165 344 0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00 1.00 1.00
Initial Bse:	418	0	69	0	0	165 344 0
Added Vol:	0	0	0	0	0	0 0 0
PasserByVol:	0	0	0	0	0	0 0 0
Initial Fut:	418	0	69	0	0	165 344 0
User Adj:	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
PHF Volume:	418	0	69	0	0	165 344 0
Reduct Vol:	0	0	0	0	0	0 0 0
Reduced Vol:	418	0	69	0	0	165 344 0
PCE Adj:	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
Final Volume:	418	0	69	0	0	165 344 0

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95	
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.48	0.52	
Final Sat.:	3550	0	1750	0	0	0	3150	3800	0	0	2767	932	

Capacity Analysis Module:	Vol/Sat:	0.12	0.00	0.04	0.00	0.00	0.00	0.05	0.09	0.00	0.00	0.35	0.35
Crit Moves:	****							****					
Green Time:	10.0	0.0	10.0	0.0	0.0	0.0	7.0	37.0	0.0	0.0	30.0	30.0	
Volume/Cap:	0.66	0.00	0.22	0.00	0.00	0.00	0.42	0.14	0.00	0.00	0.66	0.66	
Delay/Veh:	23.9	0.0	20.0	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1	
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:	23.9	0.0	20.0	0.0	0.0	0.0	23.3	3.6	0.0	0.0	10.1	10.1	
LOS by Move:	C	A	B	A	A	A	C	A	A	A	B	B	
DesignQueue:	6	0	2	0	0	0	3	2	0	0	11	11	

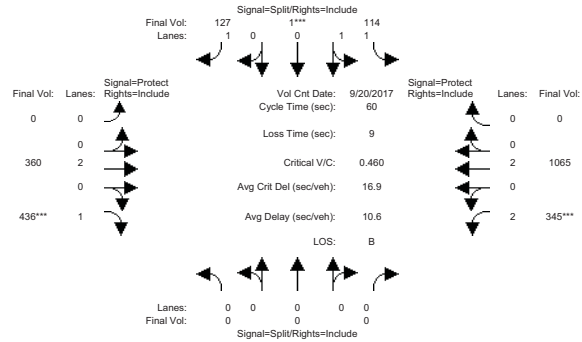
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 20 Sep 2017 << 7:15-8:15AM												
Base Vol:	0	0	0	114	1	127	0	360	436	345	1065	0
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	114	1	127	0	360	436	345	1065	0
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	114	1	127	0	360	436	345	1065	0
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	114	1	127	0	360	436	345	1065	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	114	1	127	0	360	436	345	1065	0
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	114	1	127	0	360	436	345	1065	0

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.98	0.02	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3519	31	1750	0	3800	1750	3150	3800	0

Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.03	0.07	0.00	0.09	0.25	0.11	0.28	0.00
Crit Moves:				****				****	****			
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	28.5	28.5	12.5	41.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.19	0.19	0.44	0.00	0.20	0.52	0.52	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	21.7	21.7	23.5	0.0	9.2	11.6	21.9	4.3	0.0
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	21.7	21.7	23.5	0.0	9.2	11.6	21.9	4.3	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	2	2	4	0	3	9	6	6	0

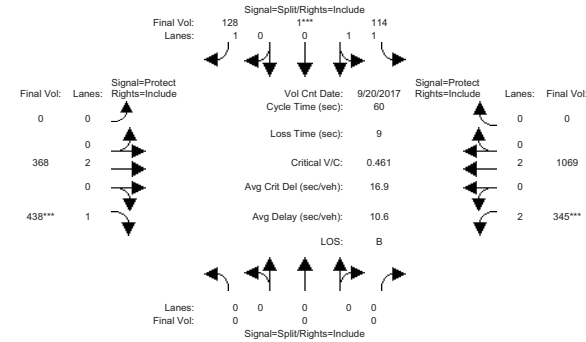
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 20 Sep 2017 << 7:15-8:15AM												
Base Vol:	0	0	0	114	1	128	0	368	438	345	1069	0
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	114	1	128	0	368	438	345	1069	0
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	114	1	128	0	368	438	345	1069	0
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	114	1	128	0	368	438	345	1069	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	114	1	128	0	368	438	345	1069	0
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	114	1	128	0	368	438	345	1069	0

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.98	0.02	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3519	31	1750	0	3800	1750	3150	3800	0

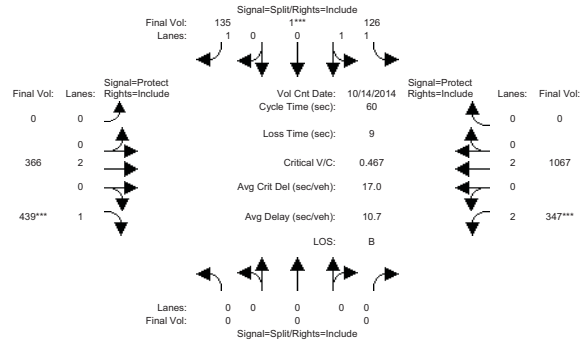
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.03	0.07	0.00	0.10	0.25	0.11	0.28	0.00
Crit Moves:				****				****	****			
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	28.5	28.5	12.5	41.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.19	0.19	0.44	0.00	0.20	0.53	0.53	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	21.7	21.7	23.5	0.0	9.2	11.6	21.9	4.3	0.0
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	21.7	21.7	23.5	0.0	9.2	11.6	21.9	4.3	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	2	2	4	0	3	9	6	6	0

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background AM

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	Count Date: 14 Oct 2014 << 7:15-8:15AM											
Base Vol:	0	0	0	126	1	135	0	366	439	347	1067	0
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	126	1	135	0	366	439	347	1067	0
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	126	1	135	0	366	439	347	1067	0
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	126	1	135	0	366	439	347	1067	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	126	1	135	0	366	439	347	1067	0
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	126	1	135	0	366	439	347	1067	0

Saturation Flow Module:	Sat/Lane:											
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.98	0.02	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3522	28	1750	0	3800	1750	3150	3800	0

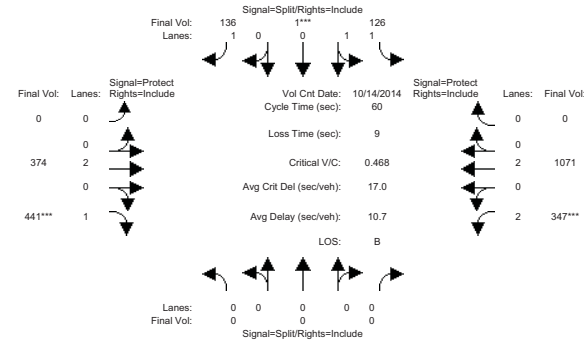
Capacity Analysis Module:	Vol/Sat:											
Vol/Sat:	0.00	0.00	0.00	0.04	0.04	0.08	0.00	0.10	0.25	0.11	0.28	0.00
Crit Moves:	****											
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	28.5	28.5	12.5	41.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.21	0.21	0.46	0.00	0.20	0.53	0.53	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	21.8	21.8	23.7	0.0	9.2	11.7	21.9	4.3	0.0
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	21.8	21.8	23.7	0.0	9.2	11.7	21.9	4.3	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	2	2	4	0	3	9	6	6	0

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Bkpd+Proj AM

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	Count Date: 14 Oct 2014 << 7:15-8:15AM											
Base Vol:	0	0	0	126	1	136	0	374	441	347	1071	0
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	126	1	136	0	374	441	347	1071	0
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	126	1	136	0	374	441	347	1071	0
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	126	1	136	0	374	441	347	1071	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	126	1	136	0	374	441	347	1071	0
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	126	1	136	0	374	441	347	1071	0

Saturation Flow Module:	Sat/Lane:											
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.98	0.02	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3522	28	1750	0	3800	1750	3150	3800	0

Capacity Analysis Module:	Vol/Sat:											
Vol/Sat:	0.00	0.00	0.00	0.04	0.04	0.08	0.00	0.10	0.25	0.11	0.28	0.00
Crit Moves:	****											
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	28.5	28.5	12.5	41.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.21	0.21	0.47	0.00	0.21	0.53	0.53	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	21.8	21.8	23.8	0.0	9.2	11.7	22.0	4.3	0.0
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	21.8	21.8	23.8	0.0	9.2	11.7	22.0	4.3	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	2	2	4	0	3	9	6	6	0

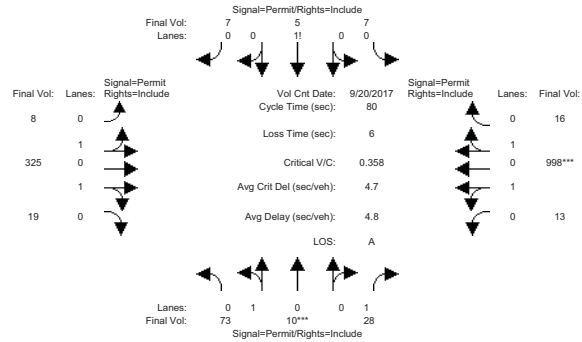
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	20 Sep 2017	<<							
Base Vol:	73	10	28	7	5	7	8	325	19	13	998	16
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:	73	10	28	7	5	7	8	325	19	13	998	16
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:	73	10	28	7	5	7	8	325	19	13	998	16
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:	73	10	28	7	5	7	8	325	19	13	998	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	10	28	7	5	7	8	325	19	13	998	16
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:	73	10	28	7	5	7	8	325	19	13	998	16

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.88	0.12	1.00	0.37	0.26	0.37	0.04	1.85	0.11	0.03	1.94	0.03
Final Sat.:	1583	217	1750	645	461	645	82	3324	194	46	3498	56

Capacity Analysis Module:	Vol/Sat:	0.05	0.05	0.02	0.01	0.01	0.01	0.10	0.10	0.10	0.29	0.29	0.29
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	10.3	10.3	10.3	10.3	10.3	10.3	63.7	63.7	63.7	63.7	63.7	63.7	
Volume/Cap:	0.36	0.36	0.12	0.08	0.08	0.08	0.12	0.12	0.12	0.36	0.36	0.36	
Delay/Veh:	32.8	32.8	31.1	30.9	30.9	30.9	1.9	1.9	1.9	2.4	2.4	2.4	
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:	32.8	32.8	31.1	30.9	30.9	30.9	1.9	1.9	1.9	2.4	2.4	2.4	
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A	
DesignQueue:	3	3	1	1	1	1	2	2	2	5	5	5	

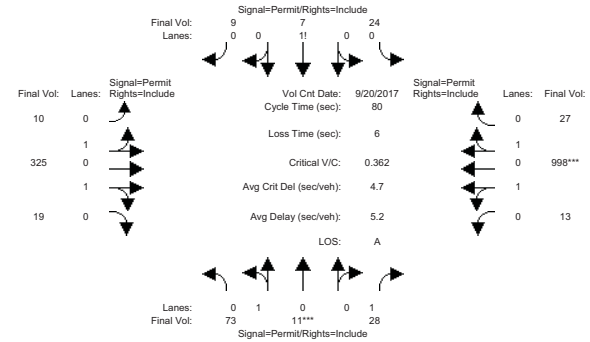
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	20 Sep 2017	<<							
Base Vol:	73	11	28	24	7	9	10	325	19	13	998	27
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:	73	11	28	24	7	9	10	325	19	13	998	27
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:	73	11	28	24	7	9	10	325	19	13	998	27
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:	73	11	28	24	7	9	10	325	19	13	998	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	11	28	24	7	9	10	325	19	13	998	27
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:	73	11	28	24	7	9	10	325	19	13	998	27

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.87	0.13	1.00	0.60	0.17	0.23	0.06	1.83	0.11	0.03	1.92	0.05
Final Sat.:	1564	236	1750	1050	306	394	102	3305	193	45	3461	94

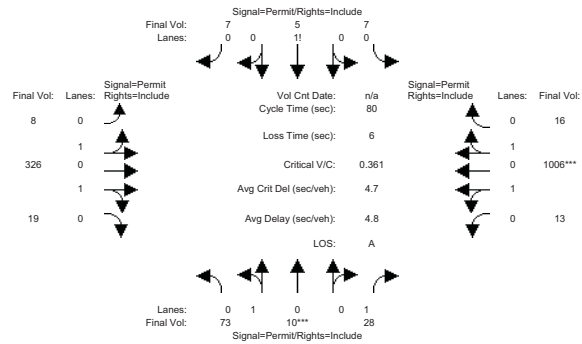
Capacity Analysis Module:	Vol/Sat:	0.05	0.05	0.02	0.02	0.02	0.02	0.10	0.10	0.10	0.29	0.29	0.29
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****	****
Green Time:	10.3	10.3	10.3	10.3	10.3	10.3	63.7	63.7	63.7	63.7	63.7	63.7	
Volume/Cap:	0.36	0.36	0.12	0.18	0.18	0.18	0.12	0.12	0.12	0.36	0.36	0.36	
Delay/Veh:	32.8	32.8	31.1	31.4	31.4	31.4	1.9	1.9	1.9	2.4	2.4	2.4	
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:	32.8	32.8	31.1	31.4	31.4	31.4	1.9	1.9	1.9	2.4	2.4	2.4	
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A	
DesignQueue:	3	3	1	2	2	2	2	2	2	5	5	5	

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Background AM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	73	10	28	7	5	7	8	326	19	13	1006	16
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:	73	10	28	7	5	7	8	326	19	13	1006	16
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:	73	10	28	7	5	7	8	326	19	13	1006	16
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:	73	10	28	7	5	7	8	326	19	13	1006	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	10	28	7	5	7	8	326	19	13	1006	16
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:	73	10	28	7	5	7	8	326	19	13	1006	16

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:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.88	0.12	1.00	0.37	0.26	0.37	0.04	1.85	0.11	0.03	1.94	0.03
Final Sat.:	1583	217	1750	645	461	645	82	3325	194	45	3499	56

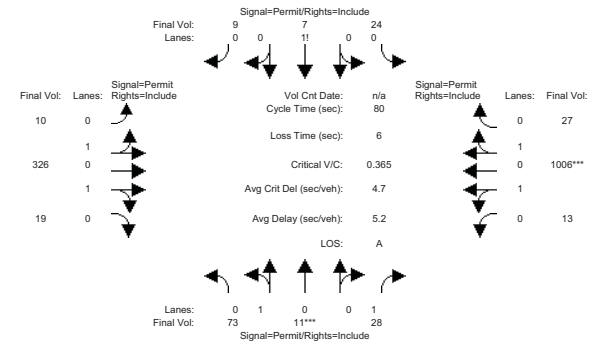
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.05	0.05	0.02	0.01	0.01	0.01	0.10	0.10	0.10	0.29	0.29	0.29
Crit Moves:	****			****			****			****		
Green Time:	10.2	10.2	10.2	10.2	10.2	10.2	63.8	63.8	63.8	63.8	63.8	63.8
Volume/Cap:	0.36	0.36	0.13	0.08	0.08	0.08	0.12	0.12	0.12	0.36	0.36	0.36
Delay/Veh:	32.9	32.9	31.2	30.9	30.9	30.9	1.8	1.8	1.8	2.4	2.4	2.4
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:	32.9	32.9	31.2	30.9	30.9	30.9	1.8	1.8	1.8	2.4	2.4	2.4
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	3	3	1	1	1	1	2	2	2	5	5	5

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Bkpd+Proj AM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	73	11	28	24	7	9	10	326	19	13	1006	27
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:	73	11	28	24	7	9	10	326	19	13	1006	27
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:	73	11	28	24	7	9	10	326	19	13	1006	27
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:	73	11	28	24	7	9	10	326	19	13	1006	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	11	28	24	7	9	10	326	19	13	1006	27
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:	73	11	28	24	7	9	10	326	19	13	1006	27

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:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.87	0.13	1.00	0.60	0.17	0.23	0.05	1.84	0.11	0.02	1.93	0.05
Final Sat.:	1564	236	1750	1050	306	394	101	3306	193	45	3462	93

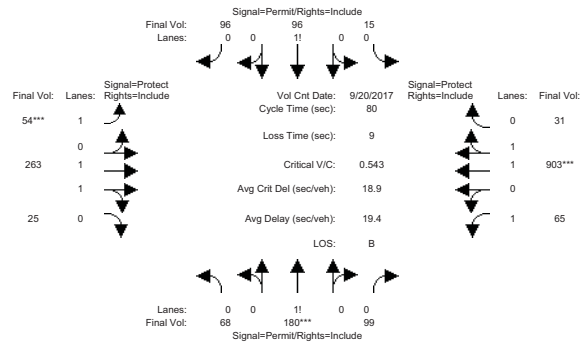
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.05	0.05	0.02	0.02	0.02	0.02	0.10	0.10	0.10	0.29	0.29	0.29
Crit Moves:	****			****			****			****		
Green Time:	10.2	10.2	10.2	10.2	10.2	10.2	63.8	63.8	63.8	63.8	63.8	63.8
Volume/Cap:	0.36	0.36	0.12	0.18	0.18	0.18	0.12	0.12	0.12	0.36	0.36	0.36
Delay/Veh:	32.9	32.9	31.2	31.5	31.5	31.5	1.8	1.8	1.8	2.4	2.4	2.4
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:	32.9	32.9	31.2	31.5	31.5	31.5	1.8	1.8	1.8	2.4	2.4	2.4
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	3	3	1	2	2	2	2	2	2	5	5	5

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing AM

Intersection #3790: Santa Clara/24th



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:	20 Sep 2017	<<							
Base Vol:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.20	0.52	0.28	0.07	0.47	0.46	1.00	1.82	0.18	1.00	1.93	0.07
Final Sat.:	343	908	499	127	812	812	1750	3379	321	1750	3577	123

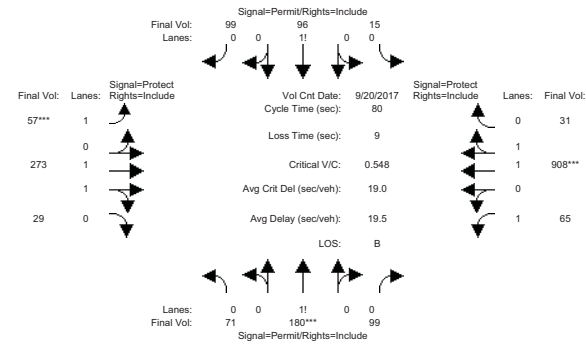
Capacity Analysis Module:	Vol/Sat:	0.20	0.20	0.20	0.12	0.12	0.12	0.03	0.08	0.08	0.04	0.25	0.25
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****	
Green Time:	28.2	28.2	28.2	28.2	28.2	28.2	7.0	25.2	25.2	17.6	35.8	35.8	
Volume/Cap:	0.56	0.56	0.56	0.34	0.34	0.34	0.35	0.25	0.25	0.17	0.56	0.56	
Delay/Veh:	22.2	22.2	22.2	19.4	19.4	19.4	35.8	20.5	20.5	25.4	16.7	16.7	
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:	22.2	22.2	22.2	19.4	19.4	19.4	35.8	20.5	20.5	25.4	16.7	16.7	
LOS by Move:	C	C	C	B	B	B	D	C	C	C	B	B	
DesignQueue:	11	11	11	7	7	7	2	5	5	2	13	13	

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Ex+Prj AM

Intersection #3790: Santa Clara/24th



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:	20 Sep 2017	<<							
Base Vol:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.20	0.52	0.28	0.07	0.46	0.47	1.00	1.80	0.20	1.00	1.93	0.07
Final Sat.:	355	900	495	125	800	825	1750	3344	355	1750	3578	122

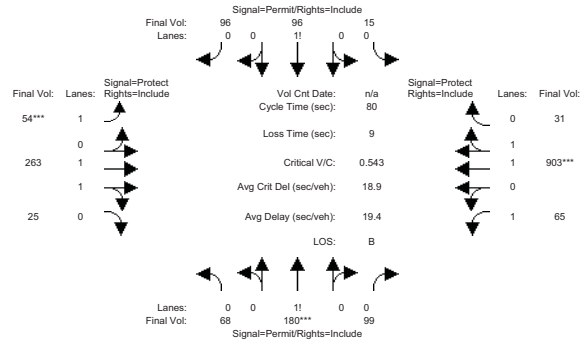
Capacity Analysis Module:	Vol/Sat:	0.20	0.20	0.20	0.12	0.12	0.12	0.03	0.08	0.08	0.04	0.25	0.25
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****	
Green Time:	28.2	28.2	28.2	28.2	28.2	28.2	7.0	25.2	25.2	17.6	35.8	35.8	
Volume/Cap:	0.57	0.57	0.57	0.34	0.34	0.34	0.37	0.26	0.26	0.17	0.57	0.57	
Delay/Veh:	22.2	22.2	22.2	19.4	19.4	19.4	36.0	20.6	20.6	25.5	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:	22.2	22.2	22.2	19.4	19.4	19.4	36.0	20.6	20.6	25.5	16.8	16.8	
LOS by Move:	C	C	C	B	B	B	D	C	C	C	B	B	
DesignQueue:	12	12	12	7	7	7	3	5	5	2	13	13	

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background AM

Intersection #3790: Santa Clara/24th



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:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	180	99	15	96	96	54	263	25	65	903	31
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:	68	180	99	15	96	96	54	263	25	65	903	31

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	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.20	0.52	0.28	0.07	0.47	0.46	1.00	1.82	0.18	1.00	1.93	0.07
Final Sat.:	343	908	499	127	812	812	1750	3379	321	1750	3577	123

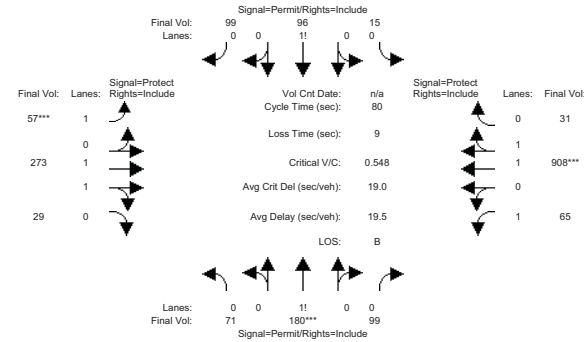
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.20	0.20	0.20	0.12	0.12	0.12	0.03	0.08	0.08	0.04	0.25	0.25
Crit Moves:	****			****			****			****		
Green Time:	28.2	28.2	28.2	28.2	28.2	28.2	7.0	25.2	25.2	17.6	35.8	35.8
Volume/Cap:	0.56	0.56	0.56	0.34	0.34	0.34	0.35	0.25	0.25	0.17	0.56	0.56
Delay/Veh:	22.2	22.2	22.2	19.4	19.4	19.4	35.8	20.5	20.5	25.4	16.7	16.7
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:	22.2	22.2	22.2	19.4	19.4	19.4	35.8	20.5	20.5	25.4	16.7	16.7
LOS by Move:	C	C	C	B	B	B	D	C	C	C	B	B
DesignQueue:	11	11	11	7	7	7	2	5	5	2	13	13

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkpd+Proj AM

Intersection #3790: Santa Clara/24th



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

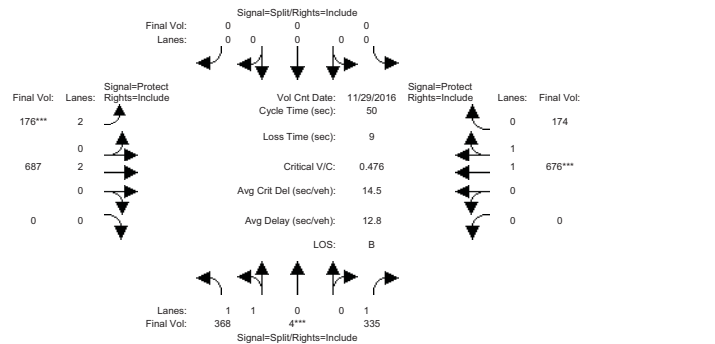
Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	71	180	99	15	96	99	57	273	29	65	908	31
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	180	99	15	96	99	57	273	29	65	908	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	180	99	15	96	99	57	273	29	65	908	31
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:	71	180	99	15	96	99	57	273	29	65	908	31

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	0.92	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.20	0.52	0.28	0.07	0.46	0.47	1.00	1.80	0.20	1.00	1.93	0.07
Final Sat.:	355	900	495	125	800	825	1750	3344	355	1750	3578	122

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.20	0.20	0.20	0.12	0.12	0.12	0.03	0.08	0.08	0.04	0.25	0.25
Crit Moves:	****			****			****			****		
Green Time:	28.2	28.2	28.2	28.2	28.2	28.2	7.0	25.2	25.2	17.6	35.8	35.8
Volume/Cap:	0.57	0.57	0.57	0.34	0.34	0.34	0.37	0.26	0.26	0.17	0.57	0.57
Delay/Veh:	22.2	22.2	22.2	19.4	19.4	19.4	36.0	20.6	20.6	25.5	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:	22.2	22.2	22.2	19.4	19.4	19.4	36.0	20.6	20.6	25.5	16.8	16.8
LOS by Move:	C	C	C	B	B	B	D	C	C	C	B	B
DesignQueue:	12	12	12	7	7	7	3	5	5	2	13	13

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

Intersection #3016: 101/ALUM ROCK



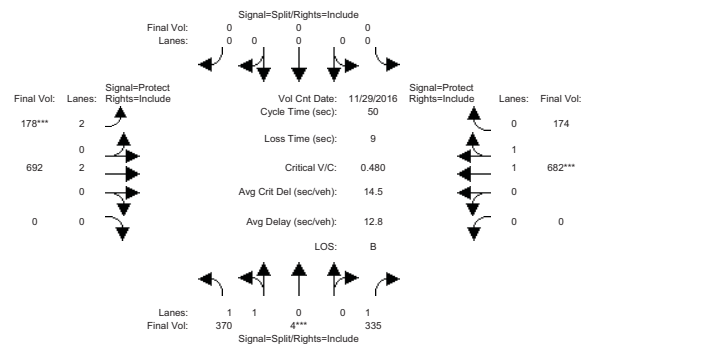
Approach: Movement:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 29 Nov 2016 << 4:45-5:45PM												
Base Vol:	368	4	335	0	0	0	176	687	0	0	676	174
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:	368	4	335	0	0	0	176	687	0	0	676	174
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:	368	4	335	0	0	0	176	687	0	0	676	174
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:	368	4	335	0	0	0	176	687	0	0	676	174
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	368	4	335	0	0	0	176	687	0	0	676	174
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:	368	4	335	0	0	0	176	687	0	0	676	174

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
	Adjustment:	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95
	Lanes:	1.98	0.02	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.58	0.42
	Final Sat.:	3512	38	1750	0	0	0	3150	3800	0	0	2942	757

Capacity Analysis Module:	Vol/Sat:	0.10	0.10	0.19	0.00	0.00	0.00	0.06	0.18	0.00	0.00	0.23	0.23
	Crit Moves:	****			****			****			****		
	Green Time:	15.5	15.5	15.5	0.0	0.0	0.0	7.0	25.5	0.0	0.0	18.5	18.5
	Volume/Cap:	0.34	0.34	0.62	0.00	0.00	0.00	0.40	0.35	0.00	0.00	0.62	0.62
	Delay/Veh:	13.5	13.5	17.0	0.0	0.0	0.0	20.2	7.4	0.0	0.0	13.7	13.7
	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:	13.5	13.5	17.0	0.0	0.0	0.0	20.2	7.4	0.0	0.0	13.7	13.7
LOS by Move:	B	B	B	A	A	A	C	A	A	A	B	B	B
Design Queue:	4	4	7	0	0	0	3	5	0	0	8	8	8

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

Intersection #3016: 101/ALUM ROCK



Approach: Movement:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	0	0	0	7	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 << 4:45-5:45PM												
Base Vol:	370	4	335	0	0	0	178	692	0	0	682	174
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:	370	4	335	0	0	0	178	692	0	0	682	174
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:	370	4	335	0	0	0	178	692	0	0	682	174
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:	370	4	335	0	0	0	178	692	0	0	682	174
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	370	4	335	0	0	0	178	692	0	0	682	174
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:	370	4	335	0	0	0	178	692	0	0	682	174

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
	Adjustment:	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	0.98	0.95
	Lanes:	1.98	0.02	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	1.58	0.42
	Final Sat.:	3512	38	1750	0	0	0	3150	3800	0	0	2947	752

Capacity Analysis Module:	Vol/Sat:	0.11	0.11	0.19	0.00	0.00	0.00	0.06	0.18	0.00	0.00	0.23	0.23
	Crit Moves:	****			****			****			****		
	Green Time:	15.4	15.4	15.4	0.0	0.0	0.0	7.0	25.6	0.0	0.0	18.6	18.6
	Volume/Cap:	0.34	0.34	0.62	0.00	0.00	0.00	0.40	0.36	0.00	0.00	0.62	0.62
	Delay/Veh:	13.6	13.6	17.1	0.0	0.0	0.0	20.2	7.4	0.0	0.0	13.7	13.7
	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:	13.6	13.6	17.1	0.0	0.0	0.0	20.2	7.4	0.0	0.0	13.7	13.7
LOS by Move:	B	B	B	A	A	A	C	A	A	A	B	B	B
Design Queue:	4	4	7	0	0	0	3	5	0	0	8	8	8

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

Roosevelt Park Low Income Housing - Mixed Use

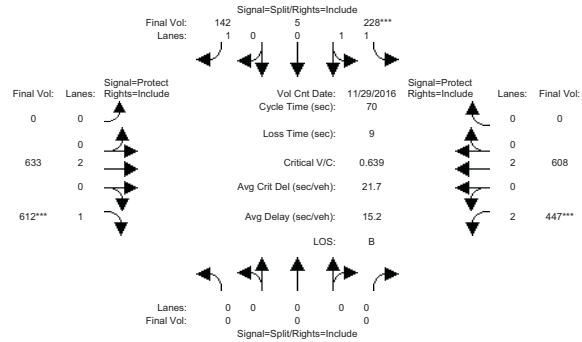
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

Existing PM

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	Count Date: 29 Nov 2016 << 4:45 - 5:45 PM											
Base Vol:	0	0	0	228	5	142	0	633	612	447	608	0
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	228	5	142	0	633	612	447	608	0
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	228	5	142	0	633	612	447	608	0
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	228	5	142	0	633	612	447	608	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	228	5	142	0	633	612	447	608	0
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	228	5	142	0	633	612	447	608	0

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.96	0.04	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3474	76	1750	0	3800	1750	3150	3800	0

Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.07	0.07	0.08	0.00	0.17	0.35	0.14	0.16	0.00
Crit Moves:	****											
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	36.3	36.3	14.7	51.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.46	0.46	0.57	0.00	0.32	0.67	0.67	0.22	0.00
Delay/Veh:	0.0	0.0	0.0	28.2	28.2	31.0	0.0	9.8	14.5	28.2	3.1	0.0
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	28.2	28.2	31.0	0.0	9.8	14.5	28.2	3.1	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	4	4	5	0	6	14	9	3	0

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

Roosevelt Park Low Income Housing - Mixed Use

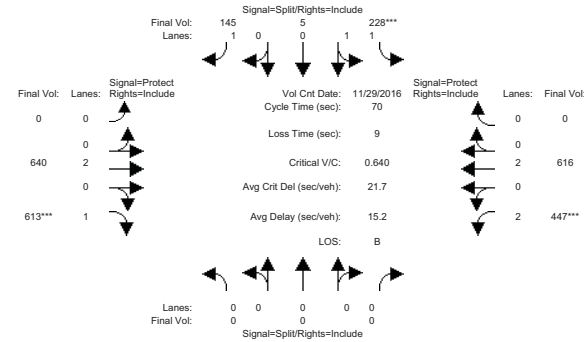
Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report

2000 HCM Operations (Future Volume Alternative)

Ex+Prjg PM

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	Count Date: 29 Nov 2016 << 4:45 - 5:45 PM											
Base Vol:	0	0	0	228	5	145	0	640	613	447	616	0
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	228	5	145	0	640	613	447	616	0
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	228	5	145	0	640	613	447	616	0
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	228	5	145	0	640	613	447	616	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	228	5	145	0	640	613	447	616	0
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	228	5	145	0	640	613	447	616	0

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	0.00	0.00	1.96	0.04	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3474	76	1750	0	3800	1750	3150	3800	0

Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.07	0.07	0.08	0.00	0.17	0.35	0.14	0.16	0.00
Crit Moves:	****											
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	36.3	36.3	14.7	51.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.46	0.46	0.58	0.00	0.32	0.68	0.68	0.22	0.00
Delay/Veh:	0.0	0.0	0.0	28.2	28.2	31.4	0.0	9.9	14.5	28.2	3.1	0.0
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	28.2	28.2	31.4	0.0	9.9	14.5	28.2	3.1	0.0
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A
DesignQueue:	0	0	0	4	4	5	0	6	14	9	3	0

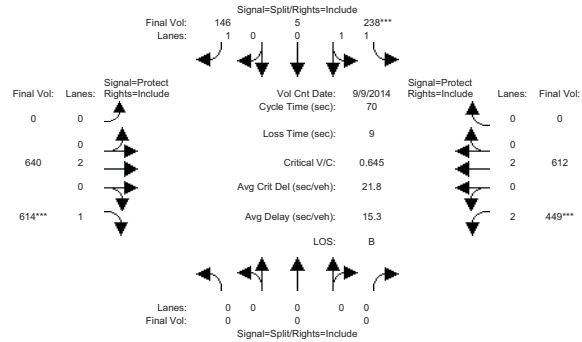
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

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

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	9 Sep 2014	<<	500-600PM
Base Vol:	0	0	0	238	5	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	238	5	146
Added Vol:	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0
Initial Fut:	0	0	0	238	5	146
User Adj:	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
PHF Volume:	0	0	0	238	5	146
Reduct Vol:	0	0	0	0	0	0
Reduced Vol:	0	0	0	238	5	146
PCE Adj:	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
Final Volume:	0	0	0	238	5	146

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92	
Lanes:	0.00	0.00	0.00	1.96	0.04	1.00	0.00	2.00	1.00	2.00	2.00	0.00	
Final Sat.:	0	0	0	3477	73	1750	0	3800	1750	3150	3800	0	

Capacity Analysis Module:	Vol/Sat:	0.00	0.00	0.00 <th>0.07</th> <th>0.07</th> <th>0.08 <th>0.00</th><th>0.17</th><th>0.35 <th>0.14</th><th>0.16</th><th>0.00 </th></th></th>	0.07	0.07	0.08 <th>0.00</th> <th>0.17</th> <th>0.35 <th>0.14</th><th>0.16</th><th>0.00 </th></th>	0.00	0.17	0.35 <th>0.14</th> <th>0.16</th> <th>0.00 </th>	0.14	0.16	0.00
Crit Moves:					****			****			****		
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	36.3	36.3	14.7	51.0	0.0	
Volume/Cap:	0.00	0.00	0.00	0.48	0.48	0.58	0.00	0.33	0.68	0.68	0.22	0.00	
Delay/Veh:	0.0	0.0	0.0	28.3	28.3	31.6	0.0	9.9	14.6	28.3	3.1	0.0	
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	28.3	28.3	31.6	0.0	9.9	14.6	28.3	3.1	0.0	
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A	
DesignQueue:	0	0	0	4	4	5	0	6	14	9	3	0	

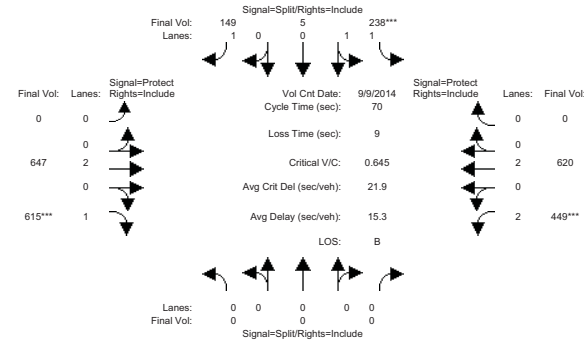
Note: Queue reported is the number of cars per lane.

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkgd+Proj PM

Intersection #3023: 101/SANTA CLARA



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	10	10	0	10	10	7	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module:	>>	Count	Date:	9 Sep 2014	<<	500-600PM
Base Vol:	0	0	0	238	5	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	238	5	149
Added Vol:	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0
Initial Fut:	0	0	0	238	5	149
User Adj:	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
PHF Volume:	0	0	0	238	5	149
Reduct Vol:	0	0	0	0	0	0
Reduced Vol:	0	0	0	238	5	149
PCE Adj:	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
Final Volume:	0	0	0	238	5	149

Saturation Flow Module:	Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.93	0.95	0.92	0.92	1.00	0.92	0.83	1.00	0.92	
Lanes:	0.00	0.00	0.00	1.96	0.04	1.00	0.00	2.00	1.00	2.00	2.00	0.00	
Final Sat.:	0	0	0	3477	73	1750	0	3800	1750	3150	3800	0	

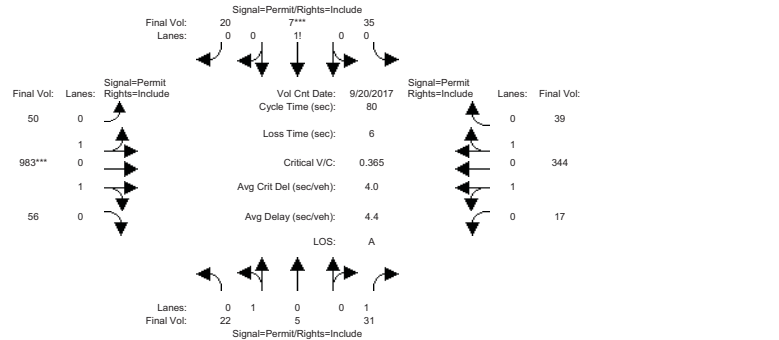
Capacity Analysis Module:	Vol/Sat:	0.00	0.00	0.00 <th>0.07</th> <th>0.07</th> <th>0.09 <th>0.00</th><th>0.17</th><th>0.35 <th>0.14</th><th>0.16</th><th>0.00 </th></th></th>	0.07	0.07	0.09 <th>0.00</th> <th>0.17</th> <th>0.35 <th>0.14</th><th>0.16</th><th>0.00 </th></th>	0.00	0.17	0.35 <th>0.14</th> <th>0.16</th> <th>0.00 </th>	0.14	0.16	0.00
Crit Moves:					****			****			****		
Green Time:	0.0	0.0	0.0	10.0	10.0	10.0	0.0	36.3	36.3	14.7	51.0	0.0	
Volume/Cap:	0.00	0.00	0.00	0.48	0.48	0.60	0.00	0.33	0.68	0.68	0.22	0.00	
Delay/Veh:	0.0	0.0	0.0	28.3	28.3	32.0	0.0	9.9	14.6	28.3	3.1	0.0	
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	28.3	28.3	32.0	0.0	9.9	14.6	28.3	3.1	0.0	
LOS by Move:	A	A	A	C	C	C	A	A	B	C	A	A	
DesignQueue:	0	0	0	4	4	6	0	6	14	9	3	0	

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing PM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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: 20 Sep 2017 <<

Base Vol:	22	5	31	35	7	20	50	983	56	17	344	39
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:	22	5	31	35	7	20	50	983	56	17	344	39
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:	22	5	31	35	7	20	50	983	56	17	344	39
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:	22	5	31	35	7	20	50	983	56	17	344	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	5	31	35	7	20	50	983	56	17	344	39
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:	22	5	31	35	7	20	50	983	56	17	344	39

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	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.81	0.19	1.00	0.57	0.11	0.32	0.09	1.81	0.10	0.08	1.72	0.20
Final Sat.:	1467	333	1750	988	198	565	165	3250	185	153	3096	351

Capacity Analysis Module:

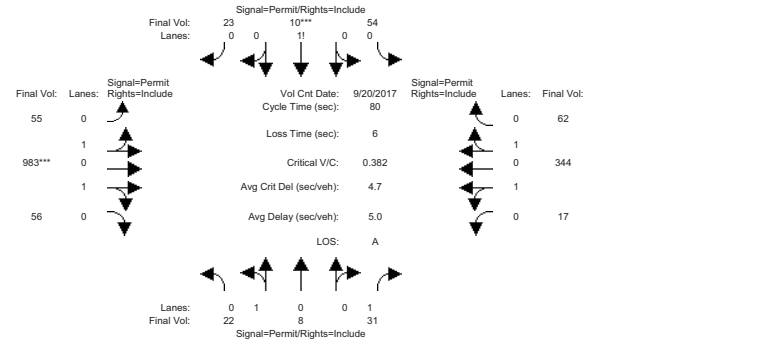
Vol/Sat:	0.02	0.02	0.02	0.04	0.04	0.04	0.30	0.30	0.30	0.11	0.11	0.11
Crit Moves:	****			****			****			****		
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	64.0	64.0	64.0	64.0	64.0	64.0
Volume/Cap:	0.12	0.12	0.14	0.28	0.28	0.28	0.38	0.38	0.38	0.14	0.14	0.14
Delay/Veh:	31.3	31.3	31.5	32.5	32.5	32.5	2.4	2.4	2.4	1.8	1.8	1.8
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:	31.3	31.3	31.5	32.5	32.5	32.5	2.4	2.4	2.4	1.8	1.8	1.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	1	1	1	3	3	3	6	6	6	2	2	2

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
 Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Ex+Prj PM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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: 20 Sep 2017 <<

Base Vol:	22	8	31	54	10	23	55	983	56	17	344	62
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:	22	8	31	54	10	23	55	983	56	17	344	62
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:	22	8	31	54	10	23	55	983	56	17	344	62
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:	22	8	31	54	10	23	55	983	56	17	344	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	8	31	54	10	23	55	983	56	17	344	62
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:	22	8	31	54	10	23	55	983	56	17	344	62

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	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.73	0.27	1.00	0.63	0.11	0.26	0.10	1.80	0.10	0.08	1.63	0.29
Final Sat.:	1320	480	1750	1086	201	463	181	3235	184	145	2928	528

Capacity Analysis Module:

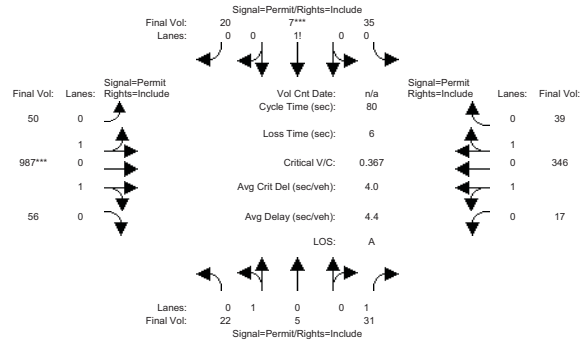
Vol/Sat:	0.02	0.02	0.02	0.05	0.05	0.05	0.30	0.30	0.30	0.12	0.12	0.12
Crit Moves:	****			****			****			****		
Green Time:	10.4	10.4	10.4	10.4	10.4	10.4	63.6	63.6	63.6	63.6	63.6	63.6
Volume/Cap:	0.13	0.13	0.14	0.38	0.38	0.38	0.38	0.38	0.38	0.15	0.15	0.15
Delay/Veh:	31.0	31.0	31.1	32.9	32.9	32.9	2.5	2.5	2.5	1.9	1.9	1.9
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:	31.0	31.0	31.1	32.9	32.9	32.9	2.5	2.5	2.5	1.9	1.9	1.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	1	1	1	4	4	4	6	6	6	2	2	2

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Background PM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	22	5	31	35	7	20	50	987	56	17	346	39
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:	22	5	31	35	7	20	50	987	56	17	346	39
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:	22	5	31	35	7	20	50	987	56	17	346	39
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:	22	5	31	35	7	20	50	987	56	17	346	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	5	31	35	7	20	50	987	56	17	346	39
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:	22	5	31	35	7	20	50	987	56	17	346	39

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:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.81	0.19	1.00	0.57	0.11	0.32	0.09	1.81	0.10	0.08	1.73	0.19
Final Sat.:	1467	333	1750	988	198	565	165	3251	184	152	3099	349

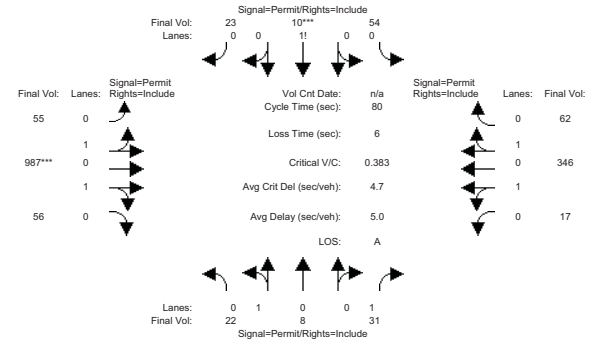
Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.02	0.02	0.02	0.04	0.04	0.04	0.30	0.30	0.30	0.11	0.11	0.11
Crit Moves:	****			****			****			****		
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	64.0	64.0	64.0	64.0	64.0	64.0
Volume/Cap:	0.12	0.12	0.14	0.28	0.28	0.28	0.38	0.38	0.38	0.14	0.14	0.14
Delay/Veh:	31.3	31.3	31.5	32.5	32.5	32.5	2.4	2.4	2.4	1.8	1.8	1.8
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:	31.3	31.3	31.5	32.5	32.5	32.5	2.4	2.4	2.4	1.8	1.8	1.8
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	1	1	1	3	3	3	6	6	6	2	2	2

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Bkqd+Proj PM

Intersection #3789: Santa Clara/21st



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	10	10	10	10	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:	22	8	31	54	10	23	55	987	56	17	346	62
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:	22	8	31	54	10	23	55	987	56	17	346	62
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:	22	8	31	54	10	23	55	987	56	17	346	62
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:	22	8	31	54	10	23	55	987	56	17	346	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	8	31	54	10	23	55	987	56	17	346	62
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:	22	8	31	54	10	23	55	987	56	17	346	62

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:	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Lanes:	0.73	0.27	1.00	0.63	0.11	0.26	0.10	1.80	0.10	0.08	1.63	0.29
Final Sat.:	1320	480	1750	1086	201	463	180	3236	184	144	2931	525

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.02	0.02	0.02	0.05	0.05	0.05	0.31	0.31	0.31	0.12	0.12	0.12
Crit Moves:	****			****			****			****		
Green Time:	10.4	10.4	10.4	10.4	10.4	10.4	63.6	63.6	63.6	63.6	63.6	63.6
Volume/Cap:	0.13	0.13	0.14	0.38	0.38	0.38	0.38	0.38	0.38	0.15	0.15	0.15
Delay/Veh:	31.1	31.1	31.1	33.0	33.0	33.0	2.5	2.5	2.5	1.9	1.9	1.9
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:	31.1	31.1	31.1	33.0	33.0	33.0	2.5	2.5	2.5	1.9	1.9	1.9
LOS by Move:	C	C	C	C	C	C	A	A	A	A	A	A
DesignQueue:	1	1	1	4	4	4	6	6	6	2	2	2

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #3790: Santa Clara/24th

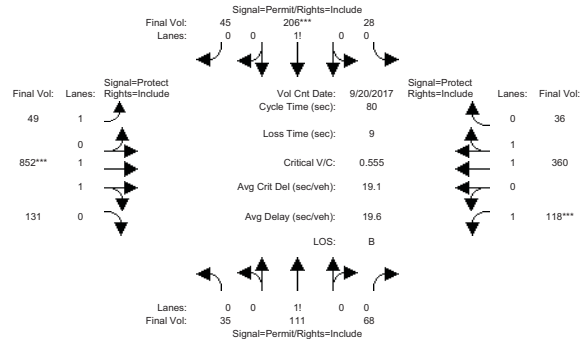


Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Min. Green and Y+R values for each approach.

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Volume Module data such as Base Vol, Growth Adj, Initial Bse, etc.

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat values.

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Capacity Analysis Module data such as Vol/Sat, Crit Moves, Green Time, etc.

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

Roosevelt Park Low Income Housing - Mixed Use

Hexagon Transportation Consultants, Inc.
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Ex*Prjg PM

Intersection #3790: Santa Clara/24th

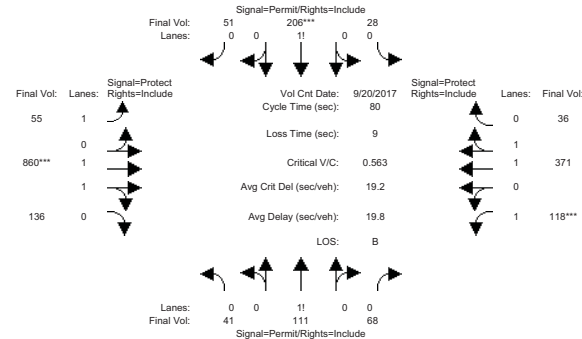


Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Min. Green and Y+R values for each approach.

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Volume Module data such as Base Vol, Growth Adj, Initial Bse, etc.

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat values.

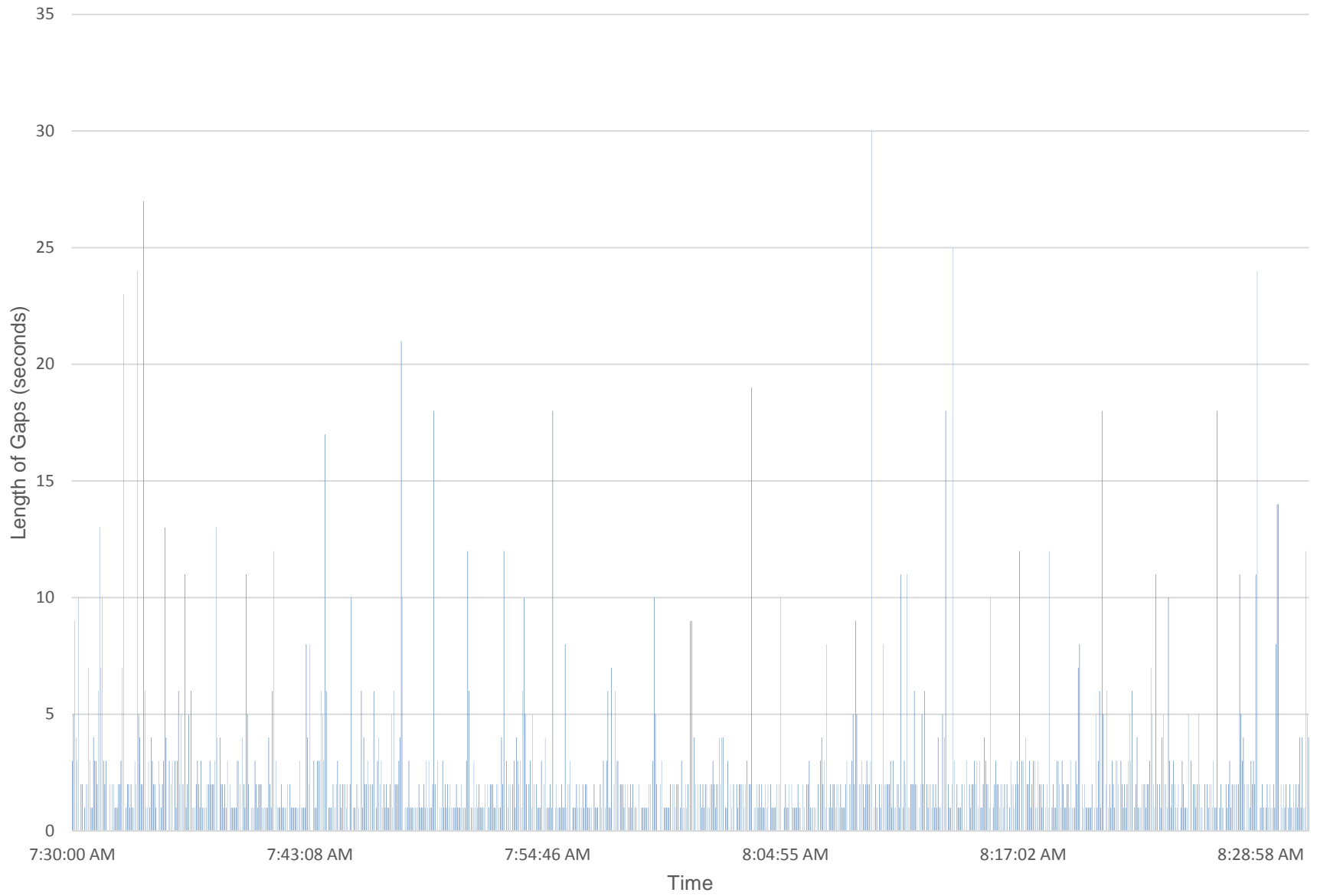
Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Capacity Analysis Module data such as Vol/Sat, Crit Moves, Green Time, etc.

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

Appendix E

Gap Analysis for East Bound Left-Turn Movement E Santa Clara Street/24th Street Intersection

Gap Lengths for EB Left-Turn Vehicles AM Peak Hour 7:30-8:30



Gap Lengths for EB Left-Turn Vehicles PM Peak Hour 5:00-6:00

