HEXAGON TRANSPORTATION CONSULTANTS, INC.

467 First Street Office Development

Transportation Impact Analysis

Prepared for:

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Executive Summary

This report presents the results of the traffic impact analysis conducted for the proposed office building at 467 First Street in Los Altos, California. The proposed office building is expected to be up to 20,000 square feet in size. The existing site is a combination of a vacant parcel and two parcels that contain existing buildings that would be removed. The buildings contain a pet grooming center (Barking Lot) and a restaurant (Burger Town). The project site is bordered by South San Antonio Road to the east, First Street to the west and some office/retail development to the north. Access to the project site would be provided by Lyell Street via an existing alley, one right-in/right-out driveway on S. San Antonio Road, and one driveway on First Street. The driveway on South San Antonio Road and the existing alley would provide access to the at-grade parking lot, while the driveway on First would provide access to the underground parking garage.

The potential traffic impacts related to the proposed project were evaluated following the standards and methodologies set forth by the City of Los Altos and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the county Congestion Management Program (CMP). However, because the project would generate fewer than 100 peak-hour trips, a CMP analysis is not required.

The traffic analysis is based on peak-hour levels of service for three signalized intersections and two unsignalized intersections. Peak-hour traffic signal warrants were examined for the unsignalized study intersections. Project impacts on other transportation facilities, such as bicycle facilities and transit service, were determined on the basis of engineering judgment.

Project Trip Generation

Project trip generation was estimated by applying to the size and uses of the development the appropriate trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, Ninth Edition. Based on ITE's trip generation rates for "General Office Building" uses, the proposed project is expected to generate a total of 31 trips during the AM peak hour and 30 trips during the PM peak hour. Since the proposed office development would replace existing uses on the site, the project would receive credit for trips generated by the existing uses. Accordingly, AM and PM peak hour counts were conducted at the existing driveways to determine the number of trips generated by the existing uses. Based on these counts, the existing uses on the site generated a total of 11 trips during the AM peak hour (6 inbound trips and 5 outbound trips) and 13 trips during the PM peak hour (6 inbound trips and 7 outbound trips). After receiving credit for trips generated by existing uses, the proposed office building is expected to generate a total of 20 net new trips during the AM peak hour and 17 net new trips during the PM peak hour.

Intersection Levels of Service

Table ES-1 summarizes the results of the intersection level of service analysis. The results of the level of service analysis indicate that all of the study intersections would operate at acceptable levels of service (LOS D or better) during all traffic study scenarios.

Site Access and Circulation

Vehicular access to the project site would be provided by Lyell Street via an existing alley, one right in/right out driveways on South San Antonio Road, and one full-access driveway on First Street. The driveway on South San Antonio Road and the existing alley would provide access to the at-grade parking lot, while the driveway on First Street would provide access to the gated underground parking garage.

The site plan shows the new driveway would connect to S. San Antonio Road approximately 170 feet north of the First Street/S. San Antonio Road intersection, which is about 20 feet north of the existing driveway that would be replaced. The alley and the S. San Antonio Road driveway are adequate to serve garbage trucks and emergency vehicles that would access the site. The site plan shows the driveways on S. San Antonio Road and First Street to be 20 feet wide.

According to the site plan, the at-grade and below-grade drive aisles measure at least 26 feet wide with 90-degree parking on both sides. The proposed drive aisle widths would provide sufficient room for vehicles to back out of the parking spaces. On-site circulation would be adequate.

Parking

Based on the City of Los Altos parking code requirements, the net 15,566 s.f. office building should provide a total of 52 parking spaces. Note that the net building area includes the parking reduction allowed by the City of Los Altos municipal code. Currently, the project proposes 16 at-grade spaces and 29 below-grade spaces, for a total of 45 spaces. Therefore, the project would have a parking deficit of 7 spaces. In order to address a parking shortage of approximately 15 percent, a parking management plan is necessary.

The City of Los Altos has requested that the project applicant commit to implementing a parking management plan to address the parking deficit. The suggested parking reduction measures are intended to decrease the on-site parking requirement for the project by at least 7 spaces. Table 9 in Chapter 7 contains a list of potential parking reduction measures and associated parking reduction estimates. The potential reductions in parking spaces as a result of each measure are only estimates and are based on professional judgment.

The project originally proposed some tandem parking on the basement level. However, staff did not support the use of tandem parking so it was removed. Reintroducing the tandem parking would add 4 parking spaces to the basement level garage. With the tandem parking, the project would have a parking deficit of only 3 spaces. Hexagon has found that tandem parking can be successfully implemented in an office setting. However, in order to promote effective use of the tandem parking spaces, the tandem spaces must be assigned parking and some degree of voluntary parking enforcement is necessary. If assigned, the small number of below-grade tandem spaces would not be expected to create any parking related issues.

Transit, Pedestrian, and Bike Facilities

The project proposes to eliminate the bus stop for Route 40 that currently is located along the project frontage on southbound S. San Antonio Road. Field observations show that the bus stop is not being used during the AM and PM peak commute periods. Since additional bus stops for Route 40 currently are located on both sides of S. San Antonio Road at Lyell Street, approximately 500 feet north of the project site, it can be concluded that eliminating the bus stop would not have a negative effect on bus service in the study area.

According to the site plan, the project proposes to retain the existing sidewalk along the project frontage on S. San Antonio Road, and add a landscape area and large canopy street trees. The site plan is consistent with the San Antonio Road Streetscape Improvement Plan, which includes landscape improvements along the project frontage on S. San Antonio Road.

The project proposes sidewalk improvements on First Street. Currently, the sidewalk on First Street does not line up well and narrows significantly approximately 160 feet northwest of S. San Antonio Road. The project would construct new sidewalk along its entire frontage on First Street, ranging from 12 feet wide near S. San Antonio Road, to 6 feet wide adjacent to the parallel street parking on First Street.

The project would provide bicycle parking in excess of VTA recommendations. The project is proposing short-term bicycle parking (bike racks) at-grade between the office building and the parking garage entrance on First Street, and long-term bicycle storage (bike lockers) in the basement level garage.

The project is not expected to have any significant impacts on the existing transit, pedestrian, or bicycle facilities in the study area.

Table ES-1
Intersection Level of Service Summary

			Existing		Existing Plus Project		Background		Background Plus Project				Cumulative					
													No Project		With Project			
	Peak Hour	Count Date	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	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Incr. In Crit. Delay (sec.)	Incr. In Crit. V/C
Signalized Intersections:																		
San Antonio Rd & Foothill Expwy /a/	AM	9/13/12	10.6	B	10.6	B	10.9	B	10.9	B	0.0	0.000	11.5	B	11.4	B	0.0	0.000
	PM	9/13/12	16.5	B	16.6	B	16.8	B	16.9	B	0.2	0.004	19.2	B	19.4	B	0.3	0.004
San Antonio Rd & First St/Cuesta Dr	AM	9/13/12	15.7	B	15.7	B	15.8	B	15.9	B	0.1	0.002	16.8	B	16.8	B	0.1	0.002
	PM	9/13/12	16.2	B	16.2	B	16.4	B	16.4	B	0.1	0.003	17.4	B	17.5	B	0.1	0.003
San Antonio Rd & Edith Av/Main St	AM	6/30/08	26.3	C	26.3	C	26.1	C	26.1	C	0.0	0.000	26.3	C	26.3	C	0.0	0.000
	PM	3/8/07	35.0	D	35.0	D	35.9	D	35.9	D	0.0	0.000	38.6	D	38.6	D	0.0	0.000
Unsignalized Intersections:																		
San Antonio Rd & Lyell St /b/	AM	9/13/12	18.5	C	18.5	C	19.3	C	19.3	C	--	--	22.9	C	23.0	C	--	--
	PM	9/13/12	22.9	C	23.0	C	25.4	D	25.5	D	--	--	31.6	D	31.7	D	--	--
First St & Lyell St /b/	AM	6/3/08	10.2	B	10.3	B	10.2	B	10.3	B	--	--	10.9	B	11.0	B	--	--
	PM	6/3/08	13.0	B	13.0	B	13.0	B	13.1	B	--	--	14.8	B	14.8	B	--	--

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.

1. Introduction

This report presents the results of the traffic impact analysis conducted for the proposed office building at 467 First Street in Los Altos, California. The proposed office building is expected to be up to 20,000 square feet in size. The existing site is a combination of a vacant parcel and two parcels that contain existing buildings that would be removed. The buildings contain a pet grooming center (Barking Lot) and a restaurant (Burger Town). The project site is bordered by South San Antonio Road to the east, First Street to the west and some office/retail development to the north. Access to the project site would be provided by Lyell Street via an existing alley, one right-in/right-out driveway on S. San Antonio Road, and one driveway on First Street. The driveway on South San Antonio Road and the existing alley would provide access to the at-grade parking lot, while the driveway on First Street would provide access to the gated underground parking garage. The project site and the surrounding study area are shown on Figure 1.

Scope of Study

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

The traffic analysis is based on peak-hour levels of service for three signalized intersections and two unsignalized intersections. The study intersections are identified below.

Study Intersections

1. S. San Antonio Road and Foothill Expressway (signalized CMP)
2. S. San Antonio Road and First Street/Cuesta Drive (signalized)
3. S. San Antonio Road and Lyell Street (Unsignalized)
4. S. San Antonio Road and W. Edith Avenue/Main Street (signalized)
5. First Street and Lyell Street (unsignalized)

Traffic conditions at the 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. 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 day. Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing conditions are represented by existing traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.

Figure 1

Site Location and Study Intersections

Scenario 2: *Existing Plus Project Conditions.* Existing Plus Project peak hour traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.

Scenario 3: *Background Conditions.* Background traffic conditions are represented by background traffic volumes on the existing roadway network. Background traffic volumes were estimated by adding to existing traffic counts the additional traffic generated by approved developments in the area.

Scenario 4: *Background Plus Project Conditions.* Project traffic conditions are represented by Background plus Project traffic volumes on the existing roadway network. Background plus Project traffic volumes (hereafter called *project traffic volumes*) were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.

Scenario 5: *Cumulative Conditions.* Cumulative conditions were represented by future traffic volumes, at the date of project occupancy, on the future roadway network. Traffic volumes under cumulative conditions were estimated by applying to the existing volumes an annual growth rate of 1.6 percent for four years, then adding trips from approved and pending developments, and finally adding project trips.

Methodology

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

Data Requirements

The data required for the analysis were obtained from new traffic counts, the City of Los Altos, previous traffic studies, and field observations. The following data were collected from these sources:

- existing traffic volumes and conditions
- intersection lane configurations
- signal timing and phasing
- approved/pending project trips

Analysis Methodologies and Level of Service Standards

Traffic conditions at the study locations 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. The study intersections were evaluated against the standards of the City of Los Altos.

Signalized Intersections

All of the signalized study intersections are located in the City of Los Altos and, therefore, are subject to the City of Los Altos Level of Service standards. The City of Los Altos level of service methodology is TRAFFIX, which is based on the *Highway Capacity Manual* (HCM) 2000 method for signalized intersections. TRAFFIX evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Since TRAFFIX also is the CMP-designated intersection level of service methodology, the City of Los Altos methodology employs

the CMP default values for the analysis parameters. The City's level of service standard for signalized intersections is LOS D or better. The correlation between average delay and level of service is shown in Table 1.

One of the study intersections is a CMP intersection. The CMP level of service methodology is the same as that used by the City of Los Altos, except that the CMP level of service standard for signalized intersections is LOS E or better. Since the City's level of service standard is more stringent than the CMP standard, the CMP intersection was analyzed according to the City's level of service policy.

Table 1
Signalized Intersection Level of Service Definitions Based on 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 lenghts, 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.

Unsignalized Intersections

Level of service at unsignalized intersections was based on the *2000 Highway Capacity Manual* (2000 HCM) method. TRAFFIX software is used to apply the 2000 HCM operations method for evaluation of conditions at unsignalized intersections. This method is applicable for both two-way and all-way stop-controlled intersections. For the unsignalized study intersections, the reported levels of service in this traffic study are based on the worst-movement approach delay at the intersection. The City's level of service standard for unsignalized intersections is LOS D or better. The delay and corresponding level of service at unsignalized, stop-controlled intersections is presented in Table 2.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Delay

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

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p17-2.

Signal Warrant Methodology

The level of service analysis at the unsignalized intersections is supplemented with an assessment of the need for signalization of the intersection. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the operating conditions at the intersections (i.e., level of service) and on the peak-hour volume signal warrant – Warrant #3 – described in the *2010 California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify installation of a traffic signal. The signal warrant evaluation is included in Chapter 7 of this report.

Report Organization

The remainder of this report is divided into six chapters. Chapter 2 describes existing conditions on the existing roadway network. Chapter 3 presents the intersection operations under existing plus project conditions and describes the method used to estimate project traffic. Chapter 4 discusses 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 when the project is expected to be fully occupied. Chapter 6 presents cumulative conditions. Chapter 7 describes non-level of service operational issues associated with the proposed project. Chapter 8 presents the conclusions of the traffic study.

2. Existing Conditions

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

Existing Roadway Network

Regional access to the project is provided via Interstate 280 (I-280) and Foothill Expressway. Local access to the project site is provided via San Antonio Road, First Street and Lyell Street. These facilities are described below.

I-280 is an eight-lane facility in the study area under the jurisdiction of Caltrans. In the project vicinity, I-280 has an interchange serving Los Altos at El Monte Avenue. I-280 is classified as a freeway in the north-south direction.

Foothill Expressway is a four-lane divided expressway that extends between Cupertino and Palo Alto through Los Altos. It has eight points of access within the Los Altos city limits including an interchange at I-280. The access point in the vicinity of the project site is at San Antonio Road.

San Antonio Road is a six-lane roadway north of El Camino Real, and a four-lane roadway south of El Camino Real. It is aligned in a mostly north-south orientation in the vicinity of the site. San Antonio Road extends northward from Foothill Expressway to US 101. San Antonio Road provides direct access to the project site.

First Street is a two-lane roadway that runs parallel to and east of Foothill Expressway between San Antonio Road to the east and W. Edith Avenue to the west. East of San Antonio Road it becomes Cuesta Drive, and north of W. Edith Avenue it becomes Los Altos Avenue. First Street provides direct access to the project site via one proposed driveway.

Lyell Street is a two-lane roadway that begins at First Street and terminates in a cul-de-sac in the neighborhood east of San Antonio Road. The intersection of Lyell Street and San Antonio Road is unsignalized with left-turn pockets located on both approaches on San Antonio Road. Lyell Street provides direct access to the project site via an existing alley.

Existing Bicycle and Pedestrian Facilities

The City first adopted its Bicycle Transportation Plan in 2002. The Plan was updated in 2011 to comply with Caltrans' Bicycle Transportation Account (BTA), which is a source of funding for bicycle facilities. The existing system consists of three classifications of bicycle facilities:

- Class I (bike path) provides an exclusive right-of-way for bicyclists and pedestrians separate from vehicular traffic and with a minimum number of vehicular crossings.

- Class II (bike lane) provides a designated section of the roadway for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross flows by pedestrians and motorists permitted.
- Class III (bike route) provides bicyclists with facility designated by signs or permanent markings that is shared by pedestrians and motorists.

The existing bicycle facilities near the project site are described below and are shown on Figure 2:

- San Antonio Road has Class II bicycle lanes from Foothill Road in the south to El Camino Real in the north. San Antonio Road is designated as a Class III bicycle facility from El Camino Real northward.
- Foothill Expressway has Class II bicycle lanes north of Edith Avenue, and is a designated Class III bicycle route south of Edith Avenue.
- Cuesta Drive is a designated Class III bicycle route between San Antonio Road and Springer Road.
- Lyell Street is classified as a neighborhood access route.

Pedestrian facilities within the study area are in the form of sidewalks, signalized crossings, and unsignalized crossings. Sidewalks are found along virtually all previously-described local roadways in the study area and along the commercial streets and collectors near the site. Crosswalks with pedestrian signal heads and push buttons are located at the signalized intersection of S. San Antonio Road and First Street/Cuesta Drive.

Existing Transit Service

Existing transit service to the study area is provided by the VTA. The *40 line* provides service between Foothill College in Los Altos Hills and Shoreline Boulevard in Mountain View via San Antonio Road, with 30-minute commute hour headways Monday through Saturday and 60-minute headway on Sundays. A bus stop is located along the project frontage on southbound S. San Antonio Road. Based on weekday field observations, not one person utilized the adjacent bus stop during either the AM peak period (7:00 – 9:00 AM) or PM peak period (4:00 – 6:00 PM) of the day. Bus stops also are located on both sides of S. San Antonio Road at Lyell Street.

Route 40 passes by the San Antonio Transit Center in Mountain View where passengers can transfer to other VTA services and the Marguerite shuttle operated by Stanford. From the San Antonio Transit Center, passengers can also walk about one-half mile to the San Antonio Caltrain station. Caltrain provides service between Gilroy, San Jose, and San Francisco during commute hours. Light Rail services operated by VTA are available at the Mountain View Transit Center. The Mountain View – Winchester Line runs from 4:50 AM to past midnight on weekdays and between 6:05 AM and midnight on weekends with various frequencies. The existing transit network in the study area is shown on Figure 3.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were determined by field observations. The existing intersection lane configurations are shown on Figure 4.

Existing Traffic Volumes

AM and PM peak hour traffic counts were collected in September 2012 for the study intersections of San Antonio Road & Lyell Street and San Antonio Road & First Street/Cuesta Drive. For the CMP intersection of San Antonio Road & Foothill Expressway, AM peak hour volumes were obtained from recent counts and PM peak hour traffic volumes were obtained from VTA Congestion Management Program (CMP). 2007 and 2008 traffic counts were used for the intersections of S. San Antonio Road & Edith/Main and First Street & Lyell Street. The peak-hour volumes described above are shown on Figure 5 and included in Appendix A.

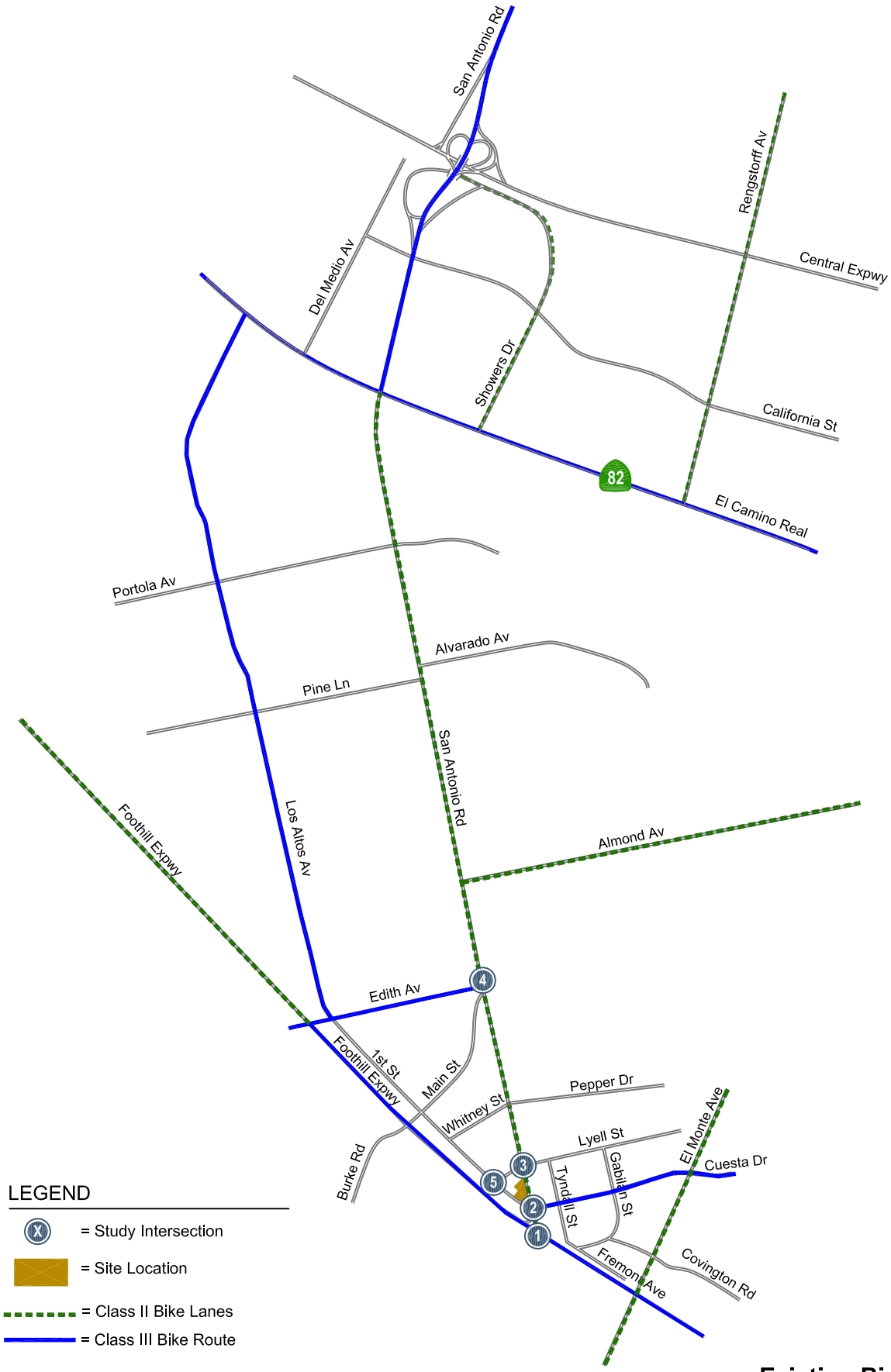


Figure 2
Existing Bicycle Facilities

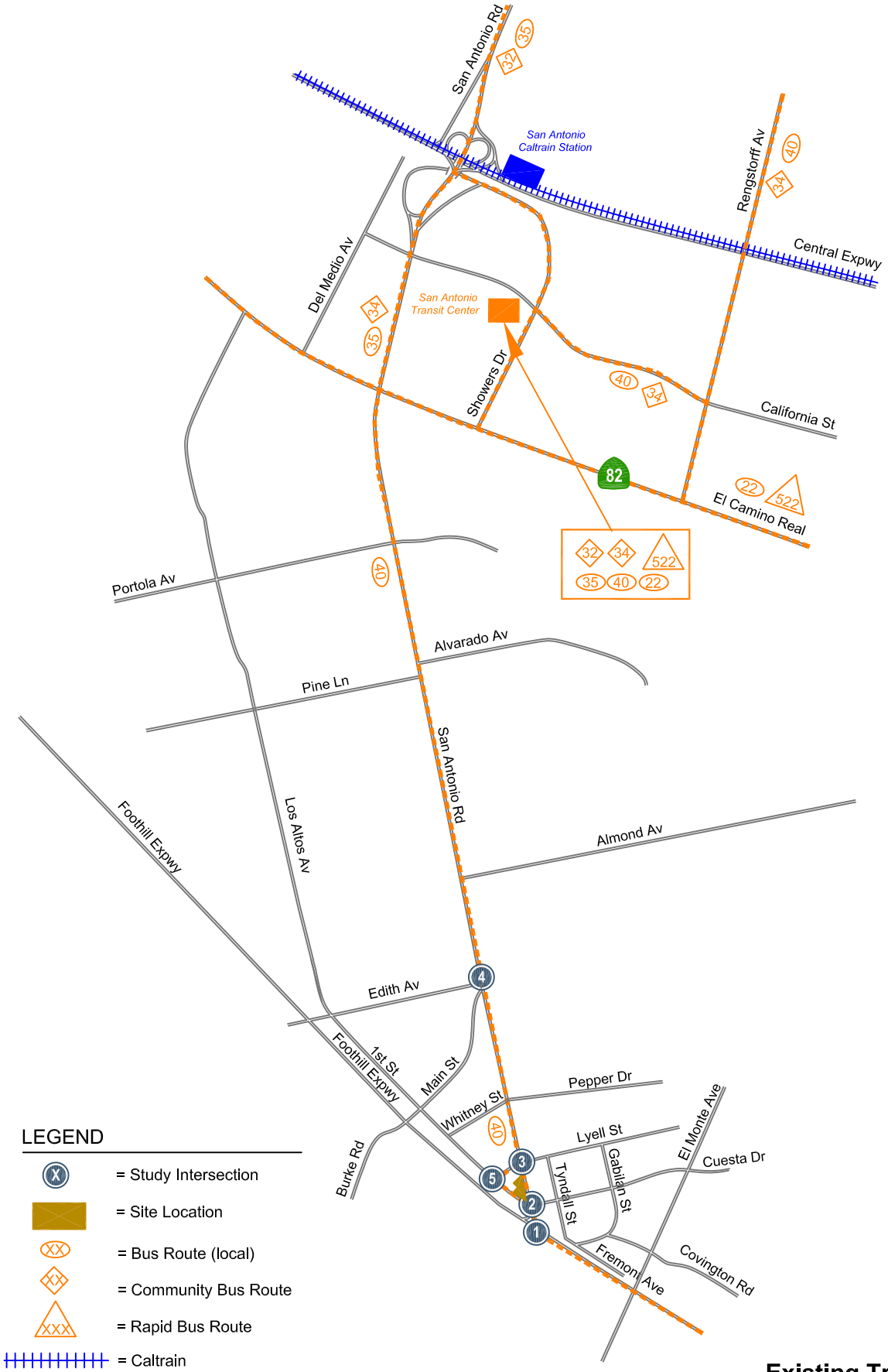


Figure 3
Existing Transit Services

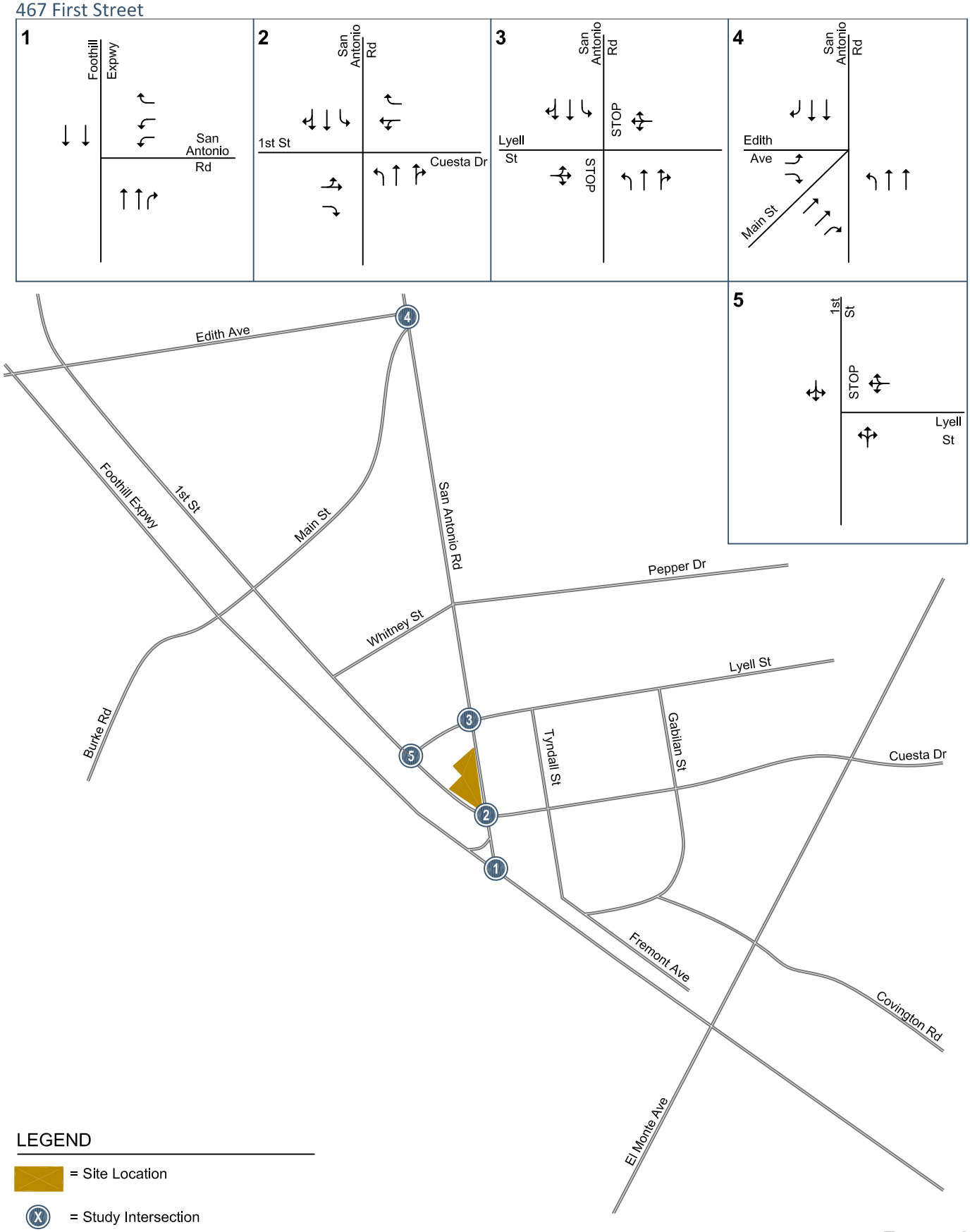
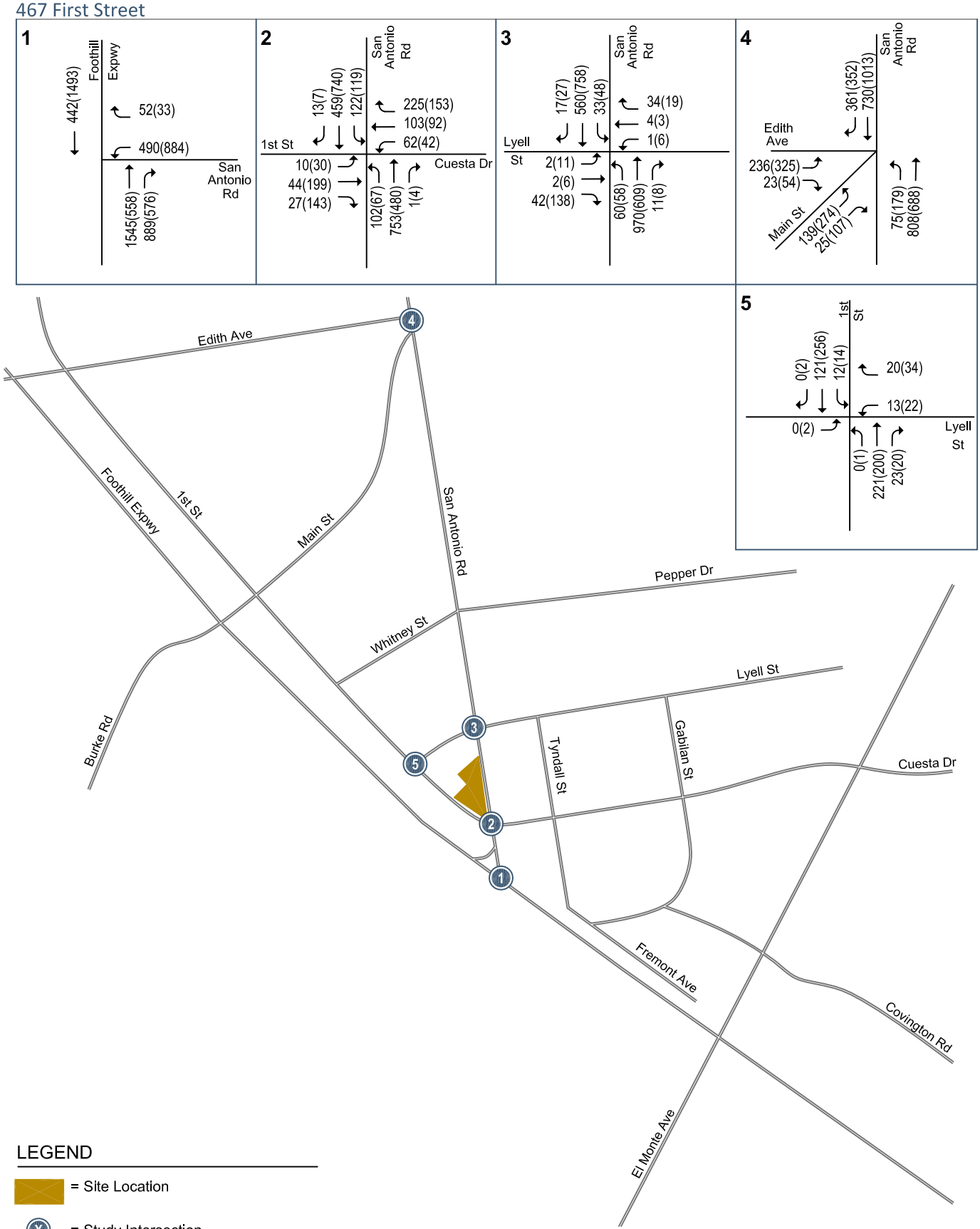


Figure 4

Existing Intersection Lane Configurations



LEGEND

= Site Location

= Study Intersection

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

Figure 5
Existing Traffic Volumes

Existing Intersection Levels of Service

The results of the level of service analysis under existing conditions show that all of the study intersections currently operate at an acceptable level of service (see Table 3). The detailed level of service calculation sheets are included in Appendix B.

Table 3
Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing Avg. Delay (sec.)	Existing LOS
Signalized Intersections:				
San Antonio Rd & Foothill Expwy /a/	AM	09/13/12	10.6	B
	PM	09/13/12	16.5	B
San Antonio Rd & First St/Cuesta Dr	AM	09/13/12	15.7	B
	PM	09/13/12	16.2	B
San Antonio Rd & Edith Av/Main St	AM	06/30/08	26.3	C
	PM	03/08/07	35.0	D
Unsignalized Intersections:				
San Antonio Rd & Lyell St /b/	AM	09/13/12	18.5	C
	PM	09/13/12	22.9	C
First St & Lyell St /b/	AM	06/03/08	10.2	B
	PM	06/03/08	13.0	B

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.

Observed Existing Traffic Conditions

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

Overall the study intersections operated adequately during both the AM and PM peak hours of traffic, and the level of service analysis appears to accurately reflect actual existing traffic conditions. However, field observations showed that some operational problems currently occur at the San Antonio Road and First Street/Cuesta Drive intersection during the PM peak period of traffic that are not demonstrated in the level of service calculations.

San Antonio Rd Between Foothill Expwy and First St/Cuesta Dr

During the PM peak hour, at times long vehicle queues were observed in the southbound direction on S. San Antonio Road because the signalized intersections of S. San Antonio Road and First Street/Cuesta Drive and S. San Antonio Road/ Foothill Expressway are closely spaced. Vehicles turning right onto S. San Antonio Road from First Street toward Foothill Expressway are often blocked by the southbound vehicle queues on S. San Antonio Road. Vehicles were observed to wait through a second signal cycle before clearing the intersection. Due to the close proximity of the

two intersections, the signals are coordinated. Despite the signal coordination and adequate intersection capacities, the southbound vehicles do not always clear both intersections in one signal cycle length. However, this issue occurs for only short periods of time during the PM peak hour of traffic and does not occur the remainder of the day.

While the vehicle queues that develop on S. San Antonio Road do not create any significant operational or safety issues, the vehicle delays that occur during the PM peak hour of traffic are an inconvenience to drivers nonetheless. Signal coordination between these two intersections on S. San Antonio Road should be reevaluated and timings should be adjusted if necessary.

3. Existing Plus Project Conditions

This chapter describes 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.

Project Description

Although the current site plan shows a building comprising a total of 17,000 square feet (s.f.), this traffic analysis is based on an office building size of up to 20,000 s.f. Access to the project would be provided via two driveways on San Antonio Road that would lead to an at-grade parking lot, and one driveway on First Street that would lead to an underground parking garage. The existing site is a combination of one vacant parcel and two additional parcels that contain existing buildings to be removed.

Transportation Network Under Existing Plus Project Conditions

The intersection lane configurations under existing plus project conditions were assumed to be the same as described under existing conditions.

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 further in the following sections.

Trip Generation

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. 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. Project trip generation was estimated by applying to the size and uses of the development the appropriate trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, Ninth Edition. Based on ITE's trip generation rates for "General

Office Building" uses, the proposed project is expected to generate a total of 31 trips during the AM peak hour and 30 trips during the PM peak hour. Since the proposed office development would replace existing uses on the site, the project would receive credit for trips generated by the existing uses. Accordingly, AM and PM peak hour counts were conducted at the existing driveways to determine the number of trips generated by the existing uses. Based on these counts, the existing uses on the site generated a total of 11 trips during the AM peak hour (6 inbound trips and 5 outbound trips) and 13 trips during the PM peak hour (6 inbound trips and 7 outbound trips). After receiving credit for trips generated by existing uses, the proposed office building is expected to generate a total of 20 net new trips during the AM peak hour and 17 net new trips during the PM peak hour. The project trip generation estimates are presented in Table 4.

Table 4
Project Trip Generation Estimates

		AM Peak Hour				PM Peak Hour			
Land Use	Size [1]	Pk-Hr Rate	In	Out	Total	Pk-Hr Rate	In	Out	Total
Proposed Uses:									
General Office Building [2]	20.0	1.56	27	4	31	1.49	5	25	30
Existing Uses:									
Barking Lot [3]			(6)	(5)	(11)		0	0	0
Burger Town [4]			0	0	0		(6)	(7)	(13)
Net Project Trips			**21**	**-1**	**20**		**-1**	**18**	**17**

Notes:
[1] Office size expressed in 1,000 square feet.
[2] Source: General Office Building (710) ITE Trip Generation, 9th Edition, 2012, average rates.
[3,4] Source: Driveway counts for the existing Barking Lot Pet Grooming center and Burger Town restaurant were counted on 07/12/2012 and 07/13/2012. Hours of operation of the Barking lot is 8:00 AM to 4:00 PM Tuesday through Saturday and hours of operation of the Burger Town restaurant is 10:30 AM to 8:00 PM Monday through Friday and from 11:00 AM to 4:00 PM on Saturdays.

Project Trip Distribution and Assignment

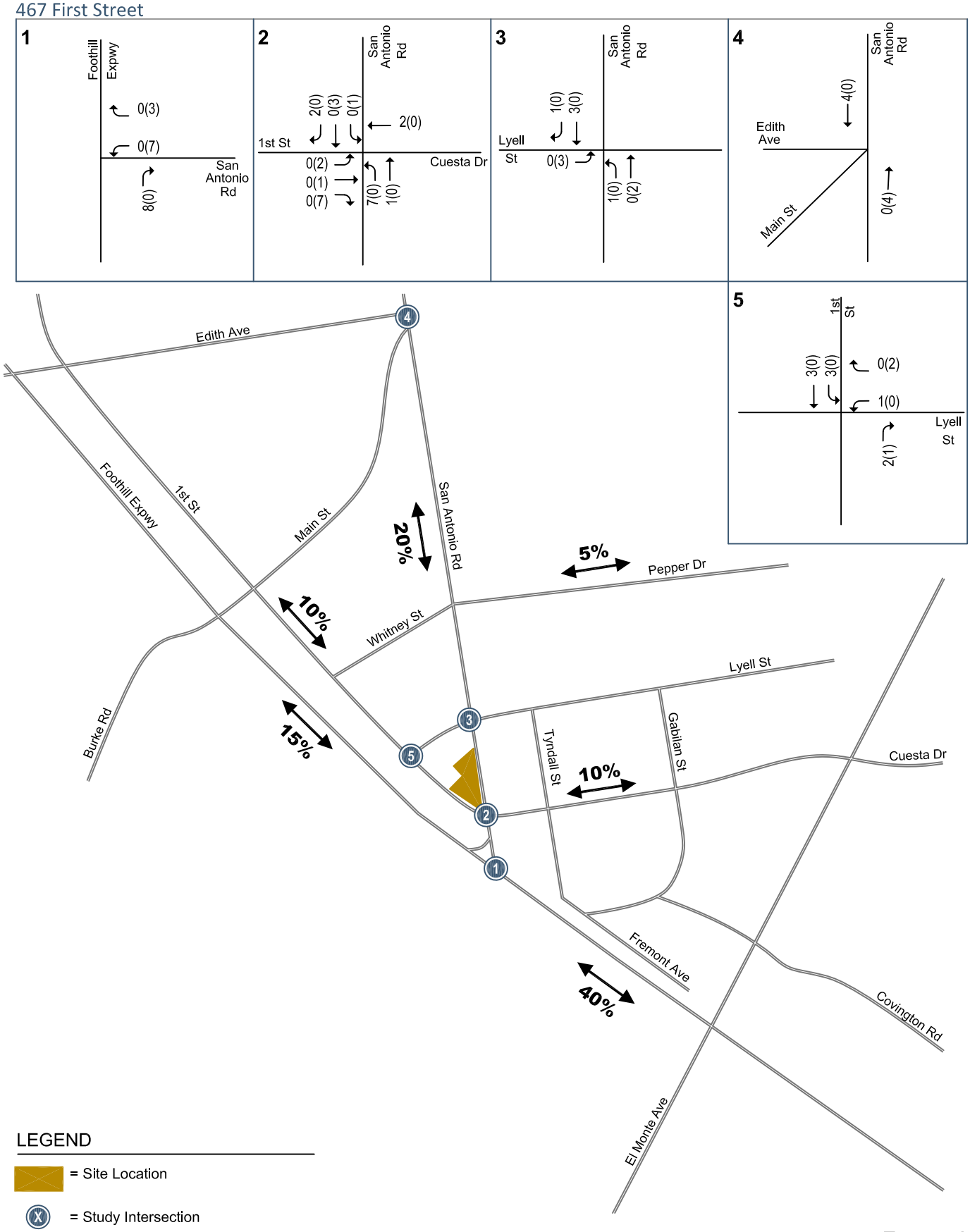
The trip distribution pattern for the proposed project was estimated based on existing travel patterns on the surrounding roadway system. The proposed project trip distribution pattern and net trip assignment are shown on Figure 6.

Existing Plus Project Traffic Volumes

Existing plus project traffic volumes were estimated by adding to existing traffic volumes the net project trips. The existing plus project traffic volumes are shown graphically on Figure 7.

Existing Plus Project Intersection Level of Service Analysis

The results of the level of service analysis under existing plus project conditions show that all of the study intersections would operate at an acceptable level of service (see Table 5). The detailed level of service calculation sheets are included in Appendix B.



LEGEND

= Site Location

= Study Intersection

XX(XX) = AM(PM) Peak-Hour Trips

Figure 6

Project Trip Distirbution Pattern and Trip Assignment

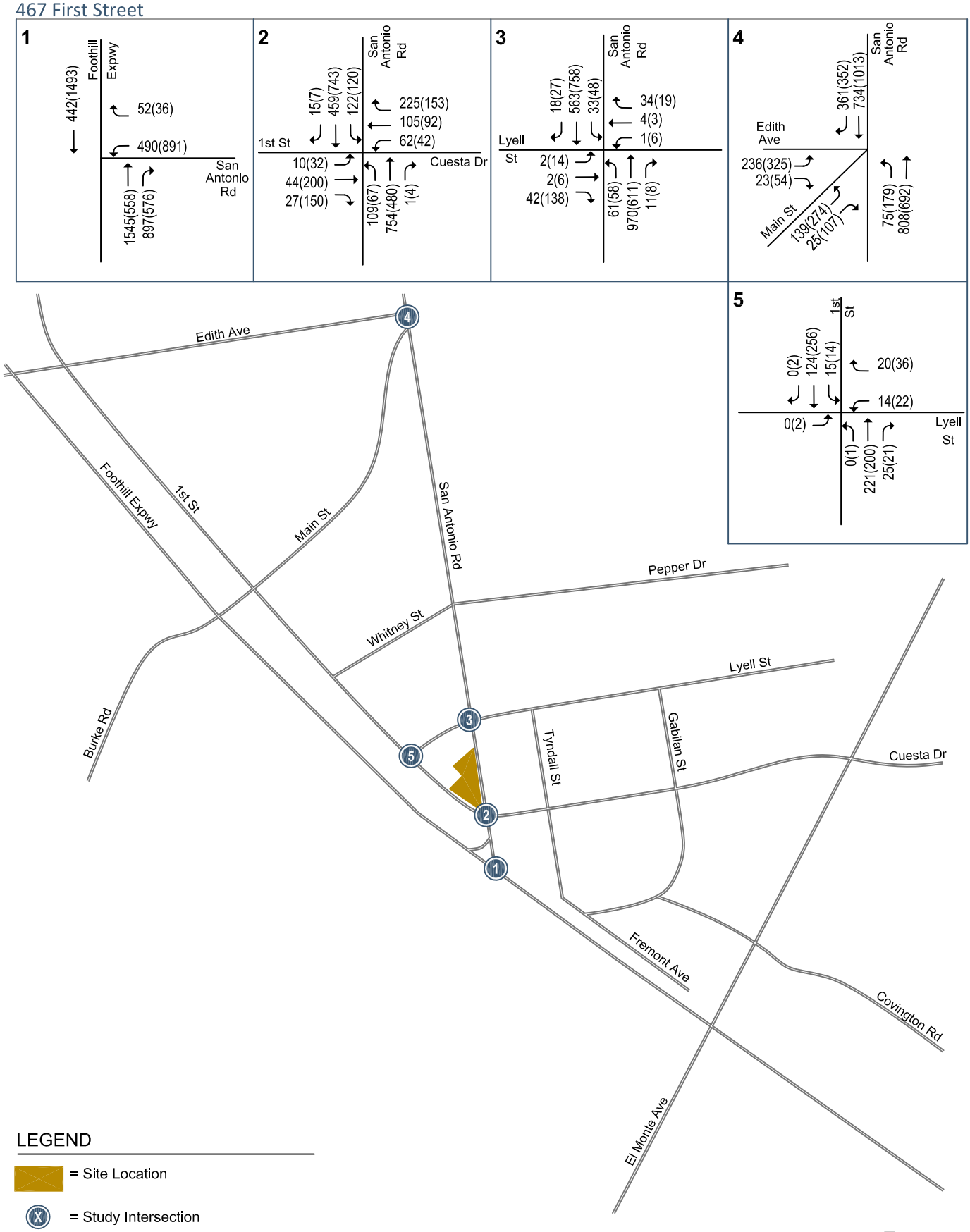


Figure 7
Existing Plus Project Traffic Volumes

Table 5
Existing Plus Project Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing Avg. Delay (sec.)	Existing LOS	Existing Plus Project Avg. Delay (sec.)	Existing Plus Project LOS
Signalized Intersections:						
San Antonio Rd & Foothill Expwy /a/	AM	09/13/12	10.6	B	10.6	B
	PM	09/13/12	16.5	B	16.6	B
San Antonio Rd & First St/Cuesta Dr	AM	09/13/12	15.7	B	15.7	B
	PM	09/13/12	16.2	B	16.2	B
San Antonio Rd & Edith Av/Main St	AM	06/30/08	26.3	C	26.3	C
	PM	03/08/07	35.0	D	35.0	D
Unsignalized Intersections:						
San Antonio Rd & Lyell St /b/	AM	09/13/12	18.5	C	19.3	C
	PM	09/13/12	22.9	C	25.4	D
First St & Lyell St /b/	AM	06/03/08	10.2	B	10.2	B
	PM	06/03/08	13.0	B	13.0	B

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.

4. Background Conditions

This chapter describes background traffic conditions. Background (baseline) conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

Background Transportation Network and Traffic Volumes

It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network.

Background peak-hour traffic volumes were estimated by adding to existing volumes the estimated traffic from the approved but not yet constructed developments. The latter are called approved trips, and were obtained or derived from information provided by the City of Los Altos.

As advised by the City staff, the following approved projects were considered under background conditions based on the City of Los Altos Downtown Opportunity Study.

- Los Altos Gardens Mixed-use – 18,000 s.f. of retail/office space and 46 condos (960 N. San Antonio Road)
- 100 Mayfield Avenue Residential Development – 258 residential units (Mountain View, CA)
- 240 Third Street Mixed-Use – 6,340 s.f. of retail space and 7 luxury condos
- The Terraces (formerly Pilgrim Haven) – 30-unit skilled nursing center, 16 memory-care units, 30-unit assisted living apartments, and 81 apartments (323 and 373 Pine Lane)
- 100 First Street – 48 condos (USPS Site)
- 1 Main Street (formerly known as 45 Main Street) – 18 room boutique hotel
- Los Altos Community Center – increase of approximately 130,000 s.f., including new pool facility and playgrounds
- 396 First Street Residential Development – 20 condos
- 2650 and 2656 El Camino Real Residential – 193 apartments (Mountain View, CA)
- 86 Third Street Mixed-Use – 20 residential units and 5,525 s.f. of office space
- The Village at San Antonio Center – 325 condos and a net increase of 188,400 s.f. of commercial/retail (San Antonio Shopping Center in Mountain View, CA)

- Sherwood Gateway Lennar Homes – 167 apartments, 38 townhomes, 6,720 s.f. of retail, and a 3,990 s.f. fitness club (El Camino Real e/o Sherwood Avenue)

Background traffic volumes are shown on Figure 8. The trips associated with the approved projects are shown in Appendix C.

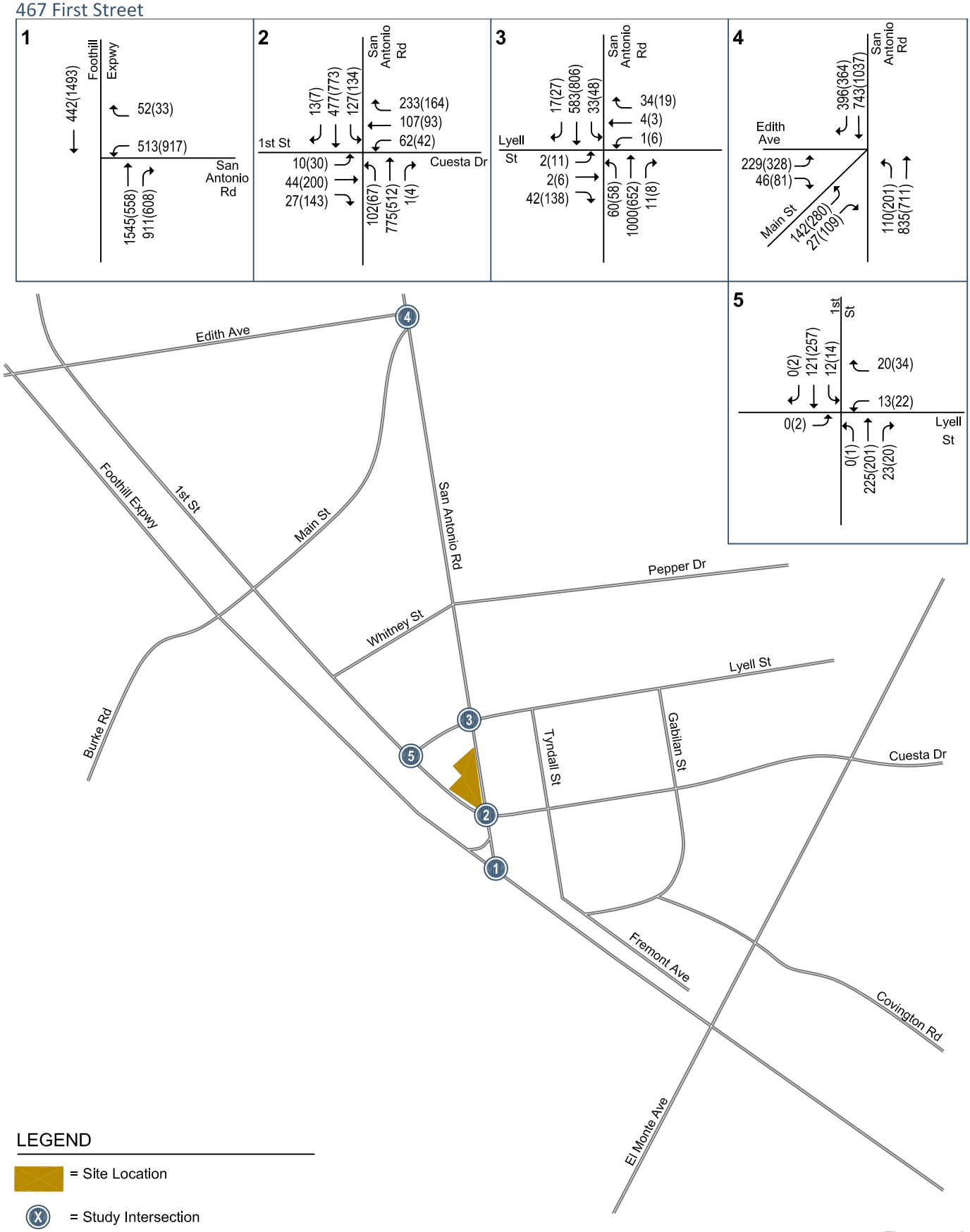
Background Intersection Levels of Service

The results of the level of service analysis under background conditions show that all of the study intersections would operate at an acceptable level of service (see Table 6). The detailed level of service calculation sheets are included in Appendix B.

Table 6
Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing Avg. Delay (sec.)	Existing LOS	Background Avg. Delay (sec.)	Background LOS
Signalized Intersections:						
San Antonio Rd & Foothill Expwy /a/	AM	09/13/12	10.6	B	10.9	B
	PM	09/13/12	16.5	B	16.8	B
San Antonio Rd & First St/Cuesta Dr	AM	09/13/12	15.7	B	15.8	B
	PM	09/13/12	16.2	B	16.4	B
San Antonio Rd & Edith Av/Main St	AM	06/30/08	26.3	C	26.1	C
	PM	03/08/07	35.0	D	35.9	D
Unsignalized Intersections:						
San Antonio Rd & Lyell St /b/	AM	09/13/12	18.5	C	19.3	C
	PM	09/13/12	22.9	C	25.4	D
First St & Lyell St /b/	AM	06/03/08	10.2	B	10.2	B
	PM	06/03/08	13.0	B	13.0	B

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.



LEGEND

= Site Location

= Study Intersection

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

Figure 8
Background Traffic Volumes

5. Background Plus Project Conditions

This chapter describes background plus project traffic conditions. Included are descriptions of the significance criteria that define an impact, estimates of project-generated traffic, identification of the any impacts, and descriptions of measures that are recommended to mitigate any project impacts. Background plus project conditions are represented by background traffic conditions with the addition of traffic generated by the project. The project would consist of up to 20,000 s.f. of office space.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts on signalized intersections are based on City of Los Altos Level of Service standards. Impacts to the unsignalized study intersections were identified based on engineering judgment.

City of Los Altos Definition of Significant Intersection LOS Impacts

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

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under project conditions, or
2. The level of service at the intersection is an unacceptable LOS E or LOS F under background conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds and causes the critical-movement volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection operations back to background (without the project) conditions or better.

One of the study intersections is a CMP intersection. The CMP level of service methodology is the same as that used by the City of Los Altos, except that the CMP level of service standard for signalized intersections is LOS E or better. Since the City's level of service standard is more stringent than the CMP standard, the CMP intersection was analyzed according to the City's level of service standards.

Unsignalized Intersection Analysis

Unlike signalized intersections, which typically represent constraint points for the roadway network, unsignalized intersections rarely limit the potential capacity of a roadway. The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay, movement traffic volumes, and intersection safety. For this reason, improvements to unsignalized intersections are frequently determined on the basis of professional judgment. The City of Los Altos does not apply significance thresholds to unsignalized intersections.

Signal Warrant

The level of service analysis at the unsignalized intersections was supplemented with an assessment of the need for signalization of the intersections. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the operating conditions at the intersections (i.e., level of service) and on the peak-hour volume signal warrant – Warrant #3 – described in the *2010 California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels would be sufficient to justify installation of a traffic signal. The signal warrant evaluation is included in Chapter 7 of this report.

Transportation Network Under Background + Project Conditions

The intersection lane configurations under background plus project conditions were assumed to be the same as described under existing conditions.

Project Trip Estimates

Based on the project trip generation estimates presented in Chapter 3, the proposed project would generate a total of 31 trips during the AM peak hour and 30 trips during the PM peak hour. After receiving credit for trips generated by existing uses, the proposed office building is expected to generate a total of 20 net new trips during the AM peak hour and 17 net new trips during the PM peak hour.

Background Plus Project Traffic Volumes

Background plus project traffic volumes were estimated by adding to background traffic volumes the net project trips. The background plus project traffic volumes are shown graphically on Figure 9.

Background Plus Project Intersection Level of Service Analysis

The results of the level of service analysis under background plus project conditions show that all of the study intersections would operate at an acceptable level of service (see Table 7). The detailed level of service calculation sheets are included in Appendix B.

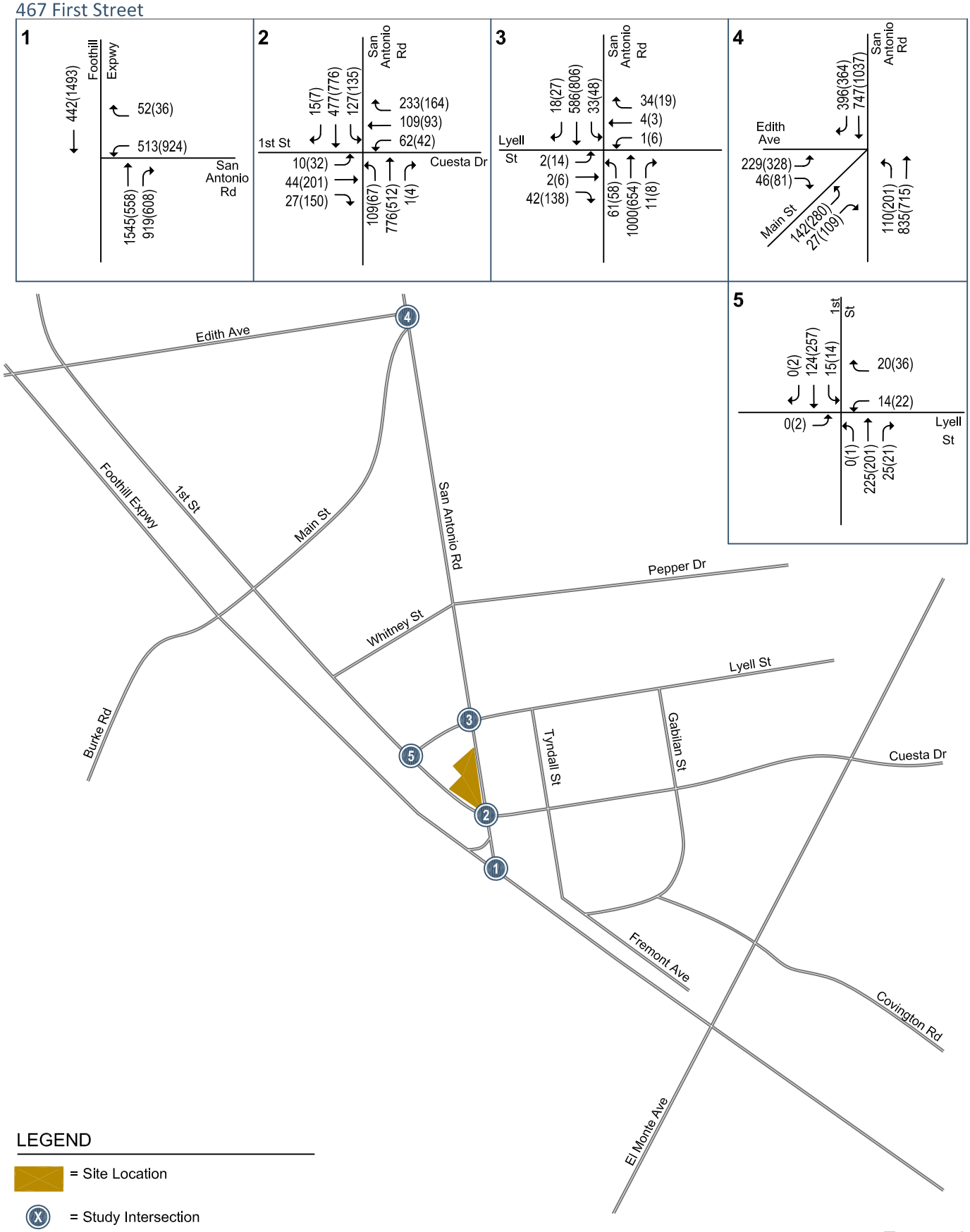


Figure 9
Background Plus Project Traffic Volumes

Table 7
Background Plus Project Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing Avg. Delay (sec.)	Existing LOS	Background Avg. Delay (sec.)	Background LOS	Background Plus Project Avg. Delay (sec.)	Background Plus Project LOS	Incr. In Delay	Incr. In Crit. V/C
Signalized Intersections:										
San Antonio Rd & Foothill Expwy /a/	AM	09/13/12	10.6	B	10.9	B	10.9	B	0.0	0.000
	PM	09/13/12	16.5	B	16.8	B	16.9	B	0.2	0.004
San Antonio Rd & First St/Cuesta Dr	AM	09/13/12	15.7	B	15.8	B	15.9	B	0.1	0.002
	PM	09/13/12	16.2	B	16.4	B	16.4	B	0.1	0.003
San Antonio Rd & Edith Av/Main St	AM	06/30/08	26.3	C	26.1	C	26.1	C	0.0	0.000
	PM	03/08/07	35.0	D	35.9	D	35.9	D	0.0	0.000
Unsignalized Intersections:										
San Antonio Rd & Lyell St /b/	AM	09/13/12	18.5	C	19.3	C	19.3	C	--	--
	PM	09/13/12	22.9	C	25.4	D	25.5	D	--	--
First St & Lyell St /b/	AM	06/03/08	10.2	B	10.2	B	10.3	B	--	--
	PM	06/03/08	13.0	B	13.0	B	13.1	B	--	--

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.

6. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. The purpose of analyzing cumulative conditions is to assess the traffic conditions that would occur at the time that the proposed development becomes fully occupied. The analysis of cumulative conditions is required by the CMP.

Roadway Network under Cumulative Conditions

The intersection lane configurations under cumulative conditions were assumed to be the same as described under existing conditions.

Cumulative Traffic Volumes

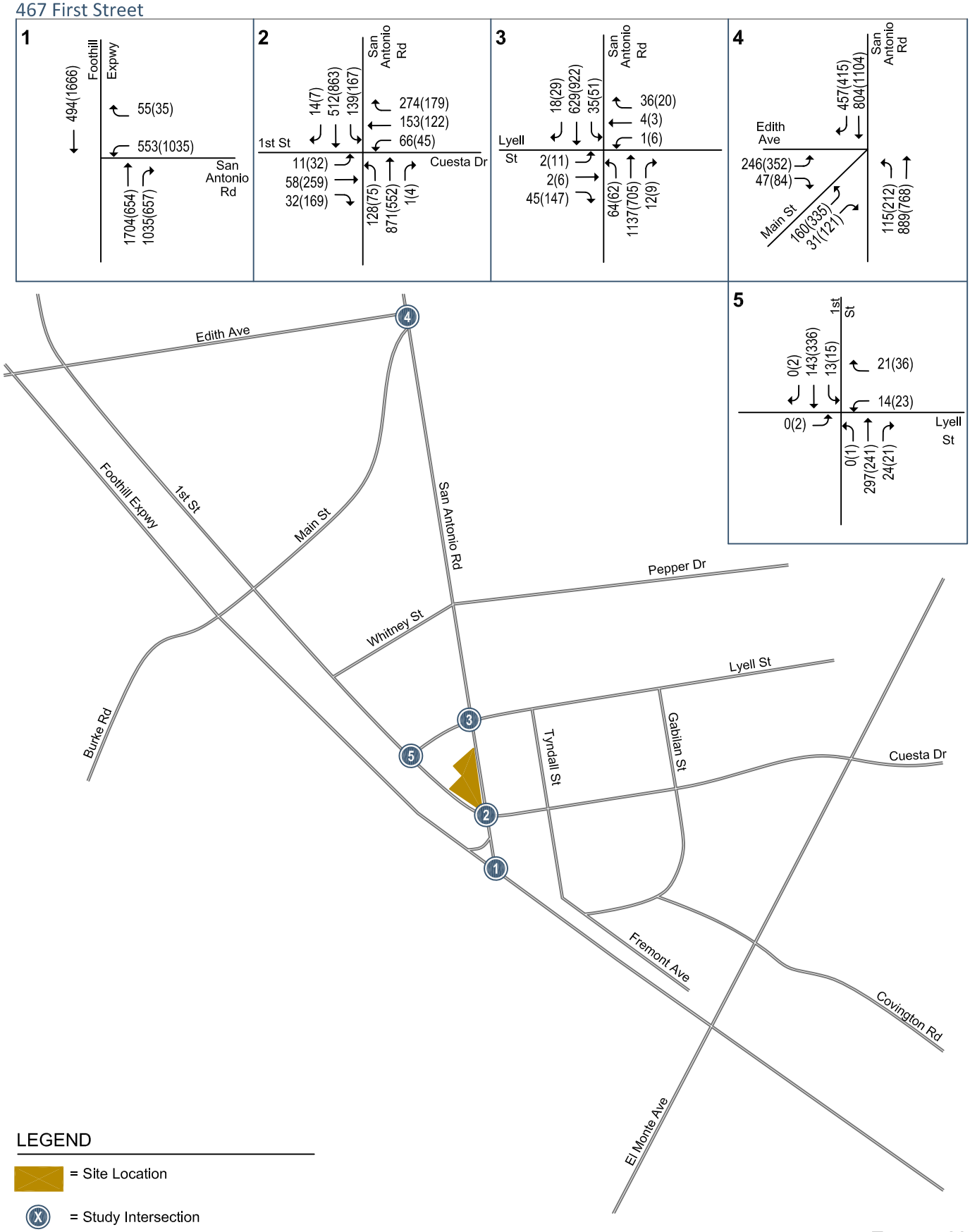
Traffic volumes under cumulative conditions were estimated by applying to the existing volumes an annual growth rate of 1.6 percent for four years, then adding the trips from developments that are both approved and pending approval, and finally adding the project-generated trips. The 1.6% growth rate was derived from the Valley Transportation Authority (VTA) CMP travel demand forecast model. This general growth rate has been used for other traffic studies prepared for projects in Los Altos. Based on the most recent data available, the following pending developments would produce trips in the study area:

- 400 Main Street – Mixed-Use Development (Office/Retail)
- 160 First Street – Safeway Redevelopment
- Downtown Parking Plaza Redevelopment

Cumulative traffic volumes without and with the project are shown on Figures 10 and 11, respectively. The trips associated with the pending projects are shown in Appendix C.

Intersection Levels of Service under Cumulative Conditions

The results of the level of service analysis under cumulative conditions show that all the study intersections would operate at an acceptable level of service (see Table 8). The level of service calculation sheets are included in Appendix B.



LEGEND

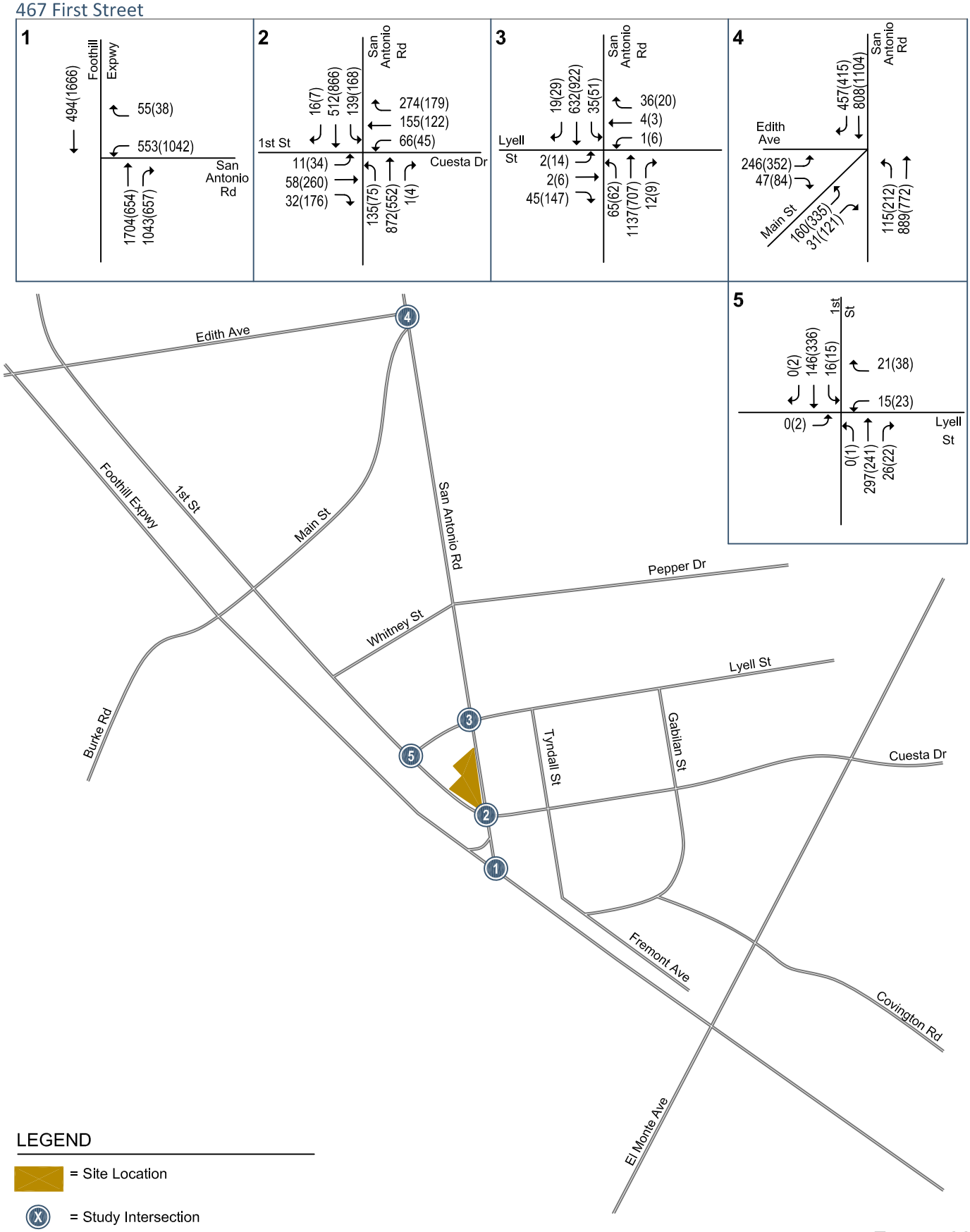
= Site Location

= Study Intersection

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

Figure 10

Cumulative Traffic Volumes Without the Project



LEGEND

= Site Location

= Study Intersection

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

Figure 11
Cumulative Traffic Volumes With the Project

Table 8
Cumulative Intersection Levels of Service

Intersection	Peak Hour	Cumulative Conditions: No Project Avg. Delay (sec.)	No Project LOS	With Project Avg. Delay (sec.)	With Project LOS	Incr. In Delay	Incr. In Crit. V/C
Signalized Intersections:							
San Antonio Rd & Foothill Expwy /a/	AM	11.5	B	11.4	B	0.00	0.000
	PM	19.2	B	19.4	B	0.30	0.004
San Antonio Rd & First St/Cuesta Dr	AM	16.8	B	16.8	B	0.10	0.002
	PM	17.4	B	17.5	B	0.10	0.003
San Antonio Rd & Edith Av/Main St	AM	26.3	C	26.3	C	0.00	0.000
	PM	38.6	D	38.6	D	0.00	0.000
Unsignalized Intersections:							
San Antonio Rd & Lyell St /b/	AM	22.9	C	23.0	C	--	--
	PM	31.6	D	31.7	D	--	--
First St & Lyell St /b/	AM	10.9	B	11.0	B	--	--
	PM	14.8	B	14.8	B	--	--

Notes:
/a/ CMP Intersection.
/b/ Delay and LOS reported for unsignalized intersection corresponds to the worst-movement approach at the intersection.

7. Other Transportation Issues

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

- Site access and on-site circulation
- Proposed changes to the existing alley
- Parking supply and Parking Management Plan
- Potential impacts to transit, pedestrian and bicycle facilities
- Signal warrant evaluation

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

Site Access and On-Site Circulation

Site access and on-site circulation were evaluated using commonly accepted transportation planning principles. The site review is based on the Hayes Group Architects site plan provided to Hexagon on August 16, 2013. Figure 12 shows the ground level plan. Figure 13 shows the basement level plan. Note that while the current site plan shows 17,000 s.f. of total building area, the analysis of traffic impacts conservatively assumes an office development size of up to 20,000 s.f. in order to present a worst-case traffic condition.

Site Access

Vehicular access to the project site would be provided by Lyell Street via an existing alley, one right in/right out driveway on S. San Antonio Road, and one full-access driveway on First Street. The driveway on S. San Antonio Road and the existing alley would provide access to the at-grade parking lot, while the driveway on First Street would provide access to the gated underground parking garage.

The site plan shows the new driveway would connect to S. San Antonio Road approximately 170 feet north of the First Street/S. San Antonio Road intersection, which is about 20 feet north of the existing driveway that would be replaced. The alley and the S. San Antonio Road driveway are adequate to serve garbage trucks and emergency vehicles that would access the site. The site plan shows the driveways on S. San Antonio Road and First Street to be 20 feet wide.

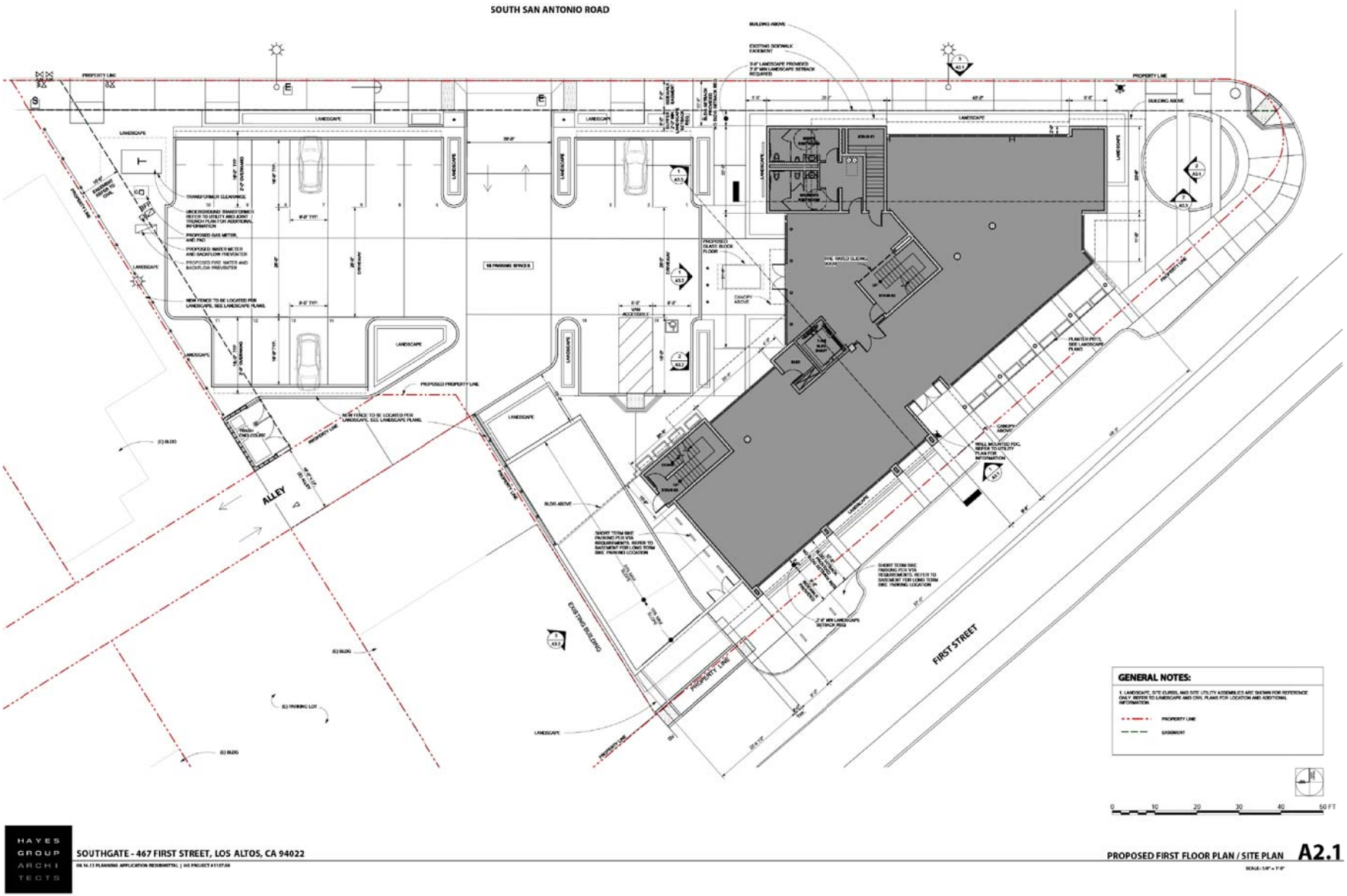


Figure 12

Site Plan - Ground Level

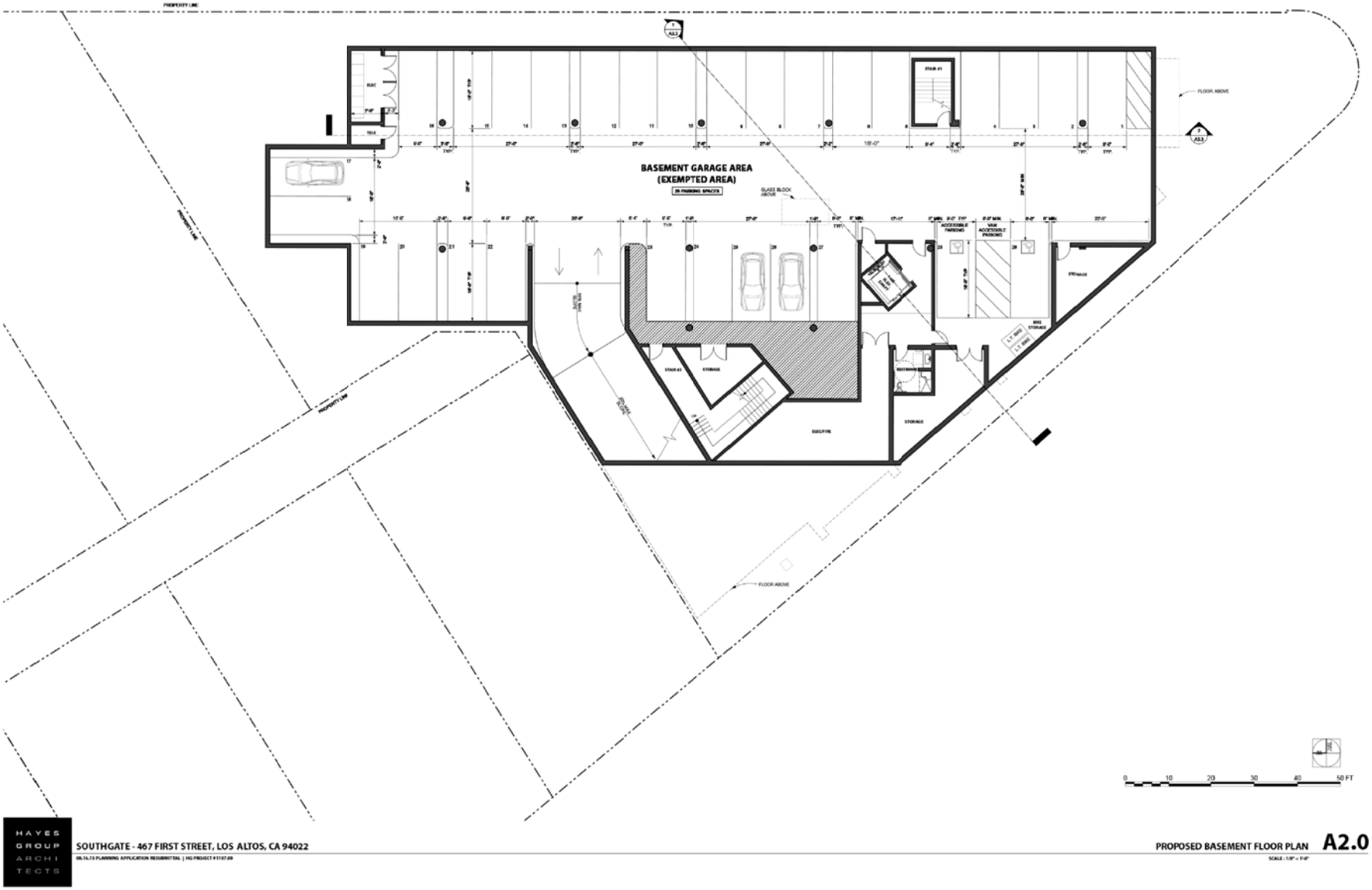


Figure 13

Site Plan - Basement Level

Sight Distance

According to the site plan, the project driveways would be free and clear of any obstructions, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on S. San Antonio Road and First Street. Appropriate visible and/or audible warning signals should be provided at the First Street driveway to alert pedestrians and bicyclists of vehicles exiting the parking garage. The parking garage grade transition and ramp break are flat to allow a level exit approach onto First Street for maximum visibility.

Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection, and provides drivers with the ability to exit a driveway or locate sufficient gaps in traffic. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For driveways on S. San Antonio Road, which has a posted speed limit of 35 mph, the Caltrans stopping sight distance is 300 feet (based on a design speed of 40 mph). Thus, a driver must be able to see 300 feet down S. San Antonio Road in order to stop and avoid a collision. For driveways on First Street, which has a speed limit of 25 mph, the Caltrans stopping sight distance is 200 feet (based on a design speed of 30 mph). Adequate sight distance would be provided at the project driveways.

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards. According to the site plan, the at-grade and below-grade drive aisles measure at least 26 feet wide with 90-degree parking on both sides. The proposed drive aisle widths would provide sufficient room for vehicles to back out of the parking spaces. Overall vehicular circulation within each parking lot would be adequate.

The basement level parking lot will be for employees only and will be gated. The ground level parking lot will be available for visitors only. Thus, office employees would use First Street to access the parking garage, while most visitors would access the surface lot directly from S. San Antonio Road. Frequent visitors familiar with the layout would also use the alley to access the site.

Proposed Changes to the Existing Alley

As previously discussed, the project proposes to change the configuration of an alley that currently runs through the project site. The alley begins at Lyell Street and runs south, parallel to First Street. The alley then bends to the east and connects to S. San Antonio Road. The path of the alley would remain relatively unchanged as a result of the project. However, the connection to S. San Antonio Road would be shifted approximately 20 feet north of its current location, essentially splitting the proposed at-grade parking lot.

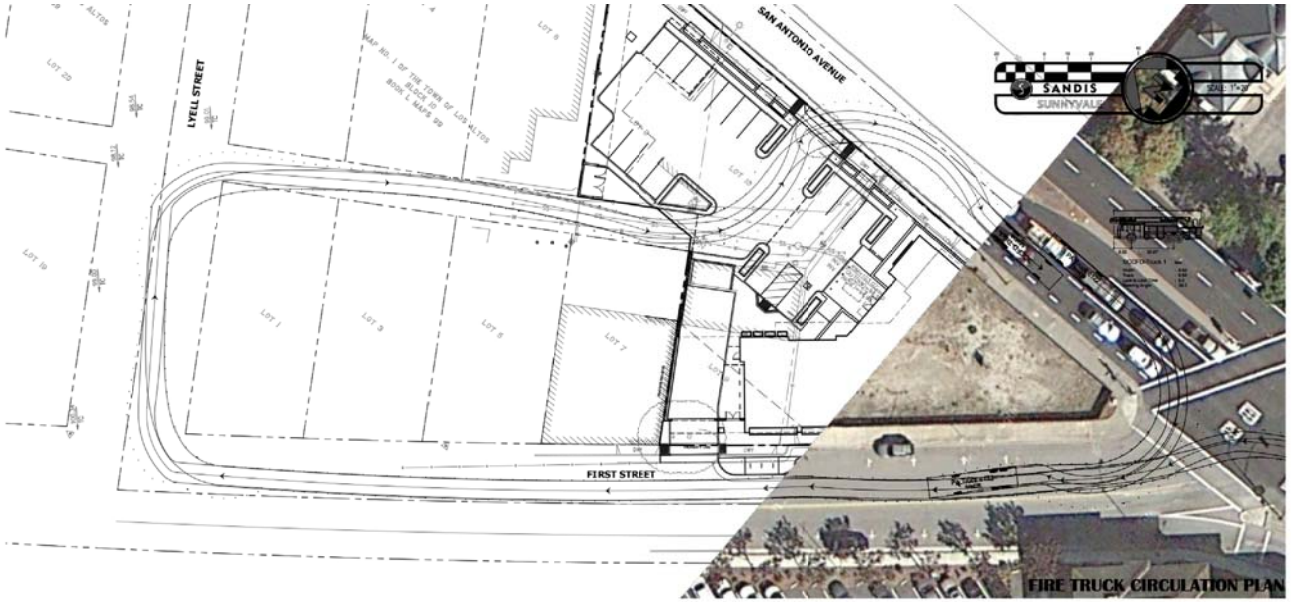
Truck Access and Circulation

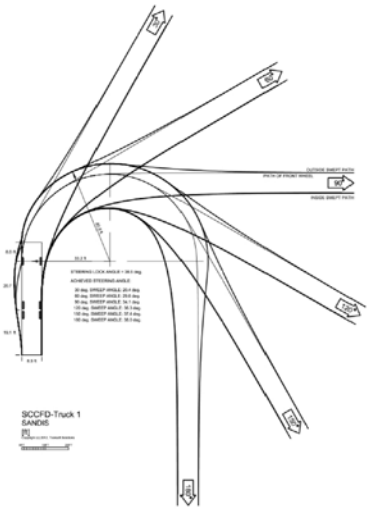
The alley was reviewed for truck access by the method of truck turning-movement templates. Access was reviewed for the truck type SU-30, which represents emergency vehicles, garbage trucks, and delivery vehicles. In addition, SANDIS utilized AutoTURN software to analyze the swept path of garbage trucks and fire trucks (SCCFD-Truck 1). The analyses show the reconfigured alley and project driveways would be adequate to accommodate these truck types (see Figure 14).

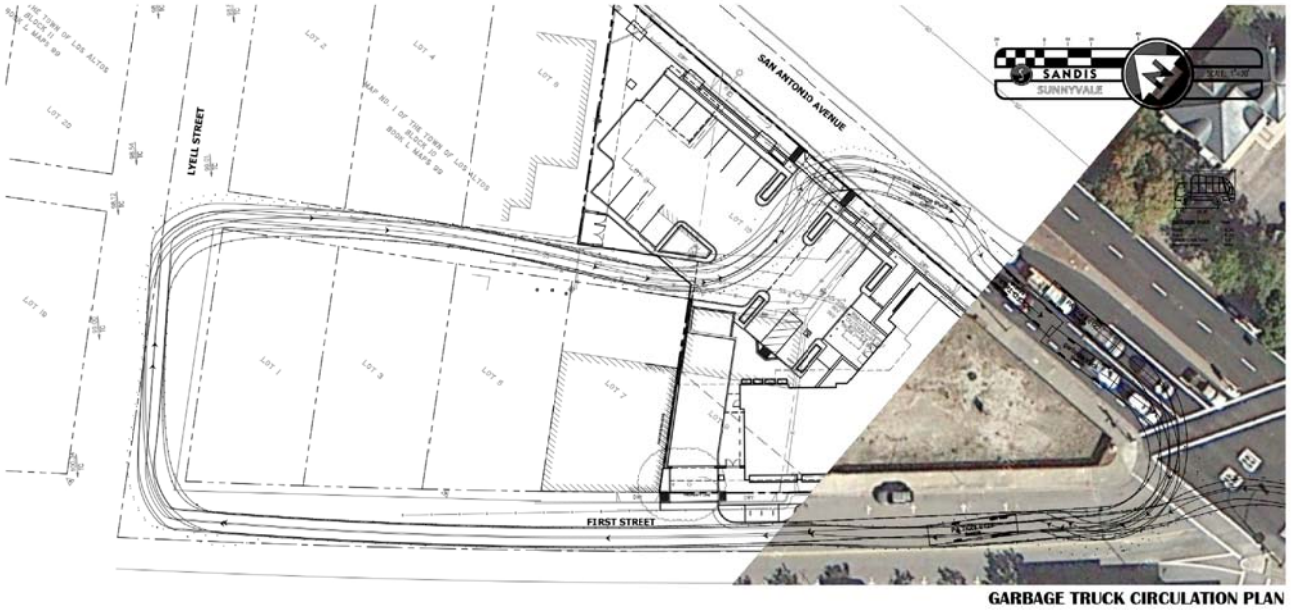
Parking Supply

According to the City of Los Altos zoning map, the project site is designated CD/R3 (Commercial Downtown/Multiple Family). The City requirement for parking supply for office uses within areas designated as CD/R3 are as follows:

- 1 parking space for each 300 feet of net floor area







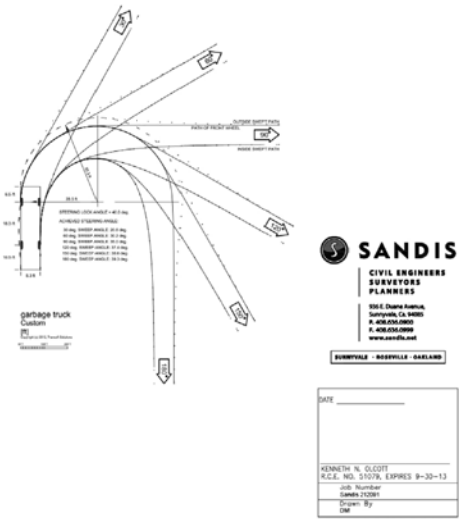


Figure 14
Truck Circulation Plan

Based on the City of Los Altos parking code requirements, the net 15,566 s.f. office building should provide a total of 52 parking spaces. Note that the net building area includes the parking reduction allowed by the City of Los Altos municipal code. Currently, the project proposes 16 at-grade spaces and 29 below-grade spaces, for a total of 45 spaces. Therefore, the project would have a parking deficit of 7 spaces. In order to address a parking shortage of approximately 15 percent, a parking management plan is necessary.

Parking Management Plan

The City of Los Altos has requested that the project applicant commit to implementing a parking management plan to address the parking deficit. The suggested parking reduction measures are intended to decrease the on-site parking requirement for the project by at least 7 spaces. Table 9 contains a list of potential parking reduction measures and associated parking reduction estimates. The potential reductions in parking spaces as a result of each measure are only estimates and are based on professional judgment.

Table 9
Parking Management Plan

Category	Parking Reduction Strategy Description	Estimated Quantity	Estimated Parking Space Reduction
Transit	Eco Pass, shuttle service to/from transit centers, offer subsidies for employees who are willing to utilize transit for commuting purposes.	16	4
Bicycle	Long-term bike lockers, on-site showers, offer subsidies for employees who regularly walk or bike to work.	8	2
Car Share	Provide a car share parking space on the street for use by the project and other businesses in the downtown area.	1	2
Carpooling	Offer subsidies and preferred parking for employees who are willing to carpool.	4	1
Info Center	Provide a commuter assistance center with transit information, bicycle information, on-site transit ticket sales, and rideshare information.	1	1
	Total Potential Parking Space Reduction:		**10**

Tandem Parking Option

The project originally proposed some tandem parking on the basement level. However, staff did not support the use of tandem parking so it was removed. Reintroducing the tandem parking would add up to 4 parking spaces to the basement level garage. With the tandem parking, the project would have a parking deficit of only 3 spaces. Hexagon has found that tandem parking can be successfully implemented in an office setting. However, in order to promote effective use of the tandem parking spaces, the tandem spaces must be assigned parking and some degree of voluntary parking enforcement is necessary. If assigned, the small number of below-grade tandem spaces would not be expected to create any parking related issues.

Parking Stall Dimensions

According to the site plan, the standard at-grade parking spaces are shown to be 9 feet wide by 16 feet long with a 2-foot overhang area, for a total length of 18 feet. The at-grade disabled parking spaces, as well as all of the below-grade parking spaces, are shown to be 9 feet wide by 18 feet long with no overhang. The two northernmost below-grade parking spaces are shown to be 9 feet wide by 19 feet long. The City of Los Altos standard for off-street perpendicular parking stall dimensions is 9 feet wide by 18 feet long. Thus, the proposed at-grade and below-grade parking spaces meet the City standard.

Transit Services

Existing transit service to the study area is provided by the VTA. A bus stop for Route 40 currently is located along the project frontage on southbound S. San Antonio Road. The project proposes to eliminate the adjacent bus stop. Note that based on field observations, not one person utilized the adjacent bus stop during either the AM peak period (7:00 – 9:00 AM) or PM peak period (4:00 – 6:00 PM) of weekday traffic. Additionally, bus stops for Route 40 currently are located on both sides of S. San Antonio Road at Lyell Street, approximately 500 feet north of the project site. Therefore, it can be concluded that eliminating the bus stop adjacent to the project site would not have a negative effect on bus service in the study area.

Route 40 passes by the San Antonio Transit Center in Mountain View where passengers can transfer to other VTA services and the Marguerite shuttle operated by Stanford. From San Antonio Transit Center, passengers can also walk about one-half mile to the San Antonio Caltrain station.

Although no reduction for transit usage was applied to the estimated vehicular trip generation for the project, there is likely to be some transit use by office employees. Assuming a transit mode share of 5 percent, the new office development would be expected to add about 2 new transit trips during each of the AM and PM peak hours. The small potential increase in new riders could be accommodated by the current available ridership capacity of the transit service in the study area. Thus, no transit-related improvements would be necessary with the project.

Bicycle Facilities

Bike lanes exist along San Antonio Road, Foothill Expressway, and El Monte Avenue. In addition, Cuesta Drive, Edith Avenue, Los Altos Avenue and El Camino Real are all designated bike routes. Thus, some employees may choose to commute to and from work on bicycle. While the number of project-generated bicycle trips is expected to be relatively small, the project would provide bicycle parking in excess of VTA recommendations. The project is proposing short-term bicycle parking (bike racks) at-grade between the office building and the parking garage entrance on First Street, and long-term bicycle storage (bike lockers) in the basement level garage.

It is reasonable to assume that bicycle trips would comprise no more than two percent of the travel mode share to the site during the peak commute periods. This equates to only 1 new bicycle trip during each of the AM and PM peak hours. The negligible increase in bicycle trips would have no effect on the existing bicycle-carrying capacity of streets in the study area, and no off-site bicycle facility improvements would be necessary as a result of the project.

Pedestrian Facilities

Project-generated walking trips primarily would be to and from nearby bus stops and retail uses in and around the downtown area. Sidewalks are found along all the roadways adjacent to the project site. Crosswalks with pedestrian signal heads and push buttons are located at the signalized intersection of S. San Antonio Road and First Street/Cuesta Drive. An unsignalized crossing is located at the S. San Antonio Road and Lyell Street intersection. Thus, existing pedestrian facilities

in the immediate vicinity of the project site would be adequate to serve the pedestrian demand generated by the project.

Pedestrian Facility Enhancements

According to the site plan, the project proposes to retain the existing sidewalk along the project frontage on S. San Antonio Road, and add a landscape area and large canopy street trees. The site plan is consistent with the San Antonio Road Streetscape Improvement Plan, which includes landscape improvements along the project frontage on S. San Antonio Road.

The project proposes sidewalk improvements on First Street. Currently, the sidewalk on First Street does not line up well and narrows significantly approximately 160 feet northwest of S. San Antonio Road. The project would construct new sidewalk along its entire frontage on First Street, ranging from 12 feet wide near S. San Antonio Road, to 6 feet wide adjacent to the parallel street parking on First Street.

Signal Warrant

The level of service analysis at the unsignalized intersections of S. San Antonio Road/Lyell Street and First Street/Lyell Street was supplemented with an assessment of the need for signalization of the intersections. This assessment is made on the basis of the peak-hour volume signal warrant – Warrant #3 – described in the *2010 California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify installation of a traffic signal at these study intersections.

S. San Antonio Road and Lyell Street

The analysis revealed that signalization of this unsignalized study intersection currently is not warranted during the AM peak hour and would not be warranted under any other traffic scenario during the AM peak hour.

The analysis did reveal that signalization of the intersection currently is warranted based on existing PM peak hour traffic volumes, and would be warranted under all other traffic scenarios during the PM peak hour. However, it is important to note that most of the eastbound side street traffic at this intersection (approximately 90 percent of the total eastbound traffic volume) consists of right turns. Right turns often are not considered in the total minor street volume when preparing a signal warrant evaluation because the delays for unsignalized right turns are much lower than for unsignalized left turns. Whereas left turns from a minor street require sufficient gaps in traffic in both directions of travel on the major street, right turns require gaps in traffic in only one direction of travel. If the right-turn volume on the minor street approach was not included in the evaluation, then the signal warrant would not be met under any traffic scenario. Therefore, a signal is not recommended.

First Street and Lyell Street

The analysis revealed that signalization of this unsignalized study intersection currently is not warranted during either the AM or PM peak hours and would not be warranted under any other traffic scenario.

The signal warrant worksheets are included in Appendix D.