Hexagon Transportation Consultants, Inc.

Memorandum

Date: December 22, 2021

To: Christy Cheung, City of San Jose

From: Robert Del Rio, T.E., Luis Descanzo

Subject: 17 S. 4th Street Mixed-Use Development Local Transportation Analysis

Hexagon Transportation Consultants, Inc. has completed a Local Transportation Analysis (LTA) for the proposed Fourth Street and Santa Clara Street Mixed-Use development in Downtown San Jose. The site is comprised of three parcels (APNs 467-23-035, -034, -037) located at the southwest corner of the Santa Clara Street and Fourth Street intersection. The project proposes to demolish three existing two-story buildings (with a portion of one building's facade to remain), and construct approximately 45,624 s.f. of office space and 10,509 s.f. of ground-floor and basement retail space. Vehicular access would be provided via an existing two-way easement driveway located on Fourth Street. The project does not propose to provide on-site parking spaces and will be required by the City of San Jose to provide off-site parking at the Fourth Street parking garage located at 88 South Fourth Street directly across from the project site.

The project site location, the Fourth Street parking garage, and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

The project site is located within the Downtown Growth Area Boundary, for which an Environmental Impact Report (EIR), *Downtown San Jose Strategy Plan 2040 (DTS 2040)*, has been completed and approved. With adoption of DTS 2040, this project is covered under DTS 2040 and no CEQA transportation analysis is required. The project, however, must perform an LTA to identify operational issues.

Scope of Study

The purpose of the LTA was to identify any potential operational issues that could occur as a result of the project and review the project's effect on the surrounding transit, pedestrian, and bicycle facilities. Based on the proposed project size, site-generated traffic was estimated. As noted above, no on-site parking spaces will be provided, and all project trips are assumed to utilize the Fourth Street parking garage. Truck access, including trash pickup and loading activities, were also reviewed. Lastly, an operational analysis of vehicle turn pocket storage at adjacent intersections was evaluated.

Figure 1
Site Location, Study Intersections, and Project Trip Distribution

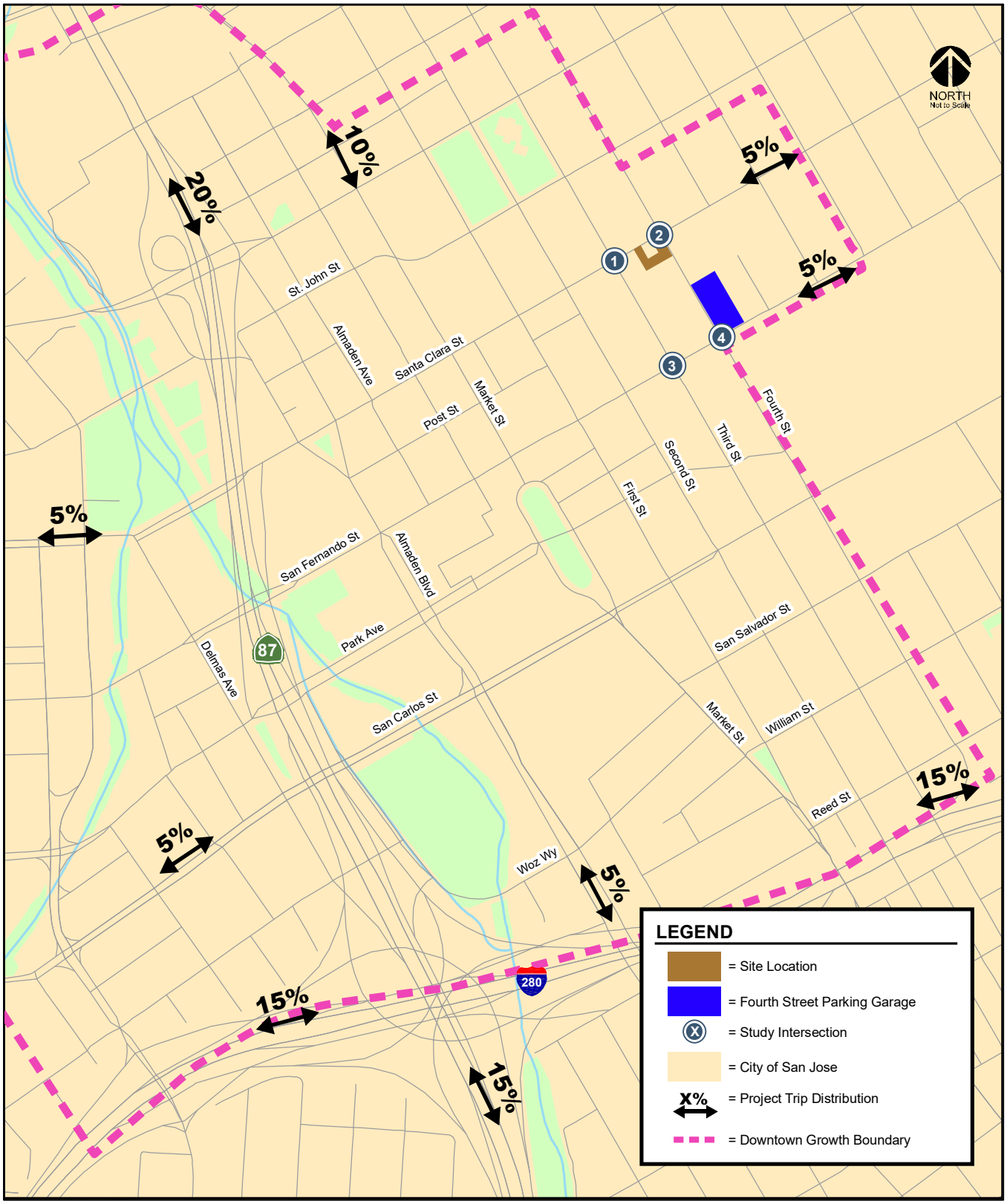
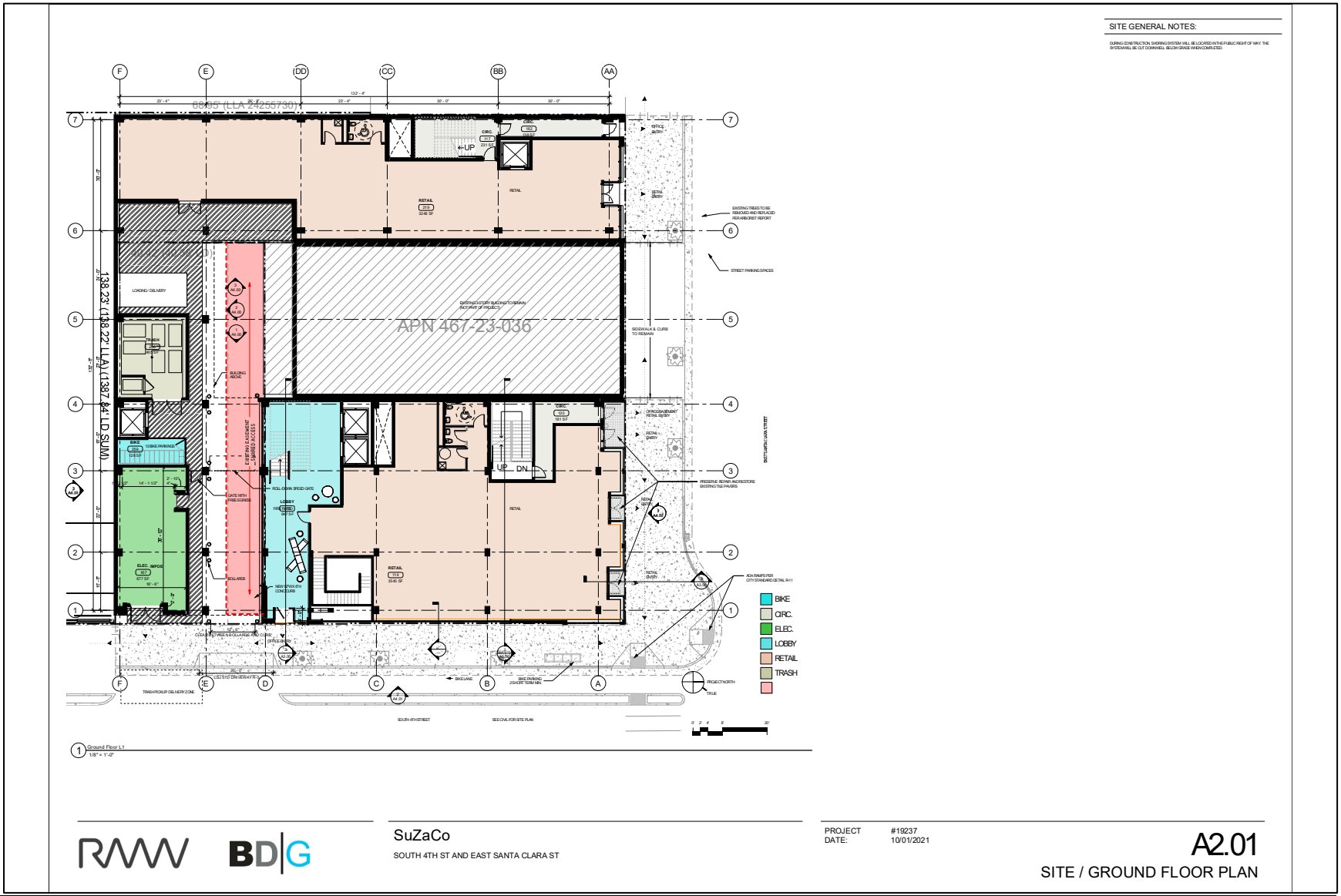


Figure 2
Project Site Plan



Existing Conditions

This section describes the 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 site is provided by State Route 87 and the Interstate 280/680 freeway. Local site access is provided by Santa Clara Street, San Fernando Street, Third Street, and Fourth Street. The freeways and local roadways are described below.

State Route 87 is primarily a six-lane freeway (four mixed-flow lanes and two HOV lanes) that is aligned in a north-south orientation within the project vicinity. SR 87 begins at its interchange with SR 85 and extends northward, terminating at its junction with US 101. Connections from SR-87 to the project site are provided via partial interchanges at Park Avenue (ramps to and from north), Auzerais Avenue (ramps to south only), and Santa Clara Street (ramp from south only). SR 87 provides access to I-280/I-680 and US-101.

Interstate 280 connects from US-101 in San Jose to I-80 in San Francisco. It is generally an eight-lane freeway in the vicinity of downtown San Jose. It also has auxiliary lanes between some interchanges. The section of I-280 just north of the Bascom Avenue overcrossing has six mixed-flow lanes and two high-occupancy-vehicle (HOV) lanes. Connections from I-280 to the project site are provided via partial interchanges at First Street (ramps to east only), Fourth Street (ramps to west only), Sixth Street (ramps from west), and Seventh Street (ramps from east). I-280/I-680 provides access to SR 87 and US-101.

Santa Clara Street is an east-west four-lane Grand Boulevard that runs along the project sites north frontage. It extends as West Santa Clara Street from First Street westward to Stockton Avenue where it transitions into The Alameda. East of First Street, it extends eastward as East Santa Clara Street to US-101 where it transitions into Alum Rock Avenue. Access to the project site would be provided via its intersection with Fourth Street.

San Fernando Street is an east-west two-lane Primary Bicycle facility street that extends through the heart of downtown between Autumn Street to the west and 17th Street to the east. San Fernando Street has sidewalks on both sides and protected bike lanes in both directions. Left-turn pockets are provided at signalized intersections east of Almaden Boulevard. Access to the project site would be provided via its intersection with Fourth Street.

Third Street is a north-south two-lane street providing northbound-only travel between Humboldt Street and its intersection with Julian Street. Third Street is a designated Main Street in the project vicinity and forms a couplet with southbound-only Fourth Street, located one block east. On-street parking is permitted on both sides of Third Street on the project frontage. A Class IV bikeway runs along the east side of Third Street between Humboldt Street and St. James Street.

Fourth Street is a north-south two-lane street providing southbound-only travel between its intersection with St. James Street and its intersection with Reed Street. Fourth Street is a designated Main Street in the project vicinity and forms a couplet with northbound-only Third Street, located one block west. On-street parking is permitted on both sides of Fourth Street on the project frontage. A Class IV bikeway runs along the west side of Fourth Street between St. James Street and Reed Street. Fourth Street runs along the project's east frontage and provides access to the off-site parking garage via one driveway.

Existing Bicycle Facilities

Class II bicycle facilities (striped bike lanes) are provided along the following roadways within the project area:

- Almaden Boulevard, between Woz Way and Carlysle Street
- Park Avenue, west of Market Street
- Woz Way, between San Carlos Street and Almaden Avenue
- Santa Clara Street, west of Almaden Boulevard
- San Salvador Street, between Market Street and Fourth Street
- Second Street, between Taylor Street and Julian Street; between William Street and Keyes Street
- Third Street, between Jackson Street and St. James Street
- Fourth Street, between Jackson Street and Santa Clara Street; between San Salvador Street and Reed Street
- Almaden Avenue, between Alma Avenue and Grant Street
- Vine Street, between Alma Avenue and Grant Street

Designated Class III bike routes with “sharrow” or shared-lane pavement markings and signage are provided along the following roadways:

- San Carlos Street, between Woz Way and Fourth Street
- San Fernando Street, between Eleventh Street and Seventeenth Street
- Second Street, between San Carlos Street and Julian Street
- First Street, between San Salvador Street and St. John Street
- San Salvador Street, between Fourth Street and Tenth Street (eastbound) ; between Tenth Street and Sixteenth Street (both sides)
- William Street, between First Street and McLaughlin Avenue

Class IV bicycle facilities (protected bike lanes) are currently being installed throughout the Downtown Area as part of the Better Bikeways project. Protected bike lanes have been implemented along the following roadways:

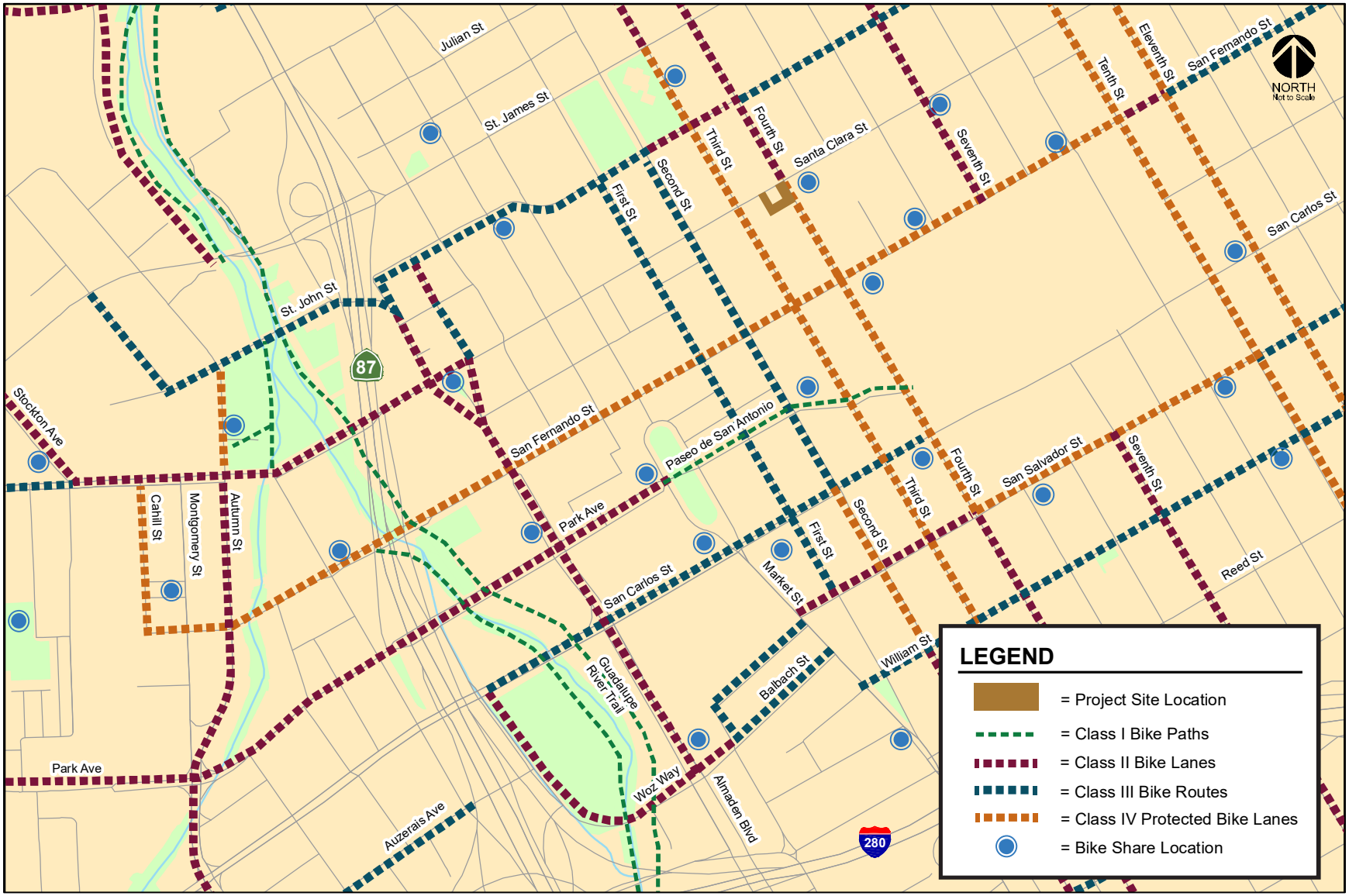
- San Fernando Street, between Cahill Street and Tenth Street
- Second Street, between San Carlos Street and William Street
- Third Street, between St. James Street and Reed Street
- Fourth Street, between Santa Clara Street and San Salvador Street (including along the project frontage)
- San Salvador Street, between Fourth Street and Tenth Street (westbound)
- Tenth Street, between Hedding Street and I-280 Ramps
- Eleventh Street, between Hedding Street and I-280 Ramps
- Autumn Street, between Santa Clara Street and St. John Street
- Cahill Street, between San Fernando Street and Santa Clara Street

The existing bicycle facilities are shown on Figure 3.

Guadalupe River Park Trail

The Guadalupe River multi-use trail system runs through the City of San Jose along the Guadalupe River and is shared between pedestrians and bicyclists and separated from motor vehicle traffic. The Guadalupe River trail is an 11-mile Class I bikeway from Curtner Avenue to Willow Street, and between Virginia Street and Palm Street to Alviso. This trail system can be accessed along Santa Clara Street west of SR-87, approximately 0.6-mile west of the project site.

Figure 3
Existing Bicycle Facilities



Bike and Scooter Share Services

The Bay Wheels bike share program allows users to rent and return bicycles at various locations. Bike share bikes can be rented and returned at designated docking stations throughout the Downtown area. Additionally, the service offers a dockless, e-bike option that can be located and activated using a mobile app and can be parked at any public bike rack. Payment for either of the bike options is provided through a mobile app or by use of a Clipper card. The nearest bike share station is located at the southeast corner of the Santa Clara Street and Fourth Street intersection, approximately 200 feet walking distance from the project site. In addition, other micro-mobility companies provide scooter rental services throughout the Downtown area. These services offer electric scooters with GPS self-locking systems that allow for rental and drop-off anywhere. Scooters are located, activated, and paid for through each of these services' mobile apps.

Existing Pedestrian Facilities

Pedestrian facilities in the study area consist mostly of sidewalks along all of the surrounding streets, including the project frontage along Fourth Street. High-visibility crosswalks and pedestrian signal heads are available on all four approaches at the intersections of Santa Clara Street and San Fernando Street with Third Street and Fourth Street. ADA ramps are available at all crosswalks, with the exception of ramps located at the northwest, southwest, and southeast corners of Santa Clara Street/Third Street. A pedestrian-only walkway (Fountain Alley) connects the northbound and southbound platforms of the Santa Clara LRT station between First Street and Second Street, south of Santa Clara Street. Overall, the existing sidewalks and pedestrian facilities have good connectivity and provide pedestrians with safe routes to the surrounding pedestrian destinations in the area.

Existing Transit Services

Existing transit services in the study area are provided by the Santa Clara Valley Transportation Authority VTA, Caltrain, Altamont Commuter Express (ACE), and Amtrak. The project is located less than 0.3-mile walking distance of the Downtown Transit Center located along Santa Clara Street between First and Second Streets. Additionally, the project is located approximately one-mile from the Diridon Transit Center on Cahill Street. Connections between local and regional bus routes, light rail lines, and commuter rail lines are provided within the Diridon Transit Center. Figure 4 shows the existing transit facilities.

Bus Service

The downtown area is served by many VTA bus routes with high-frequency service. Rapid Bus services provide limited-stop service at frequent intervals (less than 15 minutes) during daytime. Within the Downtown area, Rapid Routes 522 and 523 run along Santa Clara Street and San Carlos Street, respectively. Additionally, Frequent Bus services provide local service with average headways of 12 to 15 minutes during peak commute hours. Express Bus services provide direct service to and from major employment centers during peak commute hours only.

The bus lines that operate within ¼-mile walking distance of the project site are listed in Table 1, including their route descriptions and commute hour headways. The nearest bus stops are located at the intersection of Santa Clara Street/Fifth Street and at the Downtown Transit Center along Santa Clara Street, at its intersections with First Street and Second Street.

VTA Light Rail Transit (LRT) Service

The Santa Clara Valley Transportation Authority (VTA) operates the 42.2-mile VTA light rail line system extending from south San Jose through downtown to the northern areas of San Jose, Santa

Figure 4
Existing Transit Facilities

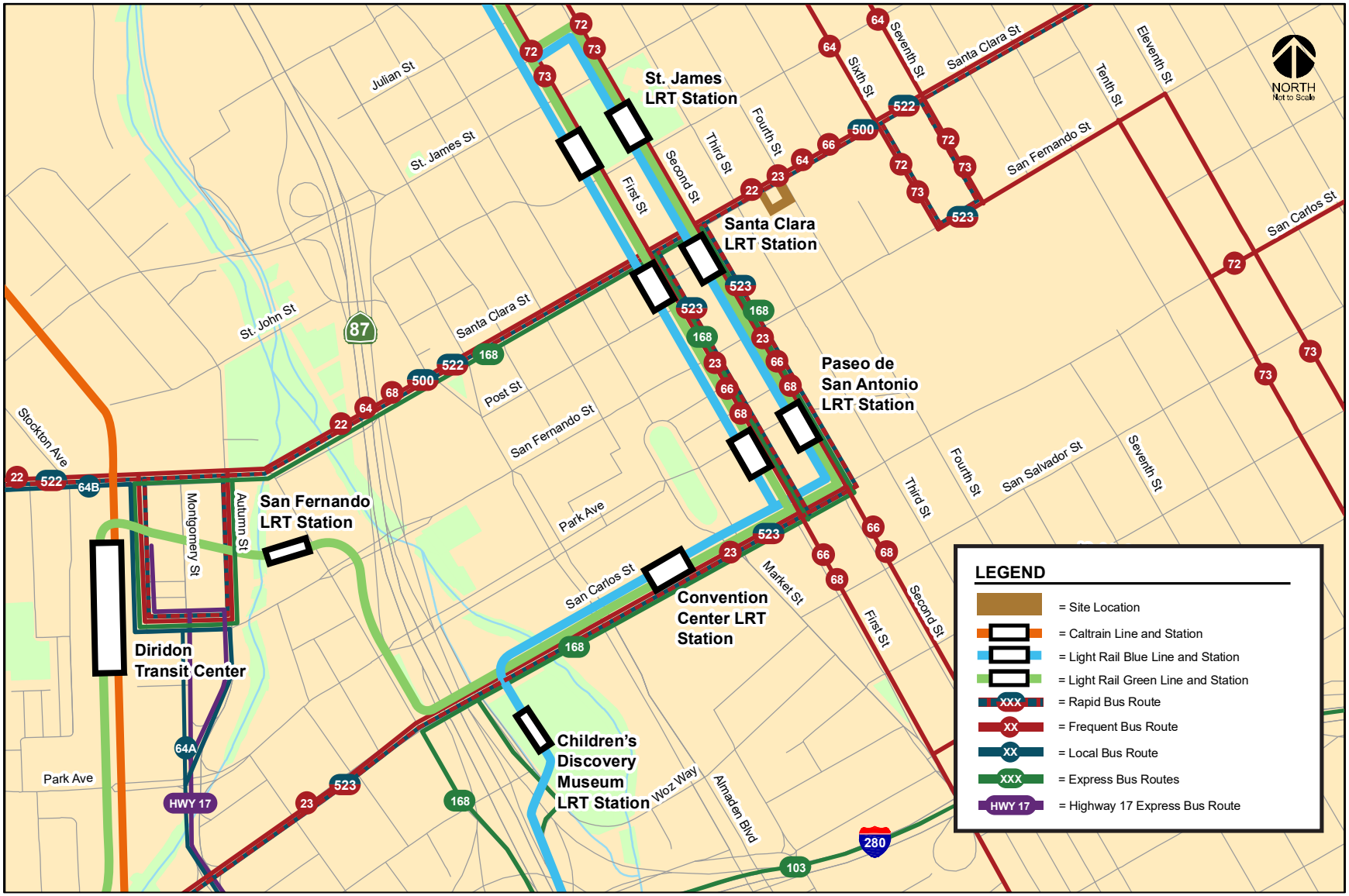


Table 1
Existing Bus Service Near the Project Site

Bus Route	Route Description	Nearest Stop	Headway [1]
Frequent Route 22	Palo Alto Transit Center to Eastridge Transit Center	Santa Clara/Fifth	15 min
Frequent Route 23	DeAnza College to Alum Rock Transit Center via Stevens Creek	Santa Clara/Fifth	12 - 15 min
Local Route 64A	McKee & White to Ohlone-Chynoweth Station	Santa Clara/Fifth	30 min [2]
Local Route 64B	McKee & White to Almaden Expressway & Camden	Santa Clara/Fifth	30 min [2]
Frequent Route 66	North Milpitas to Kaiser San Jose	Santa Clara/Fifth	12 - 15 min
Frequent Route 68	San Jose Diridon Station to Gilroy Transit Center	First/Santa Clara	15 - 20 min
Frequent Route 72	Downtown San Jose to Senter & Monterey via McLaughlin	Santa Clara/Fifth	5 - 20 min
Frequent Route 73	Downtown San Jose to Senter & Monterey via Senter	Santa Clara/Fifth	10 - 15 min
Express Route 168	Gilroy/Morgan Hill to San Jose Diridon Station	Santa Clara/First	15 - 40 min
Rapid Route 500	San Jose Diridon Station to Downtown San Jose	Santa Clara/Fifth	15 - 20 min
Rapid Route 522	Palo Alto Transit Center to Eastridge Transit Center	Santa Clara/Fifth	10 - 15 min
Rapid Route 523	Berryessa BART to Lockheed Martin via De Anza College	Santa Clara/Fifth	15 - 20 min

Notes:
[1] Approximate headways during peak commute periods.
[2] Local Routes 64A and 64B provide frequent service between San Jose Diridon Station and McKee/White, with approximately 15-minute headways during peak commute periods.

Clara, Milpitas, Mountain View and Sunnyvale. The service operated nearly 24-hours a day with 15-minute headways during much of the day.

The Green (Winchester-Old Ironsides) and Blue (Baypointe-Santa Teresa) LRT lines operate along San Carlos Street, San Fernando Street, and along First and Second Streets, north of San Carlos Street. The Santa Clara LRT station platforms on First and Second Streets are located within walking distance, less than 1000 feet, of the project site. The Diridon Transit Center is accessible via the Green LRT line and serves as a transfer point to Caltrain, ACE, and Amtrak services.

As of November 2021, light rail services are suspended. A substitute bus service is currently being offered between Paseo de San Antonio Station and Milpitas Transit Center.

Caltrain Service

Commuter rail service between San Francisco and Gilroy is provided by Caltrain, which currently operates 92 weekday trains that carry approximately 47,000 riders on an average weekday. The project site is located about one-mile from the San Jose Diridon station. The Diridon station provides 581 parking spaces, as well as 16 bike racks, 48 bike lockers, and 27 Bay Wheels bike share docks. Trains stop frequently at the Diridon station between 4:28 AM and 10:30 PM in the northbound direction, and between 6:31 AM and 1:38 AM in the southbound direction. Caltrain provides passenger train service seven days a week and provides extended service to Morgan Hill and Gilroy during commute hours.

Altamont Commuter Express Service (ACE)

ACE provides commuter rail service between Stockton, Tracy, Pleasanton, and San Jose during commute hours, Monday through Friday. Service is limited to four westbound trips in the morning and four eastbound trips in the afternoon and evening with headways averaging 60 minutes. ACE trains stop at the Diridon Station between 6:32 AM and 9:17 AM in the westbound direction, and between 3:35 PM and 6:38 PM in the eastbound direction.

Amtrak Service

Amtrak provides daily commuter passenger train service along the 170-mile Capitol Corridor between the Sacramento region and the Bay Area, with stops in San Jose, Santa Clara, Fremont, Hayward, Oakland, Emeryville, Berkeley, Richmond, Martinez, Suisun City, Davis, Sacramento, Roseville, Rocklin, and Auburn. The Capitol Corridor trains stop at the San Jose Diridon Station seven times during the weekdays between approximately 7:37 AM and 9:05 PM in the westbound direction. In the eastbound direction, Amtrak stops at the Diridon Station seven times during the weekdays between 6:40 AM and 7:15 PM.

Project Trip Generation

The project proposes to provide no on-site parking spaces and will be required by the City of San Jose to provide off-site parking at the Fourth Street parking garage located at 88 South Fourth Street. Therefore, vehicle trips generated by the project will not enter or exit the project site. All vehicular trips generated by the project site will utilize designated off-site parking within the Fourth Street parking garage and other existing off-site parking facilities located within the Downtown area, in the vicinity of the site.

The trip generation analysis estimates the number of external vehicle-trips that will be generated by the proposed project. Baseline (or gross) vehicle-trips were estimated by using average vehicle-trip rates from the *ITE Trip Generation Manual, 10th Edition* for the General Office Building (Land Use 710) and Shopping Center (Land Use 820) land uses. The baseline trip estimates were reduced to account for the predicted vehicle mode share of the project based on its location and surrounding transportation system and land uses.

Trip Reductions

Location-Based Adjustment

The location-based adjustment reflects the project's vehicle mode share based on the place type in which the project is located per the San Jose Travel Demand Model. The project's place type was obtained from the *San Jose VMT Evaluation Tool.* Based on the VMT Tool, the project site is located within a central city urban area. Therefore, the baseline project trips were adjusted to reflect a central city urban mode share. Central city urban areas are characterized as areas with high density, excellent accessibility, high public transit access, low single-family homes, and older housing stock. Office and retail uses within central city urban areas have a vehicle mode share of 69 percent and 84 percent, respectively. Thus, a 31 percent reduction was applied to the baseline trips estimated to be generated by the proposed office use and a 16 percent reduction was applied to the baseline trips estimated to be generated by the retail use.

Internal Trip Reduction Adjustment

A mixed-use development with complementary land uses such as office and commercial, will result in a reduction of external site trips. 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. Based on VTA's recommended mixed-use reduction, a maximum three percent trip reduction may be applied for the office and commercial uses, based on the office component.

Table 2
Project Trip Generation Estimates

Land Use	ITE Land Use Code	Location	% of Vehicle Mode Share	% Reduction	Size	Daily		AM Peak Hour						PM Peak Hour					
								Pk-Hr	Split		Trip			Pk-Hr	Split		Trip		
						Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Land Use																			
General Office Building[1]	710				45,624 Square Feet	9.74	444	1.160	86%	14%	46	7	53	1.15	16%	84%	8	44	52
- Office - Retail Internal Reduction[2]				*3%*			*-13*				*-1*	*0*	*-1*				*0*	*-1*	*-1*
- Location Based Reduction[3]		*Central City Urban*	*69%*	*31%*			*-134*				*-14*	*-2*	*-16*				*-2*	*-13*	*-15*
Shopping Center[1]	820				10,509 Square Feet	37.75	397	0.940	62%	38%	6	4	10	3.81	48%	52%	20	21	41
- Office - Retail Internal Reduction[2]							*-13*				*0*	*-1*	*-1*				*-1*	*0*	*-1*
- Location Based Reduction[3]		*Central City Urban*	*84%*	*16%*			*-61*				*-1*	*0*	*-1*				*-3*	*-3*	*-6*
Baseline Vehicle Trips (Before Reductions)							841				52	11	63				28	65	93
Project Trips After Reductions							**620**				**36**	**8**	**44**				**22**	**48**	**70**

Notes:

[1] Source: ITE *Trip Generation Manual*, 10th Edition 2017, average trip generation rates.

[2] As prescribed by the Transportation Impact Analysis Guidelines from VTA (October 2014), the maximum trip reduction for a mixed-use development project with employment and employee-serving retail uses is equal to 3% off the office component. The maximum 3% reduction was applied to the PM peak-hour trip estimates. For the AM peak-hour trip estimates, a 50% reduction off the retail trips was applied.

[3] The project site is located within central city urban area based on the City of San Jose VMT Evaluation Tool (February 28, 2019). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The trip reductions are based on the percent of mode share for all of the other modes of travel besides vehicle.

Net Project Trip Generation

Based on the trip generation rates and reductions, it is estimated that the proposed mixed-use project would generate 620 daily trips, with 44 trips (36 inbound and 8 outbound) occurring during the AM peak hour and 70 trips (22 inbound and 48 outbound) occurring during the PM peak hour. However, since the project proposed to provide no on-site parking spaces, all trips estimated to be generated by the project will not enter the site and instead will utilize off-site parking facilities.

The trip generation estimates for the proposed project are shown in Table 2.

Project Trip Distribution and Trip Assignment

The trip distribution pattern for the project was based on those used in previous traffic studies prepared for similar projects in downtown San Jose. The project trips were assigned to the roadway network based on the use of the Fourth Street parking garage, existing travel patterns in the area, freeway access, and the relative locations of complementary land uses. The project trip distribution pattern is shown on
Figure 1.

It is assumed that all project trips will utilize designated off-street parking within the Fourth Street parking garage, located at 88 South Fourth Street (shown on Figure 1). Access to the Fourth Street parking garage is provided via one existing driveway approximately 300 feet south of the project site, along the east side of Fourth Street. The trip assignment for the proposed project is shown on Figure 5.

Loading Area Access

Based on the City of San Jose off-street loading standards within the Downtown Area (20.70.420), office and retail uses consisting of less than 100,000 sf are not required to provide an off-street loading space. The project is proposing to provide an on-site loading/delivery stall. However, the loading area will be restricted for use by only small delivery vans. Larger trucks will utilize an existing 30-foot loading zone located along the west side of Fourth Street, at the southeast corner of the project site. It should be noted that as part of planned improvements along Fourth Street, the loading zone is proposed to be lengthened to 40 feet and would be relocated northward to the southwest corner of the Fourth Street and Santa Clara Street intersection.

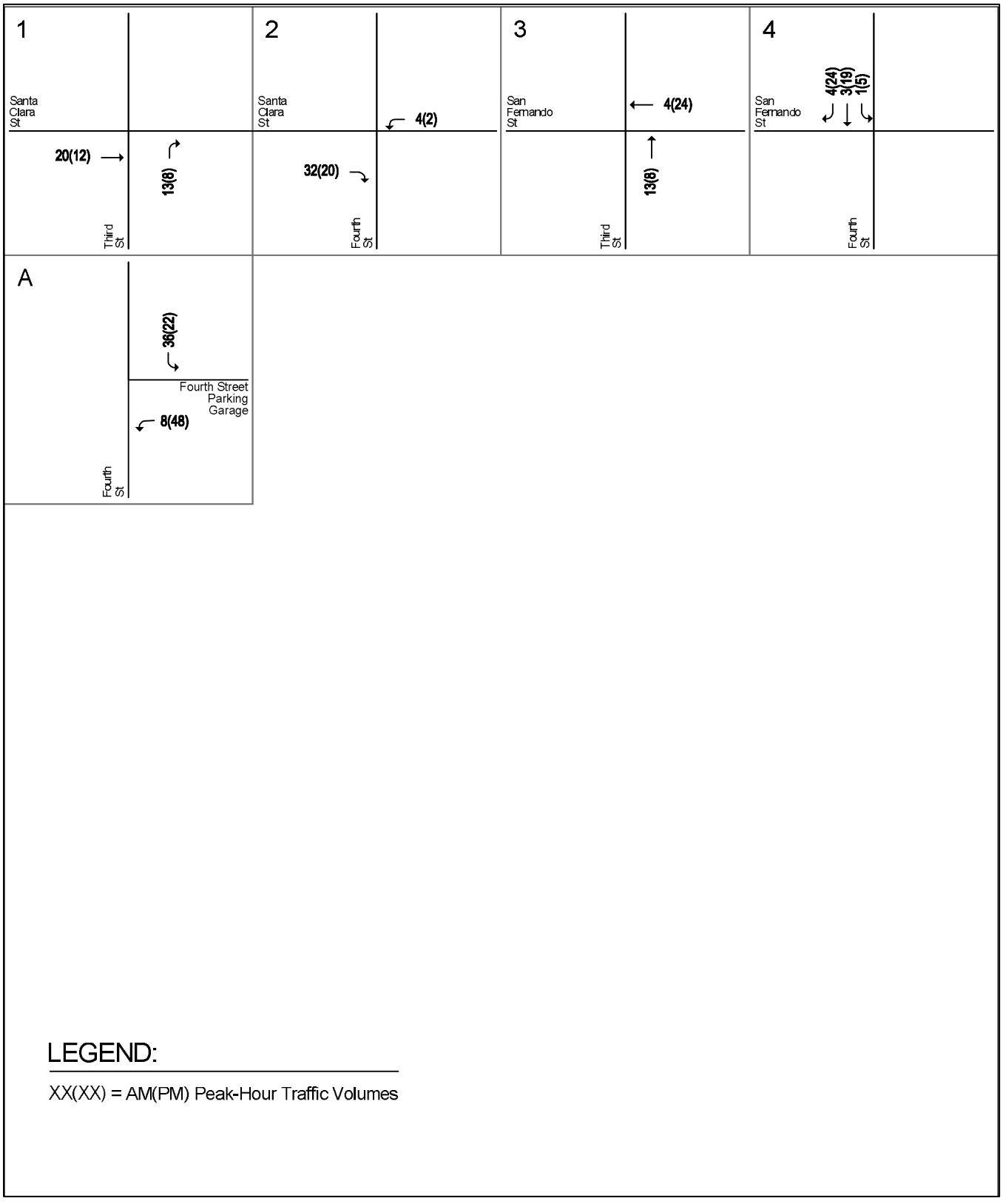
A trash collection room will be located along the south side of the easement drive aisle. Garbage trucks will not enter the site. Trash bins will be wheeled out to Fourth Street for trash collection at the designated pickup zone shown on Figure 2.

Pedestrian and Bicycle Access and Circulation

Pedestrian Circulation

Existing pedestrian and bicycle facilities throughout downtown provide connections to surrounding downtown destinations. Wide sidewalks are provided along all project frontages on Santa Clara Street and Fourth Street. Crosswalks and pedestrian signal heads are available on all four approaches at the intersections of Santa Clara Street and San Fernando Street with Third Street and Fourth Street. ADA ramps are available at all crosswalks, with the exception of ramps located at the northwest, southwest, and southeast corners of Santa Clara Street/Third Street. A pedestrian-only walkway (Fountain Alley) connects the northbound and southbound platforms of the Santa Clara LRT station between First Street and Second Street, south of Santa Clara Street.

Figure 5
Project Trip Assignment



It also should be noted that there is adequate pedestrian connectivity between the project site and Fourth Street parking garage, located approximately 400 feet walking distance of the project site. High-visibility crosswalks across Fourth Street are located at the Santa Clara Street and San Fernando Street intersections.

The Downtown Streetscape Master Plan (DSMP) provides design guidelines for existing and future development for the purpose of enhancing the pedestrian experience in the Greater Downtown Area. Per the DSMP and shown in Figure 6, there are many designated Downtown Pedestrian Network Street (DPNS) in the vicinity of the project site, which are intended to support a high level of pedestrian activity as well as retail and transit connections. The DPNS streets provide a seamless network throughout the downtown that is safe and comfortable for pedestrians and connects all major downtown destinations. Design features of a DPNS create an attractive and safe pedestrian environment to promote walking as the primary travel mode. Overall, the existing sidewalks provide good pedestrian connectivity and safe routes to the surrounding pedestrian destinations, including nearby transit stops, various businesses and restaurants surrounding the project site.

Bulb-out Improvement

The project will be required to construct a half bulb-out at the southwest corner of the Fourth Street and Santa Clara Street intersection. The bulb-out, shown on Figure 2, will require construction of new ADA-compliant ramps and installation of pedestrian push buttons via a minor signal modification.

Bicycle Circulation

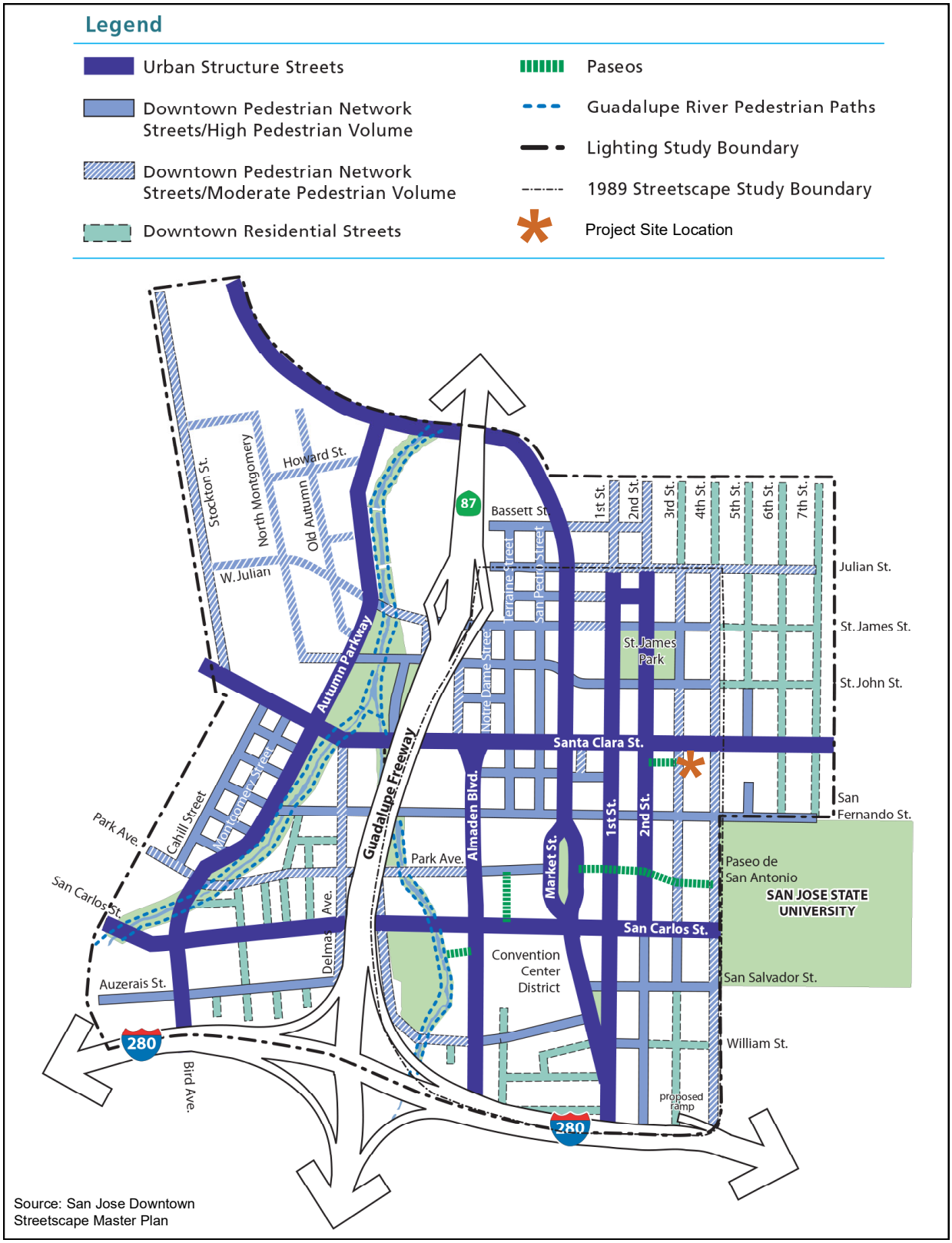
A Class IV bikeway (protected bike lane) is located along the Fourth Street project frontage. The configuration of the protected bike lane provides a buffer zone between the cycle track and travel lanes. On-street parking and freight loading are located within the buffer zone. Therefore, vehicles do not need to cross bike lanes to enter and leave on-street parking spaces, thus reducing conflicts between vehicles and bicycle-users. Many additional bicycle facilities are located along surrounding roadways in the vicinity of the project site. Class II bicycle facilities (striped bike lanes) are provided on Fourth Street north of Santa Clara Street.

Fourth Street Signage and Striping Improvements

Class IV bikeways (protected bike lanes) are already present along the Fourth Street project frontage. However, there are additional proposed improvements along Fourth Street as part of the City of San Jose 2025 Better Bike Plan. The planned improvements, shown in Figure 7, would convert existing buffered bike lanes north of Santa Clara Street into protected bike lanes. South of Santa Clara Street, existing protected bike lanes would remain. Additional improvements include installation or modification of on-street freight and passenger loading zones, roadway striping, and signage.

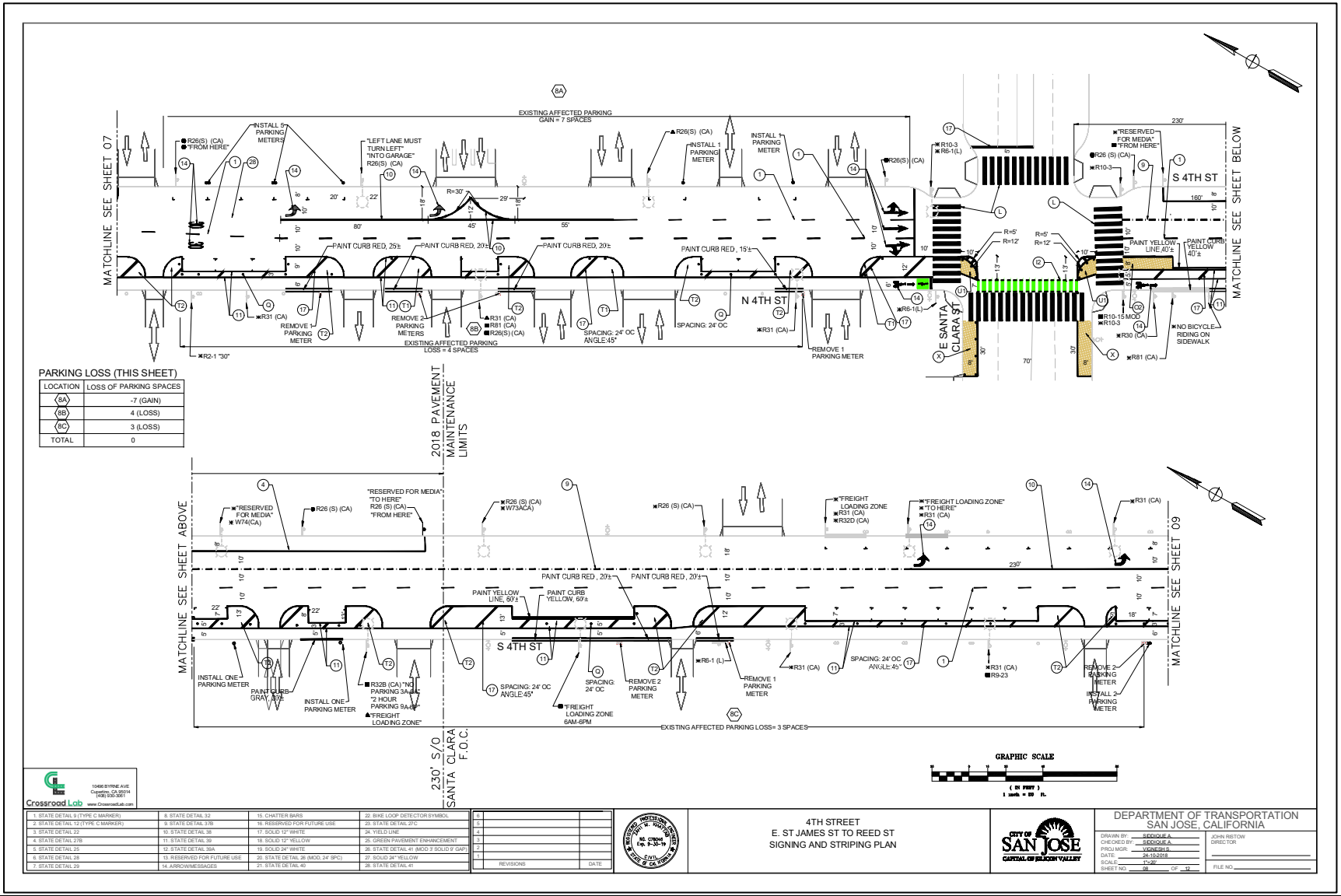
The project will be required to complete protected intersection signal modifications at the Fourth Street and Santa Clara Street intersection that include striped bike lanes adjacent to all crosswalks and installation of corner islands, as shown on the improvement planline. Along the project frontage, the existing red-striped zone (which currently extends along the entire Fourth Street frontage) would be removed. The proposed improvements would include a 40-foot loading zone and one metered parking space north of the project driveway and one metered parking space south of the project driveway. The new on-street parking spaces and loading zone will be located along a buffer zone between the bike lane and travel lane. In addition to constructing the improvements directly adjacent to the project frontage, the project will be required by the City to construct the protected bikeway hardscape south of the project frontage and continued along the adjacent Hotel Clariana frontage along Fourth Street.

Figure 6
Downtown Pedestrian Street Network



Source: San Jose Downtown Streetscape Master Plan

Figure 7
Planned Fourth Street Improvements



Transit Facilities

The project is in close proximity to major transit services that will provide the opportunity for multi-modal travel to and from the project site. The nearest bus stops are located at the intersection of Santa Clara Street/Fifth Street and at the Downtown Transit Center along Santa Clara Street, at its intersections with First Street and Second Street. Northbound and southbound platforms of the Santa Clara LRT station are located on First Street and Second Street, respectively. The platforms are connected by a pedestrian- and bike-only path (Fountain Alley) and are located within walking distance, less than 1000 feet, of the project site. In addition, the Diridon Transit Center is accessible via the Green LRT line and serves as a transfer point to Caltrain, ACE, and Amtrak services. The pedestrian and bicycle facilities located along streets adjacent to the project site provide access to major transit stations and provide for a balanced transportation system as outlined in the Envision 2040 General Plan goals and policies.

Additionally, the Envision San Jose 2040 General Plan identifies several roadway categories that are intended to complement land use to accomplish General Plan growth, protect neighborhood character, and reduce automobile dependency. The Grand Boulevard General Plan roadway designation is a major transportation corridor that accommodates moderate to high volumes of traffic within and beyond the City. Transit is a primary mode and has priority over other modes; transit lanes and signal priority may be implemented where appropriate. Enhanced landscaping and wide sidewalks are encouraged to accommodate pedestrian traffic. In the vicinity of the project site, Santa Clara Street is a Grand Boulevard. The City is currently reviewing potential policies that could require development projects to contribute towards the implementation of transit improvements along the Santa Clara Street corridor.

Parking

Projects in the downtown area are located in close proximity to residences, recreation, and retail services, allowing individuals to live and satisfy their daily needs near their place of employment. The availability of bicycle lanes and sidewalks throughout downtown and the project's close proximity to major transit services will provide for and encourage the use of multi-modal travel options (bicycling and walking) and reduce the use of single-occupant automobile travel.

Vehicle Parking

The City will allow the project to provide off-site parking spaces to meet its on-site parking requirement. The project intends to have a parking agreement with the City of San Jose that allocates approximately 1.5 parking stalls per 1,000 square feet of space within the Fourth Street parking garage. With a proposed office size of 45,624 s.f., a minimum of 69 parking spaces would be reserved for users of the proposed project within the parking garage. The location of the Fourth Street parking garage is shown on Figure 1.

Bicycle Parking

Based on the project's downtown location, it is likely that employees of the proposed office use will be able to live in close proximity to the site or will be able to quickly access transit to reach their place of residence. Therefore, the project is required to meet the City's Bicycle Parking requirements. The City Municipal Code (Table 20-190) requires one bicycle parking space per 4,000 square feet of office use. Bicycle parking spaces shall consist of at least eighty percent short-term and at most twenty percent long-term spaces. Per Code 20.70.485, uses which are not required to provide vehicle parking spaces (i.e. the ground-floor commercial use) are required to provide only two short-term bicycle parking spaces and one long-term bicycle parking space. Thus, the proposed project is required to provide a total of 13 bicycle parking spaces: 10 short-term bicycle parking spaces and 3 long-term bicycle parking

spaces to meet the City standards. The City's definition of short-term and long-term bicycle parking is described below.

City of San Jose Long-Term and Short-Term Bicycle Parking

Long-term bicycle parking facilities are secure bicycle storage facilities for tenants/employees of a building that fully enclose and protect bicycles and may include:

- A covered, access-controlled enclosure such as a fenced and gated area with short-term bicycle parking facilities,
- An access-controlled room with long-term bicycle parking facilities, and
- Individual bicycle lockers that securely enclose one bicycle per locker.

Short-term bicycle parking facilities are accessible and usable by visitors, guests, or business patrons and may include:

- Permanently anchored bicycle racks,
- Covered, lockable enclosures with permanently anchored racks for bicycles,
- Lockable bicycle rooms with permanently anchored racks, and
- Lockable, permanently anchored bicycle lockers.

The project proposes to provide a total of 13 bicycle parking spaces, which will meet the City's minimum requirement. The site plan indicates that a bicycle storage room will be located at the ground-floor level, along the south side of the easement drive aisle and adjacent to the entry gate. From the storage room, access to the bikeway along Fourth Street is provided via a pedestrian walkway adjacent to the drive aisle.

Vehicular Queuing Analysis

A vehicle queuing analysis was completed for high-demand movements at the study intersections. The study locations were selected based on the number of projected project trips at utilizing left-turning lanes at surrounding intersections. The vehicle queuing analysis was 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 number of vehicles in the 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. The results of the queue analysis are summarized in Table 4.

Fourth Street/Santa Clara Street

The queuing analysis shows that the westbound left-turn movement at the Fourth Street and Santa Clara Street intersection already exceeds the existing storage capacity during the PM peak hour under existing conditions and would continue to do so under background conditions. However, the addition of project traffic is not projected to lengthen the queue during the PM peak hour. Providing additional queue storage capacity at the Fourth Street/Santa Clara Street westbound left-turn pocket would require shortening of the upstream left-turn pocket at Fifth Street/Santa Clara Street eastbound left-turn that lies back-to-back with the subject left-turn pocket or street widening along with narrowing of sidewalks and/or removal of bike lanes. However, the removal and/or alteration of roadway designs that are intended to encourage the use of multi-modal travel to accommodate vehicular demand is not consistent with General Plan goals. Therefore, the extension of the westbound left-turn pocket is not recommended.

Off-Site Driveway Operations

The project trip assignment at the off-site parking garage driveways is shown in Figure 5. A single driveway on Fourth Street provides access to the parking garage. Because Fourth Street is a one-way street, vehicles entering and exiting the parking garage can only make left turns at the garage driveway. Therefore, there is no conflicting traffic for the inbound traffic turning from Fourth Street into the garage; and the added project trips (a maximum of 36 inbound trips in the AM peak hour) are not expected to adversely affect the traffic flow on Fourth Street. The project would result in no more than two vehicles per minute to enter the garage. The project trips will not result in a noticeable increase in inbound queueing at the garage entrance since the project is not proposing to increase the number of parking spaces provided within the garage and project trips utilizing the garage will simply replace vehicles that were already utilizing the garage.

Conclusions

The project proposes to demolish three existing two-story buildings (with a portion of one building's facade to remain), and the construction of approximately 45,624 s.f. of office space and 10,509 s.f. of ground-floor and basement retail space. Vehicular access would be provided via an existing two-way easement driveway located on Fourth Street. The project does not propose to provide on-site parking spaces and will be required by the City of San Jose to provide off-site parking at the Fourth Street parking garage located at 88 South Fourth Street.

The project site is located within the Downtown Growth Area Boundary, for which an Environmental Impact Report (EIR), *Downtown San Jose Strategy Plan 2040 (DTS 2040)*, has been completed and approved. With adoption of DTS 2040, this project is covered under DTS 2040 and no CEQA transportation analysis is required.

The availability of bicycle lanes and sidewalks throughout downtown and the project's proximity to major transit services will provide for and encourage the use of multi-modal travel options (bicycling and walking) and reduce the use of single-occupant automobile travel. Therefore, the estimates of trips to be generated by the proposed project as presented and evaluated within this study may represent an over-estimation of traffic and impacts associated with the proposed project. It is expected that the auto trips ultimately generated by the project would be less and the identified operational issues reduced with the use of the multi-modal transportation system within the Downtown area.

Table 4
Intersection Queueing Analysis Summary

Measurement	Fourth/ Santa Clara		Fourth/ San Fernando	
	WBL AM	WBL PM	SBL AM	SBL PM
Existing Conditions				
Cycle/Delay[1] (sec)	80	110	80	100
Lanes	1	1	1	1
Volume (vph)	127	170	38	90
Volume (vphpl)	127	170	38	90
Avg. Queue (veh/ln.)	3	5	1	3
Avg. Queue[2] (ft./ln)	71	130	21	63
95th %. Queue (veh/ln.)	6	9	3	5
95th %. Queue (ft./ln)	150	225	75	125
Storage (ft./ ln.)	150	150	225	225
Adequate (Y/N)	YES	**NO**	YES	YES
Background Conditions				
Cycle/Delay[1] (sec)	80	110	80	100
Lanes	1	1	1	1
Volume (vph)	134	184	40	102
Volume (vphpl)	134	184	40	102
Avg. Queue (veh/ln.)	3	6	1	3
Avg. Queue[2] (ft./ln)	74	141	22	71
95th %. Queue (veh/ln.)	6	10	3	6
95th %. Queue (ft./ln)	150	250	75	150
Storage (ft./ ln.)	150	150	225	225
Adequate (Y/N)	YES	**NO**	YES	YES
Background Plus Project Conditions				
Cycle/Delay[1] (sec)	80	110	80	100
Lanes	1	1	1	1
Volume (vph)	138	186	41	107
Volume (vphpl)	138	186	41	107
Avg. Queue (veh/ln.)	3	6	1	3
Avg. Queue[2] (ft./ln)	77	142	23	74
95th %. Queue (veh/ln.)	6	10	3	6
95th %. Queue (ft./ln)	150	250	75	150
Storage (ft./ ln.)	150	150	225	225
Adequate (Y/N)	YES	**NO**	YES	YES

[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 feet per vehicle in the queue.
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, R = Right, T = Through, L = Left.

A summary of the LTA analysis along with recommended adjustments is provided below.

Recommendations

- The project will be required to complete protected intersection signal modifications at the Fourth Street and Santa Clara Street intersection that include striped bike lanes adjacent to all crosswalks and installation of corner islands.
- In addition to constructing the improvements directly adjacent to the project frontage, the project will be required by the City to construct the protected bikeway hardscape south of the project frontage and continued along the adjacent Hotel Clariana frontage along Fourth Street.
- The City will allow the project to provide off-site parking spaces to meet its on-site parking requirement. The project applicant will be required to establish a shared parking agreement for the use of a minimum of 69 parking spaces for users of the proposed project within the Fourth Street parking garage to meet the City's parking requirements for the project.

17 S. 4th Street Mixed-Use Development LTA

Technical Appendices

December 22, 2021

Appendix A

Volumes Summary

Intersection Number: 1
Traffix Node Number: 3786
Intersection Name: 3rd Street and Santa Clara
Peak Hour: AM
Count Date: 1/31/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	0	0	0	83	570	0	148	848	104	0	378	140	2271
Existing Conditions *(with 1%*	**0**	**0**	**0**	**86**	**588**	**0**	**153**	**874**	**108**	**0**	**390**	**145**	**2344**
compound growth if older than 2 yrs)													
ATI	0	0	0	7	55	0	14	154	10	0	38	17	295
Background Conditions	**0**	**0**	**0**	**93**	**643**	**0**	**167**	**1028**	**118**	**0**	**428**	**162**	**2639**
Proposed Project Trips	0	0	0	0	0	0	13	0	0	0	20	0	33
Background Plus Project Conditions	**0**	**0**	**0**	**93**	**643**	**0**	**180**	**1028**	**118**	**0**	**448**	**162**	**2672**

Intersection Number: 2
Traffix Node Number: 3541
Intersection Name: 4th Street and Santa Clara
Peak Hour: AM
Count Date: 5/25/17

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	77	284	40	0	522	122	0	0	0	115	358	0	1518
Existing Conditions *(with 1%*	**81**	**296**	**42**	**0**	**544**	**127**	**0**	**0**	**0**	**120**	**373**	**0**	**1583**
compound growth if older than 2 yrs)													
ATI	5	30	5	0	66	7	0	0	0	5	32	0	150
Background Conditions	**86**	**326**	**47**	**0**	**610**	**134**	**0**	**0**	**0**	**125**	**405**	**0**	**1733**
Proposed Project Trips	0	0	0	0	0	4	0	0	0	32	0	0	36
Background Plus Project Conditions	**86**	**326**	**47**	**0**	**610**	**138**	**0**	**0**	**0**	**157**	**405**	**0**	**1769**

Intersection Number: 3
Traffix Node Number: 3773
Intersection Name: 3rd Street and San Fernando Street
Peak Hour: AM
Count Date: 1/31/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	0	0	0	64	226	0	287	985	104	0	152	28	1846
Existing Conditions *(with 1%*	**0**	**0**	**0**	**66**	**233**	**0**	**296**	**1015**	**108**	**0**	**157**	**29**	**1904**
compound growth if older than 2 yrs)													
ATI	0	0	0	1	5	0	17	115	11	0	14	4	167
Background Conditions	**0**	**0**	**0**	**67**	**238**	**0**	**313**	**1130**	**119**	**0**	**171**	**33**	**2071**
Proposed Project Trips	0	0	0	0	4	0	0	13	0	0	0	0	17
Background Plus Project Conditions	**0**	**0**	**0**	**67**	**242**	**0**	**313**	**1143**	**119**	**0**	**171**	**33**	**2088**

Intersection Number: 4
Traffix Node Number: 3539
Intersection Name: 4th Street and San Fernando Street
Peak Hour: AM
Count Date: 9/20/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	73	347	36	0	158	125	0	0	0	141	227	0	1107
Existing Conditions *(with 1%*	**76**	**358**	**38**	**0**	**163**	**129**	**0**	**0**	**0**	**146**	**234**	**0**	**1144**
compound growth if older than 2 yrs)													
ATI	1	18	2	0	4	2	0	0	0	2	8	0	37
Background Conditions	**77**	**376**	**40**	**0**	**167**	**131**	**0**	**0**	**0**	**148**	**242**	**0**	**1181**
Proposed Project Trips	4	3	1	0	0	0	0	0	0	0	0	0	8
Background Plus Project Conditions	**81**	**379**	**41**	**0**	**167**	**131**	**0**	**0**	**0**	**148**	**242**	**0**	**1189**

Intersection Number: 1
Traffix Node Number: 3786
Intersection Name: 3rd Street and Santa Clara
Peak Hour: PM
Count Date: 1/31/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	0	0	0	67	519	0	122	367	96	0	728	74	1973
Existing Conditions *(with 1%*	**0**	**0**	**0**	**70**	**535**	**0**	**126**	**379**	**99**	**0**	**751**	**77**	**2037**
compound growth if older than 2 yrs)													
ATI	0	0	0	21	111	0	30	48	16	0	111	10	347
Background Conditions	**0**	**0**	**0**	**91**	**646**	**0**	**156**	**427**	**115**	**0**	**862**	**87**	**2384**
Proposed Project Trips	0	0	0	0	0	0	8	0	0	0	12	0	20
Background Plus Project Conditions	**0**	**0**	**0**	**91**	**646**	**0**	**164**	**427**	**115**	**0**	**874**	**87**	**2404**

Intersection Number: 2
Traffix Node Number: 3541
Intersection Name: 4th Street and Santa Clara
Peak Hour: PM
Count Date: 5/25/17

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	97	730	96	0	414	163	0	0	0	212	613	0	2325
Existing Conditions *(with 1%*	**101**	**760**	**100**	**0**	**431**	**170**	**0**	**0**	**0**	**221**	**638**	**0**	**2421**
compound growth if older than 2 yrs)													
ATI	36	167	37	0	68	14	0	0	0	12	82	0	416
Background Conditions	**137**	**927**	**137**	**0**	**499**	**184**	**0**	**0**	**0**	**233**	**720**	**0**	**2837**
Proposed Project Trips	0	0	0	0	0	2	0	0	0	20	0	0	22
Background Plus Project Conditions	**137**	**927**	**137**	**0**	**499**	**186**	**0**	**0**	**0**	**253**	**720**	**0**	**2859**

Intersection Number: 3
Traffix Node Number: 3773
Intersection Name: 3rd Street and San Fernando Street
Peak Hour: PM
Count Date: 1/31/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	0	0	0	73	234	0	236	486	86	0	272	71	1458
Existing Conditions *(with 1%*	**0**	**0**	**0**	**76**	**242**	**0**	**244**	**501**	**89**	**0**	**281**	**74**	**1507**
compound growth if older than 2 yrs)													
ATI	0	0	0	8	40	0	24	44	7	0	28	4	155
Background Conditions	**0**	**0**	**0**	**84**	**282**	**0**	**268**	**545**	**96**	**0**	**309**	**78**	**1662**
Proposed Project Trips	0	0	0	0	24	0	0	8	0	0	0	0	32
Background Plus Project Conditions	**0**	**0**	**0**	**84**	**306**	**0**	**268**	**553**	**96**	**0**	**309**	**78**	**1694**

Intersection Number: 4
Traffix Node Number: 3539
Intersection Name: 4th Street and San Fernando Street
Peak Hour: PM
Count Date: 9/20/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	89	987	87	0	170	227	0	0	0	188	339	0	2087
Existing Conditions *(with 1%*	**92**	**1017**	**90**	**0**	**176**	**234**	**0**	**0**	**0**	**194**	**350**	**0**	**2153**
compound growth if older than 2 yrs)													
ATI	10	230	12	0	25	30	0	0	0	27	48	0	382
Background Conditions	**102**	**1247**	**102**	**0**	**201**	**264**	**0**	**0**	**0**	**221**	**398**	**0**	**2535**
Proposed Project Trips	24	19	5	0	0	0	0	0	0	0	0	0	48
Background Plus Project Conditions	**126**	**1266**	**107**	**0**	**201**	**264**	**0**	**0**	**0**	**221**	**398**	**0**	**2583**

Appendix B

Intersection Vehicle Queue Analysis

Fourth/Santa Clara
WBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 2.8
Percentile = 0.95 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0595	0.0595	0
0.1678	0.2273	1
0.2369	0.4642	2
0.2228	0.6870	3
0.1572	0.8442	4
0.0887	0.9329	5
0.0417	0.9747	6
0.0168	0.9915	7
0.0059	0.9974	8
0.0019	0.9993	9
0.0005	0.9998	10
0.0001	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/Santa Clara
WBL
AM
Background Conditions
Avg. Queue Per Lane in Veh= 3.0
Percentile = 0.95 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0509	0.0509	0
0.1516	0.2025	1
0.2257	0.4282	2
0.2240	0.6522	3
0.1668	0.8190	4
0.0993	0.9183	5
0.0493	0.9676	6
0.0210	0.9886	7
0.0078	0.9964	8
0.0026	0.9990	9
0.0008	0.9997	10
0.0002	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/Santa Clara
WBL
AM
Background Plus Project Conditions
Avg. Queue Per Lane in Veh= 3.1
Percentile = 0.95 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0466	0.0466	0
0.1428	0.1894	1
0.2190	0.4084	2
0.2239	0.6323	3
0.1716	0.8039	4
0.1053	0.9092	5
0.0538	0.9630	6
0.0236	0.9866	7
0.0090	0.9956	8
0.0031	0.9987	9
0.0009	0.9996	10
0.0003	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/Santa Clara
WBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 5.2
Percentile = 0.95 9

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0055	0.0055	0
0.0288	0.0344	1
0.0748	0.1092	2
0.1296	0.2388	3
0.1683	0.4071	4
0.1748	0.5819	5
0.1514	0.7332	6
0.1123	0.8455	7
0.0729	0.9185	8
0.0421	0.9606	9
0.0219	0.9824	10
0.0103	0.9927	11
0.0045	0.9972	12
0.0018	0.9990	13
0.0007	0.9997	14
0.0002	0.9999	15
0.0001	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/Santa Clara
WBL
PM
Background Conditions
Avg. Queue Per Lane in Veh= 5.6
Percentile = 0.95 10

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0036	0.0036	0
0.0203	0.0239	1
0.0572	0.0811	2
0.1071	0.1882	3
0.1506	0.3388	4
0.1693	0.5081	5
0.1586	0.6667	6
0.1274	0.7942	7
0.0895	0.8837	8
0.0559	0.9396	9
0.0314	0.9711	10
0.0161	0.9872	11
0.0075	0.9947	12
0.0033	0.9979	13
0.0013	0.9993	14
0.0005	0.9997	15
0.0002	0.9999	16
0.0001	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/Santa Clara
WBL
PM
Background Plus Project Conditions
Avg. Queue Per Lane in Veh= 5.7
Percentile = 0.95 10

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0034	0.0034	0
0.0193	0.0227	1
0.0549	0.0777	2
0.1041	0.1818	3
0.1479	0.3297	4
0.1681	0.4978	5
0.1592	0.6570	6
0.1293	0.7863	7
0.0918	0.8782	8
0.0580	0.9362	9
0.0330	0.9691	10
0.0170	0.9861	11
0.0081	0.9942	12
0.0035	0.9977	13
0.0014	0.9992	14
0.0005	0.9997	15
0.0002	0.9999	16
0.0001	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.8
Percentile = 0.95 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4298	0.4298	0
0.3629	0.7927	1
0.1532	0.9460	2
0.0431	0.9891	3
0.0091	0.9982	4
0.0015	0.9998	5
0.0002	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
AM
Background Conditions
Avg. Queue Per Lane in Veh= 0.9
Percentile = 0.95 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4111	0.4111	0
0.3654	0.7765	1
0.1624	0.9390	2
0.0481	0.9871	3
0.0107	0.9978	4
0.0019	0.9997	5
0.0003	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
AM
Background Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.9
Percentile = 0.95 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4021	0.4021	0
0.3663	0.7684	1
0.1669	0.9353	2
0.0507	0.9860	3
0.0115	0.9975	4
0.0021	0.9996	5
0.0003	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 2.5
Percentile = 0.95 5

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0821	0.0821	0
0.2052	0.2873	1
0.2565	0.5438	2
0.2138	0.7576	3
0.1336	0.8912	4
0.0668	0.9580	5
0.0278	0.9858	6
0.0099	0.9958	7
0.0031	0.9989	8
0.0009	0.9997	9
0.0002	0.9999	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
PM
Background Conditions
Avg. Queue Per Lane in Veh= 2.8
Percentile = 0.95 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0588	0.0588	0
0.1666	0.2255	1
0.2361	0.4615	2
0.2230	0.6845	3
0.1579	0.8424	4
0.0895	0.9319	5
0.0423	0.9742	6
0.0171	0.9913	7
0.0061	0.9974	8
0.0019	0.9993	9
0.0005	0.9998	10
0.0001	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45

Fourth/San Fernando
SBL
PM
Background Plus Project Conditions
Avg. Queue Per Lane in Veh= 3.0
Percentile = 0.95 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0512	0.0512	0
0.1521	0.2033	1
0.2261	0.4294	2
0.2240	0.6535	3
0.1665	0.8199	4
0.0989	0.9189	5
0.0490	0.9679	6
0.0208	0.9887	7
0.0077	0.9964	8
0.0026	0.9990	9
0.0008	0.9997	10
0.0002	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45