HEXAGON TRANSPORTATION CONSULTANTS, INC.

South Fourth Street Residential

Local Transportation Analysis

Prepared for:

Salvatore Caruso Design Corporation

December 3, 2021

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Executive Summary

This report presents the results of the Local Transportation Analysis (LTA) conducted for a proposed residential project at 439-451 South Fourth Street in downtown San Jose, California. The project as proposed would replace an existing 30-unit apartment complex with 210 apartment units. The project includes a total of 27 levels including a basement parking level, an at-grade level with parking, freight loading spaces and residential amenities (including a lobby, mailboxes, a bike room and small offices), parking on levels 2, 3 and 4, 21 stories of residential apartments, and rooftop amenities including a community room, a gym, a yoga studio, a pool and a dog park. Vehicular access to the project parking garage would be provided via two right-turn only driveways on South Fourth Street. This study was conducted for the purpose of identifying potential traffic operational issues related to the proposed residential project.

The project site is located within the Downtown Growth Area Boundary, for which an Environmental Impact Report (EIR), the *Downtown San Jose Strategy Plan 2040 (DTS 2040)*, was prepared and approved. With adoption of DTS 2040, this project has CEQA clearance, so a comprehensive Transportation Analysis (TA) that includes a Vehicle Miles Traveled (VMT) analysis is not required. The project is required, however, to prepare a Local Transportation Analysis (LTA) to identify potential operational issues that may arise due to the project. The LTA includes an intersection operations analysis, as well as an evaluation of driveway operations, on-site circulation, and parking. The project's effects on transit, bicycle, and pedestrian facilities in the immediate vicinity of the project site also are evaluated as part of the LTA. Note that downtown intersections are exempt from having to meet the City's level of service standard.

Although no CEQA impact analysis or intersection level of service analysis are required, the project is required to prepare a Local Transportation Analysis (LTA) to identify potential traffic operational issues (e.g., vehicle queuing issues) in the study area based on weekday AM and PM peak-hour traffic conditions for four signalized intersections in the immediate vicinity of the project site. The LTA also includes an analysis of site access, on-site circulation, parking, and effects on transit, bicycle, and pedestrian access.

Local Transportation Analysis

Project Trip Generation

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, the project would generate 644 new daily vehicle trips, with 45 new trips occurring during the AM peak hour and 52 new trips occurring during the PM peak hour. Using the inbound/ outbound splits contained in the ITE *Trip Generation Manual*, the project would produce 11 new

inbound and 34 new outbound trips during the AM peak hour, and 32 new inbound and 20 new outbound trips during the PM peak hour.

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation. The project would not have an adverse effect on the existing pedestrian or bicycle facilities in the study area. Below are recommendations resulting from the site plan review and parking evaluation.

Recommendations

- Coordinate with City staff to determine if the proposed 20-foot-wide garage entrances, 20-foot-wide garage ramps, and 22-foot-wide drive aisles would be adequate to serve the project.
- Provide adequate stacking space for at least two inbound vehicles (40 to 50 feet) between the sidewalk and the garage entry gates or keep the entry gates open during the time period of the day when most inbound vehicle trips are likely to occur (generally from 2:00 PM to 7:00 PM).
- Provide appropriate visible warning signs and audible warning signals at the project driveways to alert pedestrians and bicyclists to vehicles exiting the site.
- Provide a larger radius at the top and bottom of the garage ramps, if feasible, to better serve vehicles turning simultaneously. Convex mirrors should be located at the top and bottom of the ramps and all blind corners of the parking garage to assist drivers with making these turns within the garage. The current site plan shows convex mirrors at some blind corners, but not all. Convex mirrors would improve on-site circulation by reducing the potential for vehicle conflicts.
- Provide at least 15 feet of vertical clearance at the southern garage entrance in order to accommodate trucks on site.
- Schedule residential move-ins and move-outs during off-peak hours to minimize conflicts at the southern garage entrance to the extent possible.
- Provide at least 6 feet of clearance (fire access) around the entire perimeter of the building or consider the fire variance process for mitigation of non-compliance.
- Coordinate with the City of San Jose Planning Department to determine the best approach to meeting the project's vehicle parking requirement.

1. Introduction

This report presents the results of the Local Transportation Analysis (LTA) conducted for a proposed residential project at 439-451 South Fourth Street in downtown San Jose, California (see Figure 1). The project as proposed would replace an existing 30-unit apartment complex with 210 apartment units. The project includes a total of 27 levels including a basement parking level, an at-grade level with parking, freight loading spaces and residential amenities (including a lobby, mailboxes, a bike room and small offices), parking on levels 2, 3 and 4, 21 stories of residential apartments, and rooftop amenities including a community room, a gym, a yoga studio, a pool and a dog park. Vehicular access to the project parking garage would be provided via two right-turn only driveways on South Fourth Street.

This study was conducted for the purpose of identifying potential traffic operational issues related to the proposed residential project. The site plan is shown on Figure 2.

Project CEQA Clearance

The project site is located within the Downtown Growth Area Boundary, for which an Environmental Impact Report (EIR), the *Downtown San Jose Strategy Plan 2040 (DTS 2040)*, was prepared and approved. DTS 2040 was preceded by the *San Jose Downtown Strategy 2000 Plan*, which is an integrated strategic urban design plan that focuses on the revitalization of Downtown San Jose by envisioning higher density infill development and replacement of underutilized uses within the boundaries of Downtown. DTS 2040 includes substantial changes to the amount of residential and office development contemplated in the Downtown Strategy 2000 and extends the horizon year of the Downtown Strategy from 2020 to 2040, consistent with the Envision San Jose 2040 General Plan.

With adoption of DTS 2040, this project has CEQA clearance, so a comprehensive Transportation Analysis (TA) that includes a Vehicle Miles Traveled (VMT) analysis is not required. The project is required, however, to prepare a Local Transportation Analysis (LTA) to identify potential operational issues that may arise due to the project. The LTA includes an intersection queuing analysis, as well as an evaluation of driveway operations. The project's effects on transit, bicycle, and pedestrian facilities in the immediate vicinity of the project site also are evaluated as part of the LTA.

The project is consistent with the Envision San Jose 2040 General Plan. The General Plan contains policies to encourage the use of non-automobile transportation modes to minimize vehicle trip generation and reduce VMT, including the following:

- Accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and VMT (TR-1.1);
- Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects (TR-1.2);

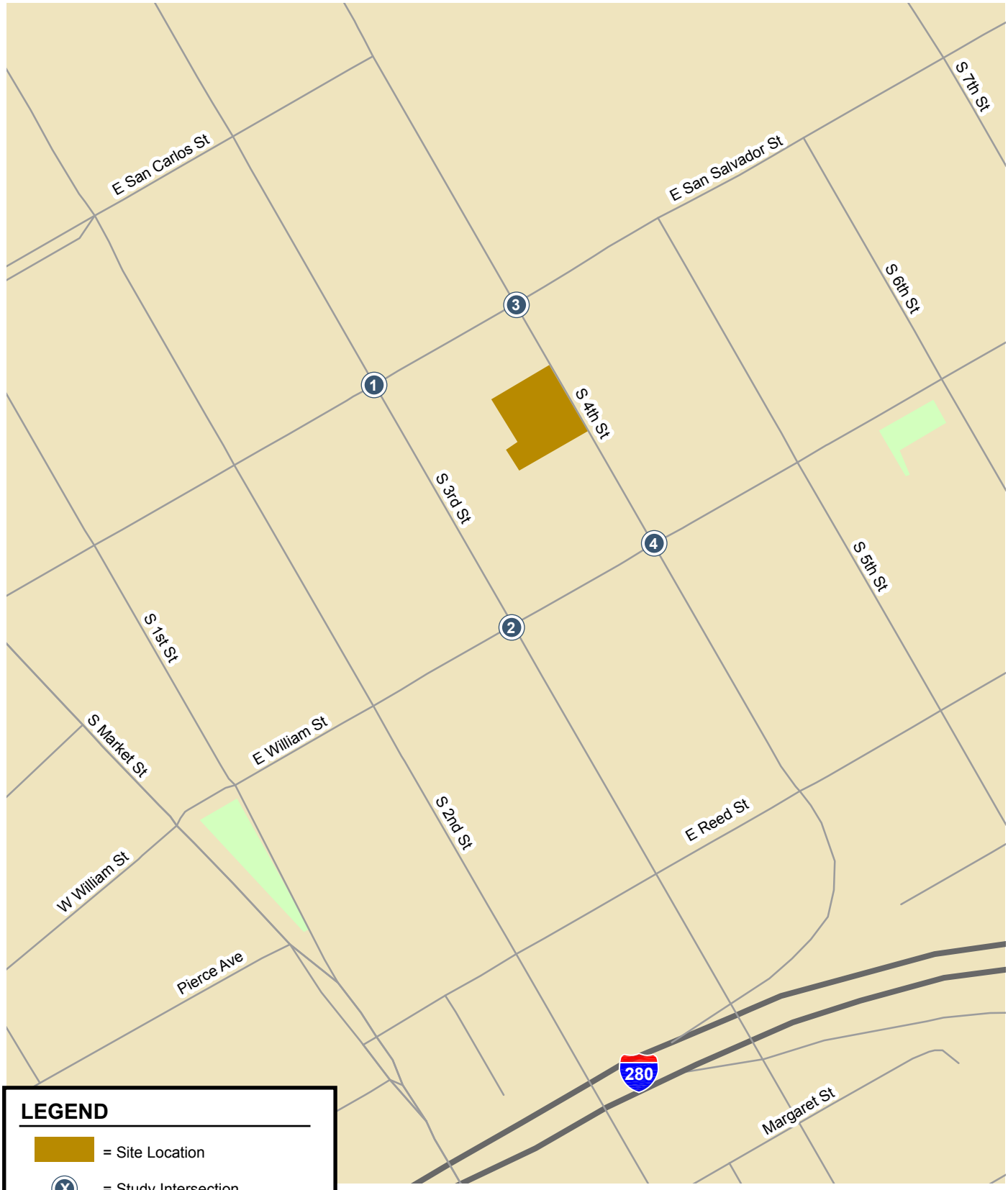
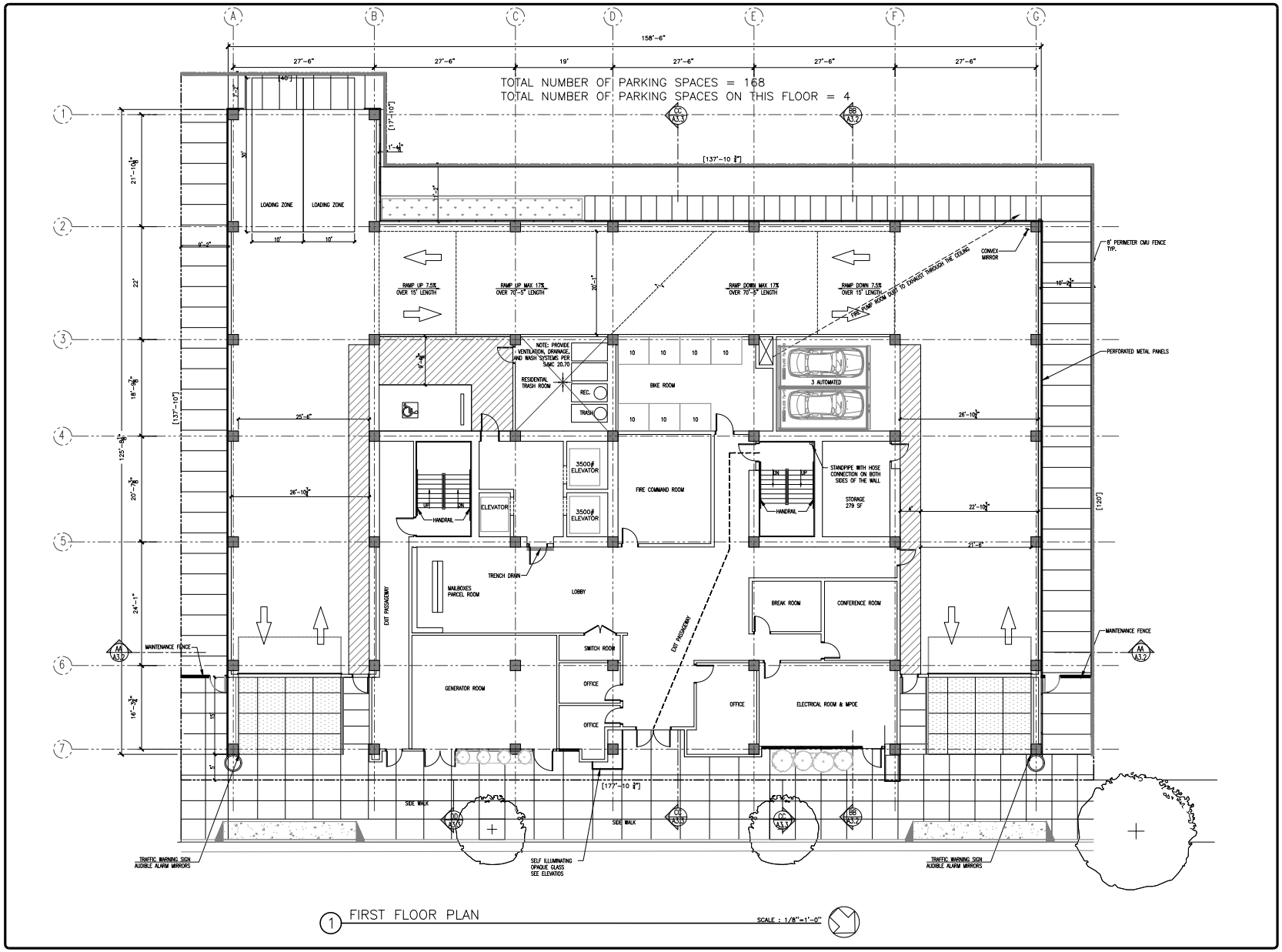


Figure 1
Site Location and Study Intersections



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PROJECT : H17-004

4TH STREET

439 & 451 SOUTH 4TH STREET
SAN JOSE, CA

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CONSULTANT:

SHEET NAME :
FIRST FLOOR PLAN

REVISIONS	BY
△2ND RESUBMIT 10/16/18	
△3RD RESUBMIT 10/08/21	

DRAWN:
CHECKED:
DATE: 10/08/2021
SCALE: 1/8"=1'-0"
JOB No.: 18.07.06
SHEET No.:
SHEETS IN SET A2.1

CITY STAMP

Figure 2
Site Plan

NORTH
Not to Scale

- Increase the proportion of commute travel using modes other than the single-occupant vehicle in order to meet the City's mode split targets for San Jose residents and workers (TR-1.3);
- Through the entitlement process for new development, projects shall be required to fund or construct needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling, walking and transit facilities and services that encourage reduced vehicle travel demand (TR-1.4);
- Actively coordinate with regional transportation, land use planning, and transit agencies to develop a transportation network with complementary land uses that encourage travel by bicycling, walking and transit, and ensure that regional greenhouse gas emissions standards are met (TR-1.8);
- Give priority to the funding of multimodal projects that provide the most benefit to all users. Evaluate new transportation projects to make the most efficient use of transportation resources and capacity (TR-1.9);
- Coordinate the planning and implementation of citywide bicycle and pedestrian facilities and supporting infrastructure. Give priority to bicycle and pedestrian safety and access improvements at street crossings and near areas with higher pedestrian concentrations (school, transit, shopping, hospital, and mixed-use areas) (TR-2.1);
- Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments. Eliminate or minimize physical obstacles and barriers that impede pedestrian and bicycle movement on City streets. Include consideration of grade-separated crossings at railroad tracks and freeways. Provide safe bicycle and pedestrian connections to all facilities regularly accessed by the public, including the Mineta San Jose International Airport (TR-2.2);
- Integrate the financing, design and construction of pedestrian and bicycle facilities with street projects. Build pedestrian and bicycle improvements at the same time as improvements for vehicular circulation (TR-2.5);
- Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements (TR-2.8);
- Coordinate and collaborate with local School Districts to provide enhanced, safer bicycle and pedestrian connections to school facilities throughout San Jose (TR-2.10);
- As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute towards transit ridership, and require that new development is designed to accommodate and provide direct access to transit facilities (TR-3.3);
- Support the development of amenities and land use and development types and intensities that increase daily ridership on the VTA, BART, Caltrain, ACE and Amtrak California systems and provide positive fiscal, economic, and environmental benefits to the community (TR-4.1);
- Require large employers to develop and maintain TDM programs to reduce the vehicle trips generated by their employees (TR-7.1);
- Promote transit-oriented development with reduced parking requirements and promote amenities around appropriate transit hubs and stations to facilitate the use of available transit services (TR-8.1);

- Balance business viability and land resources by maintaining an adequate supply of parking to serve demand while avoiding excessive parking supply that encourages auto use (TR-8.2);
- Support using parking supply limitations and pricing as strategies to encourage the use of non-automobile modes (TR-8.3);
- Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use (TR-8.4);
- Allow reduced parking requirements for mixed-use developments and for developments providing shared parking or a comprehensive transportation demand management (TDM) program, or developments located near major transit hubs or within Urban Villages and other Growth Areas (TR-8.6);
- Within new development, create and maintain a pedestrian-friendly environment by connecting the internal components with safe, convenient, accessible, and pleasant pedestrian facilities and by requiring pedestrian connections between building entrances, other site features, and adjacent public streets (CD-3.3);
- Create a pedestrian-friendly environment by connecting new residential development with safe, convenient, accessible, and pleasant pedestrian facilities. Provide such connections between new development, its adjoining neighborhood, transit access points, schools, parks, and nearby commercial areas (LU-9.1);
- Facilitate the development of housing close to jobs to provide residents with the opportunity to live and work in the same community (LU-10.5);
- Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location. Use the City's Parkland Dedication Ordinance and Park Impact Ordinance to have residential developers build trails when new residential development occurs adjacent to a designated trail location, consistent with other parkland priorities. Encourage developers or property owners to enter into formal agreements with the City to maintain trails adjacent to their properties (PR-8.5).

Projects in the Downtown Core

The proposed project is located in the expanded Downtown Core, as defined in the San Jose Greater Downtown Strategy for Development (Strategy 2000), which includes the area bounded by Julian Street, North First Street, East St. John Street, Seventh Street, East San Fernando Street, South Fourth Street, I-280, Union Pacific Railroad Line, Stockton Avenue, Taylor Street, and Coleman Avenue. The Strategy 2000 EIR approved 11.2 million square feet of office space, 8,500 residential units, 1.4 million square feet of retail space, and 3,600 hotel rooms in 4 phases of development.

The City recently updated Strategy 2000 land-use capacity and policy assumptions to be consistent with the Envision San Jose 2040 General Plan. Strategy 2040 (the update to Strategy 2000) increased the allowed number of residential units and received City Council approval in December of 2018. With the increase is residential units, this project is covered under Strategy 2040 and no CEQA Transportation Analysis (i.e., VMT analysis) is required. The project, however, must prepare a Local Transportation Analysis (LTA) to identify traffic operational issues as described below.

Local Transportation Analysis Scope

A Local Transportation Analysis (LTA) was prepared to identify potential adverse operational effects that may arise due to the new development, as well as evaluate the effects of the new development on site access, circulation, and other safety-related elements in the proximate area of the project.

Due to the short blocks within the downtown area and the proposed high density residential project, the project is only required to study signalized intersections most immediate to the project site. Based on this requirement, the LTA comprises an analysis of AM and PM peak hour traffic conditions for four (4) signalized intersections.

Study Intersections:

1. South Third Street and E. San Salvador Street
2. South Third Street and E. William Street
3. South Fourth Street and San Salvador Street
4. South Fourth Street and E. William Street

Traffic conditions at the study intersections were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour is generally between 7:00 and 9:00 AM and the weekday 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 a typical weekday. Traffic conditions were evaluated for the following scenarios:

- ***Existing Conditions.*** Existing AM and PM peak hour traffic volumes were obtained from the City of San Jose.
- ***Background Conditions*****.** Background traffic volumes were estimated by adding to existing peak hour volumes the projected volumes from approved but not yet completed or occupied developments. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). The ATI sheets are contained in Appendix A.
- ***Background Plus Project Conditions.*** Background plus project conditions reflect projected traffic volumes on the planned roadway network with completion of the project and approved developments. Background plus project traffic volumes were estimated by adding to background traffic volumes the additional traffic generated by the project.

The LTA includes an analysis of site access, on-site circulation, vehicle queuing, and effects to transit, bicycle, and pedestrian facilities.

Intersection Operations Analysis Methodology

This section presents the methods used to determine the traffic conditions at the study intersections. It includes descriptions of the data requirements and the analysis methodologies.

Data Requirements

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

- existing traffic volumes
- lane configurations
- signal timing and phasing
- a list of approved projects

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches. The queuing analysis is presented for informational purposes only, since the City of San Jose has not defined a policy related to queuing. Vehicle queues were estimated using

a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

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

Where:

P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

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

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Or, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement.

Report Organization

This report has a total of four chapters. Chapter 2 describes existing transportation conditions including the existing roadway network, transit service, and bicycle and pedestrian facilities. Chapter 3 describes the local transportation analysis including vehicle queuing at the study intersections, the methods used to estimate project-generated traffic, the project's effects on the transportation system, and an analysis of other transportation issues including site access and circulation, parking, transit services, and bicycle and pedestrian facilities. Chapter 4 presents the conclusions of the local transportation analysis.

2. Existing Transportation Conditions

This chapter describes the existing conditions of the transportation system within the study area of the project. It describes transportation facilities in the vicinity of the project site, including the roadway network, transit service, and pedestrian and bicycle facilities. The analysis of existing intersection operations is included as part of the Local Transportation Analysis (see Chapter 3).

Existing Roadway Network

Regional access to the project site is provided via State Route 87 and Interstate 280.

SR 87 is a north-south freeway providing regional access to the project site via its connections to SR 85 and US 101 in the south, and I-280 and US 101 in the north. These facilities allow for regional access from East Bay and Peninsula cities, as well as Gilroy and Morgan Hill to San Jose. SR 87 is oriented in a northwest/southwest direction with four mixed-flow lanes and two HOV lanes in the vicinity of the site. SR 87 provides access to the project study area via its interchange with I-280.

I-280 extends from US 101 in San Jose to I-80 in San Francisco. It is generally an east-west oriented eight-lane freeway in the vicinity of downtown San Jose. Access to the project site to and from I-280 is provided via ramps at 1st Street, 4th Street, 6th Street, 7th Street and Vine Street/Almaden Avenue.

Local access to the project site is provided via Third, Fourth, San Salvador and William Streets.

Third Street is a Main Street north of the project site and a Local Connector Street south of the site. Third Street is a one-way street with two northbound lanes and protected or buffered bike lanes between Humboldt Street and Julian Street. Third Street has a posted speed limit of 30 mph and parking on both sides of the street. Third Street is a two-way two-lane street with Class II bike lanes between Julian Street and Jackson Street to the north.

Fourth Street is a Main Street north of the project site and a Local Connector Street south of the site. Fourth Street is a one-way street with two southbound lanes and buffered bike lanes between Reed Street and St. James Street. It is a two-way two-lane street with buffered bike lanes between St. James Street and E. Hedding Street to the north. Fourth Street has a posted speed limit of 30 mph, has parking on both sides of the street, and provides direct access to the project site.

San Salvador Street is an east-west two-lane street that extends from Market Street to 16th Street. San Salvador Street has a posted speed limit of 20 mph and parking on both sides of the street. San Salvador Street contains a mix of Class II bike lanes, protected bike lanes and Sharrows and provides access to the project site via Fourth Street.

William Street is an east-west two-lane Local Connector Street that extends from Market Street to Bonita Avenue, just west of US 101. William Street has a posted speed limit of 25 mph and parking on both sides of the street. William Street provides access to the project site via Fourth Street.

Existing Pedestrian, Bicycle and Transit Facilities

San Jose desires to provide a safe, efficient, fiscally, economically, and environmentally-sensitive transportation system that balances the needs of bicyclists, pedestrians, and public transit riders with those of automobiles and trucks. The existing bicycle, pedestrian and transit facilities in the study area are described below.

Existing Pedestrian Facilities

A complete network of sidewalks and crosswalks is found along all the roadways in the study area. Crosswalks with pedestrian signal heads are located at all the signalized intersections in the study area. Crosswalks are also provided at some of the nearby unsignalized intersections. The existing pedestrian facilities provide good connectivity between the project site and the surrounding land uses and transit stops in the downtown area.

Existing Bicycle Facilities

Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs and/or Sharrows (bike route/shared lane markings) to help guide bicyclists on recommended routes to certain locations.

The Guadalupe River/Los Alamitos Creek multi-use trail system (Class I bikeway) runs through the City of San Jose along the Guadalupe River and separates bicyclists from motor vehicle traffic. The Guadalupe River trail is a continuous Class I bikeway (paved path) from W Virginia Street in the south to Alviso Marina County Park. There is another section of the trail a few blocks south of W Virginia Street from Willow Street to Curtner Avenue, which provides access to trails that lead to Almaden Valley in southern San Jose. This shared trail system runs adjacent to SR 87 near the project vicinity, with trail access provided approximatley ½ mile west of the project site at the Children's Discovery Museum of San Jose. The trail system is available for use by pedestrians and bicyclists year round.

The existing on-street bicycle facilities in the project vicinity are described below and are shown on Figure 3.

- First Street has Sharrows between San Salvador Street and St. John Street.
- Second Street has buffered bike lanes between Keyes Street and San Carlos Street, Sharrows between San Carlos Street and St. John Street, and buffered bike lanes again between Julian Street and Taylor Street to the north.
- Third Street has protected or buffered bike lanes between Humboldt Street and Julian Street, and Class II bike lanes between Julian Street and Jackson Street to the north.
- Fourth Street has buffered bike lanes between Julian Street and San Salvador Street, as well as a contra-flow northbound buffered bike lane between San Salvador Street and San Fernando Street adjacent to the San Jose State University (SJSU) campus. This was recently added as part of the City's new Better Bikeway Network (BBN). The BBN does not affect the buffered bike lanes along the project frontage on Fourth Street.
- Seventh Street has Class II bike lanes from Tully Road to Empire Street, and Sharrows north of Empire Street.
- San Salvador Street has standard Class II bike lanes between Market Street and Fourth Street, and buffered bike lanes east of Fourth Street adjacent to the SJSU campus.
- San Carlos Street has Sharrows between Woz Way and SJSU.
- William Street has Sharrows between First Street and 24th Street.

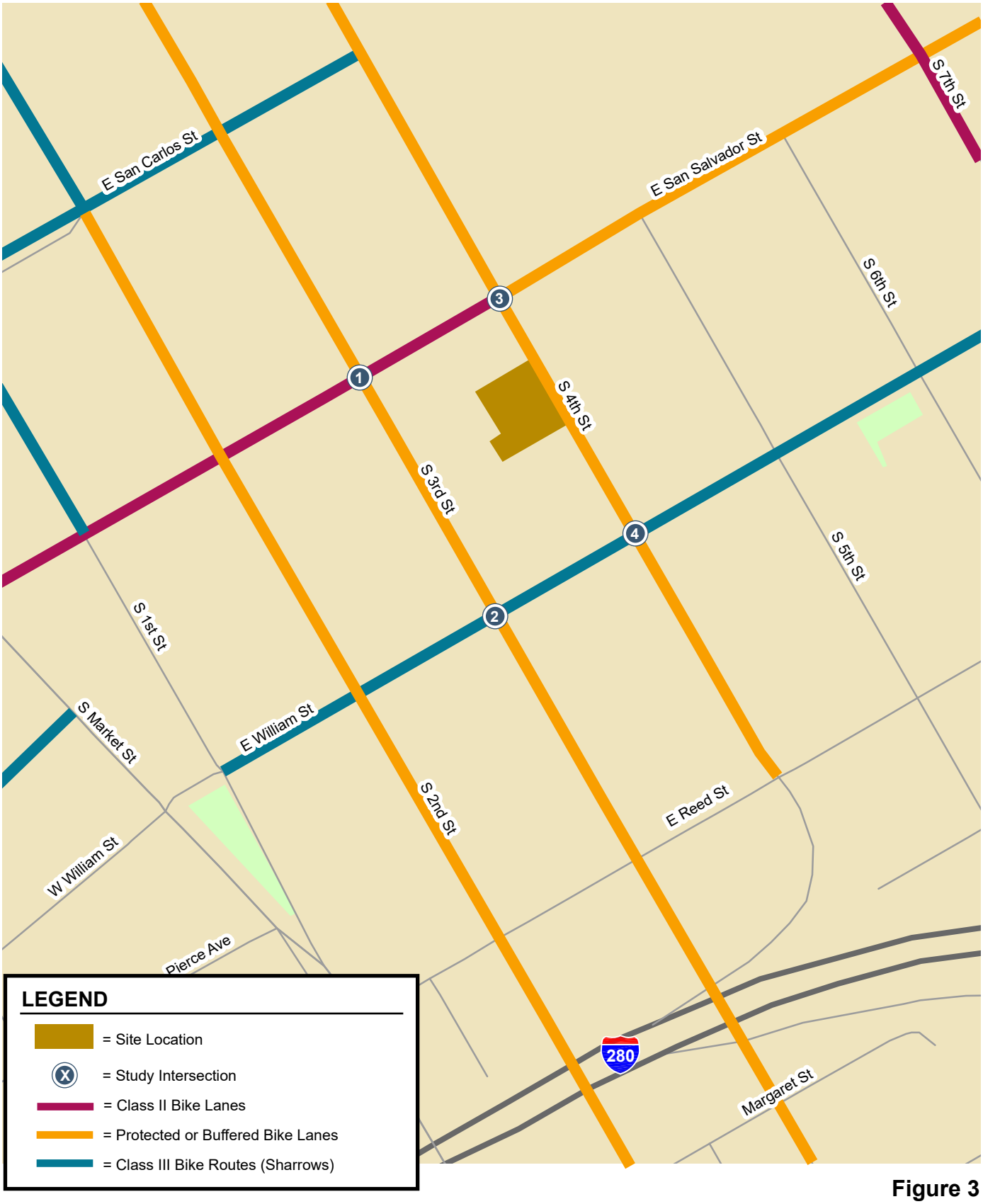


Figure 3
Existing Bicycle Facilities

Bike and Scooter Share Services

Lyft operates the Bay Wheels (formerly Ford GoBike) bike share program that allows users to rent and return bicycles at various locations in the downtown area. Bike share bikes can be rented and returned at designated docking stations throughout the Downtown area. The following bike share stations are located within walking distance of the project site: Fifth Street at San Salvador Street and Fourth Street at San Carlos Street.

Dockless bike and scooter rentals are also available throughout the Downtown area. These services provide electric bicycles and scooters with GPS self-locking systems that allow for rental and drop-off anywhere. Dockless scooters are often parked near the project site on a daily basis.

Existing Transit Services

Existing transit services near the project site (see Figure 4) are provided by the Santa Clara Valley Transportation Authority (VTA) and Caltrain.

VTA Light Rail Transit (LRT) Service

The VTA currently operates the 42.2-mile light rail line system extending from south San Jose through downtown to the northern areas of San Jose, Santa Clara, Milpitas, Mountain View and Sunnyvale. The service operates nearly 24 hours a day with 15-minute headways during much of the day. The San Antonio LRT Stations are located less than ½ mile walking distance from the project site on First Street and Second Street (northbound and southbound stations) and are served by the Baypointe-Santa Teresa LRT Line (Blue Line) and the Old Ironsides-Winchester Line (Green Line). The Green Line serves the San Jose Diridon Station which provides Caltrain, Altamont Commuter Express (ACE), and Amtrak services. The San Antonio LRT Stations are also served by bus routes 66 and 68.

VTA Bus Service

The closest bus stop to the project site is located on Second Street at San Salvador Street, approximately 900 feet walking distance from the project site, and is served by local bus routes 66 and 68 traveling southbound. The next closest bus stop is located on First Street north of San Salvador Street, about 1,500 feet walking distance from the project site, and is served by local bus routes 66 and 68 traveling northbound. Additional bus routes operating near the project site include routes 23, 168 and 523 (see Table 1).

Table 1
Existing Bus Routes

Bus Route	Route Description	Headway [1]
Local Route 23	De Anza College to Alum Rock Transit Center	12 min
Local Route 66	Kaiser San Jose Medical Center to Milpitas (Dixon Road)	15 - 20 min
Local Route 68	Gilroy Transit Center to San Jose Diridon Station	15 - 20 min
Express Route 168	Gilroy Transit Center to San Jose Diridon Station	15 - 30 min [2]
Rapid 523	SJSU to Lockheed Martin	30 min

Notes:
[1] Approximate headways during peak weekday commute periods.
[2] Express Route 168 operates between 5:30am and 9:00am in the northbound direction, and between 3:40pm and 7:00pm in the southbound direction. It stops 7 times each day at each stop in each direction.

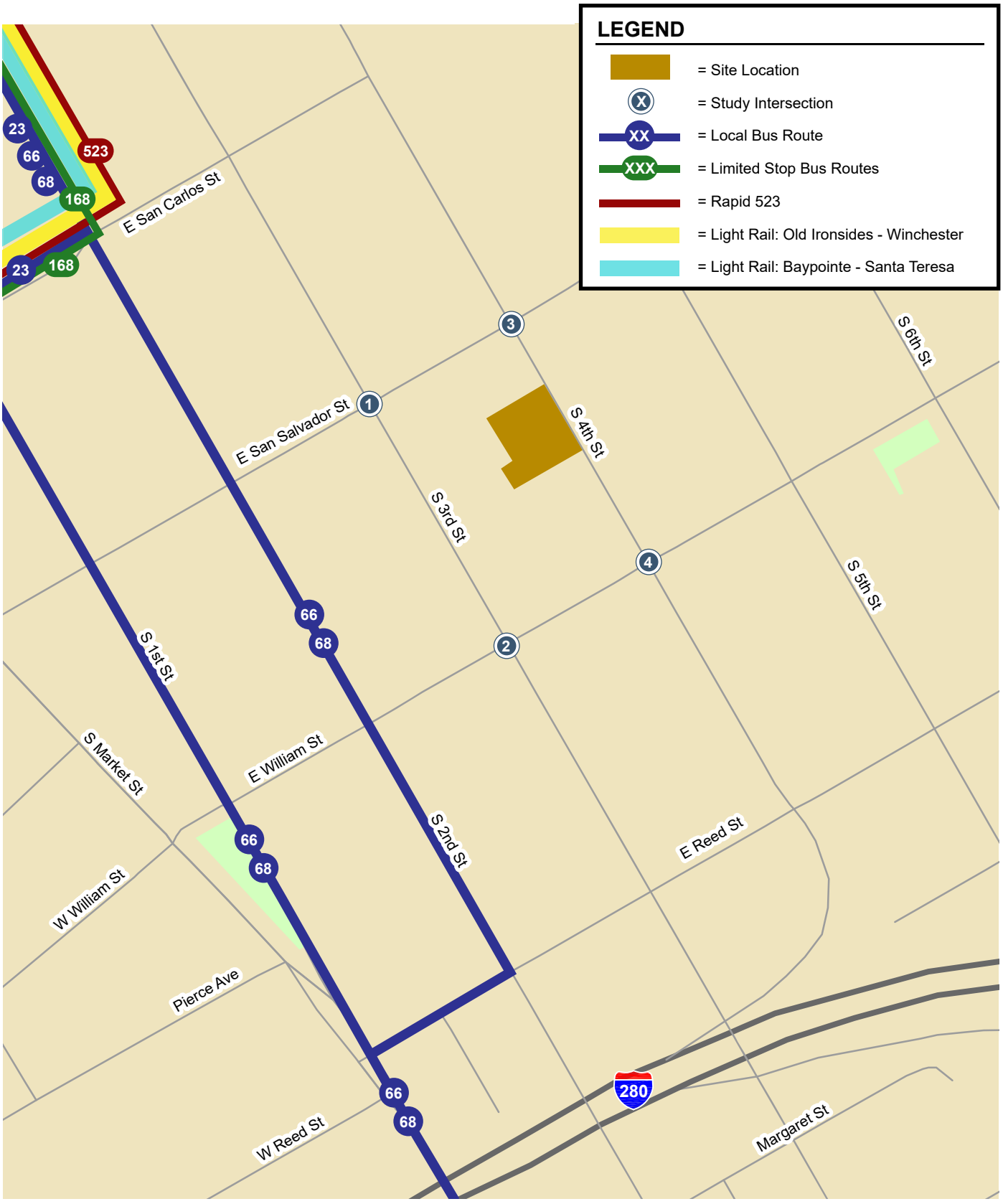


Figure 4
Existing Transit Services

Caltrain Service

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. Caltrain operates a total of 92 weekday trains. The Diridon LRT Station is located 1.5 miles walking distance from the project site. The Diridon Station is served by the Baypointe-Santa Teresa LRT Line (Blue Line), as well as local bus route 68. The Diridon Station also has a GoBike station and bike lockers.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 5.

Observed Existing Traffic Conditions

Traffic conditions were observed in the field (in 2018) to identify any existing operational deficiencies. In general, traffic is heaviest in the northbound direction (via Third Street toward downtown) during the AM peak hour and is heaviest in the southbound direction (via Fourth Street toward I-280) during the PM peak hour. Field observations revealed the following noteworthy operational issues:

Fourth Street and San Salvador Street

During the PM peak hour, long vehicle queues developed for the southbound through movement at Fourth Street/San Salvador Street due to vehicles intending to access I-280 via the on-ramp south of Reed Street. The vehicle queues on southbound Fourth Street extended back to San Carlos Street during the PM peak hour. Additionally, vehicles turning left onto Fourth Street from the parking garage needed to wait for an opening in traffic, which sometimes took a few minutes. There was a continuous flow of traffic on Fourth Street and the red light created immediate queuing on the southbound approach. However, shortly after the queue reached San Carlos Street, the signal at Fourth Street/San Salvador Street turned green and all southbound vehicles were able to clear the intersection in one signal cycle.

Fourth Street and William Street

During the PM peak hour, there was less vehicle queuing for the southbound through movement at Fourth Street/William Street compared to Fourth Street/San Salvador Street. Vehicle queues that developed for the eastbound traffic on William Street extended back to Third Street; however, all cars were able to clear the intersection in one signal cycle. The southbound vehicle queue from Reed Street extended back to William Street twice during the observation period due to the bottleneck onto I-280, which briefly caused cars to block the Fourth Street/William Street intersection.

The study intersections of Third Street/San Salvador Street and Third Street/William Street were observed to operate without any noteworthy operational issues during both the AM and PM peak hours of traffic.

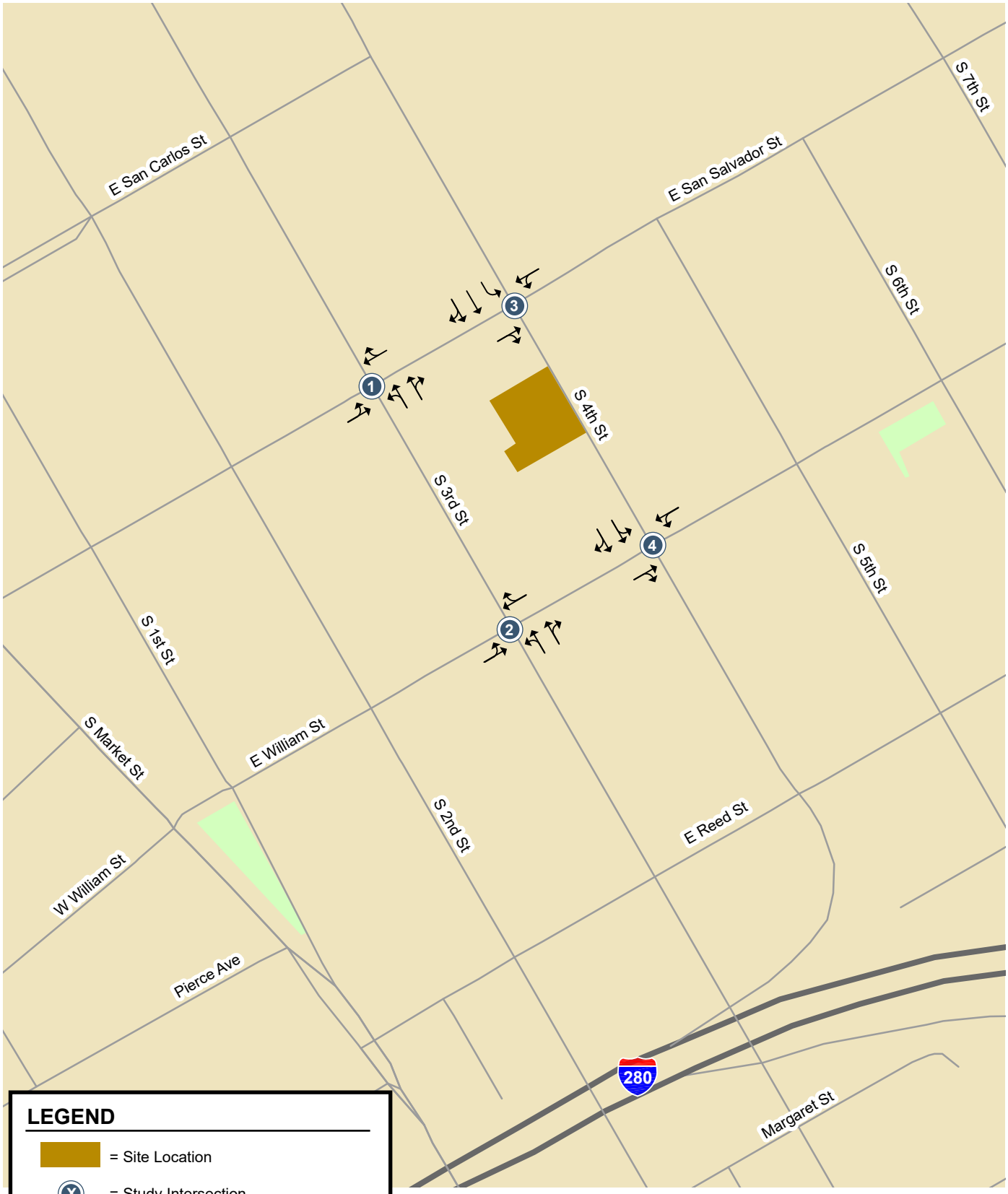


Figure 5
Existing Lane Configurations

3. Local Transportation Analysis

This chapter describes the local transportation analysis (LTA) including the method by which project traffic is estimated, intersection operations analysis, intersection vehicle queuing analysis, site access and on-site circulation review, effects on bicycle, pedestrian and transit facilities, and parking.

Intersection Operations Analysis

The intersection operations analysis is intended to quantify the operations of San Jose intersections and to identify potential negative effects due to the addition of project traffic. Information required for the intersection operations analysis related to project trip generation, trip distribution, and trip assignment are presented in this section. The study intersections are located in the City of San Jose and are evaluated based on the City of San Jose's intersection analysis methodology and standards in determining potential adverse operational effects due to the project, as described in Chapter 1.

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, the directions to and from which the project trips would travel are estimated. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by common land uses. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. Trip generation resulting from new development proposed within the City of San Jose typically is estimated using the trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition* (2017).

Trips that would be generated by the proposed residential apartment units were estimated using the ITE trip rates for "Multifamily Housing High-Rise" (ITE Land Use 222) located in a General Urban/ Suburban setting. This land use category includes apartments, townhouses and condominiums that have more than ten (10) levels. The project as proposed would include a total of 27 levels: 1 basement level and 26 above-grade levels (including the rooftop).

Trip Adjustments and Reductions

In accordance with San Jose's *Transportation Analysis Handbook* (April 2020, Section 4.8, "Intersection Operations Analysis"), the project is eligible for adjustments and reductions from the baseline trip generation described above. The applicable trip adjustments and reductions are described below.

Location-Based Trip Adjustment

Based on the 2020 San Jose guidelines, the project qualifies for a 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 evaluation tool, the project site is located within a designated Central City Urban place type. Therefore, the baseline project trips were adjusted to reflect the mode share for this place type. Residential developments within Central City Urban areas have a vehicle mode share of 71 percent (according to Table 6 of the City's *Transportation Analysis Handbook*). Thus, a 29 percent trip reduction was applied to the project trip generation estimates based on the location-based vehicle mode share outputs produced from the San Jose Travel Demand Model. The 29 percent trip reduction is based on the percent of mode share for other modes of travel besides automobiles.

Project-Specific Residential Trip Reduction

The total VMT reduction resulting from the project characteristics (Tier 1 VMT reduction strategies) were applied as part of the project trip generation estimates. The VMT Evaluation Tool calculates the total Tier 1 VMT reduction based on the following list of project characteristics: Increase Residential Density, Increase Employment Density, Increase Development Diversity, and Integrate Affordable and Below Market Rate units. Based on the proposed apartments, the VMT Evaluation Tool calculated a 3% external trip reduction due to the increased residential density for the site.

Net Project Trips

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, the project would generate 644 new daily vehicle trips, with 45 new trips occurring during the AM peak hour and 52 new trips occurring during the PM peak hour. Using the inbound/outbound splits contained in the ITE *Trip Generation Manual*, the project would produce 11 new inbound and 34 new outbound trips during the AM peak hour, and 32 new inbound and 20 new outbound trips during the PM peak hour (see Table 2).

Table 2
Project Trip Generation Estimates

				AM Peak Hour				PM Peak Hour			
Land Use	Size	Daily Rate	Daily Trips	Pk-Hr Rate	In	Out	Total	Pk-Hr Rate	In	Out	Total
Apartments [1]	210 DU	4.45	935	0.31	16	49	65	0.36	46	30	76
Location-Based Vehicle Mode Share (29%) [2]			*(271)*		*(5)*	*(14)*	*(19)*		*(13)*	*(9)*	*(22)*
Project-Specific Trip Reduction (3%) [3]			*(20)*		*0*	*(1)*	*(1)*		*(1)*	*(1)*	*(2)*
Net Project Trips:			**644**		**11**	**34**	**45**		**32**	**20**	**52**

Notes:
[1] Trip generation based on average rates contained in the *ITE Trip Generation Manual, 10th Edition* , for Multifamily Housing High-Rise (Land Use 222) located in a General Urban/Suburban setting. Rates are expressed in trips per dwelling unit (DU).
[2] A 29% reduction was applied based on the location-based vehicle mode share percentage outputs (Table 6 of the *TA Handbook*) produced from the San Jose Travel Demand Model for the place type Central City Urban.
[5] A 3% reduction was applied based on the external trip adjustments obtained from the City's VMT Evaluation Tool due to the increased residential density for the site as a result of the project.

Trip Distribution and Assignment

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway network that reflect typical weekday AM and PM commute patterns, the locations of complementary land uses, and freeway access points. The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern. Figure 6 shows the project trip distribution pattern and trip assignment.

Traffic Volumes Under All Scenarios

Existing Traffic Volumes

Due the current COVID-19 pandemic situation, the City of San Jose is requiring that all new traffic counts for study intersections be put on hold until further notice. Instead of conducting new counts, City staff are requesting that a compounded annual growth factor of 1% be applied to historical count data (i.e., any count that is more than two years old). Accordingly, a 1% annual growth factor was applied to the turning movement counts provided by City staff for this project. The existing peak hour intersection volumes are shown on Figure 7.

Background Traffic Volumes

Background peak hour traffic volumes were estimated by adding to existing peak hour volumes the projected volumes from approved but not yet completed or occupied developments. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). The background peak hour intersection volumes are shown on Figure 8. The ATI sheets are contained in Appendix A.

Background Plus Project Traffic Volumes

Project peak hour trips were added to background peak hour traffic volumes to obtain background plus project peak hour traffic volumes (see Figure 9).

Intersection Queuing Analysis

The operations analysis is based on vehicle queuing for high-demand turn movements at intersections. Based on the project trip generation and trip distribution pattern, the westbound approach at Fourth Street and San Salvador Street was examined as part of the queuing analysis for this project (see Table 3). Note that since the westbound approach of this intersection is a shared through/left-turn lane, the total volume (through + left-turn volume) was evaluated for queuing.

The queuing analysis indicates that the maximum vehicle queue for the westbound shared left-turn/ through lane at the Fourth Street and San Salvador Street intersection is currently 300 feet in length, which almost extends to the Fifth Street intersection. It is estimated that the westbound 95th percentile vehicle queue on San Salvador Street would increase by 25 feet (or one vehicle) as a result of traffic generated by other approved but not yet constructed projects in the area. The project-generated traffic (8 PM peak hour vehicle trips) would not increase the westbound 95th percentile vehicle queue and the queue still would not extend to Fifth Street.

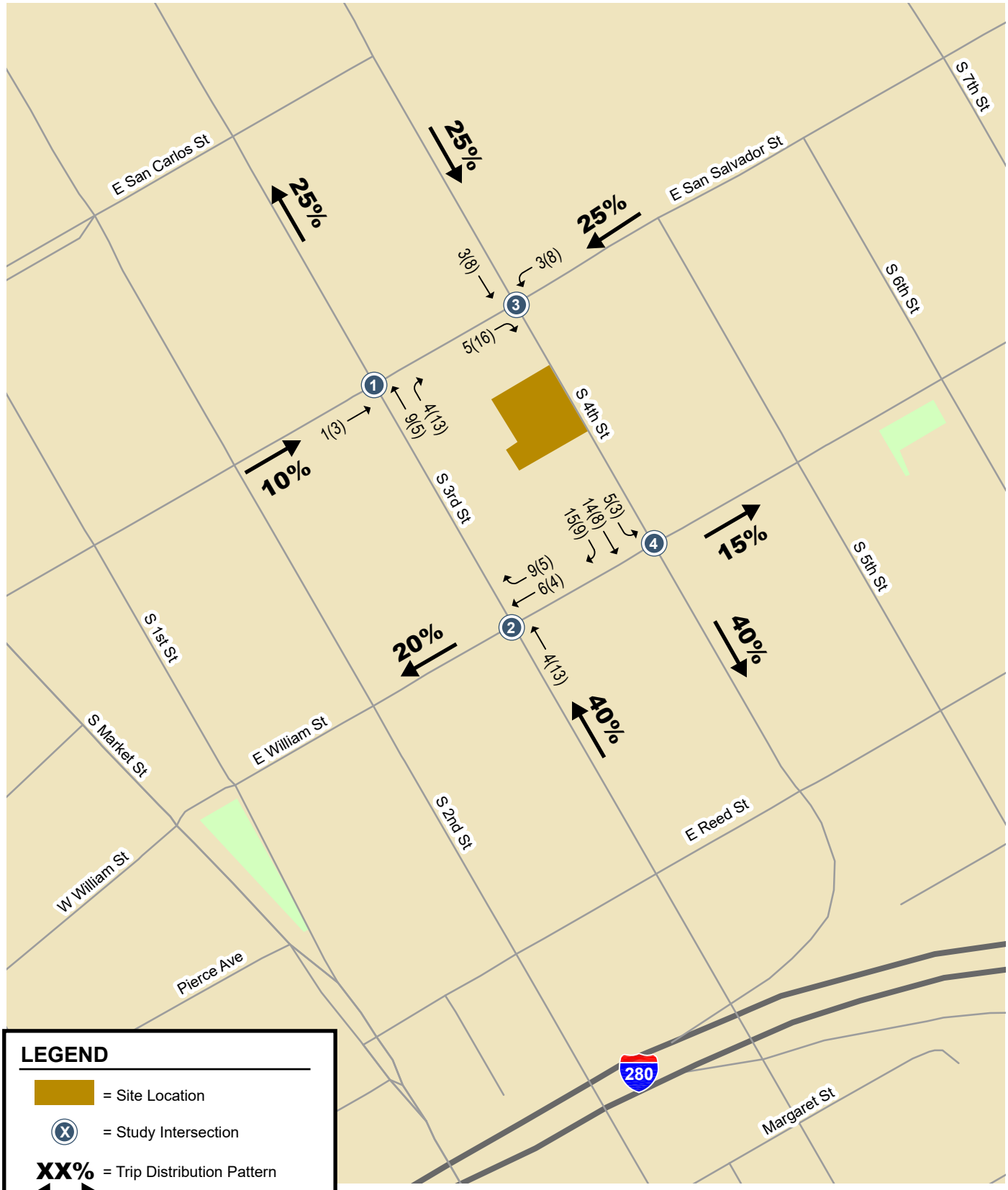


Figure 6
Project Trip Distribution and Trip Assignment

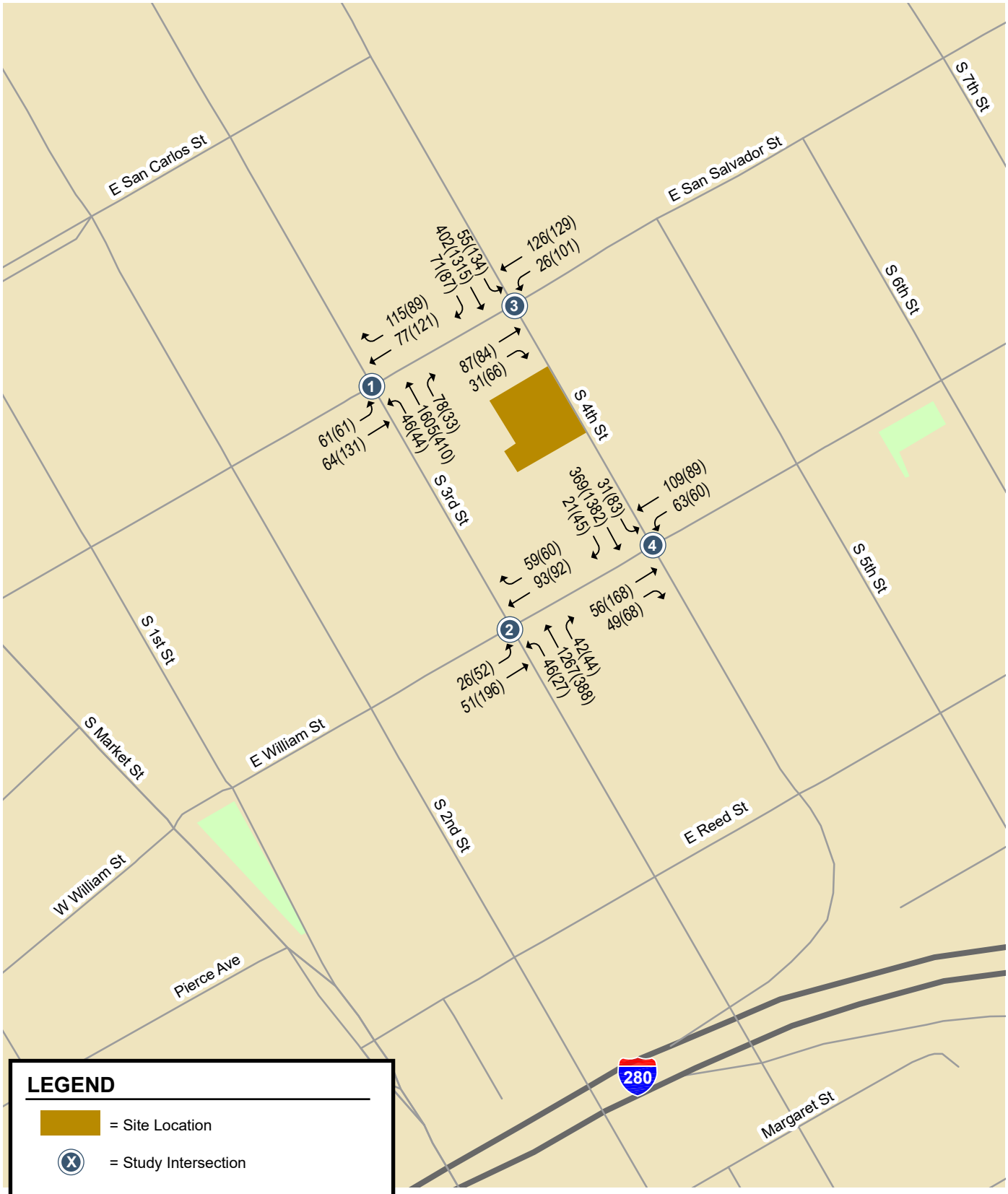


Figure 7
Existing Traffic Volumes

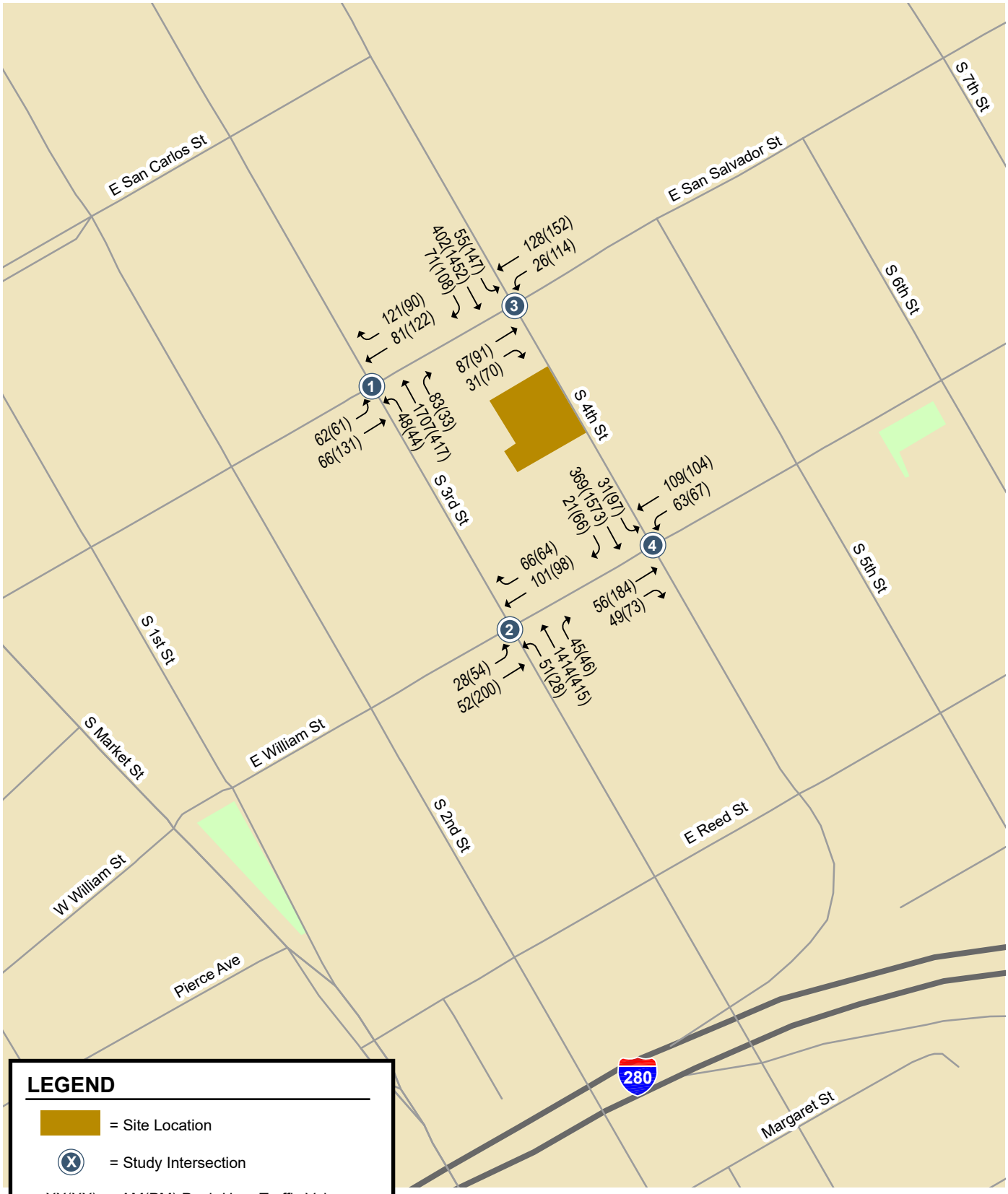


Figure 8
Background Traffic Volumes

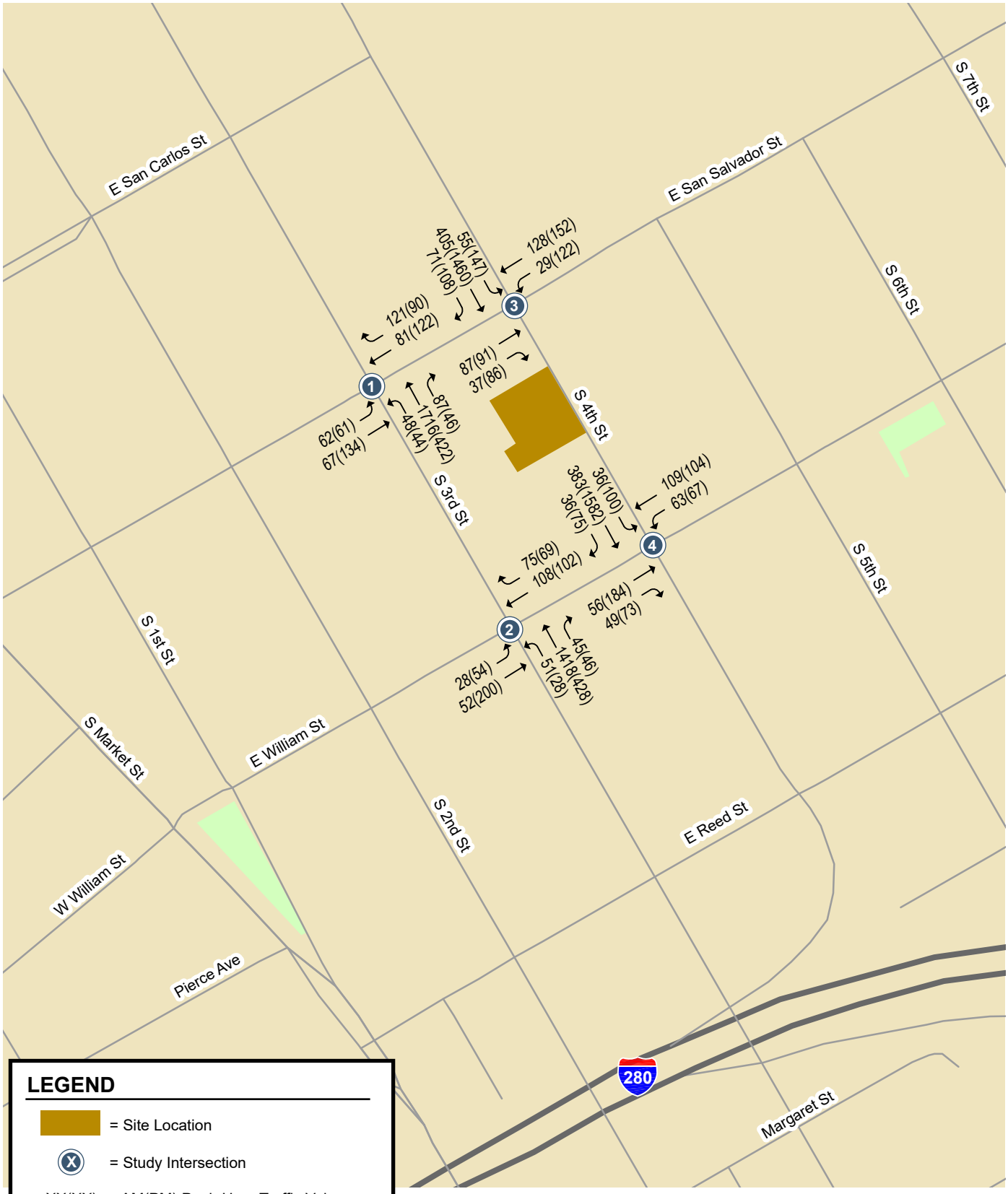


Figure 9
Background Plus Project Traffic Volumes

Table 3
Intersection Queuing Analysis Summary

	Fourth Street & San Salvador Street	
	Westbound Left-Turn [3]	Westbound Left-Turn [3]
Peak Hour:	AM	PM
Existing		
Cycle/Delay[1] (sec)	80	110
Volume (vphpl)	152	230
95th %. Queue (veh/ln.)	7	12
95th %. Queue (ft./ln)	175	300
Storage (ft./ ln.)	1000	1000
Adequate (Y/N)	Y	Y
Background		
Cycle/Delay[1] (sec)	80	110
Volume (vphpl)	154	266
95th %. Queue (veh/ln.)	7	13
95th %. Queue (ft./ln)	175	325
Storage (ft./ ln.)	1000	1000
Adequate (Y/N)	Y	Y
Background Plus Project		
Cycle/Delay[1] (sec)	80	110
Volume (vphpl)	157	274
95th %. Queue (veh/ln.)	7	13
95th %. Queue (ft./ln)	175	325
Storage (ft./ ln.)	1000	1000
Adequate (Y/N)	Y	Y

Notes:
[1] Vehicle queue calculations based on signal cycle length.
[2] Assumes 25 Feet Per Vehicle Queued.
[3] The WB approach at this intersection is a shared left-turn/through lane approach. Thus, the vehicle queues reported reflect the total WB LT/Thru volume. San Salvador Street provides 300 ft of vehicle storage space between Fourth Street and Fifth Street (unsignalized T-intersection) to the east. The closest signalized intersection is Seventh Street and San Salvador Street about 1,000 feet to the east.

Site Access and On-Site Circulation

The site access and circulation evaluations are based on the October 8, 2021 site plan prepared by Salvatore Caruso Design Corporation (see Figure 2). Site access was evaluated to determine the adequacy of the site's driveways with regard to the following: traffic volume, geometric design, sight distance and general operations. On-site vehicular circulation and parking layout were reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Vehicular Site Access

As proposed, the project would remove four existing driveways on Fourth Street and construct two new right-turn in/out driveways on Fourth Street, situated approximately 110 feet apart. The project driveways are shown to be 26 feet wide and the garage entrances are shown to be 20 feet wide. The northern driveway would provide access to an at-grade 3-car mechanical parking stacker and to the basement parking level. The southern driveway would provide access to two at-grade freight loading

spaces and three above-grade parking levels. Automatic mechanical stack parking would be provided on the basement parking level (see Figure 10). Each of the above-grade parking levels would contain standard 90-degree parking stalls consisting of uniform stalls, compact stalls, and ADA accessible stalls (see Figures 11, 12 and 13). A percentage of the parking stalls would be tandem parking.

According to the City of San Jose Department of Transportation (DOT) Geometric Design Guidelines, the typical width for a two-way driveway that serves a multi-family residential development is 26 feet wide. This provides adequate width for vehicular ingress and egress and provides a reasonably short crossing distance for pedestrians. The proposed 26-foot wide driveways on Fourth Street would meet the City's design standard. However, the 20-foot wide garage entrances do not meet the City standard. The project applicant should coordinate with City staff to determine if the proposed 20-foot-wide garage entrances would be adequate to serve the project.

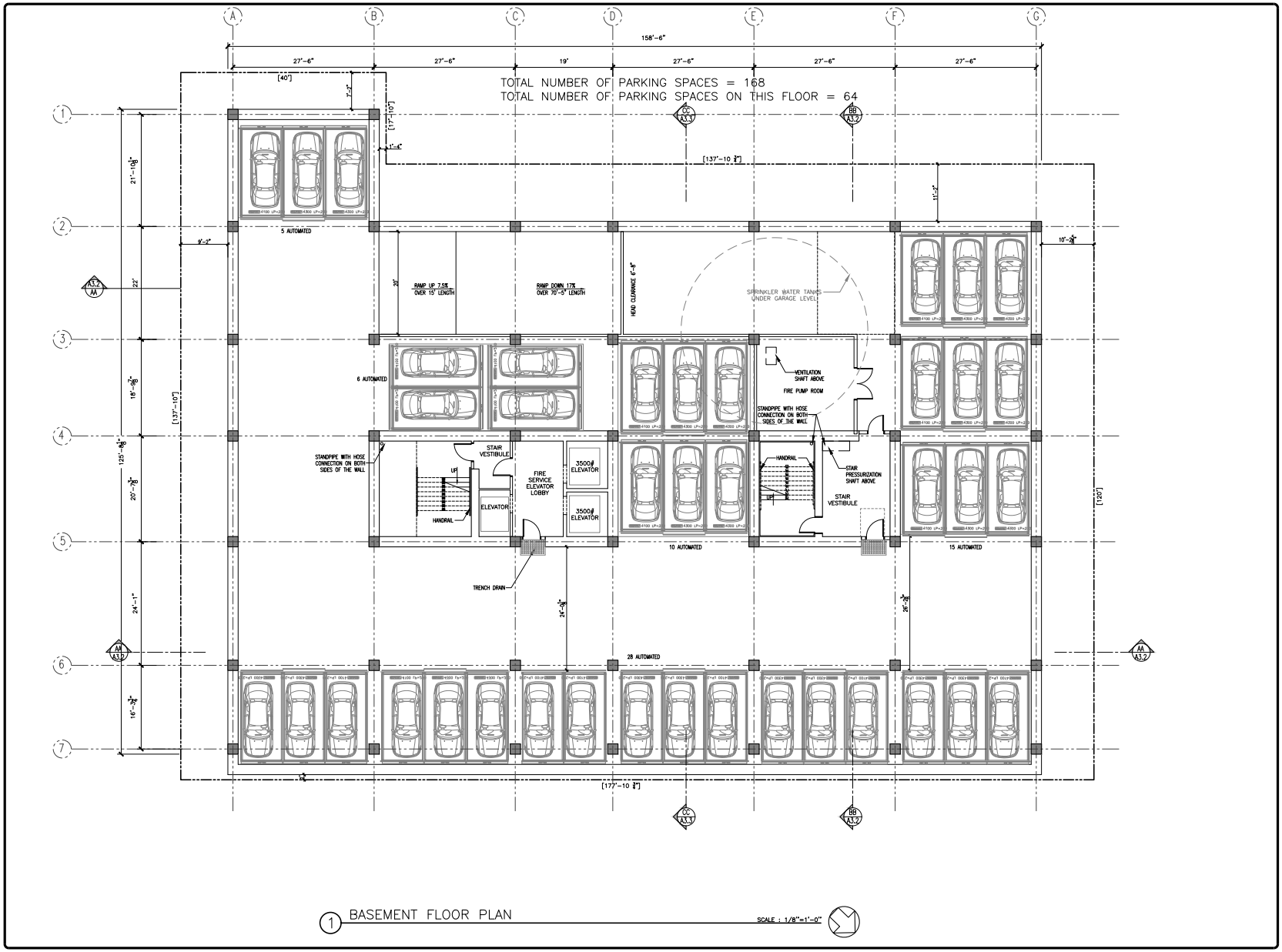
The total project-generated residential trips that are estimated to occur at the project driveways are 11 inbound trips and 34 outbound trips during the AM peak hour, and 32 inbound trips and 20 outbound trips during the PM peak hour. All trips would be turning right in and out of the project driveways as Fourth Street is a one-way street in the southbound direction. Inbound and outbound vehicles would be turning across the buffered bike lane, though this is already occurring at the site and throughout the downtown area and should not present an issue. Outbound vehicles needing to travel north would travel around the block via William Street to access Third Street and proceed northbound.

Due to the relatively low number of project-generated trips, operational issues related to vehicle queueing and/or vehicle delay are not expected to occur at the project driveways. Some minor on-site vehicle queuing could occur due to a combination of the inherent unpredictability of vehicle arrivals at driveways and the random occurrence of gaps in traffic along Fourth Street. However, this condition is typical of driveways in the downtown area.

The site plan shows a security gate at the garage entrances. The City typically requires developments to provide adequate stacking space for at least two inbound vehicles (40 to 50 feet) between the sidewalk and any entry gates. This prevents vehicles from queuing onto the street. The project should consider this requirement when determining the locations of the internal security gates. Ultimately, the locations of the gates should not present a problem if the gates remain open during the period of the day when most inbound vehicle trips are likely to occur, which generally is between the hours of 2:00 PM and 7:00 PM. It is our understanding, based on previous experience with downtown projects, that this approach would be acceptable.

Sight Distance

The project driveways should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and vehicles and bicycles traveling on Fourth Street. Any landscaping and signage should be located in such a way to ensure an unobstructed view for drivers exiting the site. There is no existing landscaping or other visual obstruction along the project frontage that could obscure sight distance at the project driveways, and the site plan does not indicate that any new landscaping would be added. There are a few existing street trees along the project and adjacent property frontages on Fourth Street. However, these mature trees have a high canopy and drivers exiting the project driveways would have an unobstructed view.



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PROJECT : H17-004

4TH STREET

439 & 451 SOUTH 4TH STREET
SAN JOSE, CA

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Figure 10
Below Grade Parking Level Plan

NORTH
Not to Scale

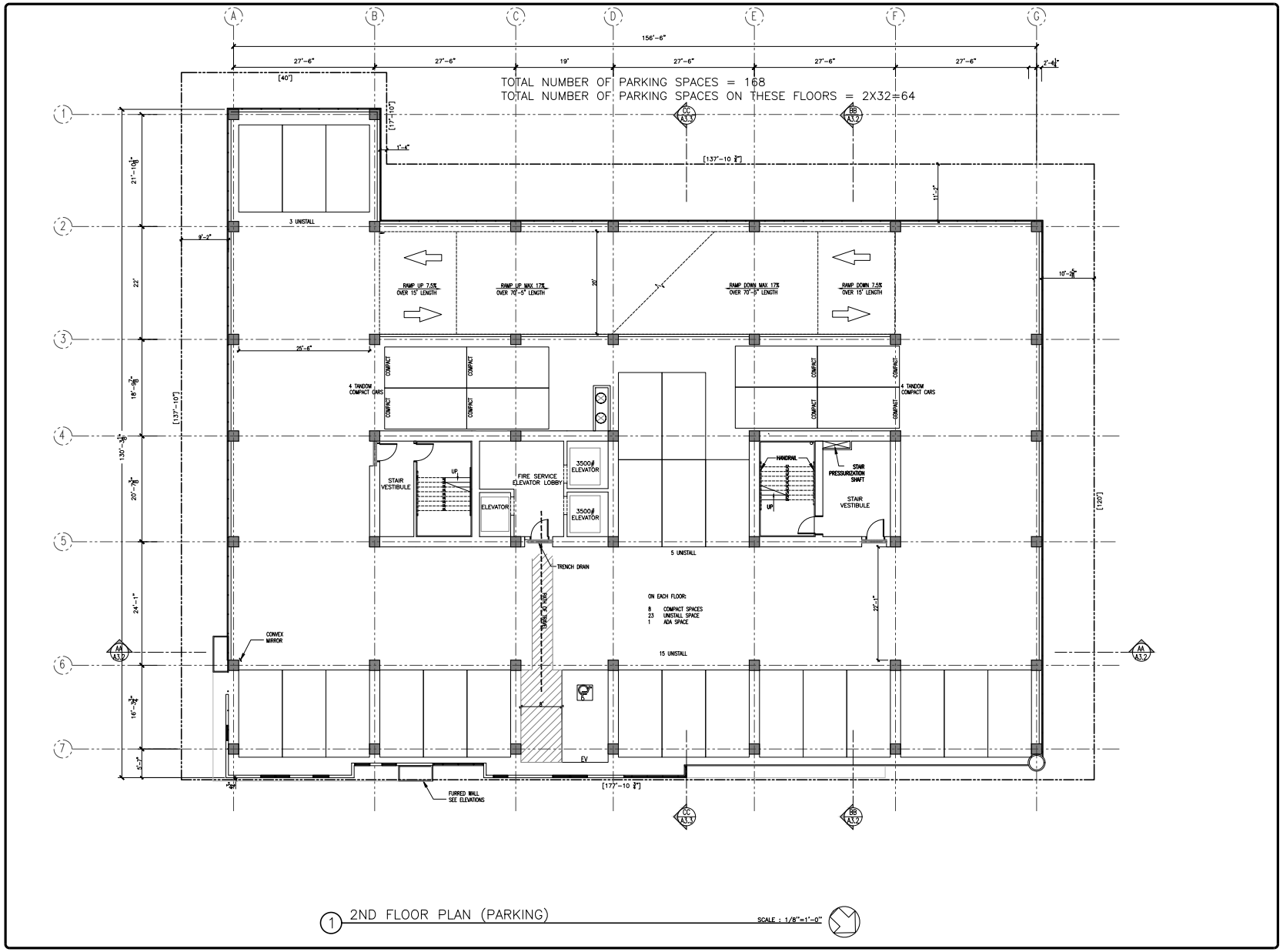

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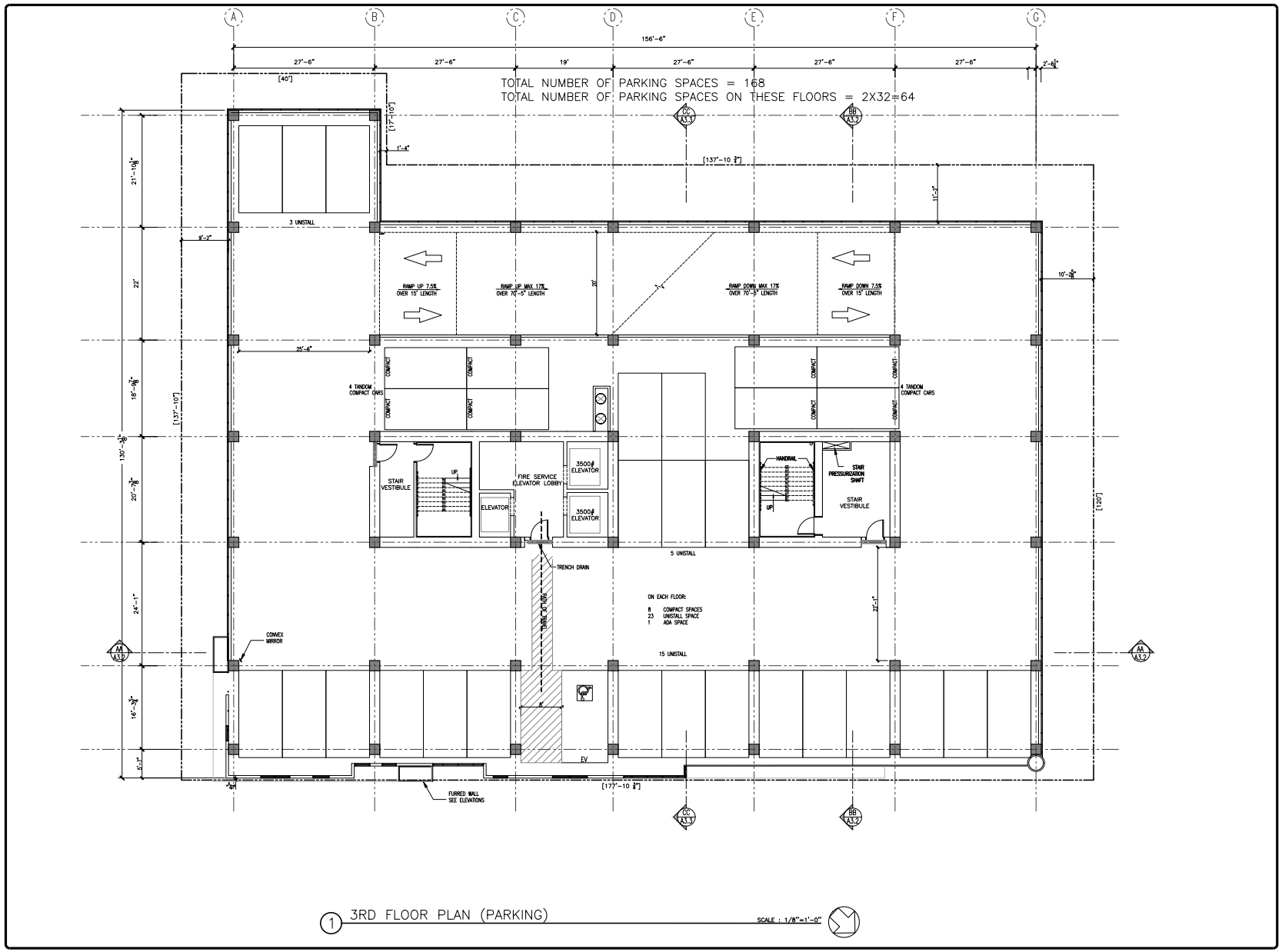
Figure 11
Level 2 Parking Plan

NORTH
Not to Scale



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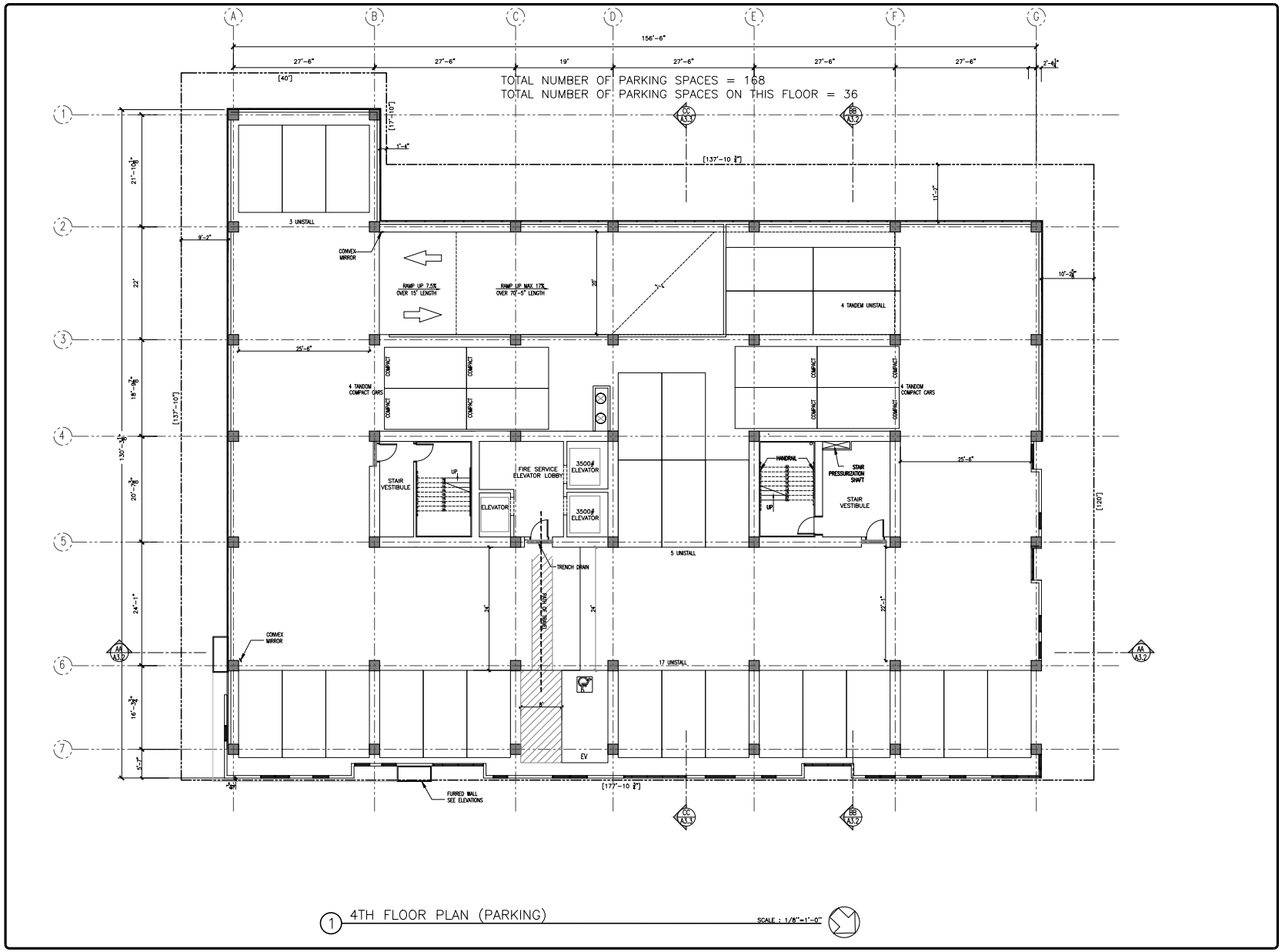
CITY STAMP

Figure 12
Level 3 Parking Plan

NORTH
Not to Scale



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CITY STAMP

Figure 13
Level 4 Parking Plan

NORTH
Not to Scale

Adequate sight distance (sight distance triangles) should be provided at the project driveways in accordance with Caltrans standards. Sight distance triangles should be measured approximately 10 feet back from the traveled way. 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. 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 Fourth Street, which has a posted speed limit of 30 mph, the Caltrans stopping sight distance is 250 feet (based on a design speed of 35 mph). Thus, a driver must be able to see 250 feet along Fourth Street in order to stop and avoid a collision. Based on the project site plan, it can be concluded that the project driveways would meet the Caltrans stopping sight distance standards. However, given that on-street parking is permitted along Fourth Street, painted red curb should be provided on the north side of the project driveways to comply with Caltrans sight distance requirements. Appropriate visible warning signs and audible warning signals should also be considered at the parking garage entrances to alert pedestrians and bicyclists of vehicles exiting the driveways.

On-Site Vehicular Circulation and Parking Garage Layout

On-site vehicular circulation was reviewed for the project in accordance with generally accepted traffic engineering standards and City of San Jose design guidelines. Access to the project site would be provided via two right-turn only two-way driveways on Fourth Street. Internal ramps (20-feet wide) would provide access to the below-grade and above-grade parking levels. Typical engineering standards require garage ramps to have no greater than a 20 percent grade with transition grades of 10 percent or less. The project site plan shows a maximum slope of 17 percent for the garage ramps, with 7.5 percent transition grades at the top and bottom of the ramps. Thus, the garage ramps meet the recommended design standards.

The internal parking garage ramps were evaluated for vehicle access by the method of turning-movement templates. Analysis using the appropriate Passenger Car turning templates shows that smaller passenger vehicles (turning template “Pm”) could adequately negotiate the 20-foot wide internal ramps and circulate through the parking garage levels. However, drivers of larger vehicles (Passenger Car turning template “P”) would have some difficulty negotiating the sharp 90-degree turns at the top and bottom of the ramps and would require additional drive aisle width (i.e., would encroach upon the opposing lane) to complete the turn, resulting in potential conflicts between inbound and outbound vehicles. Thus, a larger radius and/or wider garage ramps are recommended, if feasible, to better serve inbound and outbound vehicles simultaneously. Convex mirrors should be located at the top and bottom of the ramps and all blind corners of the parking garage to assist drivers with making these turns within the garage. The current site plan shows convex mirrors at some blind corners, but not all. Convex mirrors would improve on-site circulation by reducing the potential for vehicle conflicts.

The City’s standard minimum width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of the parking spaces. According to the site plan, the garage entrances measure 20 feet wide. Upon entering the garage, the on-site drive aisles widen slightly to about 22 feet and then narrow again to 20 feet wide at the garage ramps (up and down ramps). The drive aisles on all parking levels measure either 22 feet wide (north-south drive aisles) or 25.5 feet wide (east-west drive aisles). The project applicant should confirm with City staff whether the proposed 20-foot-wide garage entrances, 20-foot-wide garage ramps, and 22-foot-wide drive aisles would be adequate to serve the project.

Parking Stall Dimensions

The City of San Jose Zoning Code does not include standards for mechanical-stack parking systems. However, the project proposes to use the KLAUS Multiparking TrendVario 4100 (two-level) and 4300 (three-level) puzzle parking systems, which allow the stacked parking spaces to be shifted vertically

and horizontally. According to the site plan, the stacked parking spaces would measure 8 feet wide by 17 feet long. Although not indicated on the site plan provided, it is assumed that the height limit of the vehicle stacker system would accommodate passenger cars, trucks, and most SUVs and vans. Larger vehicles may have difficulty accessing the parking lifts located adjacent to the bottom of the ramp on the basement level. Accordingly, multi-point maneuvers may be necessary to access these spaces.

Four ADA accessible parking stalls (all van accessible stalls) would be provided on site: one ADA stall on each of the parking levels 1 through 4. No parking would be provided along the 20-foot-wide garage ramps.

Each of the above-grade parking levels would contain standard 90-degree parking stalls consisting of uniform stalls, compact stalls, and ADA accessible stalls. The uniform stalls measure 8.5 feet wide by 17 feet long, the compact stalls measure 8 feet wide by 16 feet long, and the ADA stalls measure 9 feet wide by 18 feet long. These parking stall dimensions meet the City of San Jose's Off-Street Parking Design Standards.

Bike and Pedestrian Access

The site plan indicates that the existing sidewalk and curb on Fourth Street would be reconstructed along the entire project frontage. The reconstructed sidewalk would be wide and would provide pedestrian access to the residential lobby and associated areas, including the elevators, stairwell, mail room, leasing office, and bike storage room. The continuous network of sidewalks and crosswalks in the study area has good connectivity and would provide residents with safe routes to bus stops and other points of interest in the downtown area. Marked crosswalks are provided with pedestrian signal heads across all legs of the signalized intersections in the surrounding area.

The site plan shows an at-grade bike room providing 70 bicycle parking spaces that could be easily accessed via the lobby. Providing convenient bike parking at a central location would encourage bicycling by residents of the project.

Truck Access and Circulation

The project site plan was reviewed for truck access including delivery and moving trucks, garbage trucks and emergency vehicles.

Residential Move-In and General Loading Operations

According to the City of San Jose Downtown Zoning Regulations, multiple dwelling residential uses of 200 units or greater and less than 500 units shall provide at least two off-street loading spaces. The project is proposing two off-street loading spaces. The loading spaces both measure 10 feet wide by 30 feet long. Although the site plan shows a first floor height of 16 feet, it's not clear how much vertical clearance would be provided at the southern garage entrance. According to the City of San Jose Zoning Regulations, off-street loading spaces must be no less than 10 feet wide by 30 feet long by 15 feet high, exclusive of driveways for ingress and egress and maneuvering areas. Accordingly, the project must provide at least 15 feet of vertical clearance at the southern garage entrance in order to accommodate trucks on site.

All move-in/move-out and general loading activities would occur on-site. Based on the loading space orientation shown on the site plan and lack of adequate turnaround space provided on site, trucks would need to back into the on-site freight loading spaces from Fourth Street. Thus, a portion of Fourth Street would be blocked momentarily while trucks maneuver into the loading spaces. Based on the turning template diagrams for an SU-30 truck type (see Appendix B), adequate access would be provided for single-unit moving and delivery trucks to enter the site from Fourth Street. However, due to the location of the on-site loading spaces, ingress and egress at the southern garage entrance would

be temporarily blocked while trucks are backing into the loading spaces. For this reason, it would be appropriate to schedule residential move-ins and move-outs during off-peak hours to minimize conflicts to the extent possible.

Garbage Collection

Garbage collection activities for the project would occur within the public right-of-way on Fourth Street. The site plan shows a trash room with access provided via the southern garage entrance. Trash bins would be wheeled out to Fourth Street on garbage collection days, similar to the neighboring properties. The garbage bins should be returned to the trash room immediately after garbage pick-up.

Emergency Vehicle Access

The City of San Jose Fire Department requires that all portions of the buildings be within 150 feet of a fire department access road and requires a minimum of 6 feet clearance from the property line along all sides of the building. According to the project site plan, the project would meet the 150-foot fire access requirement; however, the project would not provide at least 6 feet of clearance around the entire perimeter of the building. Although 7 to 10 feet of clearance would be provided around the majority of the building perimeter, the site plan shows a very small segment would narrow to only 1 foot 4 inches wide. Either this small segment should be widened to 6 feet, or the project should consider the fire variance process for mitigation of non-compliance.

Construction Activities

Typical activities related to the construction of any development could include lane narrowing and/or lane closures, sidewalk and pedestrian crosswalk closures, and bike lane closures. In the event of any type of closure, clear signage (e.g., closure and detour signs) must be provided to ensure vehicles, pedestrians and bicyclists are able to adequately reach their intended destinations safely. Because Fourth Street is a major bicycle travel route in downtown San Jose, signage would be particularly important to redirect bicyclists to an alternative route in the event the buffered bike lane on Fourth Street is blocked by construction activities. Per City standard practice, the project would be required to submit a construction management plan for City approval that addresses the construction schedule, street closures and/or detours, construction staging areas and parking, and the planned truck routes.

Pedestrian, Bicycle and Transit Analysis

All new development projects in San Jose should encourage multi-modal travel, consistent with the goals and policies of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled. In addition, the adopted City Bike Master Plan establishes goals, policies and actions to make bicycling a daily part of life in San Jose. The Master Plan includes designated bike lanes along many City streets, as well as on designated bike corridors. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

Pedestrian and Bicycle Facilities

Pedestrian facilities consist of sidewalks along the streets in the immediate vicinity of the project site. Crosswalks with pedestrian signal heads and push buttons are located at all the signalized intersections in the study area. Overall, the existing network of sidewalks exhibits good connectivity and would provide new residents with safe routes to transit services and other points of interest in the area. The project would reconstruct the sidewalk and curb along the project frontage on Fourth Street.

The project site is surrounded by bicycle facilities, including striped bike lanes and Sharrows (see Figure 3 in Chapter 2). From the project site, the Guadalupe River Park and Gardens and adjacent multi-use trail system (½ mile west of the project site) can be accessed via San Salvador Street to Balbach Street/Woz Way. Future residents of the proposed residential development could utilize this trail for recreational and commuting purposes.

The project would provide adequate on-site bicycle parking for residents. Bicycles are allowed on LRT trains and buses can accommodate bikes. In addition, the following bike share stations are located within walking distance of the project site: Fifth Street at San Salvador Street and Fourth Street at San Carlos Street.

The project would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities. The City's General Plan identifies both walk and bicycle commute mode split targets as 15 percent or more for the year 2040. This level of pedestrian and bicycle mode share is a reasonable goal for this downtown project, particularly if transit is utilized in combination with bicycle commuting.

Transit Services

The San Antonio LRT Stations are located less than ½ mile walking distance from the project site on First Street and Second Street (northbound and southbound stations) and are served by the Baypointe-Santa Teresa LRT Line (Blue Line) and the Old Ironsides-Winchester Line (Green Line). The Green Line serves the San Jose Diridon Station which provides Caltrain, Altamont Commuter Express (ACE), and Amtrak services. In addition, the project site is located just 900 feet walking distance from the Second Street and San Salvador Street bus stop (served by bus routes 66 and 68 traveling southbound) and 1,500 feet walking distance from the First Street and San Salvador Street bus stop (served by bus routes 66 and 68 traveling northbound). The San Antonio LRT Stations are served by bus routes 66 and 68.

Due to the project site's proximity to downtown transit stops, it is reasonable to assume that many residents would utilize the transit services provided. The City's General Plan identifies the transit commute mode split target as 20 percent or more for the year 2040. This level of transit ridership is attainable for a downtown project such as this. It is estimated that the increased transit demand generated by the proposed project could be accommodated by the current available ridership capacities of the transit services in the study area.

Parking

Vehicle Parking

According to the City of San Jose's Downtown Zoning Regulations (Section 20.70 of San Jose Code of Ordinances), residential projects are required to provide one (1) off-street parking space per residential unit. Thus, based on the standard downtown parking requirements, the project is required to provide 210 off-street parking spaces. The project is proposing 168 off-street parking spaces to serve the residents, including 4 ADA stalls. This represents a 20 percent reduction in the City's parking requirement. According to Sections 20.90.220 A.1.a. and A.1.b. of the City's Zoning Code, a 20% parking reduction can be authorized so long as the project site is located within a Neighborhood Business District and adequate bicycle parking is provided. Accordingly, the project would qualify for a 20 percent parking reduction. However, a percentage of the parking stalls would be tandem parking as described below.

Tandem Parking

A significant amount of tandem parking is being proposed: 40 spaces (12 on level 2, 12 on level 3, and 16 on level 4) of the 168 spaces would be tandem spaces. In order to guarantee effective utilization of the tandem parking spaces, the project should assign all the tandem parking spaces to individual 4-bedroom or 5-bedroom residential units. The tandem spaces would not be expected to create any parking related issues so long as they are assigned accordingly. In the City of San Jose, the Planning Director may issue a development permit to allow tandem parking spaces to satisfy up to 50 percent of the off-street parking requirement for a project. This project proposes far less (approximately 24 percent) than the maximum allowable amount of tandem parking.

By assigning the tandem spaces to individual units, the project will effectively be providing 2 parking spaces per unit to 20 of the 210 residential units. If the 40 tandem parking spaces are assigned to 20 individual units, that leaves 128 parking spaces to serve the remaining 190 residential units. This equates to a parking reduction of approximately 33 percent, based on the City's standard downtown parking requirement of 1 parking space per unit. This percent parking reduction is higher than the 20 percent reduction that the project would typically qualify for.

Accounting for the usage of tandem parking spaces and an allowable 20 percent reduction in standard parking spaces, the project would be required to provide a total of 192 parking spaces, including 40 tandem spaces and 152 standard parking spaces (190 x 0.80 = 152). This equates to a project parking deficit of 24 spaces.

The project could implement parking reduction strategies as part of a comprehensive Transportation Demand Management (TDM) plan to address the parking deficit. The project is eligible for up to a 50 percent parking reduction if a comprehensive TDM program is implemented. Accordingly, a TDM plan could easily provide the parking reduction necessary to satisfy the City's parking requirements and meet the project's parking demand. The TDM plan would need to be maintained for the life of the project. The project applicant should coordinate with the City of San Jose Planning Department to determine the best approach to meeting the project's vehicle parking requirement.

Automated Parking System

As previously described, the project proposes to use the KLAUS Multiparking TrendVario 4100 (two-level) and 4300 (three-level) puzzle parking systems on the basement parking level and at-grade parking level. The automated parking systems would allow the stacked parking spaces to be shifted vertically and horizontally. Comprised of multiple parking spaces including one open space, the vehicle stackers would present an open parking space that, once occupied, would automatically shift downward or rotate, presenting another open space. This system would allow residents to retrieve their vehicle without the need to move the other accompanying vehicles.

Bicycle Parking

The City requires one bicycle parking space for every four residential units. This equates to 53 bicycle spaces. According to the site plan, the project would provide 70 secured bicycle parking spaces in a designated bike room located near the lobby. Thus, the project would meet the City's bicycle parking requirement.

4. Conclusions

This report presents the results of the Local Transportation Analysis (LTA) conducted for a proposed residential mixed-use project at 439-451 South Fourth Street in downtown San Jose, California. This study was conducted for the purpose of identifying potential traffic operational issues related to the project.

Since the project site is located within the Downtown Growth Area Boundary, the project has CEQA clearance and a comprehensive Transportation Analysis (TA) that includes a Vehicle Miles Traveled (VMT) analysis is not required. Although no CEQA impact analysis is required, the project is required to prepare a Local Transportation Analysis (LTA) to identify potential traffic operational issues (e.g., vehicle queuing issues) in the study area based on weekday AM and PM peak-hour traffic conditions for four signalized intersections in the immediate vicinity of the project site. The LTA also includes an analysis of site access, on-site circulation, parking, and effects on transit, bicycle, and pedestrian access.

Local Transportation Analysis

Project Trip Generation

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, the project would generate 644 new daily vehicle trips, with 45 new trips occurring during the AM peak hour and 52 new trips occurring during the PM peak hour. Using the inbound/ outbound splits contained in the ITE *Trip Generation Manual*, the project would produce 11 new inbound and 34 new outbound trips during the AM peak hour, and 32 new inbound and 20 new outbound trips during the PM peak hour.

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation. The project would not have an adverse effect on the existing pedestrian or bicycle facilities in the study area. Below are recommendations resulting from the site plan review and parking evaluation.

Recommendations

- Coordinate with City staff to determine if the proposed 20-foot-wide garage entrances, 20-foot-wide garage ramps, and 22-foot-wide drive aisles would be adequate to serve the project.
- Provide adequate stacking space for at least two inbound vehicles (40 to 50 feet) between the sidewalk and the garage entry gates or keep the entry gates open during the time period of the day when most inbound vehicle trips are likely to occur (generally from 2:00 PM to 7:00 PM).

- Provide appropriate visible warning signs and audible warning signals at the project driveways to alert pedestrians and bicyclists to vehicles exiting the site.
- Provide a larger radius at the top and bottom of the garage ramps, if feasible, to better serve vehicles turning simultaneously. Convex mirrors should be located at the top and bottom of the ramps and all blind corners of the parking garage to assist drivers with making these turns within the garage. The current site plan shows convex mirrors at some blind corners, but not all. Convex mirrors would improve on-site circulation by reducing the potential for vehicle conflicts.
- Provide at least 15 feet of vertical clearance at the southern garage entrance in order to accommodate trucks on site.
- Schedule residential move-ins and move-outs during off-peak hours to minimize conflicts at the southern garage entrance to the extent possible.
- Provide at least 6 feet of clearance (fire access) around the entire perimeter of the building or consider the fire variance process for mitigation of non-compliance.
- Coordinate with the City of San Jose Planning Department to determine the best approach to meeting the project's vehicle parking requirement.

South Fourth Street Residential TA

Technical Appendices

Appendix A
San Jose Approved Trips Inventory

AM APPROVED TRIPS

11/01/2018

Intersection of: FOURTH/SAN SALVADOR

Traffix Node Number: 3540

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	0	0	0	0	0	0	0	0	0	0	0	0
NSJ NORTH SAN JOSE	0	0	0	0	0	0	0	0	0	0	2	0
TOTAL:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

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

Intersection of: FOURTH/SAN SALVADOR

Traffix Node Number: 3540

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	0	0	0	9	112	19	0	7	4	12	22	0
NSJ NORTH SAN JOSE	0	0	0	4	25	2	0	0	0	1	1	0
TOTAL:	**0**	**0**	**0**	**13**	**137**	**21**	**0**	**7**	**4**	**13**	**23**	**0**

	LEFT	THRU	RIGHT
NORTH	13	137	21
EAST	13	23	0
SOUTH	0	0	0
WEST	0	7	4

Intersection of: THIRD/WILLIAM

Traffix Node Number: 3827

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	3	92	2	0	0	0	2	1	0	0	8	7
NSJ NORTH SAN JOSE	2	55	1	0	0	0	0	0	0	0	0	0
TOTAL:	**5**	**147**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**8**	**7**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	8	7
SOUTH	5	147	3
WEST	2	1	0

Intersection of: THIRD/WILLIAM

Traffix Node Number: 3827

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	1	20	2	0	0	0	2	4	0	0	6	4
NSJ NORTH SAN JOSE	0	7	0	0	0	0	0	0	0	0	0	0
TOTAL:	**1**	**27**	**2**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**6**	**4**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	6	4
SOUTH	1	27	2
WEST	2	4	0

Intersection of: SAN SALVADOR/THIRD

Traffix Node Number: 3781

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	1	48	2	0	0	0	1	2	0	0	3	5
NSJ NORTH SAN JOSE	1	54	3	0	0	0	0	0	0	0	1	1
TOTAL:	**2**	**102**	**5**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**4**	**6**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	4	6
SOUTH	2	102	5
WEST	1	2	0

Intersection of: SAN SALVADOR/THIRD

Traffix Node Number: 3781

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	0	0	0	0	0	0	0	0	0	0	0	0
NSJ NORTH SAN JOSE	0	7	0	0	0	0	0	0	0	0	1	1
TOTAL:	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	1	1
SOUTH	0	7	0
WEST	0	0	0

Intersection of: FOURTH/WILLIAM

Traffix Node Number: 3545

Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	0	0	0	0	0	0	0	0	0	0	0	0
NSJ NORTH SAN JOSE	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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

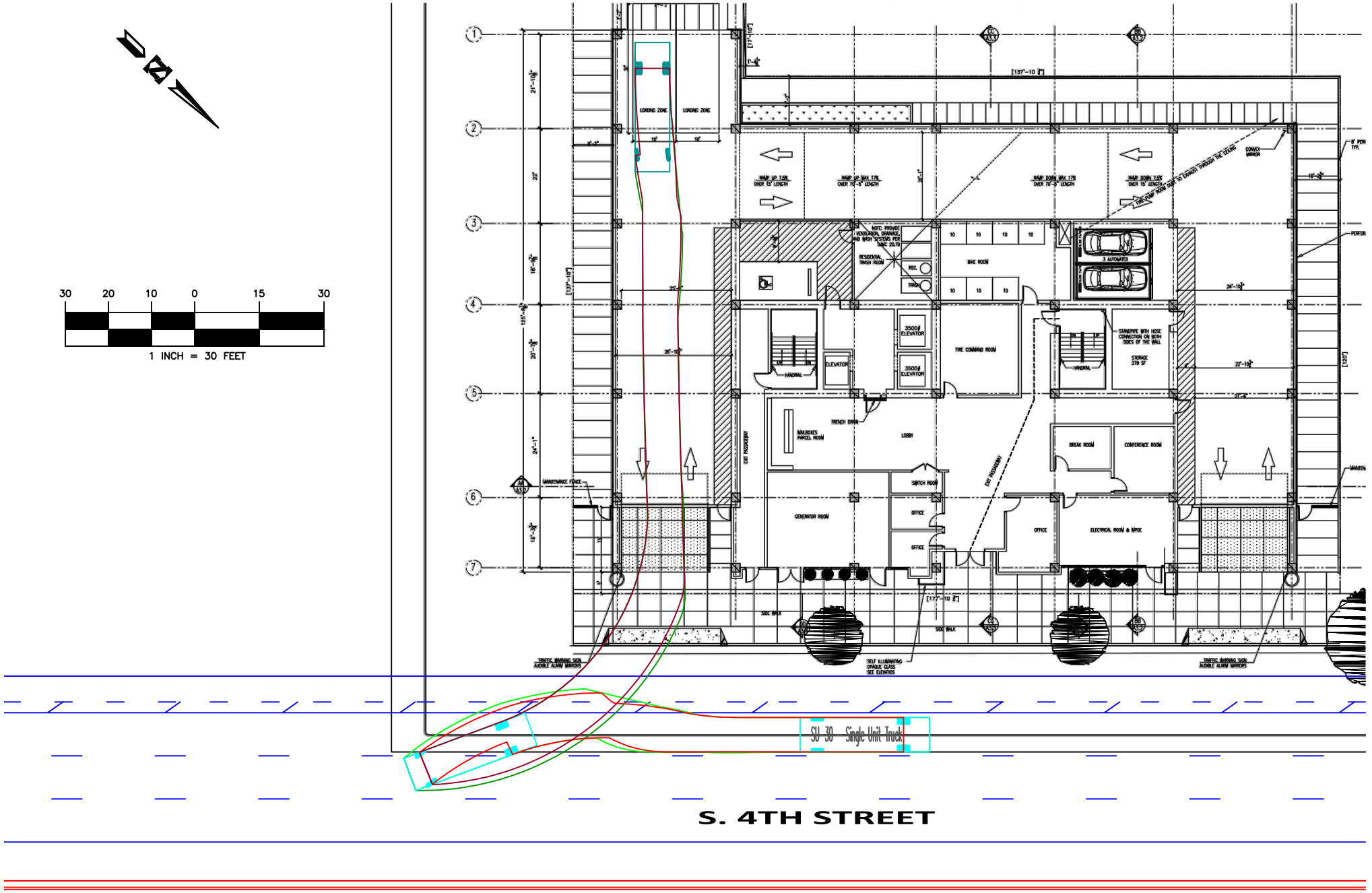
Intersection of: FOURTH/WILLIAM

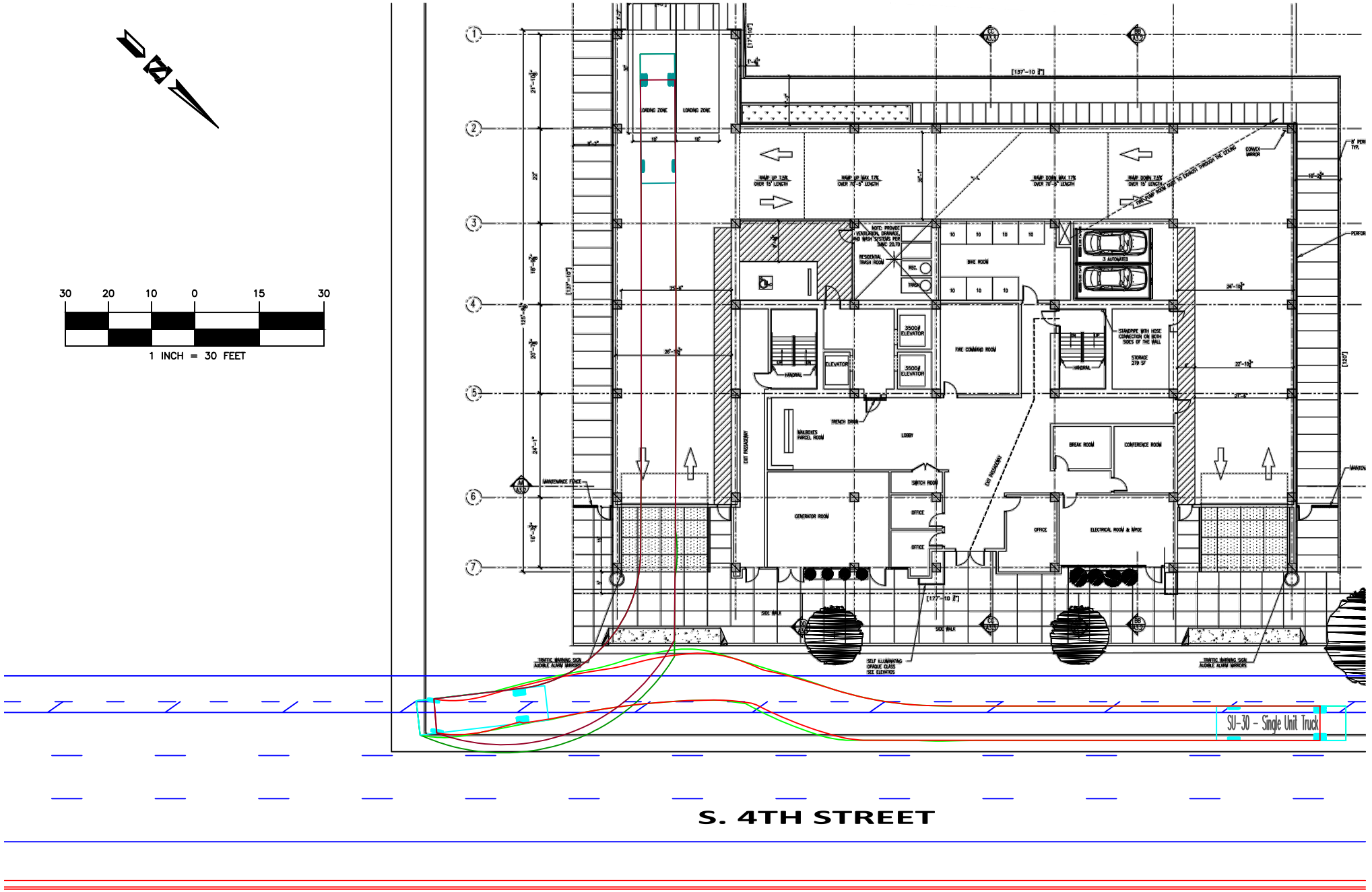
Traffix Node Number: 3545

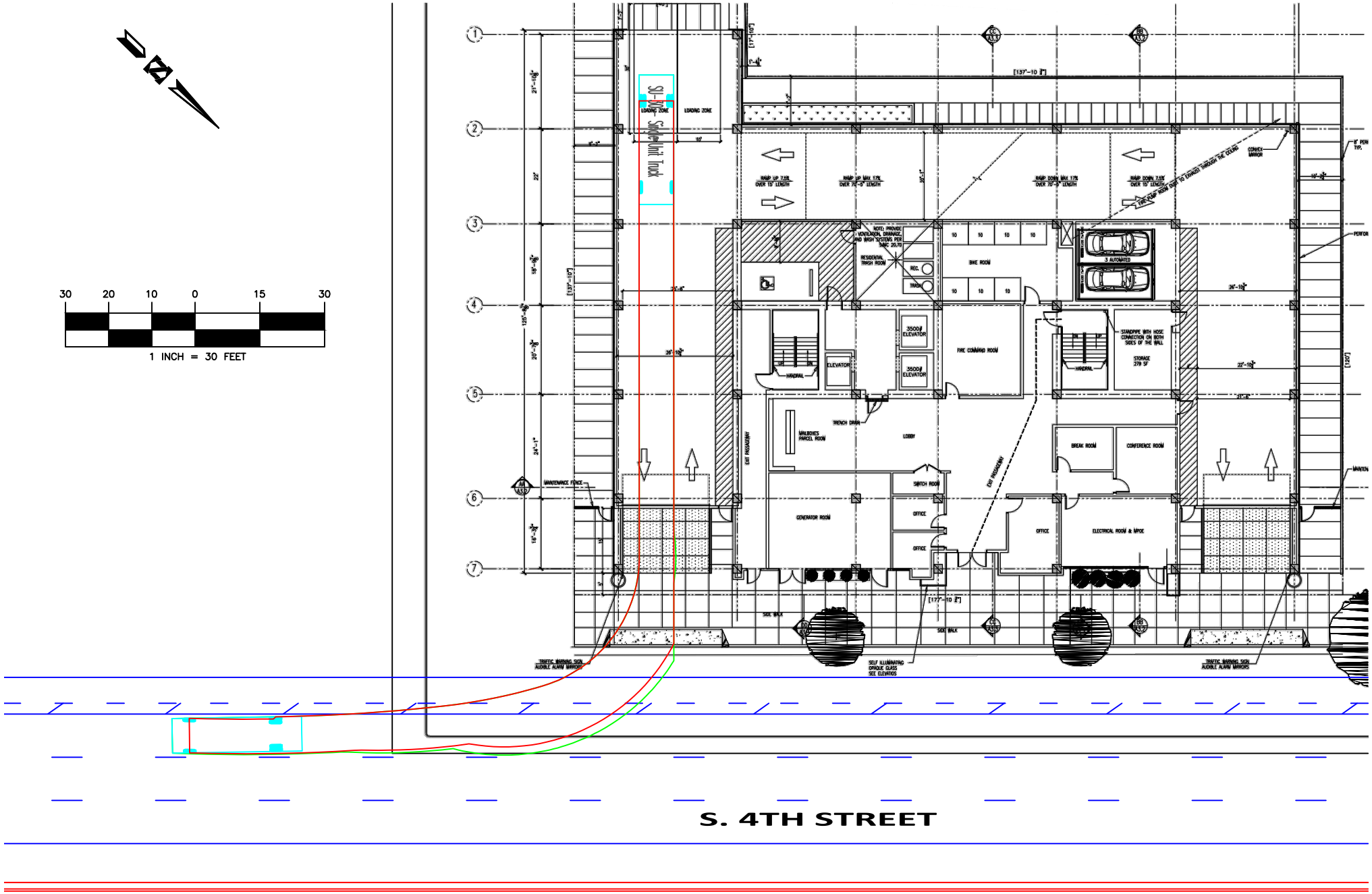
Permit No. / Description / Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
DOWNTOWN DOWNTOWN STRATEGY PLAN 2000 DOWNTOWN CORE	0	0	0	11	166	20	0	16	5	7	15	0
NSJ NORTH SAN JOSE	0	0	0	3	25	1	0	0	0	0	0	0
TOTAL:	**0**	**0**	**0**	**14**	**191**	**21**	**0**	**16**	**5**	**7**	**15**	**0**

	LEFT	THRU	RIGHT
NORTH	14	191	21
EAST	7	15	0
SOUTH	0	0	0
WEST	0	16	5

Appendix B
SU-30 Truck Turning Templates


30 20 10 0 15 30
1 INCH = 30 FEET
LOADING ZONE
LOADING ZONE
RAMP UP 7.5% OVER 15' LENGTH
RAMP UP MAX 12% OVER 70'-6" LENGTH
RAMP DOWN MAX 12% OVER 70'-3" LENGTH
RAMP DOWN 7.5% OVER 15' LENGTH
RESIDENTIAL TRASH ROOM
BIKE ROOM
3 AUTOMATED
3500# ELEVATOR
3500# ELEVATOR
ELEVATOR
FIRE COMMAND ROOM
STANDPIPE WITH HOSE CONNECTION ON BOTH SIDES OF THE WALL
STORAGE 279 SF
MAILBOXES PARCEL ROOM
LOBBY
TRENCH DRAIN
BREAK ROOM
CONFERENCE ROOM
SWITCH ROOM
GENERATOR ROOM
OFFICE
OFFICE
OFFICE
ELECTRICAL ROOM & MPOE
MAINTENANCE FENCE
SIDE WALK
SIDE WALK
SU 30 - Single Unit Truck
S. 4TH STREET


30 20 10 0 15 30
1 INCH = 30 FEET
LOADING ZONE
LOADING ZONE
RAMP UP 7.5% OVER 15' LENGTH
RAMP UP MAX 12% OVER 70'-6" LENGTH
RAMP DOWN MAX 12% OVER 70'-3" LENGTH
RAMP DOWN 7.5% OVER 15' LENGTH
CONVEX MIRROR
RESIDENTIAL TRASH ROOM
BIKE ROOM
3 AUTOMATED
3500# ELEVATOR
ELEVATOR
3500# ELEVATOR
FIRE COMMAND ROOM
STANDPIPE WITH HOSE CONNECTION ON BOTH SIDES OF THE WALL
STORAGE 279 SF
HANDRAIL
HANDRAIL
TRENCH DRAIN
MAILBOXES PARCEL ROOM
LOBBY
EXIT PASSAGEWAY
EXIT PASSAGEWAY
BREAK ROOM
CONFERENCE ROOM
SWITCH ROOM
GENERATOR ROOM
OFFICE
OFFICE
OFFICE
ELECTRICAL ROOM & MPOE
MAINTENANCE FENCE
SIDE WALK
SIDE WALK
TRAFFIC WARNING SIGN AUDIBLE ALARM MIRRORS
SELF ILLUMINATING OPAQUE GLASS SEE ELEVATIOS
TRAFFIC WARNING SIGN AUDIBLE ALARM MIRRORS
SU-30 - Single Unit Truck
S. 4TH STREET


30 20 10 0 15 30
1 INCH = 30 FEET
SLOPE
LOADING ZONE
LOADING ZONE
Single Unit Truck
RAMP UP 7.5% OVER 15' LENGTH
RAMP UP MAX 12% OVER 70'-6" LENGTH
RAMP DOWN MAX 12% OVER 70'-3" LENGTH
RAMP DOWN 7.5% OVER 15' LENGTH
CONVEX MIRROR
NOTE: PROVIDE VENTILATION, DRAINAGE, AND WASH SYSTEMS PER SMC 20.70
RESIDENTIAL TRASH ROOM
REC.
TRASH
BIKE ROOM
3 AUTOMATED
3500# ELEVATOR
ELEVATOR
3500# ELEVATOR
FIRE COMMAND ROOM
HANDRAIL
STANDPIPE WITH HOSE CONNECTION ON BOTH SIDES OF THE WALL
STORAGE 279 SF
TRENCH DRAIN
MAILBOXES PARCEL ROOM
LOBBY
EXIT PASSAGEWAY
BREAK ROOM
CONFERENCE ROOM
SWITCH ROOM
GENERATOR ROOM
OFFICE
OFFICE
OFFICE
ELECTRICAL ROOM & MPOE
MAINTENANCE FENCE
SIDE WALK
SIDE WALK
TRAFFIC WARNING SIGN AUDIBLE ALARM MIRRORS
SELF ILLUMINATING OPAQUE GLASS SEE ELEVATIONS
TRAFFIC WARNING SIGN AUDIBLE ALARM MIRRORS
S. 4TH STREET