PDC18-016

APPENDIX E

Transportation Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

259 Meridian Avenue Mixed-Use Development

Transportation Analysis

Prepared for:

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July 9, 2019

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Executive Summary

This report presents the results of the transportation analysis (TA) for the proposed mixed-use development at 259 Meridian Avenue in San Jose, California. The 1.28-acre project site is bounded by Meridian Avenue to the east, residences to the north, and commercial uses to the south and west. The project as proposed would replace three existing medical/dental office buildings on-site with a seven-story 241-unit (micro-unit/studio) residential tower. The proposed project also would include approximately 1,300 square feet of commercial/retail space on the ground level of the building. Parking for the project would be provided within the first two levels (ground/first floor and second floor levels) of the building with a total of 162 vehicular plus 47 motorcycle parking spaces. Access to the project site would be provided via one full-access driveway on Meridian Avenue.

The project site is located within a designated Urban Village (West San Carlos Street - East) per the Envision San Jose 2040 General Plan. Urban villages are walkable, bicycle-friendly, transit-oriented, mixed-use settings that provide both housing and jobs, thus supporting the General Plan's environmental goals.

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's *Transportation Analysis Handbook 2018*, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and by the California Environmental Quality Act (CEQA). Based on the City of San Jose's Transportation Policy and *Transportation Analysis Handbook 2018*, the TA report for the project consists of a CEQA vehicle-miles-traveled (VMT) analysis and a supplemental Local Transportation Analysis (LTA).

CEQA Transportation Analysis Scope

The CEQA transportation analysis for the project includes a project-level VMT impact analysis using the City's VMT tool.

CEQA Transportation Analysis Scope

A local transportation analysis (LTA) supplements the VMT analysis and identifies transportation operational issues that may arise due to a development project. The LTA includes an evaluation of the effects of the project on transportation, access, circulation, and related safety elements in the proximate area of the project.

CEQA Transportation Analysis Exemption

The City of San Jose *Transportation Analysis Handbook* provides screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening

criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

The project site is located within a planned Growth Area (West San Carlos) with low VMT per capita as identified by the City of San Jose. In addition, the City of San Jose VMT screening criteria, retail projects of 100,000 square feet or less are considered local-serving and are exempt from conducting a VMT analysis. Therefore, both the residential and commercial land use components of the project are anticipated to result in less-than-significant VMT impacts and a detailed CEQA transportation analysis that evaluates the project's effects on VMT is not required. However, for informational purposes, a VMT evaluation for the project was completed.

Local Transportation Analysis

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection operation is not considered a CEQA impact metric.

The LTA includes the analysis of AM and PM peak-hour traffic conditions for 5 signalized intersections, following the standards and methodology set forth by the City of San Jose.

Future Intersection Operation Conditions

The intersection operations analysis shows that all of the signalized study intersections are projected to operate at acceptable levels of service, based on the City of San Jose intersection operations standard of LOS D, under background and background plus project conditions during both the AM and PM peak hours. Therefore, the project would not have an adverse effect on intersection operations at any of the study intersections.

Intersection Queue Analysis

At the intersection of Meridian Avenue/Park Avenue, the addition of project traffic is projected to increase the 95th percentile queue length by one vehicle (from 6 to 7 vehicles) when compared to background conditions during the PM peak hour. The existing queue storage capacity would be exceeded by approximately 100 feet (4 vehicles). Extending the westbound left-turn pocket at this intersection may be possible; however, it would require the removal of the existing on-street parking along both sides of Park Avenue, west of Grand Avenue.

Additionally, although the proposed project is not projected to result in an increase in the 95th percentile queue lengths at the intersection of Meridian Avenue/San Carlos Street, it is projected that under both background and background plus project conditions, the southbound queue is projected to be approximately 500 feet and could extend into the two-way left-turn lane during the PM peak-hour. A queue of this length would extend past the project site and potentially affect project driveway operations.

Other Local Transportation Issues

The following are the findings and recommendations made based on the analysis of the proposed site access and on-site circulation, and proposed on-site parking.

Project Driveway Design

Recommendation: The project site access driveway along Meridian Avenue must be designed to the satisfaction of City of San Jose design guidelines, including the minimum 26-foot width requirement.

Project Driveway Operations

Recommendation: Although it is projected that the southbound vehicle queues along Meridian Avenue would extend beyond the project site driveway, project traffic making a left-turn into the project site potentially could store within the existing two-way left-turn lane along Meridian Avenue and wait for a gap in traffic to complete the turn. If it is observed that the southbound vehicle queue along Meridian Avenue also stores within the two-way left-turn lane at the project site driveway, restricting access to the project driveway to right-in and right-out only could be considered. A center median may be installed along Meridian Avenue to prevent northbound vehicles from turning left into the project driveway. However, installing a median also would limit vehicular access to other adjacent properties along Meridian Avenue and could result in a re-adjustment of traffic patterns in the vicinity of the project, including an increase in U-turn movements. Therefore, further studies would be required to determine the effects of installing a median along Meridian Avenue.

On-Site Circulation

Recommendation: The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls is to the satisfaction of the City.

Recommendation: A minimum of 30 feet is the recommended distance between a driveway or entrance and the first parking stall or drive aisle.

Recommendation: It is recommended that physical devices be installed at every turn within the parking garage in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Recommendation: Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Emergency Vehicle Access

Recommendation: It is recommended that parking along the proposed 20-foot garage entry drive aisle be strictly prohibited with the use of red-curb markings and signage to prevent blocking access to emergency vehicles.

Parking Supply

Recommendation: Based on City of San Jose requirements, the number of proposed parking spaces, including off-street vehicular and motorcycle parking, is less than the number required for the project by the City Code. The project must work with the City staff to ensure that adequate parking supply for the project is being proposed, to the satisfaction of the City.

1. Introduction

This report presents the results of the transportation analysis (TA) for the proposed mixed-use development at 259 Meridian Avenue in San Jose, California. The 1.28-acre project site is bounded by Meridian Avenue to the east, residences to the north, and commercial uses to the south and west. The project as proposed would replace three existing medical/dental office buildings on-site with a seven-story 241-unit (micro-unit/studio) residential tower. The proposed project also would include approximately 1,300 square feet of commercial/retail space on the ground level of the building. Parking for the project would be provided within the first two levels (ground/first floor and second floor levels) of the building with a total of 162 vehicular plus 47 motorcycle parking spaces. Access to the project site would be provided via one full-access driveway on Meridian Avenue. The project site location and the surrounding study area are shown on Figure 1. The proposed first floor project site plan is shown on Figure 2.

The project site is located within a designated Urban Village (West San Carlos Street - East) per the Envision San Jose 2040 General Plan. Urban villages are walkable, bicycle-friendly, transit-oriented, mixed-use settings that provide both housing and jobs, thus supporting the General Plan's environmental goals.

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's *Transportation Analysis Handbook 2018*, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and by the California Environmental Quality Act (CEQA). Based on the City of San Jose's Transportation Policy and *Transportation Analysis Handbook 2018*, the TA report for the project consists of a CEQA vehicle-miles-traveled (VMT) analysis and a supplemental Local Transportation Analysis (LTA).

Transportation Policies

Historically, transportation analysis has utilized delay and congestion on the roadway system as the primary metric for the identification of traffic impacts and potential roadway improvements to relieve traffic congestion that may result due to proposed/planned growth. However, the State of California has recognized the limitations of measuring and mitigating only vehicle delay at intersections and in 2013 passed Senate Bill (SB) 743, which requires jurisdictions to stop using congestion and delay metrics, such as Level of Service (LOS), as the measurement for CEQA transportation analysis. With the adoption of SB 743 legislation, public agencies will soon be required to base the determination of transportation impacts on Vehicle Miles Traveled (VMT) rather than level of service.

In adherence to SB 743, the City of San Jose has adopted a new Transportation Analysis Policy, Council Policy 5-1. The policy replaces its predecessor (Policy 5-3) and establishes the thresholds for transportation impacts under the CEQA based on vehicle miles traveled (VMT) instead of levels of service

Figure 1
Site Location

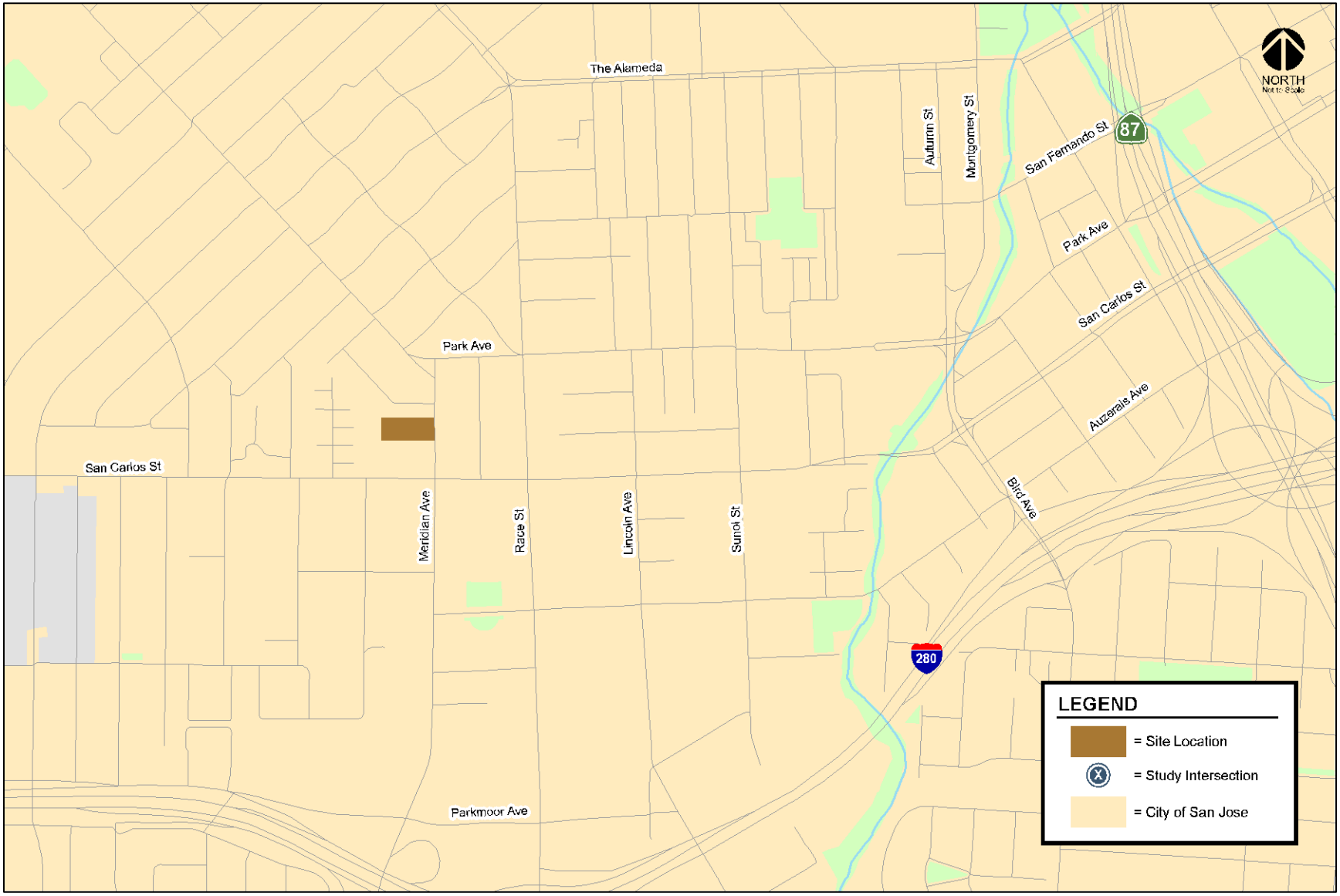
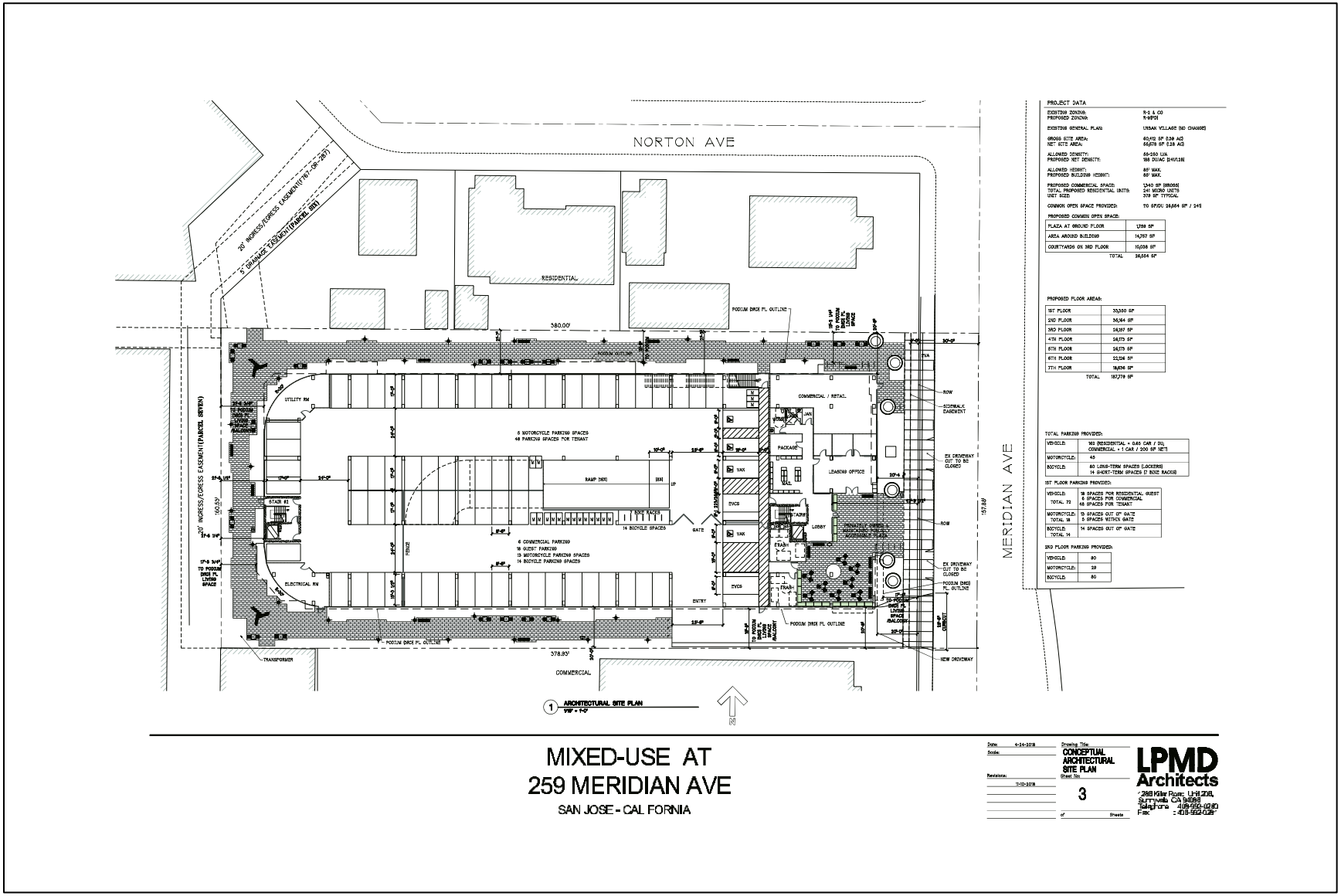


Figure 2
Proposed Site Plan (First Floor)



(LOS). The intent of this change is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway auto capacity to a reduction in vehicle emissions, and the creation of robust multimodal networks that support integrated land uses. The new transportation policy aligns with the currently adopted General Plan which seeks to focus new development growth within Planned Growth Areas, bringing together office, residential, and supporting service land uses to internalize trips and reduce VMT. All new development projects are required to analyze transportation impacts using the VMT metric and conform to Council Policy 5-1.

The Circulation Element of the *Envision San José 2040 General Plan* includes a set of balanced, long-range, multi-modal transportation goals and policies that provide for a transportation network that is safe, efficient and sustainable (minimizes environmental, financial, and neighborhood impacts). These transportation goals and policies are intended to improve multi-modal accessibility to all land uses and create a city where people are less reliant on driving to meet their daily needs. The Envision San Jose 2040 General Plan contains the following policies to encourage the use of non-automobile transportation modes to minimize vehicle trip generation and reduce VMT:

- Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects (TR-1.2);
- 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 biking, walking and transit facilities and services that encourage reduced vehicle travel demand (TR-1.4);
- 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);
- 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. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities (TR-3.3);
- 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 Villages and Corridors and other growth areas (TR-8.6);
- Encourage private property owners to share their underutilized parking supplies with the general public and/or other adjacent private developments (TR-8.7);
- 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);

- 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).

CEQA Transportation Analysis Scope

The CEQA transportation analysis for the project includes a project-level VMT impact analysis using the City's VMT tool.

VMT Analysis

The City of San Jose's Transportation Analysis Policy establishes procedures for determining project impacts on VMT based on project description, characteristics, and/or location. The City of San Jose defines VMT as the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT is calculated for residential, office, and industrial projects using the Origin-Destination VMT method, which measures the full distance of personal motorized vehicle-trips with one end within the project. A project's VMT is compared to established thresholds of significance based on the project location and type of development. When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita. When assessing an office or industrial project, the project's VMT is divided by the number of employees.

The thresholds of significance for development projects, as established in the Transportation Analysis Policy, are based on the existing citywide average VMT level for residential uses and the existing regional average VMT level for employment uses. Figures 3 and 4 show the current VMT levels estimated by the City for residents and workers, respectively, based on the locations of residences and jobs. Areas are color-coded based on the level of existing VMT:

- Green-filled areas are parcels with existing VMT less than the City's residential and employee thresholds of 10.12 VMT per capita and 12.21 per employee. The thresholds are calculated by subtracting 15 percent from the citywide average of 11.91 VMT per capita and regional average of 14.37 per employee.
- Yellow-filled areas are parcels with existing VMT between the residential and employee thresholds and the city-wide average of 11.91 VMT per capita and regional average 14.37 VMT per employee.
- Orange-filled areas are parcels with existing VMT greater than the residential and employee thresholds. However, a project's VMT impact may be mitigated by implementing VMT-reducing measures.
- Red-filled areas are parcels with existing VMT greater than the residential and employee threshold. Implementing VMT-reducing measures will not be sufficient to reduce a project's VMT to less than the threshold of significance.

Average per-capita and per-employee VMT for all the existing developments within ½ mile buffer of each parcel in the City serves as the baseline from which a project is evaluated.

Figure 3
VMT per Capita Heat Map in San Jose

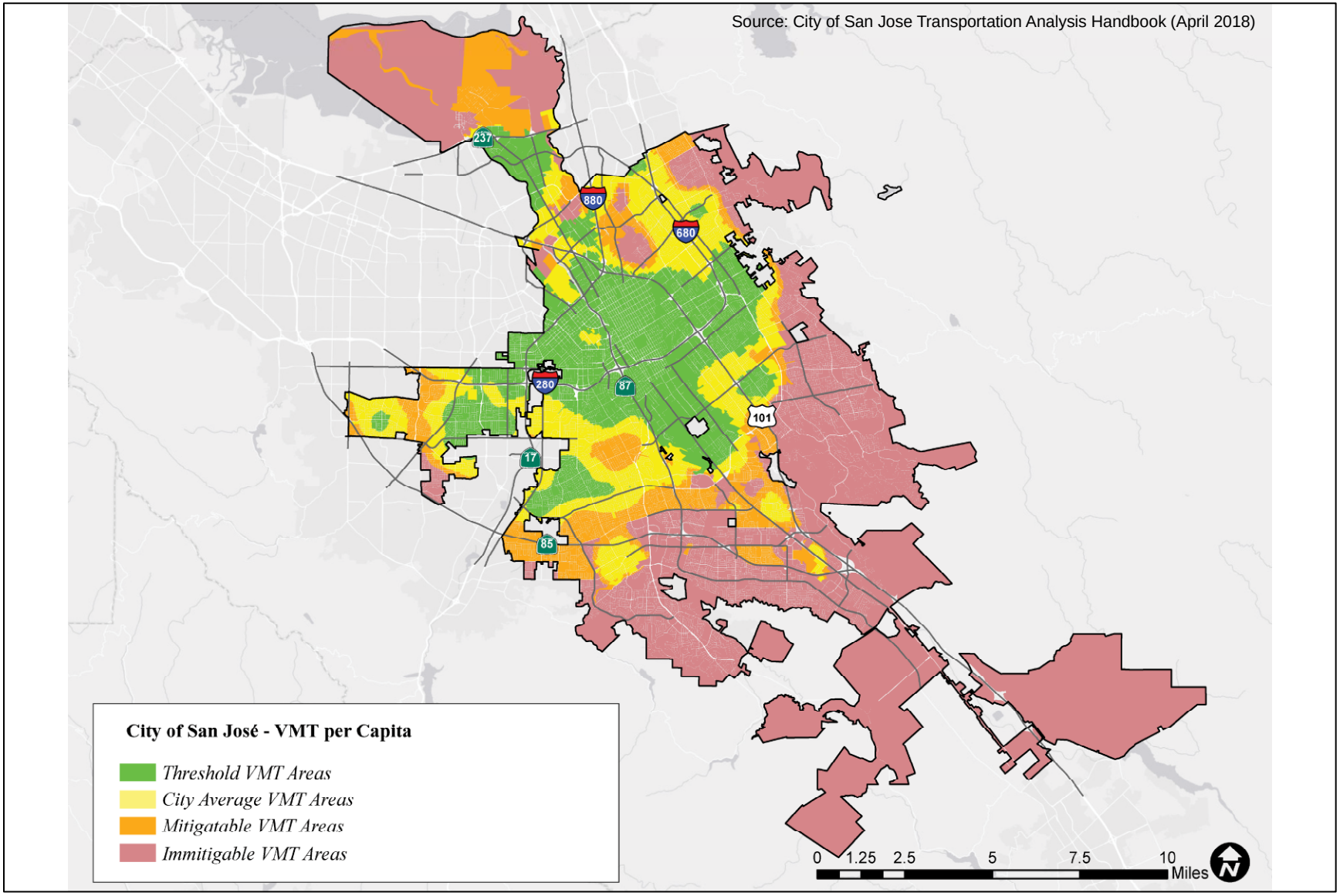
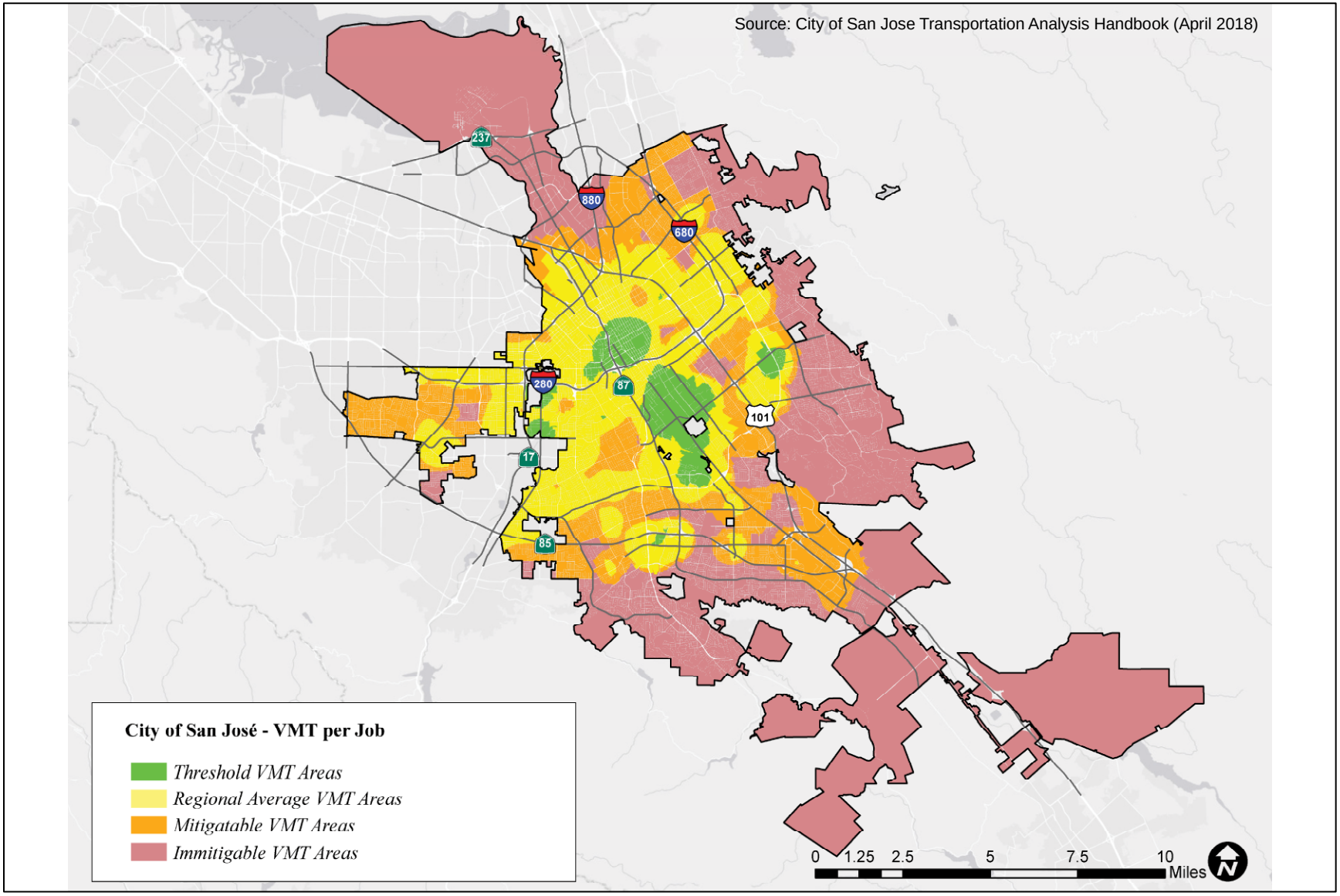


Figure 4
VMT per Job Heat Map in San Jose



Screening for VMT Analysis

The City's VMT methodology includes screening criteria that are used to identify types, characteristics, and/or locations of projects that would not exceed the CEQA thresholds of significance. If a project or a component of a mixed-use project meets the screening criteria, it is then presumed that the project or the component would result in a less-than-significant VMT impact and a VMT analysis is therefore not required. The screening criteria categorize development projects as follows and shown in Table 1.

(1) small infill projects
(2) local-serving retail
(3) local-serving public facilities
(4) projects located in *Planned Growth Areas* with low VMT and *High-Quality Transit*
(5) deed-restricted affordable housing located in *Planned Growth Areas* with *High-Quality Transit*

Figures 5 and Figure 6 identify areas within the City that currently have low VMT levels estimated by the City for residents and workers, respectively, for which transit supportive development located within a priority growth area would be screened out of the evaluation of VMT.

The project site is located within a planned Growth Area (West San Carlos) with low VMT per capita as identified by the City of San Jose. In addition, the City of San Jose VMT screening criteria, retail projects of 100,000 square feet or less are considered local-serving and are exempt from conducting a VMT analysis. Therefore, both the residential and commercial land use components of the project are anticipated to result in less-than-significant VMT impacts and a detailed CEQA transportation analysis that evaluates the project's effects on VMT is not required. However, for informational purposes, a VMT evaluation for the project was completed.

Local Transportation Analysis Scope

A local transportation analysis (LTA) supplements the VMT analysis and identifies transportation operational issues that may arise due to a development project. The LTA includes an evaluation of the effects of the project on transportation, access, circulation, and related safety elements in the proximate area of the project.

Intersection Operations Analysis

The LTA includes the evaluation of weekday AM and PM peak hour operations at a limited number of intersections for the purpose of identifying operational issues (queuing, signal operations, and potential multi-modal issues) at intersections in the general vicinity of the project site. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most weekday traffic congestion occurs on the roadways in the study area.

Intersection operations conditions were evaluated for the following scenarios:

- ***Existing Conditions***. Existing AM and PM peak hour traffic volumes at all study intersections were obtained from the City of San Jose, previous traffic studies, and supplemented with new manual turning-movement counts collected in June 2018.
- ***Background Conditions.*** Background traffic volumes were estimated by adding to existing peak hour volumes the projected volumes from approved but not yet completed developments. The

Table 1
CEQA VMT Analysis Screening Criteria for Development Projects

Type	Screening Criteria
Small Infill Projects	• Single-family detached housing of 15 units or less; OR • Single-family attached or multi-family housing of 25 units or less; OR • Office of 10,000 square feet of gross floor area or less; OR • Industrial of 30,000 square feet of gross floor area or less
Local-Serving Retail	• 100,000 square feet of total gross floor area or less without drive-through operations
Local-Serving Public Facilities	• Local-serving public facilities
Residential/Office Projects or Components	• **Planned Growth Areas:** Located within a Planned Growth Area as defined in the Envision San José 2040 General Plan; AND • **High-Quality Transit:** Located within ½ a mile of an existing major transit stop or an existing stop along a high-quality transit corridor; AND • **Low VMT:** Located in an area in which the per capita VMT is less than or equal to the CEQA significance threshold for the land use; AND • **Transit-Supporting Project Density**: o Minimum Gross Floor Area Ratio (FAR) of 0.75 for office projects or components; o Minimum of 35 units per acre for residential projects or components; o If located in a Planned Growth Area that has a maximum density below 0.75 FAR or 35 units per acre, the maximum density allowed in the Planned Growth Area must be met; AND • **Parking:** o No more than the minimum number of parking spaces required; o If located in Urban Villages or Downtown, the number of parking spaces must be adjusted to the lowest amount allowed; however, if the parking is shared, publicly available, and/or "unbundled", the number of parking spaces can be up to the zoned minimum; AND • **Active Transportation**: Not negatively impact transit, bike or pedestrian infrastructure.
Restricted Affordable Residential Projects or Components	• **Affordability:** 100% restricted affordable units, excluding unrestricted manager units; affordability must extend for a minimum of 55 years for rental homes or 45 years for for-sale homes; AND • **Planned Growth Areas:** Located within a Planned Growth Area as defined in the Envision San José 2040 General Plan; AND • **High Quality Transit:** Located within ½ a mile of an existing major transit stop or an existing stop along a high quality transit corridor; AND • **Transit-Supportive Project Density**: o Minimum of 35 units per acre for residential projects or components; o If located in a Planned Growth Area that has a maximum density below 35 units per acre, the maximum density allowed in the Planned Growth Area must be met; AND • **Transportation Demand Management (TDM):** If located in an area in which the per capita VMT is higher than the CEQA significance threshold, a robust TDM plan must be included; AND • **Parking:** o No more than the minimum number of parking spaces required; o If located in Urban Villages or Downtown, the number of parking spaces must be adjusted to the lowest amount allowed; however, if the parking is shared, publicly available, and/or "unbundled", the number of parking spaces can be up to the zoned minimum; AND • **Active Transportation:** Not negatively impact transit, bike or pedestrian infrastructure.

Source: City of San José Transportation Analysis Handbook, April 2018.

Figure 5
Low VMT per Capita Areas in San Jose

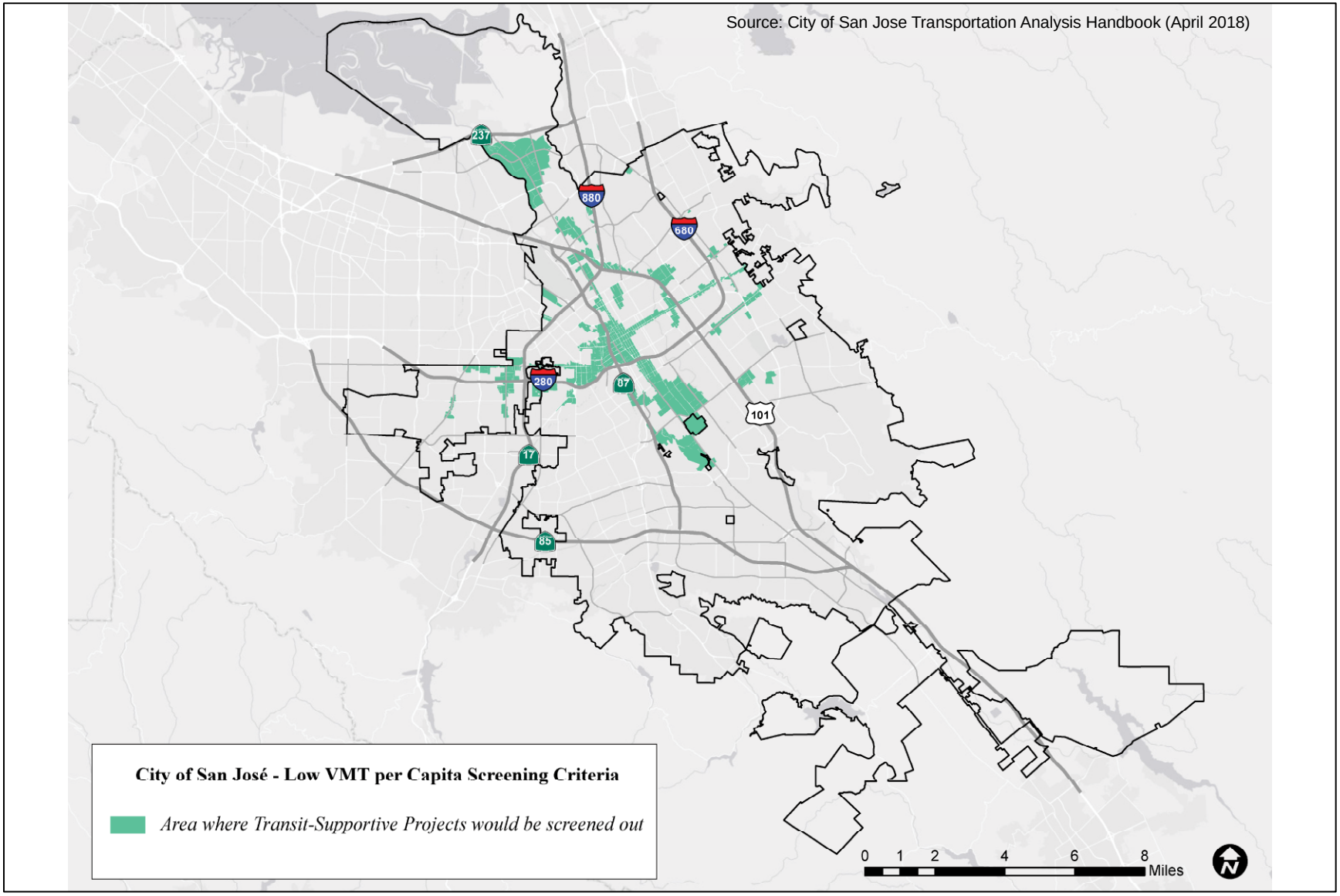
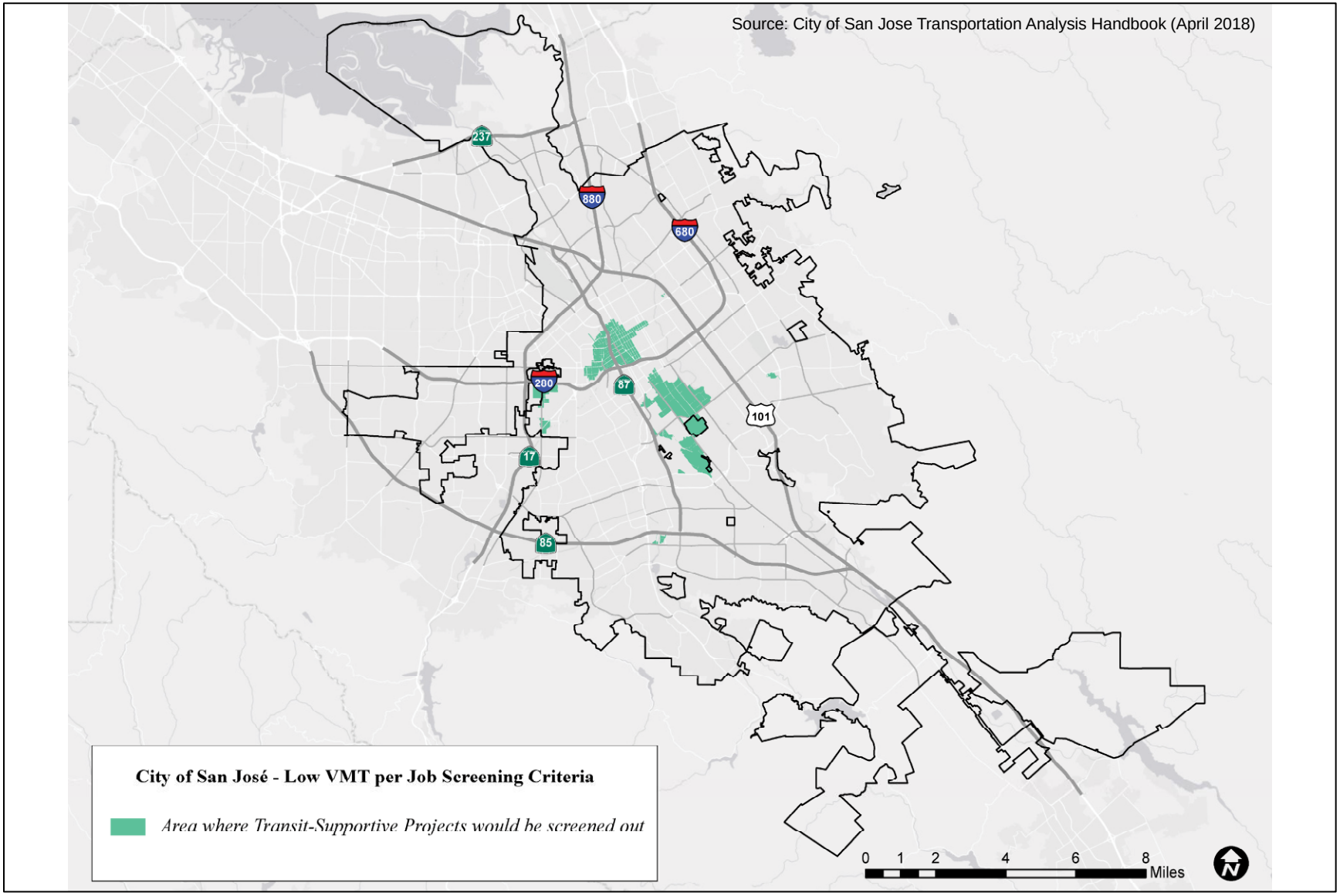


Figure 6
Low VMT per Job Areas in San Jose



approved project traffic was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI).

- ***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 traffic volumes with the project were estimated by adding to background traffic volumes the additional traffic generated by the project.

The LTA also includes a vehicle queuing analysis, an evaluation of potential project impacts on bicycle, pedestrian, and transit facilities, and a review of site access, on-site circulation, and parking demand.

Report Organization

The remainder of this report is divided into four chapters. Chapter 2 describes existing transportation system including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 describes the CEQA transportation analysis, including VMT analysis methodology, baseline and potential project VMT impacts, mitigation measures to reduce the VMT impact. Chapter 4 describes the LTA including the method by which project traffic is estimated, intersection operations analysis methodology, any adverse intersection traffic effects caused by the project, intersection vehicle queuing analysis, site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, and parking. Chapter 5 presents the conclusions of the transportation analysis.

2. Existing Transportation Setting

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 services, and pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the study area is provided by I-280 and SR 87. Local access to the study area is provided via Meridian Avenue, Race Street, Lincoln Avenue, San Carlos Street, and Park Avenue. These facilities are described below.

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 the project site. 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. I-280 provides access to the project site via partial interchanges at Meridian Avenue (ramps from north and ramps to south), Race Street (ramp from south), and Parkmoor Avenue (ramp to north).

State Route 87 connects from SR-85 in south San Jose to US-101 near the San Jose International Airport. SR-87 provides two mixed-flow lanes and one HOV lane in each direction of travel. Connections from SR-87 to the project site are provided via partial interchanges at Woz Way (ramps from south only), Delmas Avenue (ramps from north and ramps to south), and Park Avenue (ramps to/from north). An interchange with I-280 also provides access to the project site.

Meridian Avenue is generally a four-lane north-south arterial that runs from Camden Avenue to Park Avenue. The roadway narrows to two lanes between San Carlos Street and Park Avenue. Meridian Avenue runs along the eastern project site boundary and provides direct access to the project site via one full-access driveway and one emergency vehicle access (EVA) driveway.

Race Street is a north-south roadway that runs from Fruitdale Avenue to The Alameda. It is a four-lane road between Saddle Rack Street and the I-280 off-ramp and a two-lane road north of Saddle Rack Street and south of the I-280 off-ramp. Bike lanes are provided along both sides of Race Street, between The Alameda and Park Avenue and between San Carlos Street and Parkmoor Avenue. Race Street provides access to the project site via Park Avenue and San Carlos Street.

Parkmoor Avenue is an east-west roadway that runs parallel to the north side of I-280 and begins at its intersection with Lincoln Avenue and extends west to Scott Street. Bike lanes are provided along Parkmoor Avenue, between Race Street and the I-280 pedestrian bridge located west of Meridian Avenue. Parkmoor Avenue provides access to the project site via Meridian Avenue and Race Street.

San Carlos Street is a four-lane east-west arterial that runs from Fourth Street in Downtown to Bascom Avenue, just east of I-880, at which point it becomes Stevens Creek Boulevard. San Carlos Street provides access to the project site via its intersection with Meridian Avenue.

Park Avenue is an east-west roadway that extends from Market Street in Downtown San Jose to Meridian Avenue. West of Meridian Avenue, Park Avenue proceeds in a northwest direction into Santa Clara, where it terminates at its intersection with Bellomy Street/The Alameda. It is generally four lanes in the Downtown area and transitions to two lanes west of Sunol Street. Bike lanes are provided along the entire length of Park Avenue. Park Avenue provides access to the project site via its intersection with Meridian Avenue.

Existing Pedestrian, Bicycle and Transit Facilities

San Jose desires to provide a safe, efficient, fiscally, economically, and environmentally-sensitive transportation system that balances the need 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

Pedestrian facilities near the project site consist mostly of sidewalks along the streets in the study area. Sidewalks are found along both sides of all streets near the project site. Other pedestrian facilities in the project area include crosswalks and pedestrian push buttons at all signalized study intersections. Crosswalks are present on at least two legs of the signalized study intersections.

Pedestrian generators south of the project site include commercial areas and bus stops along the San Carlos Street corridor. Existing sidewalks along Meridian Avenue and San Carlos Street provide a pedestrian connection between the project site and pedestrian destinations along San Carlos Street. However, although the intersection of Meridian Avenue/San Carlos Street includes wheelchair ramps at all four corners of the intersection, only the existing ramp at the southwest corner of the intersection was observed to be in compliance with the Americans With Disabilities Act (ADA) wheelchair ramps design guidelines.

North of the project site, pedestrians may access bus stops along Park Avenue and Race Street via the existing sidewalks. There are also walking routes to Trace Elementary School, Herbert Hoover Middle School, and Lincoln High School (all located northwest of the project site along Park Avenue and Dana Avenue) from the project site. However, there are currently no wheelchair ramps installed at the unsignalized intersection of Meridian Avenue/Norton Avenue, located approximately 100 feet north of the project site.

The existing pedestrian facilities are shown in Figure 7.

Existing Bicycle Facilities

There are several bicycle facilities in the vicinity of the project site. Bicycle facilities are divided into the following three classes of relative significance:

Class I Bikeway (Bike Path). Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. The Los Gatos Creek Trail is located in the project area and is a continuous multi-purpose pathway for pedestrians and bicycles that is separated from motor vehicles. It begins at Vasona Lake County Park in the south and continues to West San Carlos Street in the north, all alongside Los Gatos Creek. A connection to the northern segment of the Los Gatos Creek Trail system is located on San Carlos Avenue, less than one mile east of the project site.

Figure 7
Existing Pedestrian Facilities

Class II Bikeway (Bike Lane). Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Within the vicinity of the project site, striped bike lanes are present on the following roadway segments.

- Park Avenue, along the entire length of the street
- Race Street, between The Alameda and Park Avenue; between San Carlos Street and Parkmoor Avenue
- Lincoln Avenue, between San Carlos Street and Minnesota Avenue
- Auzerais Avenue, between Sunol Street and the Los Gatos Creek Trail; between the Union Pacific Railroad tracks and Bird Avenue
- San Fernando Street, between the Diridon Transit Center and Eleventh Street
- Santa Clara Street, between Stockton Avenue and Almaden Boulevard

Class III Bikeway (Bike Route). Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. In the vicinity of the project site, the following roadway segments are designated as bike routes.

- Lincoln Avenue, between Park Avenue and San Carlos Street
- Auzerais Avenue, all segments east of Race Street without striped bike lanes

The existing bicycle facilities in the vicinity of the project site are shown on Figure 8.

Existing Transit Services

Existing transit services in the study area are provided by the VTA and are shown on Figure 9.

The nearest bus stops to the project site are located along San Carlos Street (near Meridian Avenue), approximately 500 to 700 feet (approximately 0.13 miles) from the project site, Park Avenue, at Yosemite Avenue, and along Race Street (near San Carlos Street), approximately 0.25 miles from the project site. Additionally, the Diridon Transit Center is located just over one-mile walking distance northeast of the project site, along Cahill Street. The Diridon Transit Center provides connections between local and regional bus routes, light rail lines, and commuter rail lines.

VTA Bus Service

The project site is primarily served by three VTA bus routes (23, 63, 81) and one limited stop bus route (323). These bus lines are listed in Table 2, including their terminus points, closest scheduled stop, and commute hour headways. Bus routes 23, 81, and 323 stop at the San Carlos Street bus stop while bus route 63 stops at the Race Street bus stop.

VTA Light Rail Transit (LRT) Service

The VTA currently 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 Clara, Milpitas, Mountain View and Sunnyvale. The nearest LRT station is located along Race Street (Race Station), north of Parkmoor Avenue, just over half a mile southeast of the project site. LRT service at the Race LRT Station is provided by the Mountain View-Winchester LRT line, which operates nearly 24 hours a day (4:40 AM to 12:45 AM) with 15-minute headways during peak commute and midday hours. The Mountain View-Winchester LRT line provides service from the Winchester station in Campbell, through Downtown San Jose to north San Jose where it curves west and operates along the Tasman Corridor, bends north and runs along Java Drive and Mathilda Avenue, and ultimately terminates in Downtown Mountain View adjacent to the Mountain View Caltrain Station. The Mountain View-Winchester LRT line also serves the Diridon Transit Center.

Figure 8
Existing Bicycle Facilities

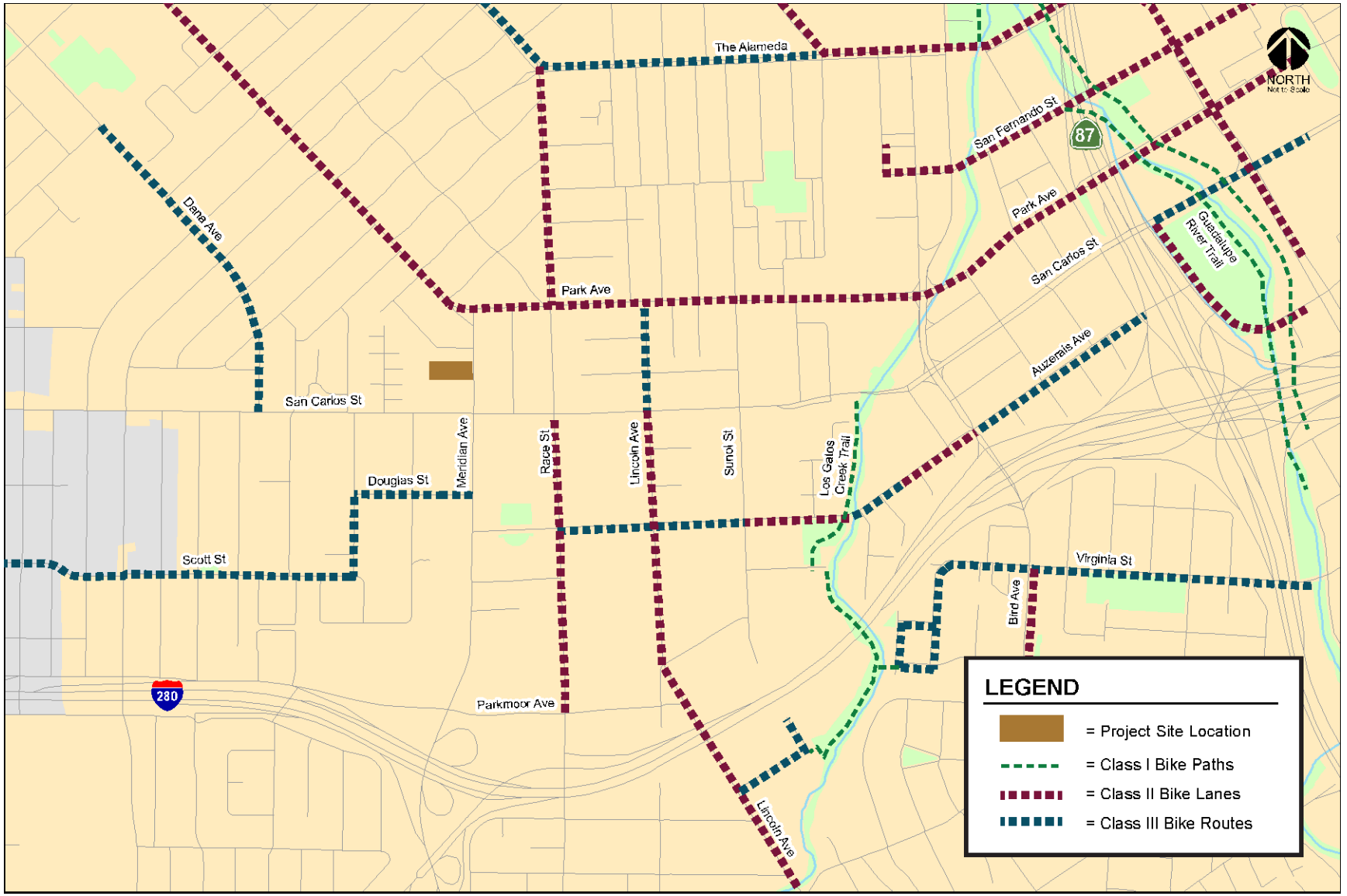


Figure 9
Existing Transit Services

Table 2
VTA Transit Services

Bus Route	Route Description	Hours of Operation	Headway[1]
Local Route 23	DeAnza College to Alum Rock Transit Center via Stevens Creek	5:20 AM - 1:00 AM	10 - 12 min
Local Route 63	Almaden Expwy. & Camden to San Jose State University	6:15 AM - 10:25 PM	30 - 42 min
Local Route 81	San Jose State University to Moffett Field/Ames Center	6:15 AM - 9:05 PM	25 - 30 min
Limited Stop Route 323	Downtown San Jose to De Anza College	6:10 AM - 7:15 PM	15 min

Notes:
[1] Approximate headways during peak commute periods.

The Mountain View – Winchester line provides a transfer point to the Alum Rock – Santa Teresa LRT line at the Convention Center LRT Station. The Alum Rock – Santa Teresa line operates nearly 24 hours a day (4:00 AM to 2:00 AM) with 10-15-minute headways during peak commute and midday hours. The Alum Rock – Santa Teresa LRT line provides service from the Santa Teresa Station in south San Jose, through Downtown San Jose to north San Jose where it curves east and operates along the Tasman Corridor, bends south and runs along the Capitol Corridor, and ultimately terminates in east San Jose just south of Alum Rock Avenue.

Other Transit Services Near the Project Site

Additional local and express bus routes, as well as commuter rail services, are provided at the Diridon Transit Center. Services to regional destinations are provided by VTA express bus routes 168, 181, and the Amtrak Highway 17 Express. North of the Diridon Transit Center, VTA rapid bus route 522 stops at the SAP Center and provides service between Palo Alto and East San Jose with 12-minute headways.

The VTA also provides a shuttle service within the Downtown area. The Downtown Area Shuttle (DASH) provides shuttle service from the Diridon Transit Center to San Jose State University, and the Paseo De San Antonio and Convention Center LRT stations via E. San Fernando and E. San Carlos Streets. The nearest DASH bus stop to the project site is located at the Diridon Transit Center.

Regional commuter rail services provided at the Diridon Transit Center include the following:

Caltrain Service

Caltrain operates a commuter rail service seven days a week between San Jose and San Francisco. During weekday commuting hours, Caltrain also serves the South County including Gilroy, San Martin, and Morgan Hill. The existing Caltrain station is located at the Diridon Transit Center. 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. The Diridon station provides 581 parking spaces, as well as 16 bike racks, 48 bike lockers, and 27 Ford GoBike bike share docks.

Altamont Corridor Express Service (ACE)

ACE provides commuter rail service between Stockton, Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, Santa Clara, 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 Capitol Corridor

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 eight times during the weekdays between approximately 7:38 AM and 11:55 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.

3. CEQA Transportation Analysis

This chapter describes the CEQA transportation analysis, including the VMT analysis methodology and significance criteria, potential project impacts on VMT, and mitigation measures recommended to reduce significant impacts.

VMT Analysis Methodology

Per Council Policy 5-1, the effects of the proposed project on VMT was evaluated using the methodology outlined in the City's *Transportation Analysis Handbook*. VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

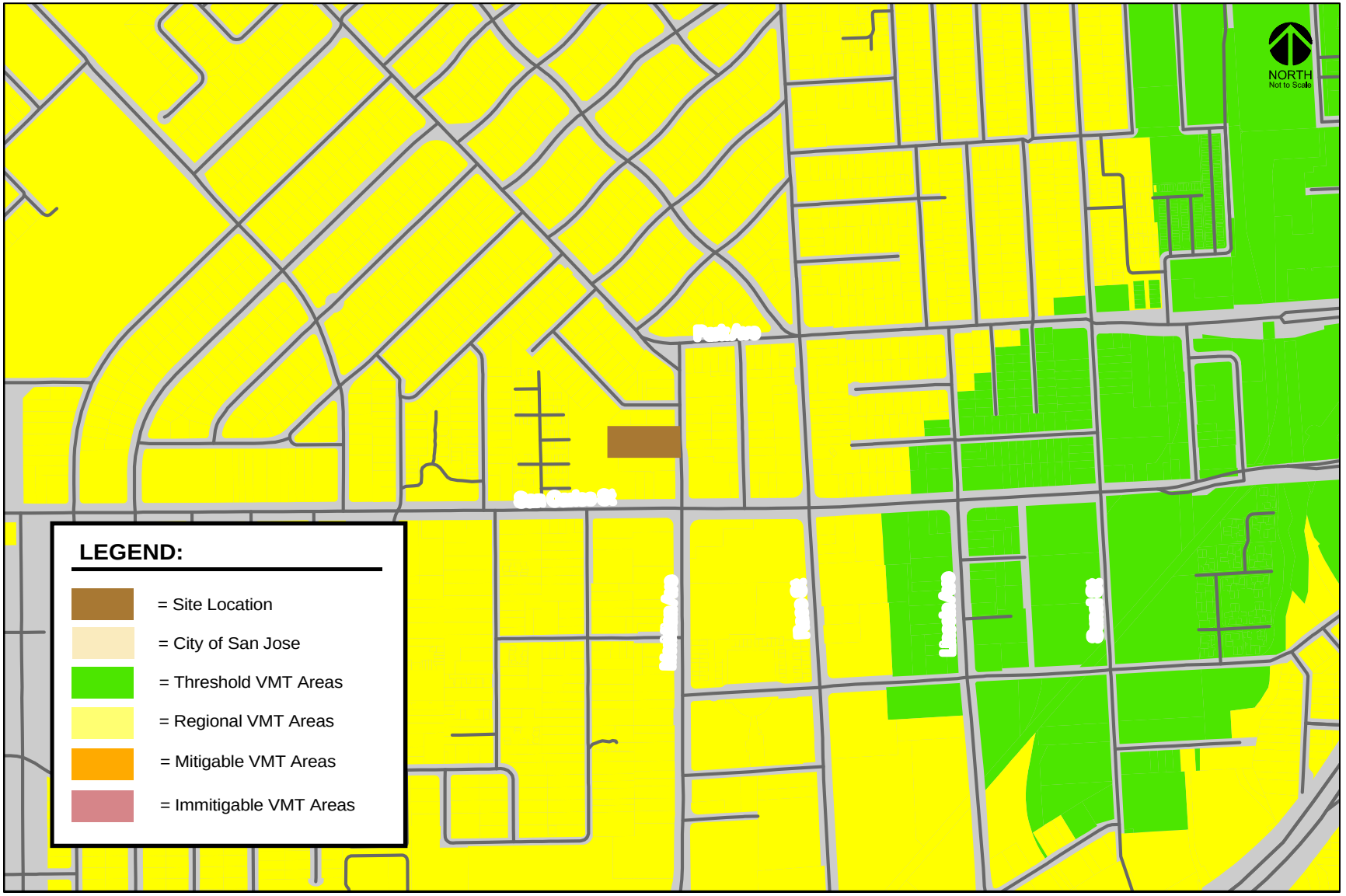
VMT Sketch Tool

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool (sketch tool) to streamline the analysis for development projects. For non-residential or non-office projects, very large projects, or projects that can potentially shift travel patterns, the City's Travel Demand Model can be used to determine project VMT. Because the proposed project is relatively small and would not significantly alter existing traffic patterns, the sketch tool is used to estimate the project VMT and determine whether the project would result in a significant VMT impact.

Based on the assessor's parcel number (APN) of a project, the sketch tool identifies the existing average VMT per capita and VMT per employee for the project area. Based on the project location, type of development, project description, and proposed trip reduction measures, the sketch tool calculates the project VMT. Projects located in areas where the existing VMT is greater than the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the extent possible. Figures 10 and 11 show the current VMT levels estimated by the City for residents and employees in the immediate project area, respectively.

Figure 10
VMT per Capita Heat Map in Project Area

Figure 11
VMT per Job Heat Map in Project Area



The sketch tool evaluates a list of selected VMT reduction measures that can be applied to a project to reduce the project VMT. There are four strategy tiers whose effects on VMT can be calculated with the sketch tool:

1. Project characteristics (e.g. density, diversity of uses, design, and affordability of housing) that encourage walking, biking and transit uses.
2. Multimodal network improvements that increase accessibility for transit users, bicyclists, and pedestrians,
3. Parking measures that discourage personal motorized vehicle-trips, and
4. Transportation demand management (TDM) measures that provide incentives and services to encourage alternatives to personal motorized vehicle-trips.

The first three strategies – land use characteristics, multimodal network improvements, and parking – are physical design strategies that can be incorporated into the project design. TDM includes programmatic measures that aim to reduce VMT by decreasing personal motorized vehicle mode share and by encouraging more walking, biking, and riding transit. TDM measures should be enforced through annual trip monitoring to assess the project's status in meeting the VMT reduction goals.

Thresholds of Significance

If a project is found to have a significant impact on VMT, the impact must be reduced by modifying the project to reduce its VMT to an acceptable level (below the established thresholds of significance applicable to the project) and/or mitigating the impact through multimodal transportation improvements or establishing a Trip Cap.

Table 3 shows the VMT thresholds of significance for development projects, as established in the Transportation Analysis Policy.

Projects that include residential uses are said to create a significant adverse impact when the estimated project-generated VMT exceeds the existing citywide average VMT per capita minus 15 percent or existing regional average VMT per capita minus 15 percent, whichever is lower. Currently, the reported citywide average is 11.94 VMT per capita, which is less than the regional average. This equates to a significant impact threshold of 10.12 VMT per capita.

For retail projects, a net increase in existing regional total VMT is considered a significant adverse impact.

Projects that trigger a VMT impact can assess a variety of the four strategies described above to reduce impacts. A significant impact is said to be satisfactorily mitigated when the strategies and VMT reductions implemented render the VMT impact less than significant.

CEQA Transportation Analysis Exemption Criteria

The City of San Jose *Transportation Analysis Handbook* provides screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

Evaluation of Screening Criteria

Per the City of San Jose VMT screening criteria, retail projects with 100,000 s.f. of total gross floor area or less without drive-through operations are considered local-serving and would be screened out of

Table 3
CEQA VMT Analysis Significant Impact Criteria for Development Projects

Type	Significance Criteria	Current Level	Threshold
Residential Uses	Project VMT per capita exceeds existing citywide average VMT per capita minus 15 percent OR existing regional average VMT per capita minus 15 percent, whichever is lower.	11.91 VMT per capita (Citywide Average)	10.12 VMT per capita
General Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee minus 15 percent	14.37 VMT per employee (Regional Average)	12.21 VMT per employee
Industrial Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee	14.37 VMT per employee (Regional Average)	14.37 VMT per employee
Retail/ Hotel/ School Uses	Net increase in existing regional total VMT	Regional Total VMT	Net Increase
Public/Quasi-Public Uses	In accordance with the most appropriate type(s) as determined by Public Works Director	Appropriate levels listed above	Appropriate thresholds listed above
Mixed Uses	Evaluate each land use component of a mixed-use project independently, and apply the threshold of significance for each land use type included	Appropriate levels listed above	Appropriate thresholds listed above
Change of Use or Additions to Existing Development	Evaluate the full site with the change of use or additions to existing development, and apply the threshold of significance for each project type included	Appropriate levels listed above	Appropriate thresholds listed above
Area Plans	Evaluate each land use component of the area plan independently, and apply the threshold of significance for each land use type included	Appropriate levels listed above	Appropriate thresholds listed above

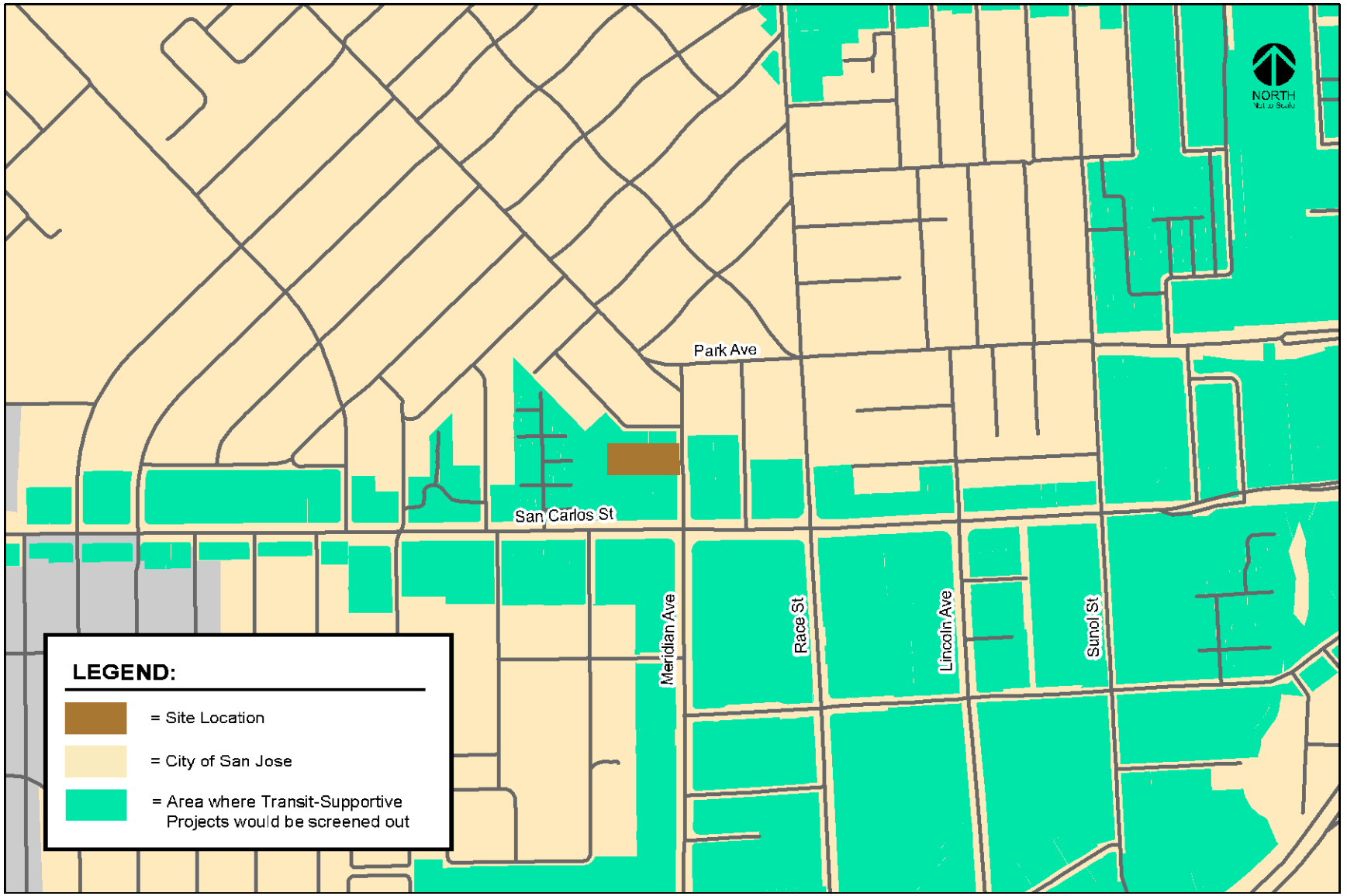
Source: City of San José Transportation Analysis Handbook, April 2018.

conducting a VMT analysis. The proposed retail portion of the project satisfies this criterion and is not required to complete a detailed VMT analysis.

The project site also is located within a planned Growth Area (West San Carlos) with low VMT per capita as identified by the City of San Jose (see Figure 12). In addition, the proposed project will meet the applicable residential screening criteria as described below.

Therefore, both the residential and commercial land use components of the project are anticipated to result in less-than-significant VMT impacts and a detailed CEQA transportation analysis that evaluates the project's effects on VMT is not required. However, for informational purposes, a VMT evaluation for the project was completed and is presented within this chapter.

Figure 12
Low VMT per Capita Areas



Planned Growth Areas

Requirement: *Located within a Planned Growth Area as defined in the Envision San José 2040 General Plan*

The project site is located within the West San Carlos Urban Village. The project satisfies this screening criterion.

High-Quality Transit

Requirement: *Located within ½ a mile of an existing major transit stop or an existing stop along a high-quality transit corridor*

The project site is located approximately 0.1-mile from a bus stop serving VTA bus Route 23 at the intersection of Meridian Avenue and San Carlos Street. San Carlos Street is considered a high-quality transit corridor due to Route 23 having headways of 15 minutes or less during peak commute hours. Additional transit routes accessible from the Meridian Avenue/San Carlos Street bus stop are described in the Existing Conditions section. The project satisfies this screening criterion.

Low VMT

Requirement: *Located in an area in which the per capita VMT is less than or equal to the CEQA significance threshold for the land use*

The project site is located within an Urban Village Area (West San Carlos) with low VMT per capita (7.25 compared to the citywide average VMT per capita of 11.91 for residential uses). The project satisfies this screening criterion.

Transit-Supporting Project Density

Requirement: *Minimum of 35 units per acre for residential projects or components; if located in a Planned Growth Area that has a maximum density below 35 units per acre, the maximum density allowed in the Planned Growth Area must be met*

A total of 241 units are proposed to be constructed within a 1.28-acre site. The project density is 188 units per acre, exceeding the required minimum of 35 units per acre. The project satisfies this screening criterion.

Parking

Requirement: *No more than the minimum number of parking spaces required; if located in Urban Villages or Downtown, the number of parking spaces must be adjusted to the lowest amount allowed; however, if the parking is shared, publicly available, and/or "unbundled", the number of parking spaces can be up to the zoned minimum*

The site is within the West San Carlos Urban Village, which is subject to City-wide parking rates. The number of proposed parking spaces must not exceed the number required for residential zones, or 302 spaces. The project proposes 162 parking stalls. Therefore, the project meets the parking criterion. The project satisfies this screening criterion.

Active Transportation

Requirement: *Not negatively impact transit, bike or pedestrian infrastructure*

No negative impacts to transit, bike or pedestrian infrastructure are anticipated with the proposed development. Potential impacts to transit services, bike and pedestrian facilities within the project study area are discussed in Chapter 4. The project satisfies this screening criterion.

VMT of Existing Land Uses

The results of the VMT analysis using the sketch tool indicate that the existing VMT for residential uses in the project vicinity is 7.25 per capita. As shown in Table 3, the current citywide average VMT for residential uses is 11.91 per capita. Therefore, the VMT levels of existing residential uses in the project vicinity are currently less than the average VMT levels. Appendix A presents the sketch tool summary report for the project.

Project-Level VMT Impact Analysis

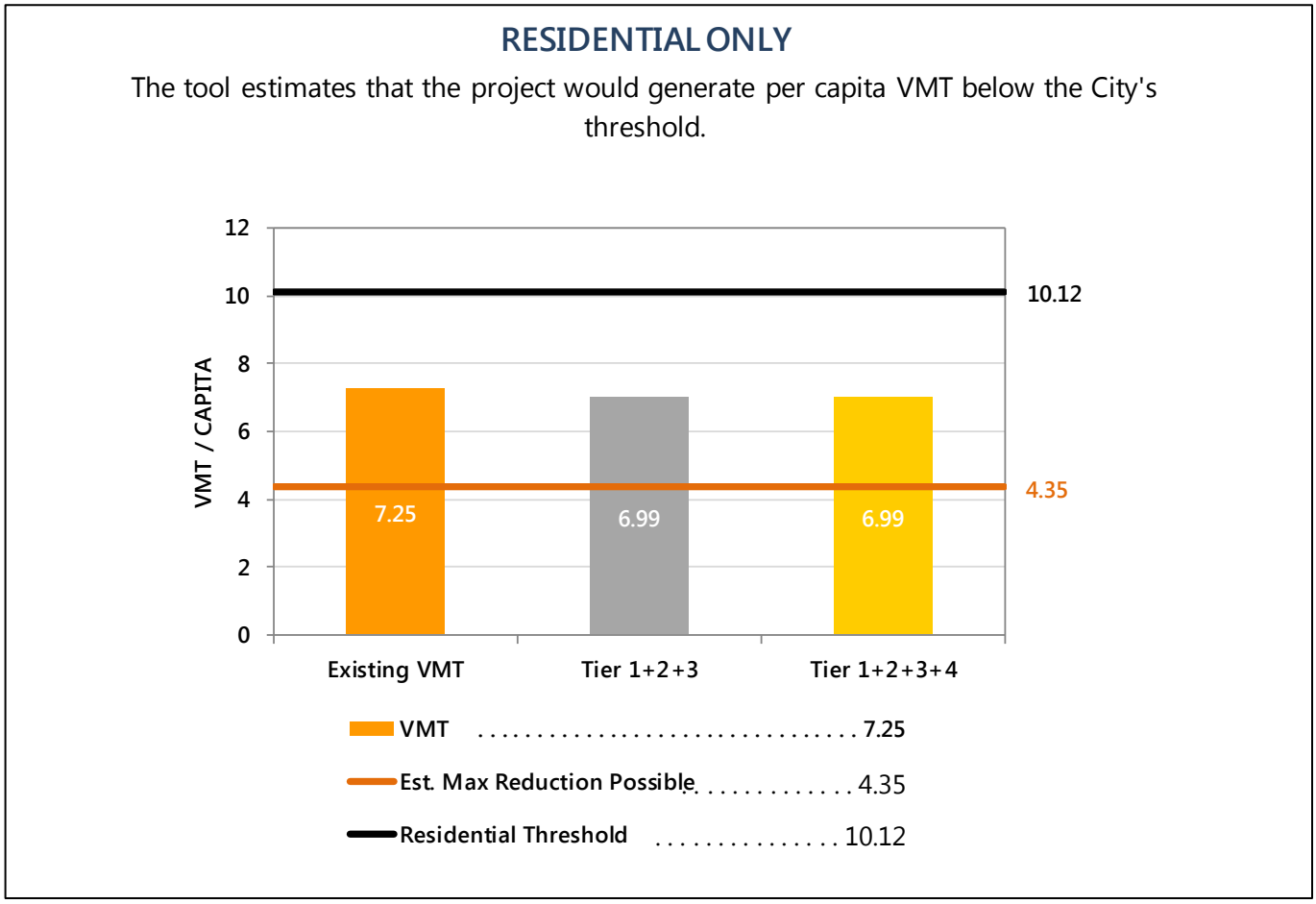
As discussed previously, the proposed project would meet the City's VMT analysis screening criteria and a CEQA-level transportation analysis that evaluates the project's effects on VMT is not required. However, for informational purposes, a VMT evaluation for the proposed residential project is included in this study.

The City's Transportation Policy identifies an impact threshold of 15% below the citywide average per-capita VMT of 11.91. Thus, the proposed project would result in a significant impact if it results in VMT that exceeds per capita VMT of 10.12.

The results of the VMT evaluation, using the City's VMT Evaluation Tool, indicate that the proposed project is projected to generate VMT per capita (6.99) that is below the established threshold. Therefore, the proposed project would not result in an impact on the transportation system based on the City's VMT impact criteria.

The reduction in per-capita VMT could be indicative of the addition of residents to an area with extensive opportunities for the use of transit, bicycles, and other non-auto modes of travel. In addition, the project site is in close proximity (approximately one mile) to the Diridon Transit Center and is supported by major bus stops, an LRT station, and bicycle and pedestrian facilities in its immediate proximity. Therefore, a larger percentage of the residents of the project would likely use transit more regularly than the average transit usage for these land uses in Santa Clara County. The increase in transit usage would result in a reduction of length of those trips that are added to the roadway system due to the proposed project. Figure 13 shows the VMT evaluation summary generated by the City of San Jose's VMT Evaluation Tool.

Figure 13
VMT Analysis Summary



4. Local Transportation Analysis

This chapter describes the local transportation analysis including the method by which project traffic is estimated, intersection operations analysis for background and background plus project scenarios, any adverse effects on study intersections caused by the project, intersection vehicle queuing analysis, site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, and parking.

Study Intersections

The study includes an analysis of AM and PM peak-hour traffic conditions for 5 signalized intersections within the City of San Jose. Intersections were selected for study if the project is expected to add 10 vehicle trips per hour per lane to a signalized intersection that meets one of the following criteria as outlined in the *Transportation Analysis Handbook.*

- Within a ½-mile buffer from the project's property line;
- Outside a ½-mile buffer but within a one-mile buffer from the project AND currently operating at D or worse;
- Designated Congestion Management Program (CMP) facility outside of the City's Infill Opportunity Zones;
- Outside the City limits with the potential to be affected by the project, per the transportation standards of the corresponding external jurisdiction;
- With the potential to be affected by the project, per engineering judgment of Public Works.

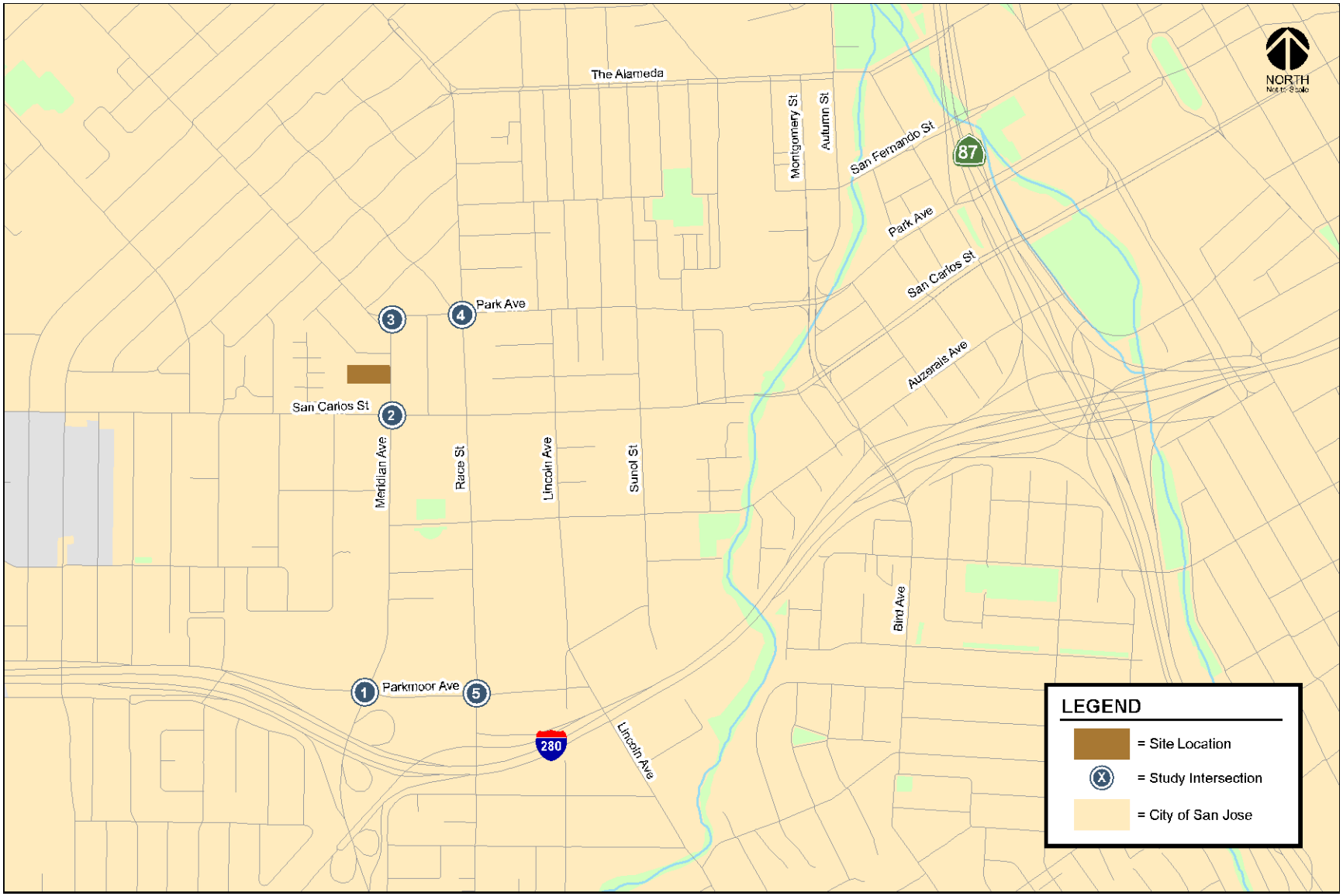
Based on the above criteria, the following study intersections were selected and are shown in Figure 14.

1. Meridian Avenue and Parkmoor Avenue
2. Meridian Avenue and West San Carlos Street
3. Meridian Avenue and Park Avenue
4. Race Street and Park Avenue
5. Race Street and Parkmoor Avenue

Project Description

The proposed project consists of the construction of a seven-story residential tower with 241 multi-family units and two levels of above grade parking providing a total of 162 vehicular plus 47 motorcycle parking spaces on-site. The proposed project also would include approximately 1,300 square feet of commercial/retail space on the ground level of the building. The proposed project would replace three medical office buildings that are currently on the project site. Access to the site would be provided via one full-access driveway along Meridian Avenue.

Figure 14
Site Location and Study Intersections



The project site is located within a designated Urban Village (West San Carlos) per the Envision San Jose 2040 General Plan. Urban villages are walkable, bicycle-friendly, transit-oriented, mixed-use settings that provide both housing and jobs, thus supporting the General Plan's environmental goals.

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 indicate the amount of traffic that can be expected to be generated by common land uses. Project trip generation was estimated by applying to the size and uses of the development the appropriate trip generation rates. The average trip generation rates for Multifamily Housing (Land Use 221) and Retail (Land Use 820) as published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* (2017) were applied to the project.

Based on the ITE rates, the proposed mixed-use development would generate a gross total of 1,360 daily vehicle trips, with 88 trips (24 inbound and 64 outbound) occurring during the AM peak hour and 111 trips (67 inbound and 44 outbound) occurring during the PM peak hour.

Trip Adjustments and Reductions

In accordance with San Jose's *Transportation Analysis Handbook* (April 2018, Section 4.8, "Intersection Operations Analysis"), the project is eligible for adjustments and reductions from the baseline (gross) trip generation described above. Based on the 2018 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 Tool, the project site is located within a designated urban area with low access to transit. Therefore, the baseline project trips were adjusted to reflect an urban low-transit mode share. Urban low-transit is characterized as an area with good accessibility, low vacancy, and middle-aged housing stock. Residential developments within urban low-transit areas have a vehicle mode share of 87%. Thus, a 13% reduction was applied to the residential trips generated by the proposed project.

Additionally, based on the San Jose VMT Evaluation Tool, the project is anticipated to generate 6.99 VMT per-capita in an area that currently generates approximately 7.25 VMT per-capita. It is assumed that every percent reduction from the existing per-capita VMT is equivalent to one percent reduction in peak-hour vehicle trips. Thus, the project trip estimates were reduced accordingly.

Existing Site Trips

Trips associated with the existing medical/dental offices on the project site are subtracted from the estimated trips to be generated by the proposed project. Daily and peak-hour trips generated by the existing uses on site were obtained from new driveway counts completed in June 2018.

Based on driveway counts, the existing medical/dental office space currently generates 290 daily vehicle trips, with 9 trips (8 inbound and 1 outbound) occurring during the AM peak hour and 24 trips (12 inbound and 12 outbound) occurring during the PM peak hour.

Net Project Trips

After applying the ITE trip rates, appropriate trip reductions, and existing site trip credits, it is estimated that the project would generate an additional 859 daily vehicle trips, with 65 trips (12 inbound and 53 outbound) occurring during the AM peak hour and 71 trips (45 inbound and 26 outbound) occurring during the PM peak hour.

The project trip generation estimates are presented in Table 4.

Trip Distribution and Trip Assignment

The trip distribution pattern for the project was developed based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak-hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern, with an emphasis on freeway access and project driveway location. Figure 15 shows the trip distribution pattern, and Figure 16 shows the net trip assignment of project traffic on the local transportation network.

Intersection Operations Methodology

This section presents the methods used to evaluate traffic operations at the study intersections. It includes descriptions of the data requirements, the analysis methodologies, the applicable level of service standards, and the criteria defining adverse effects at the study intersections.

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection operation is not considered a CEQA impact metric.

Data Requirements

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

- existing traffic volumes
- existing lane configurations
- signal timing and phasing
- approved project trips

Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 17. It is assumed in this analysis that the transportation network under background and background plus project conditions would be the same as the existing transportation network.

Traffic Volumes

Existing Conditions

Existing peak hour traffic volumes at all study intersections were obtained from the City of San Jose, previously completed transportation analyses, and supplemented with new manual turning-movement counts collected in June 2018. The existing peak-hour intersection volumes are shown on Figure 18. Intersection turning-movement counts conducted for this analysis are presented in Appendix B. Peak hour intersection turning movement volumes for all intersections and study scenarios are tabulated in Appendix D.

Table 4
Project Trip Generation Estimates

Land Use	ITE Land Use Code	Location	% of Vehicle Mode Share	VMT[3] Existing	VMT[3] Project	% Reduction	Size	Daily Rate	Daily Trip	AM Peak Hour Pk-Hr Rate	AM Peak Hour Split In	AM Peak Hour Split Out	AM Peak Hour Trip In	AM Peak Hour Trip Out	AM Peak Hour Trip Total	PM Peak Hour Pk-Hr Rate	PM Peak Hour Split In	PM Peak Hour Split Out	PM Peak Hour Trip In	PM Peak Hour Trip Out	PM Peak Hour Trip Total
Proposed Land Uses																					
Multifamily Housing (Mid-Rise)[1]	221						241 Dwelling Units	5.440	1,311	0.360	26%	74%	23	64	87	0.440	61%	39%	65	41	106
- Location Based Reduction[2]		*Urban Low-Transit*	*87%*			*13%*			*-170*				*-3*	*-8*	*-11*				*-8*	*-5*	*-13*
- VMT Reduction[3]				*7.25*	*6.99*	*4%*			*-41*				*-1*	*-2*	*-3*				*-2*	*-1*	*-3*
Retail[1]	820						1,300 Square Feet	37.750	49	0.940	62%	38%	1	0	1	3.810	48%	52%	2	3	5
Baseline Vehicle Trips (Before Reductions)									1,360				24	64	88				67	44	111
Project Trips After Reductions									**1,149**				**20**	**54**	**74**				**57**	**38**	**95**
Existing Land Use																					
Existing Medical/Dental Offices[4]									-290				-8	-1	-9				-12	-12	-24
Net Project Trips									**859**				**12**	**53**	**65**				**45**	**26**	**71**

Notes:

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

[2] The project site is located within an urban low-transit area based on the City of San Jose VMT Evaluation Tool (March 14, 2018). 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 beside vehicle.

[3] VMT per capita for residential use. Existing and project VMTs were estimated using the City of San Jose VMT Evaluation Tool.
It is assumed that every percent reduction in VMT per-capita is equivalent to one percent reduction in peak-hour vehicle trips.

[4] Trips for the existing medical/dental offices were obtained from driveway counts conducted on June 5, 2018.

Figure 15
Project Trip Distribution

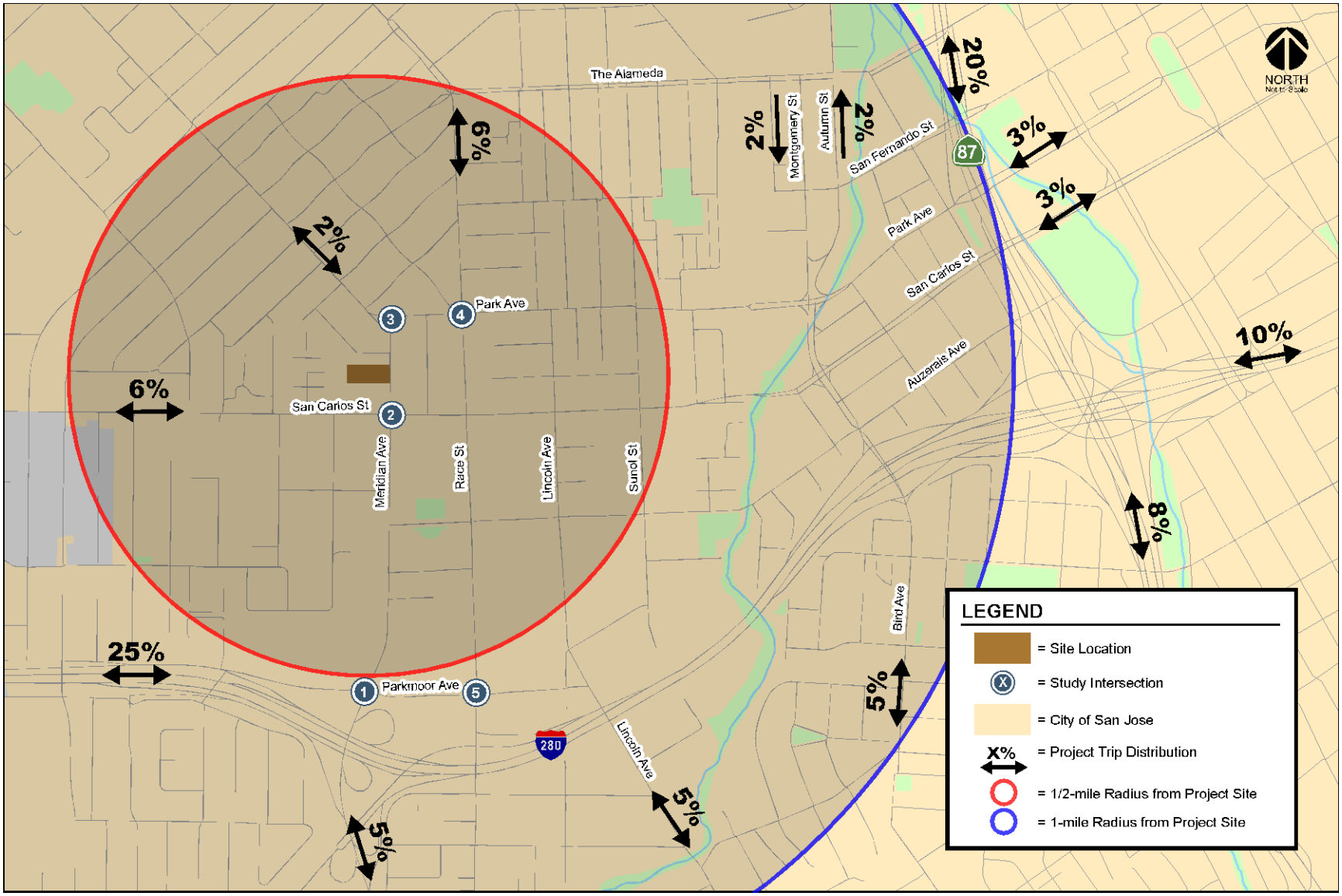


Figure 16
Net Project Trip Assignment

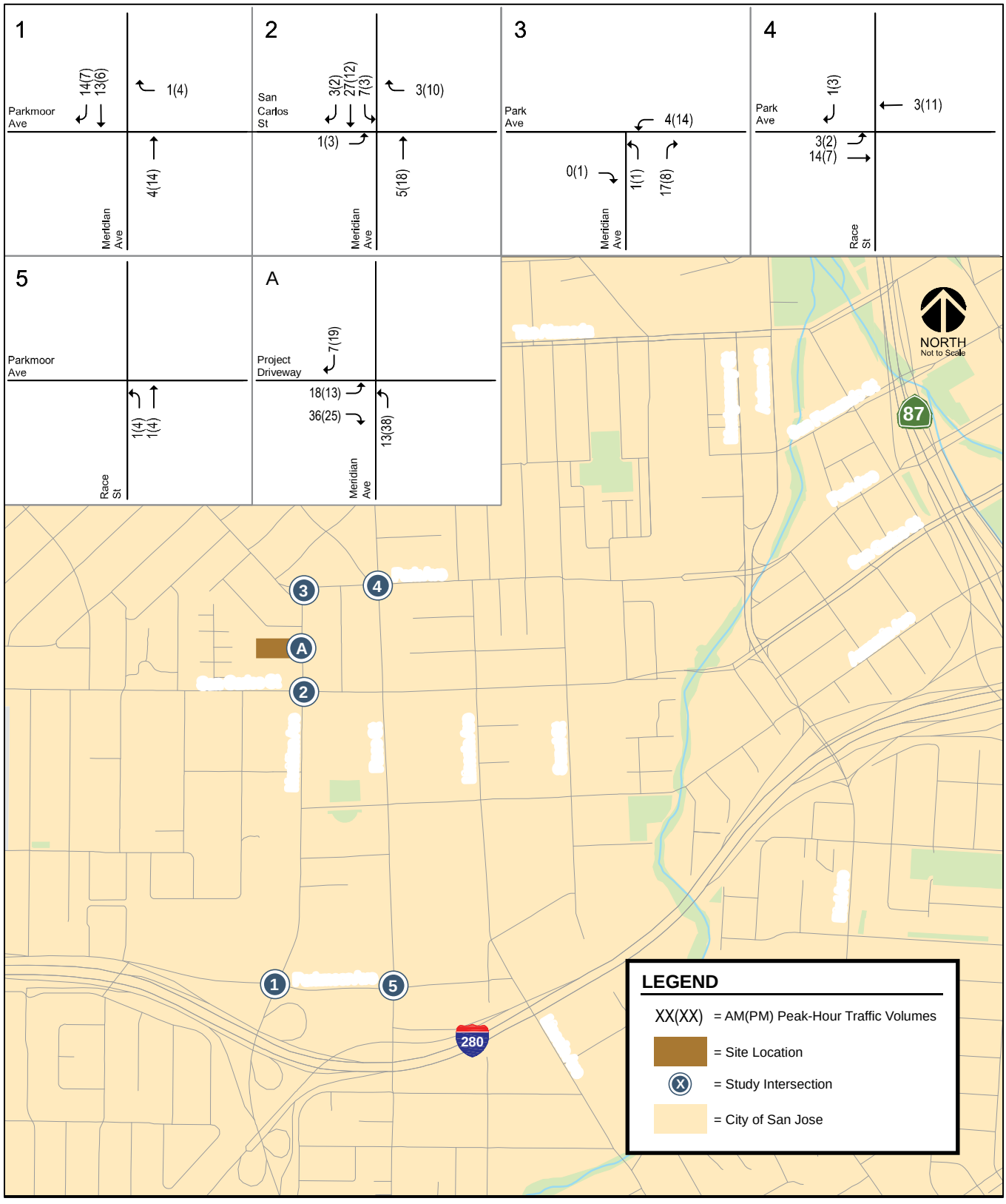
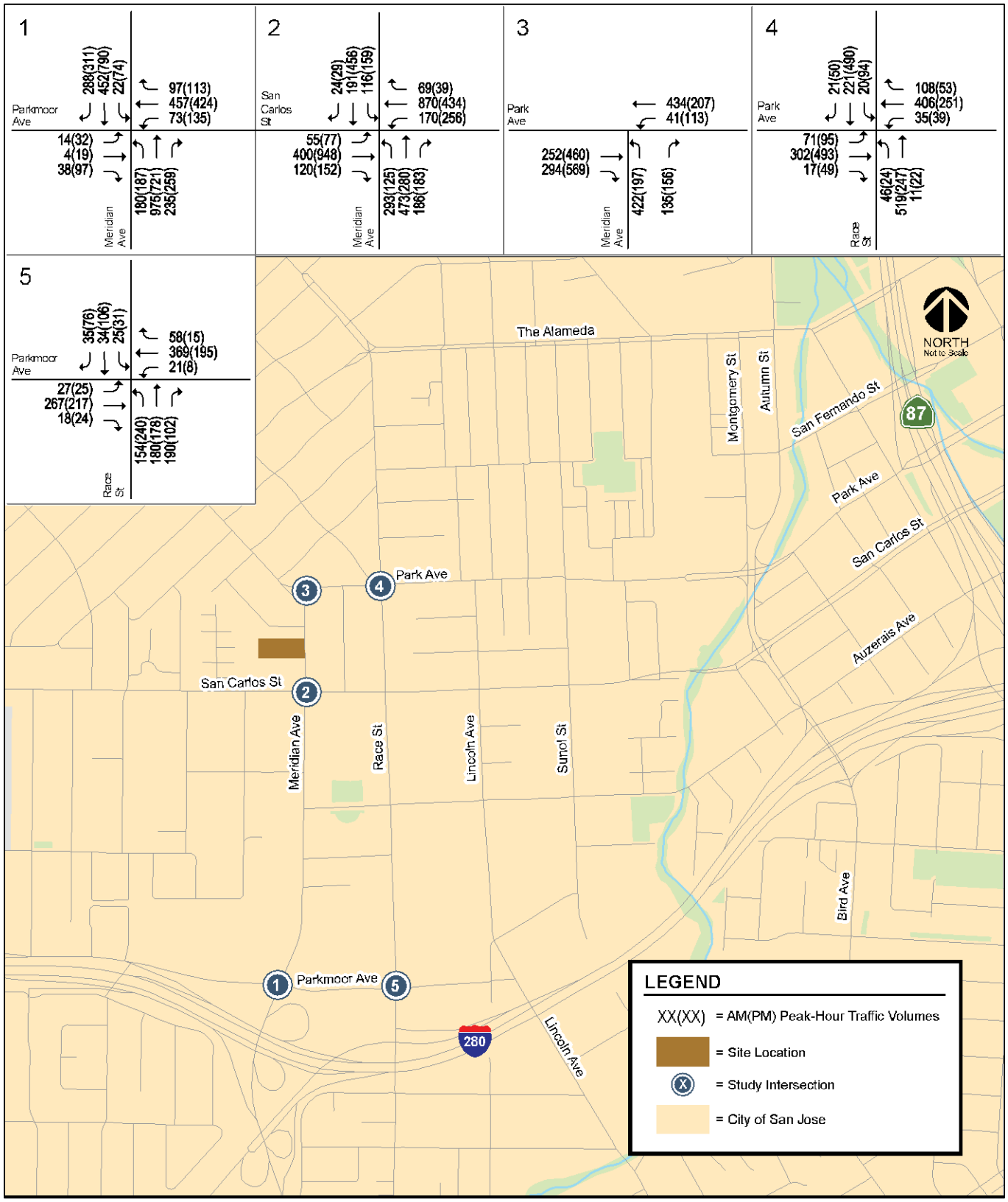


Figure 17
Existing Lane Configurations

Figure 18
Existing Traffic Volumes



Future Conditions

Background peak-hour traffic volumes were estimated by adding to existing traffic volumes the trips generated by nearby approved but not yet completed or occupied projects (see Figure 19). The added traffic from approved but not yet constructed developments was obtained from the City of San Jose's Approved Trips Inventory (ATI) database (see Appendix C). Project trips were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 20).

The approved trips, proposed project trips, and traffic volumes for all components of traffic are tabulated in Appendix D.

Level of Service Standards and Analysis Methodologies

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

All study intersections were evaluated based on the *2000 Highway Capacity Manual* (HCM) level of service methodology using the TRAFFIX software. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. TRAFFIX is also the CMP-designated intersection level of service methodology, thus, the City of San Jose employs the CMP default values for the analysis parameters. The correlation between average control delay and level of service at signalized intersections is shown in Table 5.

Signalized study intersections are subject to the City of San Jose level of service standards. The City of San Jose has established LOS D as the minimum acceptable intersection operations standard for all signalized intersections unless superseded by an Area Development Policy.

City of San Jose Definition of Adverse Intersection Operations Effects

According to the City of San Jose's *Transportation Analysis Handbook 2018*, an adverse effect on intersection operations occurs if for either peak hour:

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

The exception to this threshold is when the addition of project traffic reduces the amount of average control delay for critical movements, i.e., the change in average control delay for critical movements are negative. In this case, the threshold is when the project increases the critical v/c value by 0.01 or more.

An adverse intersection operations effect by City of San Jose standards may be addressed by implementing measures that would restore intersection level of service to background conditions or better. The City recommends prioritizing improvements related to alternative transportation modes, parking measures, and/or TDM measures. Improvements that increase vehicle capacity are secondary and must not have unacceptable effects on existing or planned transportation facilities. Unacceptable effects on existing or planned transportation facilities include the following:

- Inconsistent with the General Plan Transportation Network and Street Typologies;

Figure 19
Background Traffic Volumes

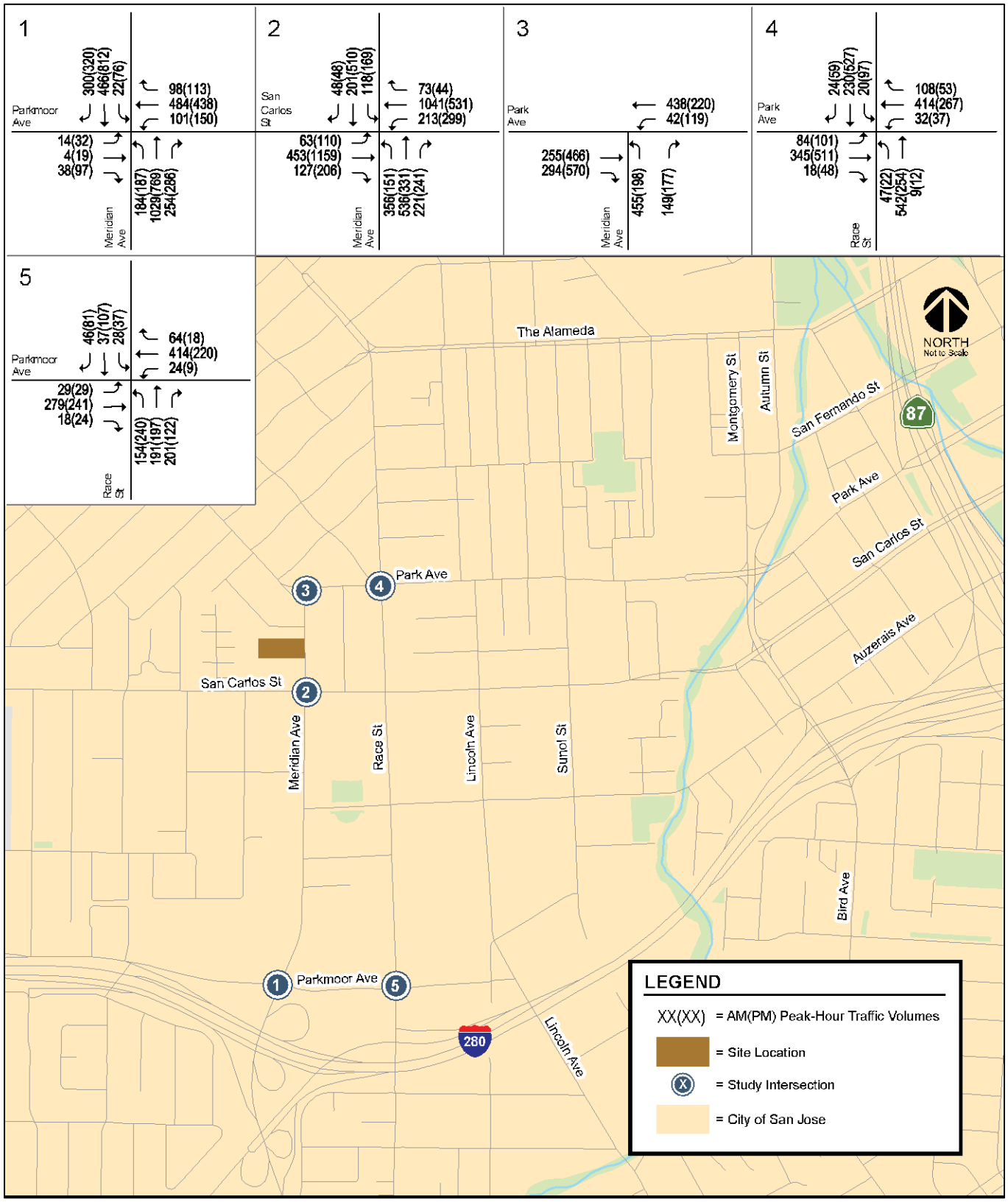


Figure 20
Background Plus Project Traffic Volumes

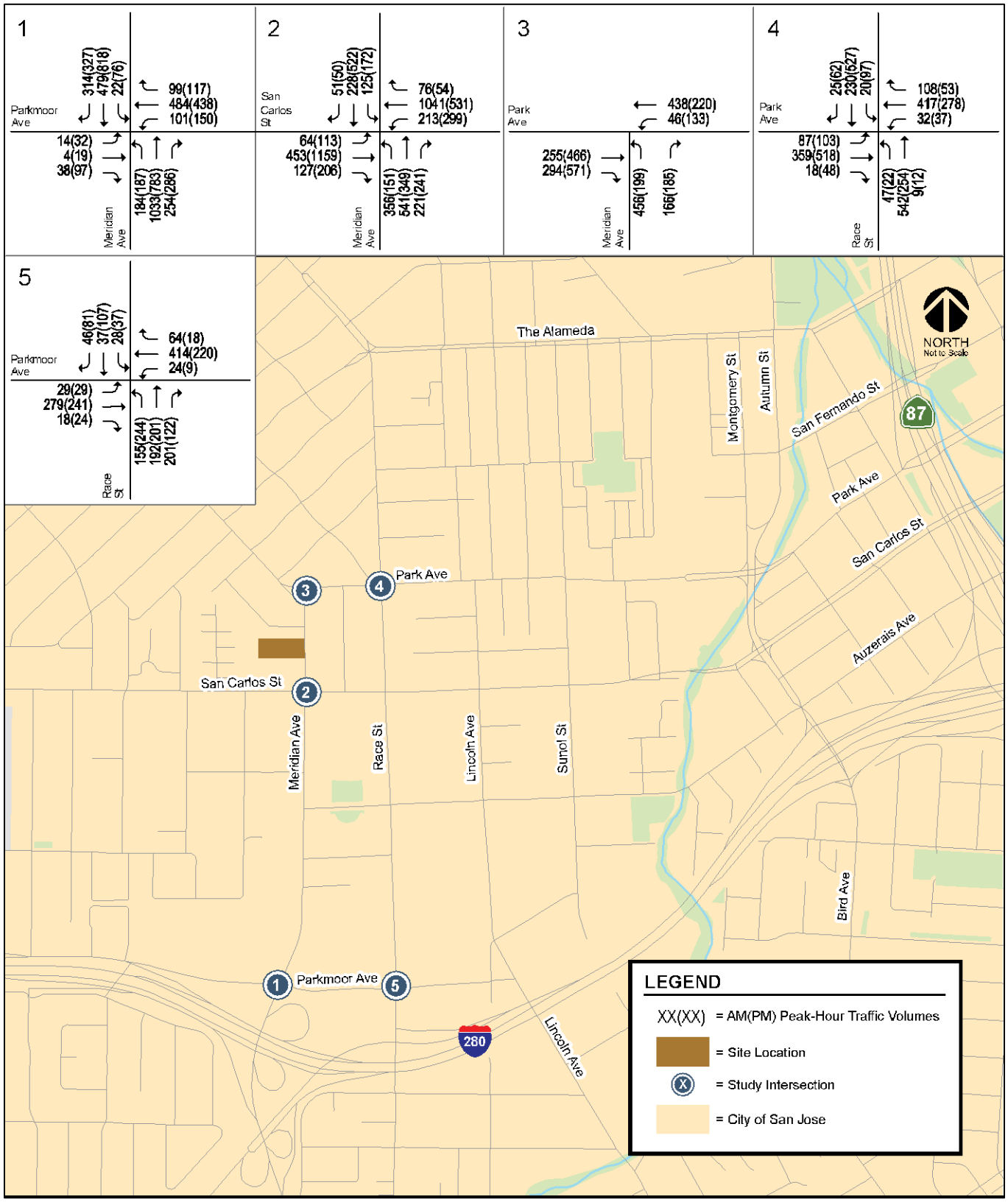


Table 5
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Sources: Transportation Research Board, *2000 Highway Capacity Manual. Traffic Level of Service Analysis Guidelines* , Santa Clara County Transportation Authority Congestion Management Program, June 2003.

- Reduction of any physical dimension of a transportation facility below the minimum design standards per the *San José Complete Streets Design Standards and Guidelines*; OR
- Substantial deterioration in the quality of existing or planned transportation facilities, including pedestrian, bicycle, and transit systems and facilities, as determined by the Director of Transportation.

Intersection Operations Analysis Results

The intersection level of service analysis is summarized in Table 6.

Existing Intersection Operation Conditions

Intersection levels of service were evaluated against applicable City of San Jose operations standards. The results of the level of service analysis show all study intersections currently operate at an acceptable LOS D or better during both the AM and PM peak hours, based on the City of San Jose intersection operations standard of LOS D.

Table 6
Intersection Levels of Service Results

Study Number	Intersection	LOS Standard	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Background Avg. Delay	Background LOS	Background Plus Project Avg. Delay	Background Plus Project LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Meridian Avenue and Parkmoor Avenue	D	AM	03/09/17	27.6	C	27.9	C	27.9	C	0.0	0.001
			PM	05/09/17	37.7	D	37.6	D	37.5	D	0.0	0.002
2	Meridian Avenue and San Carlos Street	D	AM	05/18/17	39.7	D	41.5	D	42.2	D	0.8	0.012
			PM	05/18/17	44.5	D	49.4	D	50.2	D	0.9	0.009
3	Meridian Avenue and Park Avenue	D	AM	05/18/17	21.2	C	21.4	C	21.3	C	0.0	0.001
			PM	05/18/17	19.3	B	19.4	B	19.8	B	0.6	0.009
4	Race Street and Park Avenue	D	AM	05/18/17	15.2	B	15.5	B	15.6	B	0.1	0.002
			PM	05/18/17	19.4	B	20.1	C	20.2	C	0.2	0.006
5	Race Street and Parkmoor Avenue	D	AM	06/05/18	27.2	C	27.3	C	27.3	C	0.0	0.001
			PM	06/05/18	29.4	C	29.6	C	29.6	C	0.0	0.003

Bold indicates unacceptable operations standard.
Bold and boxed indicate adverse intersection operation effect.

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

Future Intersection Operation Conditions

The intersection operations analysis shows that all of the signalized study intersections are projected to operate at acceptable levels of service, based on the City of San Jose intersection operations standard of LOS D, under background and background plus project conditions during both the AM and PM peak hours (see Table 6). Therefore, the project would not have an adverse effect on intersection operations at any of the study intersections.

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

Intersection 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. 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. Vehicle queuing at unsignalized intersections are evaluated based on the delay experienced at the specific study turn movement.

The operations analysis is based on vehicle queuing for high-demand movements at intersections (see Table 7). The following six left-turn movements were examined as part of the queuing analysis for this project:

- Meridian Avenue/San Carlos Street – southbound left-through-right-turn and eastbound left-turn movements
- Meridian Avenue/Park Avenue – northbound left-turn and westbound left-turn movements
- Race Street/Park Avenue – eastbound left-turn movement
- Race Street/Parkmoor Avenue – northbound left-turn movement

Table 7
Queuing Analysis Summary

Measurement	Meridian/ San Carlos				Meridian/ Park				Race/ Park		Race/ Parkmoor	
	SBL/T/R[3] AM	SBL/T/R[3] PM	EBL AM	EBL PM	NBL AM	NBL PM	WBL AM	WBL PM	EBL AM	EBL PM	NBL AM	NBL PM
Existing Conditions												
Cycle/Delay[1] (sec)	140	140	140	140	100	96	100	96	65	96	100	100
Lanes	3	3	1	1	1	1	1	1	1	1	1	1
Volume (vph)	331	644	55	77	422	197	41	113	71	95	154	240
Volume (vphpl)	110	215	55	77	422	197	41	113	71	95	154	240
Avg. Queue (veh/ln.)	4	8	2	3	12	5	1	3	1	3	4	7
Avg. Queue[2] (ft./ln)	107	209	53	75	293	131	28	75	32	63	107	167
95th %. Queue (veh/ln.)	10 [3]	17 [3]	5	6	18	9	3	6	3	5	8	11
95th %. Queue (ft./ln)	250	425	125	150	450	225	75	150	75	125	200	275
Storage (ft./ ln.)	125	125	300	300	275	275	75	75	100	100	250	250
Adequate (Y/N)	**NO**	**NO**	YES	YES	**NO**	YES	YES	**NO**	YES	**NO**	YES	**NO**
Background Conditions												
Cycle/Delay[1] (sec)	140	140	140	140	100	96	100	96	65	96	100	100
Lanes	3	3	1	1	1	1	1	1	1	1	1	1
Volume (vph)	367	727	63	110	455	198	42	119	84	101	154	240
Volume (vphpl)	122	242	63	110	455	198	42	119	84	101	154	240
Avg. Queue (veh/ln.)	5	9	2	4	13	5	1	3	2	3	4	7
Avg. Queue[2] (ft./ln)	119	236	61	107	316	132	29	79	38	67	107	167
95th %. Queue (veh/ln.)	11 [3]	20 [3]	5	8	19	9	3	6	4	6	8	11
95th %. Queue (ft./ln)	275	500	125	200	475	225	75	150	100	150	200	275
Storage (ft./ ln.)	125	125	300	300	275	275	75	75	100	100	250	250
Adequate (Y/N)	**NO**	**NO**	YES	YES	**NO**	YES	YES	**NO**	YES	**NO**	YES	**NO**
Background Plus Project Conditions												
Cycle/Delay[1] (sec)	140	140	140	140	100	96	100	96	65	96	100	100
Lanes	3	3	1	1	1	1	1	1	1	1	1	1
Volume (vph)	404	744	64	113	456	199	46	133	87	103	155	244
Volume (vphpl)	135	248	64	113	456	199	46	133	87	103	155	244
Avg. Queue (veh/ln.)	5	10	2	4	13	5	1	4	2	3	4	7
Avg. Queue[2] (ft./ln)	131	241	62	110	317	133	32	89	39	69	108	169
95th %. Queue (veh/ln.)	11 [3]	20 [3]	5	8	19	9	3	7	4	6	8	11
95th %. Queue (ft./ln)	275	500	125	200	475	225	75	175	100	150	200	275
Storage (ft./ ln.)	125	125	300	300	275	275	75	75	100	100	250	250
Adequate (Y/N)	**NO**	**NO**	YES	YES	**NO**	YES	YES	**NO**	YES	**NO**	YES	**NO**

[1] Vehicle queue calculations based on cycle length for signalized intersections and control delay for unsignalized intersections.
[2] Assumes 25 feet per vehicle in the queue.
[3] A queue storage capacity of 125 feet per lane is assumed for all three southbound lanes at the intersection. Beyond the 125-foot striped lanes, all traffic would store within the single southbound travel lane and the center two-way left-turn lane.
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, R = Right, T = Through, L = Left.

The results of the queuing analysis indicate that the existing storage capacities at the five study locations currently are and would continue to be inadequate to accommodate the projected queue lengths under existing and background conditions (see Table 7).

The addition of project traffic to the study locations is not projected to result in an increase in the 95th percentile queue length at any of the study locations, with the exception of the westbound left-turn movement at the intersection of Meridian Avenue/Park Avenue. At the intersection of Meridian Avenue/Park Avenue, the addition of project traffic is projected to increase the 95th percentile queue length by one vehicle (from 6 to 7 vehicles) when compared to background conditions during the PM peak hour. The existing queue storage capacity would be exceeded by approximately 100 feet (4 vehicles). Extending the westbound left-turn pocket at this intersection may be possible; however, it would require the removal of the existing on-street parking along both sides of Park Avenue, west of Grand Avenue.

Additionally, although the proposed project is not projected to result in an increase in the 95th percentile queue lengths at the intersection of Meridian Avenue/San Carlos Street, it is projected that under both background and background plus project conditions, the southbound queue is projected to be approximately 500 feet and could extend into the two-way left-turn lane during the PM peak-hour. A queue of this length would extend past the project site and potentially affect project driveway operations. This is discussed further in the following section.

It is also important to note that the project's proximity to major transit services along San Carlos Street and bicycle facilities surrounding the project area will provide for and encourage the use of multi-modal travel options and reduce the use of single-occupant automobile travel. It is expected that the auto trips ultimately generated by the project would be less than those estimated within this study and the identified operational deficiencies (queues at intersections) reduced as development and the planned enhancement of the multi-modal transportation system progresses within the area.

Site Access and On-Site Circulation

The site access and circulation evaluations are based on the November 10, 2018 site plan prepared by LPMD Architects. Site access was evaluated to determine the adequacy of the site's driveway with regard to the following: traffic volume, delays, vehicle queues, geometric design, and corner sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles. The street/first level site plan is shown on Figure 21 below.

Project Driveway Design

Vehicular access to the project site would be provided via a full-access unsignalized driveway along Meridian Avenue, adjacent to the southern project site boundary and approximately 230 feet north of San Carlos Street. This driveway would provide direct access to the parking garage entrance, shown on the site plan to be located approximately 100 feet west of this driveway/Meridian Avenue. Along the project site frontage, Meridian Avenue consists of a three-lane (one lane in each direction plus a two-way left-turn lane) roadway with no on-street parking.

Currently, there is a connection between the project site and Norton Avenue via a 20-foot ingress/egress easement that connects to the northwest corner of the project site. This vehicular ingress/egress easement is shown on the site plan to be realigned to connect to the adjacent parcel west of the project site, eliminating direct vehicular access to the project site from Norton Avenue.

The City requires a minimum width of 26 feet for all two-way driveways. The project site access driveway must be designed to meet the minimum 26-foot width requirement.

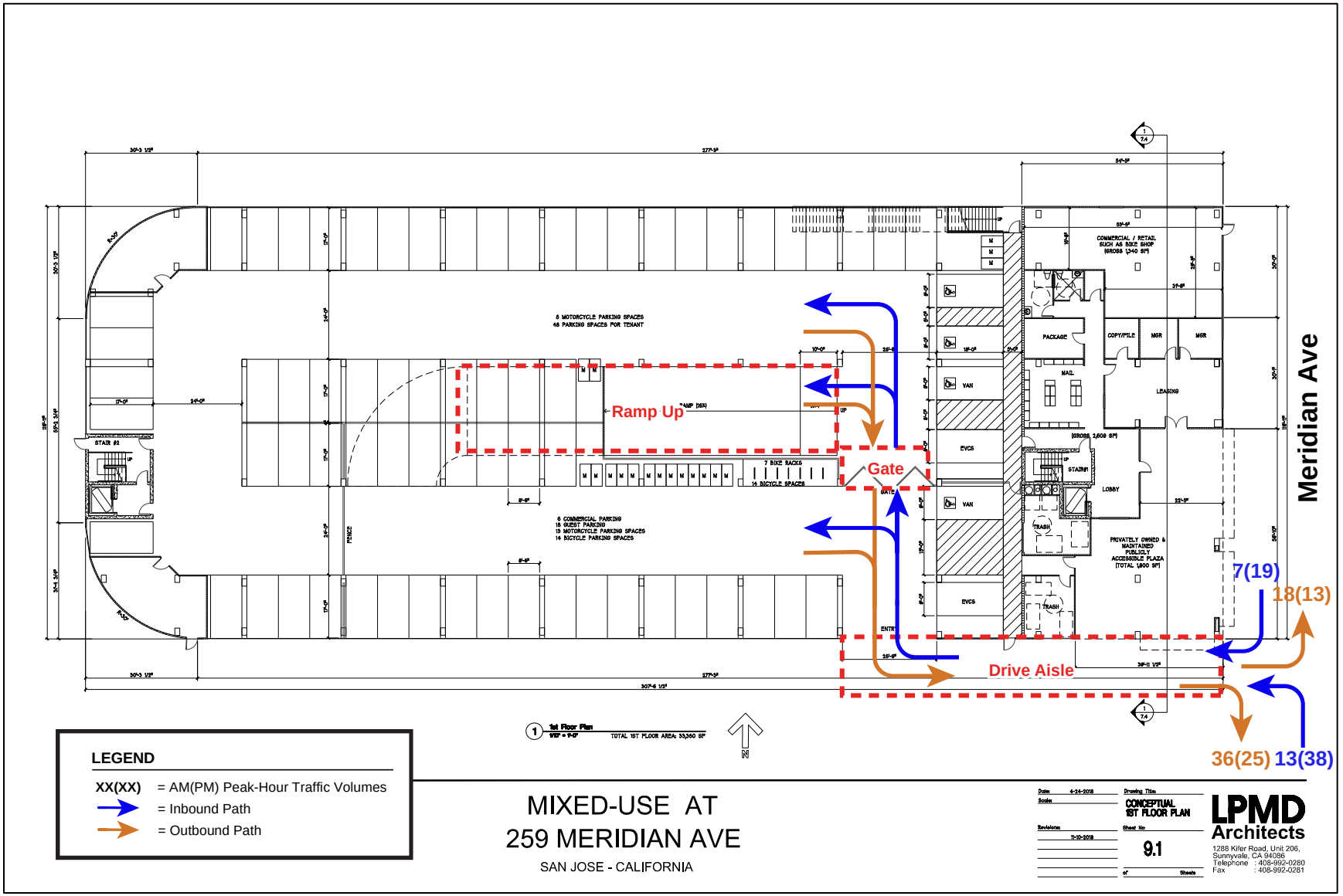
Recommendation: The project site access driveway along Meridian Avenue must be designed to the satisfaction of City of San Jose design guidelines, including the minimum 26-foot width requirement.

Sight Distance

There are no existing trees or visual obstructions along the project frontage that would obscure sight distance at the project driveway. The project access point 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 other vehicles traveling on Meridian Avenue. Any landscaping and signage should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Adequate sight distance (sight distance triangles) should be provided at the project driveway in accordance with the *American Association of State Highway Transportation Officials* (AASHTO) standards. Sight distance triangles should be measured approximately 10 feet back from the traveled

Figure 21
Ground Level Site Plan, Circulation, and Project Trips at Site Driveway



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 and locate sufficient gaps in traffic. The minimum acceptable sight distance is often considered the AASHTO stopping sight distance. Sight distance requirements vary depending on the roadway speeds. Meridian Avenue has a posted speed limit of 35 miles per hour (mph). The AASHTO stopping sight distance for a facility with a posted speed limit of 35 mph is 250 feet. Thus, a driver exiting the proposed project driveway must be able to see 250 feet to both the north and south along Meridian Avenue in order to stop and avoid a collision.

Based on the project site plan and observations in the field, vehicles exiting the project site driveway would be able to see approaching traffic on southbound Meridian Avenue as far away as 450 feet. The intersection of Norton Avenue with Meridian Avenue is approximately 250 feet north of the project driveway.

The distance between the project driveway and the Meridian Avenue/San Carlos Street intersection is approximately 240 feet. However, the traffic signal at the Meridian Avenue/San Carlos Street intersection provides gaps in the northbound traffic flow along Meridian Avenue. Therefore, it can be concluded that the project driveway would meet the AASHTO minimum stopping sight distance standards.

Project Driveway Operations

As mentioned previously, all project traffic would utilize the proposed full-access project site driveway on Meridian Avenue. Based on the estimated project trips, it is estimated that a maximum of 57 inbound trips (during the PM peak-hour) would enter the project site, with 19 and 38 trips making a right-turn and a left-turn into the site, respectively. Similarly, a maximum of 54 trips would exit the site during the AM peak-hour, with 18 trips making a left-turn out of the site and 36 trips making a right-turn out of the site onto Meridian Avenue. The existing TWLT lane on Meridian Avenue would facilitate access to left-turning inbound and outbound project traffic at the project site driveway. The estimated project trips at the project site driveway are shown on Figure 21.

Residential parking, unlike visitor and commercial parking, is proposed to be restricted via a security gate on the ground level of the garage, located approximately 35 feet north of the parking garage entrance. Based on the estimated trip generation, a maximum of 55 inbound residential trips would access the gate during the PM peak hour (approximately 19 trips during the AM peak-hour). This represents approximately one vehicle every minute. The rate at which vehicles enter a gated parking garage depends primarily on the processing ability, or service rate, of the gate. Assuming that the service rate of the residential gate is at least one vehicle per minute, the estimated inbound peak-hour trips would be adequately served without forming queues at the gate. However, it is not likely that inbound project traffic would be spread out evenly throughout the peak-hour; we can assume that there would be instances were more than one inbound vehicle (2-3 vehicles for example) would arrive at the parking garage gate at the same time. In these instances, if the parking garage gate's service rate is one minute per vehicle, a vehicle queue of 2-3 vehicles would form at the gate. There is approximately 35 feet of queuing space at the gate within the parking garage and approximately 100 feet along the garage entry drive aisle (between the parking garage entrance and the project driveway) for vehicles entering the parking garage to queue. This represents a queue storage capacity of approximately 5-6 vehicles. Therefore, it is not anticipated that inbound traffic would result in queue lengths that would extend back onto Meridian Avenue.

The intersection queuing analysis presented previously indicates that the southbound vehicle queue along Meridian Avenue at San Carlos Street is projected to extend beyond the project site driveway (more than 230 feet north of San Carlos Street) during the peak hours under both background and background plus project conditions. Therefore, it is projected that southbound vehicular queues along

the project site frontage on Meridian Avenue could block access to the project site, potentially affecting project driveway operations.

Recommendation: Although it is projected that the southbound vehicle queues along Meridian Avenue would extend beyond the project site driveway, project traffic making a left-turn into the project site potentially could store within the existing two-way left-turn lane along Meridian Avenue and wait for a gap in traffic to complete the turn. If it is observed that the southbound vehicle queue along Meridian Avenue also stores within the two-way left-turn lane at the project site driveway, restricting access to the project driveway to right-in and right-out only could be considered. A center median may be installed along Meridian Avenue to prevent northbound vehicles from turning left into the project driveway. However, installing a median also would limit vehicular access to other adjacent properties along Meridian Avenue and could result in a re-adjustment of traffic patterns in the vicinity of the project, including an increase in U-turn movements. Therefore, further studies would be required to determine the effects of installing a median along Meridian Avenue.

On-Site Circulation

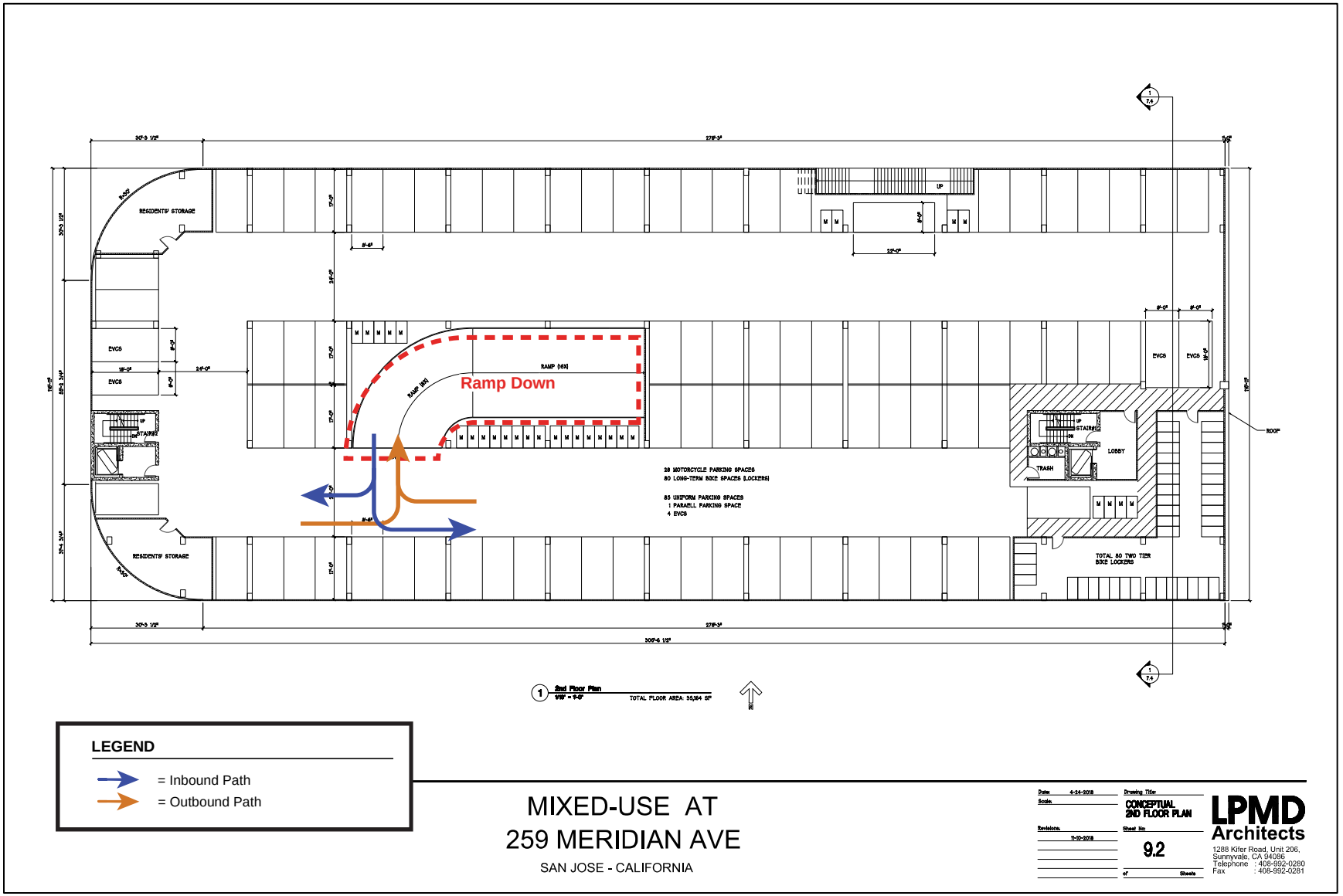
On-site vehicular circulation was reviewed in accordance with the City of San Jose Zoning Code and generally accepted traffic engineering standards. The proposed vehicular circulation at the ground floor level is shown on Figure 21.

A single entrance would provide inbound and outbound access to the parking garage. The parking garage entrance, shown on the site plan to be 25.5 feet wide, would be connected to the project site driveway on Meridian Avenue via a 19.6-20.6-foot wide drive aisle. The City of San Jose design guidelines include 26-foot width requirements for two-way access driveways.

The project would provide 90-degree parking stalls within the two-level parking garage. The first level of parking (ground level) would include 18 guest parking spaces and 6 commercial use spaces (including one Electric Vehicle Charging Station, EVCS), 13 motorcycle parking spaces, and 14 short-term bicycle parking spaces (bike racks) all within the drive aisle immediately adjacent to the parking garage entrance (non-gated spaces). Additionally, 48 vehicular parking spaces (including one EVCS) and 5 motorcycle spaces designated for tenants also would be located within the first parking level but would be separated from the visitor/commercial parking spaces by an automated gate. The gate would be located approximately 35 feet north of the parking garage entrance and would enclose all tenant parking spaces, access to the 2nd level parking garage, staircases to the upper levels, and other utility rooms. A total of 90 vehicular parking spaces (including 4 EVCS), 29 motorcycle parking spaces, and 80 long-term (lockers) bicycle parking are proposed for tenants within the second garage level. The proposed second-floor level circulation is shown on Figure 22.

The site plans show two-way drive aisles within the parking garage to be 24 feet wide and lined with 90-degree parking along both sides of the drive aisle. Regular parking spaces are shown to be 17 feet long and 8.5 feet wide while EVCS are shown to be 18 feet long and 9 feet wide. The City's standard minimum width for two-way drive aisles with 90-degree parking is 26 feet wide. This allows sufficient space for two-way circulation, in particular for larger vehicles, and for vehicles to easily maneuver in and out of the parking spaces. Additionally, the City identifies full-size parking spaces as 18 feet long and 9 feet wide and compact parking spaces as 16 feet long and 8 feet wide. Both the proposed drive aisle widths and parking space dimensions are less than the City's minimum requirements. The proposed drive aisle width of 24 feet throughout the garage would require larger passenger vehicles to conduct multi-point turning maneuvers to get in and out of the parking stalls. However, it should be noted that large vehicles, such as emergency vehicle and trash trucks, would not access the parking garage, making the reduced drive aisle and parking stall dimension less problematic. Ultimately, City staff will determine the adequacy of the proposed drive aisle width and internal circulation design.

Figure 22
Second Level Site Plan and Circulation



Typical engineering standards require garage ramps to have no greater than a 20 percent grade, and slopes over 10% require transition slopes so that vehicles do not “bottom out”. The project site plan indicates the slope of the ramp within the parking garage to be 16% mid-ramp, with 8% slopes at both ends of the ramp. Therefore, the proposed ramp design is adequate, based on typical engineering standards. Ultimately, City staff will determine if the proposed ramp design is adequate.

Recommendation: The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls is to the satisfaction of the City.

Parking Garage Vehicular Circulation

Overall, circulation within the parking garage would be adequate. Residential traffic, which is typically low activity during most of the day, would be separated from commercial and visitor traffic. Parking spaces for the commercial and visitor traffic would all be located adjacent to the parking garage entrance, making it easily accessible. No larger vehicles, such as emergency vehicles and garbage trucks, would access the parking garage.

There are several dead-end aisles on each level of the parking garage. Dead end aisles are undesirable because drivers can enter the aisle, and upon discovering that there is no available parking, must back out or conduct three-point turns. Given that the parking garage would be circulated primarily by residents of the proposed residential development, and parking spaces would be designated for specific tenants, there is no need for residents to circulate the garage in search of available parking, making dead-end drive aisles less problematic.

The site plan shows parking spots located adjacent to the parking garage entrance and the tenant parking access gate. This is less than ideal because traffic activity within those parking stalls could block access in and out of the parking garage. Parking activity within the parking stall next to the gate also could block access while requiring the vehicle to complete various turns to enter or exit the stall. Typically, a minimum of 30 feet is the recommended distance between a driveway or entrance and the first parking stall or drive aisle.

The layout of the parking garage and the single garage entrance would require all vehicles to exit the garage following the same path they took in. Vehicles circulating the garage would be required to make various 90-degree right turns. Some drivers with larger vehicles may have difficulty navigating the sharp right turns and reduced drive aisle widths, resulting in vehicles encroaching upon the opposing lane to complete the turn. Thus, it is recommended that physical devices be installed at every turn within the parking garage in an effort to aid circulation and reduce vehicular conflict at the garage’s constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Recommendation: A minimum of 30 feet is the recommended distance between a driveway or entrance and the first parking stall or drive aisle.

Recommendation: It is recommended that physical devices be installed at every turn within the parking garage in an effort to aid circulation and reduce vehicular conflict at the garage’s constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Bike and Pedestrian On-Site Circulation

The site plan shows the main building entrance located along Meridian Avenue, which includes a Plaza and a lobby that connects to the mail room, trash enclosures, parking garage, stairway, and elevator. The site plan also shows street-level common open space surrounding the proposed

building, extending from the sidewalk on Meridian Avenue along the northern project site boundary to the parking garage entrance along the southern project site boundary. Bollards are shown on the site plan along the perimeter open space, adjacent to the garage entrance, preventing vehicles from driving onto this pedestrian area. A possible pedestrian connection between the perimeter common open space (northwest corner of the project site) and the existing ingress/egress easement that connects to Norton Avenue also is shown on the site plan. The perimeter common open space would facilitate pedestrian and bicycle circulation within the site and connect the site to other pedestrian facilities off-site. The leasing office and retail space would be accessible from Meridian Avenue.

Both parking garage levels would have direct access to the lobby, elevator, and stairway in the front of the building. Additional stairways would be located along the west and north sides of the parking garage, both of them within the restricted tenant only parking areas and both of them accessible via the perimeter common open space. Pedestrian circulation within the parking garage would generally be adequate, with pedestrians having to walk within the drive aisles. A marked pedestrian walkway would be located on the first garage level, between the building front (lobby) area and the adjacent row of accessible parking spaces, providing a direct pedestrian connection between the accessible parking spaces (and parking garage), the front of the building, and the perimeter common open space.

The project proposes to widen the existing 8-foot wide sidewalk located along the project frontage on Meridian Avenue to a width of 12 feet. Direct access to the Meridian Avenue sidewalk is provided via the front lobby, outdoor Plaza, and perimeter open space. The outdoor Plaza and perimeter open space as well as the wider sidewalks along the project site frontage would provide an inviting pedestrian environment, connecting to other existing pedestrian facilities along Meridian Avenue and encouraging walking rather than driving to access nearby pedestrian destinations.

Several motorcycle and bicycle parking locations within the parking garage are being proposed. The site plan shows 13 motorcycle and 14 bicycle parking spaces within the visitor/commercial parking area on the first parking level, and 29 motorcycle spaces and 80 bicycle lockers within the second parking level. The bicycle lockers on the second level would be located next to the elevator, facilitating access to the first (ground) level and the lobby entrance. Providing convenient bike parking would help create a pedestrian- and bicycle-friendly environment and encourage bicycling by employees. The inclusion of convenient bike parking complements the bicycle facilities in the vicinity of the project site.

Recommendation: Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Truck Access and Circulation

Larger vehicles, such as delivery trucks, garbage trucks, and emergency trucks, would not have access to the parking garage. In addition, based on comments received from City of San Jose staff, truck loading activity, including trash collection, shall not occur along Meridian Avenue. Therefore, all truck loading activity must occur on site.

It should be noted that, according to the City of San Jose Zoning Regulations, the project is not required to provide an off-street loading space for the proposed residential nor commercial uses. If a loading space is provided along the entry drive aisle, the site plan must be revised to provide adequate width along the entry drive aisle for trucks to enter and exit the site without blocking vehicular access to and from the parking garage.

Garbage Collection

The site plan shows trash enclosures located on the ground level, adjacent to the parking garage and the garage entry drive aisle. According to the City of San Jose Environmental Services Department, solid waste collection activities cannot be performed in covered or below-grade locations, requiring property owners to push solid waste collection bins outside to the nearest available open street during collection days. Since trash collection activity would not be allowed on Meridian Avenue, trash collection bins would have to be wheeled out to the entry drive aisle for pick-up. Per City guidelines, trash collection vehicles must have a minimum turning radius of 34 feet for the inside wheel, 50 feet for the outside wheel, and a 22-foot wide driveway. Alternatively, trash collection vehicles could enter the site, access the waste collection bins, and back out of the site.

Emergency Vehicle Access

Emergency vehicles would access the site via Meridian Avenue or the garage entry drive aisle. The approximately 20-foot garage entry drive aisle would satisfy the City of San Jose Fire Code requirement to provide at least 20 feet for fire access. From the garage entry drive aisle, emergency responders would have access to the parking garage, stairs, elevator, or any of the other facilities located within the lobby/main building entrance.

Recommendation: It is recommended that parking along the proposed 20-foot garage entry drive aisle be strictly prohibited with the use of red-curb markings and signage to prevent blocking access to emergency vehicles.

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. The project would be required to submit a construction management plan for City approval that addresses schedule, closures/detours, staging, parking, and truck routes.

Parking Supply

The City of San Jose Zoning Code (Section 20.90.060) indicates that required parking spaces for multi-family residential units is dependent on the living unit size. The project as proposed would construct 241 micro-unit residential units, which are assumed to be equivalent to studio units. The City Municipal Code requires 1.25 parking spaces for every studio unit. Therefore, the project would be required to provide 302 parking spaces for the residential use. The proposed 1,300 s.f. retail space would be required to provide one parking space for every 200 s.f. of floor area, or a total of 7 parking spaces. Therefore, based on the City's parking requirements and project description, the project would be required to provide a total of 309 parking spaces.

A 20 percent reduction in required off-street vehicle parking spaces is allowed with a development permit, or a development exception if no development permit is required, for developments that meet the following conditions (Section 20.90.220.A.1):

a) The structure or use is located within two thousand feet of a proposed or an existing rail station or bus rapid transit station, or an area designated as a neighborhood business district, or as an urban village, or as an area subject to an area development policy in the city's General Plan, or the use is listed in Section 20.90.220.G; and

b) The structure or use provides bicycle parking spaces in conformance with in conformance with the City's Zoning Code requirements.

The project site is within the San Carlos Street Urban Village. If the project complies with the City's bicycle parking requirements, the vehicle parking requirement would be reduced to 248 vehicle parking spaces.

The project is proposing to provide a total of 162 parking spaces, which represents a 34.6% reduction from the 248 parking spaces required by the City (subject to the proposed project's compliance with the City's bicycle parking requirements). In accordance with Section 20.90.220 of the San Jose Code of Ordinances, which allows up to a 50% parking reduction, the additional 32.6% reduction could be allowed via the implementation of a TDM Plan.

ADA Compliance

Per the 2016 California Building Code (CBC) Table 11B-208.2, six ADA accessible spaces are required for projects providing 151 to 200 parking spaces. Of the required accessible parking spaces, two van accessible spaces are required. The plans show a total of four accessible spaces, all located within the first parking garage level, adjacent to the main building entrance. Of the provided ADA accessible spaces, two spaces are shown to be designated van accessible. However, since this is primarily a residential development with designated tenant parking, additional parking spaces could be designated as accessible spaces based on the tenants' needs. Ultimately, City staff will determine if the project complies with ADA requirements or if additional accessible spaces should be provided.

Bicycle Parking

According to the City's Bicycle Parking Standards (Chapter 20.90, Table 20-210), the project is required to provide bicycle parking for the new building at a rate of 1 bicycle parking space per four living units plus 1 bicycle parking space per 3,000 square feet of retail space. This equates to a total requirement of 62 bicycle parking spaces, of which 61 bicycle parking spaces would serve the residential component and 1 bicycle parking spaces would serve the commercial component. Of the required bicycle parking for residential uses, City standards require that at least 60 percent be secured long-term bicycle spaces and at most 40 percent be short-term bicycle spaces. Therefore, based on these standards, the proposed project should provide at least 37 long-term bicycle parking spaces and at most 25 short-term bicycle parking spaces to serve the project.

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 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 short-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 site plan shows 14 short-term (bike racks) bicycle parking spaces would be provided within the first parking garage level and 80 long-term (bike lockers) bicycle parking spaces within the second garage level, for a total of 94 bicycle parking spaces. The total number of proposed parking spaces would exceed the total required number of bicycle parking spaces by 32 spaces; however, the proposed number of parking spaces would exceed the long-term bicycle parking spaces by 43 spaces while it would be 11 short-term bicycle parking spaces short of the requirement.

Motorcycle Parking

According to the City's Motorcycle Parking Standards (Chapter 20.90.350, Table 20-250), the project is required to provide 1 motorcycle parking space per every four dwelling units. The retail space would be required to provide 1 motorcycle space per 20 code required auto parking spaces (with a minimum of three motorcycle parking spaces). Based the project description, the project is required to provide 64 motorcycle parking spaces (61 spaces for the residential use and 3 spaces for the commercial use).

The project is proposing a total of 47 motorcycle parking spaces. Based on City motorcycle parking standards, the project would be required to provide an additional 17 motorcycle parking spaces. The proposed number of motorcycle parking spaces represents a reduction of approximately 27% from the required number of spaces per City Code 20.90.350.

Recommendation: Based on City of San Jose requirements, the number of proposed parking spaces, including off-street vehicular and motorcycle parking, is less than the number required for the project by the City Code. The project must work with the City staff to ensure adequate parking supply for the project is being proposed, to the satisfaction of the City of San Jose.

Pedestrian, Bicycle, and Transit Analysis

All new development projects in San Jose should encourage multi-modal travel, consistent with the goals 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 all 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.

The City's General Plan identifies both walk and bicycle commute mode split targets as 15 percent or more by the year 2040. This level of pedestrian and bicycle mode share is a reasonable goal for the project, particularly if Caltrain, LRT, and bus services (including BRT) are utilized in combination with bicycle commuting.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (see Chapter 2 for details).

The project proposes to widen the existing 8-foot wide sidewalk located along the project frontage on Meridian Avenue to a width of 12 feet. Policy CS-4.5 in the West San Carlos Urban Village Plan indicates that all streets, with the exception of San Carlos Street, should provide a 12- to 15-foot sidewalk width. Thus, the proposed sidewalk width along the project frontage will meet Policy CS-4.5.

Direct access to the Meridian Avenue sidewalk from the proposed residential units and commercial space would be provided via the front lobby and outdoor Plaza. The proposed outdoor Plaza and wider sidewalks would enhance existing pedestrian facilities along Meridian Avenue and encouraging walking rather than driving to access nearby pedestrian destinations.

Pedestrian generators to the south of the project site include commercial areas and bus stops along the San Carlos Street corridor. Although continuous sidewalks are available connecting the project site and San Carlos Street, the intersection of Meridian Avenue/San Carlos Street includes non-ADA compatible ramps at three corners of the intersection. To the north of the project site, pedestrians may access bus stops along Park Avenue and Race Street via the existing sidewalks. However, there are currently no wheelchair ramps installed at the unsignalized intersection of Meridian Avenue/Norton Avenue, located approximately 100 feet north of the project site.

Bicycle Facilities

There are several bike facilities in the immediate vicinity of the project site (see Chapter 2 for details).

The bikeways within the vicinity of the project site would remain unchanged under project conditions. However, no bicycle facilities currently exist on the project frontage along Meridian Avenue. Bicyclist to and from the project site would need to utilize the sidewalks, or share the roadway with vehicular traffic, while traveling on Meridian Avenue.

All proposed bicycle parking would be accessible via the main building entrance, with an elevator providing access to the proposed bicycle lockers on the second-floor level.

As previously described, the City's General Plan identifies the bicycle commute mode split target as 15 percent or more by the year 2040. This calculates to approximately 10 and 11 new bicycle trips during the AM and PM peak hours, respectively. This level of bicycle mode share is a reasonable goal for the project.

Transit Services

The project site is adequately served by the existing VTA transit services. The nearest bus stops to the project site are located along San Carlos Street (near Meridian Avenue), approximately 500 to 700 feet (approximately 0.13 miles) from the project site, Park Avenue, at Yosemite Avenue (approximately 0.25 miles), and along Race Street (near San Carlos Street), approximately 0.25 miles from the project site. Additionally, the Diridon Transit Center is located just over one-mile walking distance northeast of the project site, along Cahill Street. The Diridon Transit Center provides connections between local and regional bus routes, light rail lines, and commuter rail lines (see Chapter 2 for details). The new transit trips generated by the project are not expected to create demand in excess of the transit service that is currently provided.

An evaluation of the effects of project traffic on transit vehicle delay also was completed. The analysis was completed for all transit routes that travel through the study intersections, utilizing information produced by the intersection level of service analysis. The analysis shows that the project traffic would result in a minor increase, less than two seconds, in delay of some transit vehicles and result in a decrease in delay for other transit vehicles (see Table 8). The decreases in delay are attributed to the fact that the addition of project traffic sometimes causes a reallocation of green time, which results in less delay for certain movements and more delay for others. The VTA has not established policies or significance criteria related to transit vehicle delay. Thus, this data is presented for informational purposes only.

Table 8
Transit Delay Analysis

Bus Route #	Study Area Street(s)	Direction	Transit Delay[1] (sec/veh) Background AM	Background PM	Background Plus Project AM	Background Plus Project PM	Change AM	Change PM
23/323	San Carlos Street	Eastbound	34.9	39.1	35.5	40.2	+0.6	+1.1
		Westbound	31.1	30.8	32.0	31.4	+0.9	+0.6
63	Race Street, Meridian Avenue	Northbound	36.5	38.6	36.6	38.6	+0.1	0
		Southbound	38.4	53.4	38.0	53.4	-0.4	0
65	Parkmoor Avenue	Northbound	67.7	82.4	67.8	82.6	+0.1	+0.2
		Southbound	53.4	82.7	53.6	82.9	+0.2	+0.2
81	Park Avenue, Meridian Avenue, San Carlos Street	Eastbound	63.7	52.6	61.8	52.4	-1.9	-0.2
		Westbound	53.7	71.2	54.3	72.6	+0.6	+1.4

Notes:
[1] Represents the total movement delay each bus is projected to experience as it passes through all of the relevant study intersections. Delays were obtained from TRAFFIX.

Neighborhood Traffic

The proposed project is located along Meridian Avenue, in an area mainly surrounded by commercial and medical office land uses. Meridian Avenue is classified in the City's Envision San Jose 2040 General Plan as a Grand Boulevard. However, while the General Plan designates street classifications according to "typologies" which are intended to provide a network of complete streets, for the purpose of engineering and design applications, the Director of Transportation defines and maintains the City's Functional Classification Diagram of roadways. The Grand Boulevards typology classification corresponds to arterial or major collector streets in the functional classification. Furthermore, arterial streets are defined as facilities which accommodate high volumes of through traffic but also normally perform a secondary function of providing access to abutting properties. Typical average daily traffic (ADT) volumes for arterials can range from 7,500 to 50,000 vehicles.

Norton Avenue provides access to the residential neighborhood north of the project site. Although it would no longer provide direct vehicular access to the project site (currently, there is a 20-foot ingress/egress easement that connects the project site with Norton Avenue), it could potentially be used by project traffic to/from west Park Avenue. Norton Avenue is classified as a local street, or a facility having the primary function of providing access to immediately adjacent land. Local streets are typically two-lane, undivided roadways with on-street parking and ADT volumes ranging from 50 to 2,000 vehicles.

Average Daily Trips (ADT)

Twenty-four-hour mechanical (tube) counts were collected along Meridian Avenue and Norton Avenue. The tube counts indicate that Meridian Avenue, north of San Carlos Street, currently serves approximately 10,452 vehicles per day, with 5,196 vehicles traveling in the northbound direction and 5,256 vehicles traveling in the southbound direction. Norton Avenue, west of Meridian Avenue, currently serves approximately 360 vehicles per day, with 125 eastbound trips and 235 westbound

trips. The existing ADT volumes along Meridian and Norton Avenues are representative of arterial and local streets, respectively. Count sheets are provided in Appendix B.

The proposed project is estimated to add approximately 38 and 62 percent of its traffic to Meridian Avenue, north and south, respectively, of the project site. This equates to a maximum of approximately 544 new daily trips added to Meridian Avenue, south of the project site. Therefore, it is estimated that, with implementation of the proposed project, daily traffic volumes along Meridian Avenue would increase to approximately 11,000 daily vehicles, or an increase in traffic volume of approximately 5 percent. The estimated ADT volumes along Meridian Avenue would continue to be well within the typical range for arterial streets.

It is not anticipated that project traffic would utilize Norton Avenue. Utilizing Norton Avenue would be an alternative route for project traffic heading (or coming from the) northwest trying to bypass delays at the Meridian Avenue/Park Avenue intersection. However, the intersection of Meridian Avenue and Park Avenue is projected to operate with low to average delays (corresponding to LOS B and C) during the peak hours. Additionally, utilizing Norton Avenue and Yosemite Avenue to bypass the Meridian Avenue/Park Avenue intersection represents a longer travel distance along a lower-speed street, which in most cases would deter drivers from using the route. Besides trying to avoid the intersection of Meridian Avenue/Park Avenue, there would be no other purpose for project vehicular traffic to utilize Norton Avenue. Therefore, traffic volumes along Norton Avenue are not anticipated to increase due to the proposed project.

Access to Neighborhood Schools

Schools in the vicinity of the project site include Trace Elementary School, Herbert Hoover Middle School, and Lincoln High School, all of which are located generally to the north and west of the project site, along Park Avenue and Dana Avenue, as well as St. Leo the Great and Park Avenue Preschool, both of which are located along Race Street, north of the project site.

Both Trace Elementary School and Lincoln High School can be accessed via Park Avenue to Dana Avenue or via San Carlos Street to Dana Avenue. Both of these routes are approximately the same walking distance (approximately 0.75-1 mile) from the project site. The most direct bicycle and walking route to Herbert Hoover Middle School is via Park Avenue, consisting of a walking distance of approximately 0.75 miles. St. Leo the Great and Park Avenue are both accessible via Park Avenue and Race Street, and are located at a walking distance of approximately half a mile and 0.60 miles, respectively, from the project site.

Continuous sidewalks are provided along all school routes identified above. Park Avenue includes bike lanes on both sides of the roadway. However, there are no bike lanes along either San Carlos Street or Dana Avenue, making the Park Avenue school access route more suitable for bicycle travel between the schools and the project site. Bicycle lanes also are present along the St. Leo/Park Avenue school routes, facilitating bicycle access to these two schools.

Currently no wheelchair ramps are available at the intersection of Norton Avenue with Meridian Avenue, located approximately 100 feet north of the project site and along the school access routes mentioned above. Besides the missing wheelchair ramps at this location, crosswalks and wheelchair ramps are found at all intersections along Race Street and at most locations along Park Avenue.

5. Conclusions

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's *Transportation Analysis Handbook 2018*, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and by the California Environmental Quality Act (CEQA).

CEQA Transportation Analysis Exemption

The City of San Jose *Transportation Analysis Handbook* provides screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

The project site is located within a planned Growth Area (West San Carlos) with low VMT per capita as identified by the City of San Jose. In addition, the City of San Jose VMT screening criteria, retail projects of 100,000 square feet or less are considered local-serving and are exempt from conducting a VMT analysis. Therefore, both the residential and commercial land use components of the project are anticipated to result in less-than-significant VMT impacts and a detailed CEQA transportation analysis that evaluates the project's effects on VMT is not required. However, for informational purposes, a VMT evaluation for the project was completed.

Local Transportation Analysis

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection operation is not considered a CEQA impact metric.

Future Intersection Operation Conditions

The intersection operations analysis shows that the project would not have an adverse effect on intersection operations at any of the study intersections.

Intersection Queue Analysis

At the intersection of Meridian Avenue/Park Avenue, the addition of project traffic is projected to increase the 95th percentile queue length by one vehicle (from 6 to 7 vehicles) when compared to background conditions during the PM peak hour. The existing queue storage capacity would be exceeded by approximately 100 feet (4 vehicles). Extending the westbound left-turn pocket at this

intersection may be possible; however, it would require the removal of the existing on-street parking along both sides of Park Avenue, west of Grand Avenue.

Additionally, it is projected that under both background and background plus project conditions, the southbound queue at the Meridian Avenue/San Carlos Street intersection is projected to be approximately 500 feet and could extend into the two-way left-turn lane during the PM peak-hour.

Other Local Transportation Issues

Project Driveway Design

Recommendation: The project site access driveway along Meridian Avenue must be designed to the satisfaction of City of San Jose design guidelines, including the minimum 26-foot width requirement.

Project Driveway Operations

Recommendation: Although it is projected that the southbound vehicle queues along Meridian Avenue would extend beyond the project site driveway, project traffic making a left-turn into the project site potentially could store within the existing two-way left-turn lane along Meridian Avenue and wait for a gap in traffic to complete the turn. If it is observed that the southbound vehicle queue along Meridian Avenue also stores within the two-way left-turn lane at the project site driveway, restricting access to the project driveway to right-in and right-out only could be considered. A center median may be installed along Meridian Avenue to prevent northbound vehicles from turning left into the project driveway. However, installing a median also would limit vehicular access to other adjacent properties along Meridian Avenue and could result in a re-adjustment of traffic patterns in the vicinity of the project, including an increase in U-turn movements. Therefore, further studies would be required to determine the effects of installing a median along Meridian Avenue.

On-Site Circulation

Recommendation: The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls is to the satisfaction of the City.

Recommendation: A minimum of 30 feet is the recommended distance between a driveway or entrance and the first parking stall or drive aisle.

Recommendation: It is recommended that physical devices be installed at every turn within the parking garage in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Recommendation: Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Emergency Vehicle Access

Recommendation: It is recommended that parking along the proposed 20-foot garage entry drive aisle be strictly prohibited with the use of red-curb markings and signage to prevent blocking access to emergency vehicles.

Parking Supply

Recommendation: Based on City of San Jose requirements, the number of proposed parking spaces, including off-street vehicular and motorcycle parking, is less than the number required for the project by the City Code. The project must work with the City staff to ensure that adequate parking supply for the project is being proposed, to the satisfaction of the City.

259 Meridian Avenue Transportation Analysis

Technical Appendices

July 9, 2019

Appendix A
San Jose VMT Evaluation Tool Output Sheet

Appendix B
Traffic Counts

Appendix C
Approved Trips Inventory

Appendix D
Volume Summary

Appendix E
Intersection Operations Analysis Output Sheets