DOCKETED	
Docket Number:	19-SPPE-04
Project Title:	SJ2
TN #:	239420
Document Title:	SJC Data Center SPPE Application Supplemental Filing Appendix Air-Traffic Part 3
Description:	N/A
Filer:	Jerry Salamy
Organization:	Jacobs
Submitter Role:	Applicant Consultant
Submission Date:	8/20/2021 4:53:52 PM
Docketed Date:	8/20/2021

Appendix 3.3E, Table 3
Sensitive Receptors
Lightspeed SJC02
August 2021

Receptor No.	UTM Easting (m) [a]	UTM Northing (m) [a]	Sensitive Receptor Description	Address
4008	595,336.28	4,143,729.75	VITAS Innovative Hospice Care of San Francisco Bay	670 North McCarthy Boulevard #220, Milpitas, California 95035
4009	595,938.29	4,144,217.98	Rainbow Childhood Development Center	227 S Main St., Milpitas, California 95035
4010	596,131.83	4,143,941.45	Plantation Christian School	697 Lexington St., Milpitas, California 95035
4011	596,095.17	4,143,221.60	Anthony Spangler Elementary School	140 N Abbott Ave., Milpitas, California 95035
4012	596,630.56	4,143,426.45	Valley Health Center Milpitas	143 N. Main St., Milpitas, California 95035
4013	596,609.39	4,143,373.19	Valley Health Center Milpitas	143 N. Main St., Milpitas, California 95035
4014	595,860.62	4,142,964.31	Big Brothers Big Sisters of the Bay Area	600 Valley Way, Milpitas, California 95035
4015	596,627.54	4,142,548.66	Merryhill Preschool	123 Corning Ave., Milpitas, California 95035
4016	596,126.05	4,142,630.14	Achieving Stars Academy	301 S Abbott Ave., Milpitas, California 95035
4017	596,136.08	4,144,325.01	Curtner Elementary School	275 Redwood Ave., Milpitas, California 95035
4018	596,430.20	4,143,795.48	Happy Hearts Academy	550 N Abel St., Milpitas, California 95035
4019	596,735.78	4,142,513.19	Milpitas KinderCare	400 S Abel St., Milpitas, California 95035
4020	596,764.98	4,142,305.37	Barbara Lee Senior Center	40 North Milpitas Boulevard Milpitas, California 95035
4021	596,788.82	4,143,188.31	Elan Preschool, Elan Esprit Preschool	40 E Carlo St., Milpitas, California 95035
4022	596,804.00	4,142,715.80	St. John the Baptist Catholic Schoool	360 S Abel St., Milpitas, California 95035

Notes:
[a] Coordinates are provided in NAD83 UTM Projection, Zone 10.

Project Site

Facility Residential Cancer Risk > 1 in a Million

IMAGE SOURCE:
ESRI Online 2019

N

0 500 1,000

Approximate scale in feet

Figure 3.3E
Figure 1
Facility Residential Cancer Risk
San José Data Center (SJC02)
San José, California

Jacobs

\\DC1VS01\GISPROJ\L\LIGHTSPEED\SJDC\MAPS\REPORT\2021\FIG33E_FIG1_HEALTHRISK.MXD 8/20/2021 7:29:14 AM

Appendix 3.17A – Revised San Jose Data Center Draft Transportation Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

San Jose Data Center (SJC02)

Draft Transportation Analysis

Prepared for:

FirstCarbon Solutions

June 9, 2021

Hexagon Transportation Consultants, Inc.
Hexagon Office: 4 North Second Street, Suite 400
San Jose, CA 95113
Hexagon Job Number: 20GB24
Phone: 408.971.6100
Client Contact: Jason Brandman, First Carbon Solutions

Table of Contents

Appendices

List of Tables

List of Figures

Executive Summary

This report presents the results of the transportation analysis conducted for a proposed approximately 479,000 square-foot (s.f.) data center campus (hereinafter referred to as data center) located at 1657 Alviso-Milpitas Road in San Jose, California. The project site is currently vacant and is located north of SR 237 and east of Zanker Road. The project site is in North San Jose but is located just outside the North San Jose Area Development Policy (NSJADP) boundaries. The proposed project would have primary access with the construction of a new public street (Nortech Parkway Extension) from Zanker Road to the east. The site plan shows a secondary driveway on Alviso Milpitas Road at the south end of the site. Initially, this driveway would be used only for construction purposes. Following completion of the project, this driveway would be for emergency access only.

The transportation impacts of the project were evaluated following the standards and methodologies established in the City of San Jose's Transportation Analysis Handbook, adopted in April 2018. Based on the City of San Jose's Transportation Analysis Policy (Policy 5-1) and the Transportation Analysis Handbook and in accordance with the requirements under the California Environmental Quality Act (CEQA), the Transportation Analysis report for the project includes a CEQA transportation analysis and a non-CEQA Local Transportation Analysis (LTA).

CEQA Transportation Impacts

Project Vehicle Miles Traveled (VMT) Analysis

Per the City's VMT Evaluation Tool, the existing Area VMT for employment uses is 17.30 VMT per employee, which is above the existing regional average threshold of 14.37 VMT per employee. The project VMT estimated by the Evaluation Tool is 17.24 VMT per employee, which also exceeds the applicable industrial threshold of 14.37 VMT per employee. Since the VMT generated by the project would exceed the threshold of significance for industrial employment uses in the area, the project would result in a significant transportation impact on VMT, and mitigation measures are required to reduce the VMT impact.

Project Mitigation

The following multi-modal infrastructure improvements (numbers 1 - 4 below), parking reduction measure (number 5 below), and Transportation Demand Management (TDM) measure (number 6 below) will be implemented to mitigate the significant VMT impact:

1. **Increase Roadway Network Connectivity**
2. **Traffic Calming**
3. **Pedestrian Network Improvements**

4. **Bike Access Improvements**
5. **Limit Parking Supply**
6. **Commute Trip Reduction Marketing and Education**

Based on the City's VMT Evaluation Tool, implementing the recommended mitigation measures would lower the project VMT to 14.12 per employee (a reduction of about 18%), which would reduce the project impact to a less-than-significant level (below the threshold of 14.37 VMT per employee).

Cumulative VMT Impact Analysis

The proposed project would be consistent with the development type and intensity provided in the *Envision San Jose 2040 General Plan*, the cumulative effects of which were previously evaluated in the *Envision San Jose 2040 General Plan Environmental Impact Report* and *Supplemental Program Environmental Impact Report*. The project is consistent with the applicable General Plan goals and policies for the following reasons:

- The project's proposed use is consistent with the current zoning: *Light Industrial* (LI).
- While the project would increase the employment density in the project area, the proposed density would be consistent with the current General Plan Land Use Designation that applies to the project site.
- The project would provide improvements to pedestrian and bicycle connectivity and safety in the vicinity of the project site by constructing a Class I Bikeway Trail extension.
- The project would provide improvements to roadway network connectivity and safety near the project site by constructing a new intersection at Zanker Road/Nortech Parkway, extending Nortech Parkway east of Zanker Road, and constructing a raised median on Zanker Road.

Based on the project description, the proposed project would be consistent with the *Envision San Jose 2040 General Plan* and would not require a General Plan Amendment (GPA). The project including its proposed improvements would be considered part of the cumulative solution to meet the General Plan's long-range transportation goals and would result in a less-than-significant cumulative impact.

Local Transportation Effects

Project Trip Generation

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, it is estimated that the project would generate 369 net new daily trips, with net 41 new trips (22 inbound and 19 outbound) occurring during the AM peak hour and 34 net new trips (10 inbound and 24 outbound) occurring during the PM peak hour.

Intersection Traffic Operations

The results of the intersection level of service analysis show that the three existing signalized study intersections are currently operating at acceptable levels of service (LOS D or better) during the AM and PM peak hours of traffic and would continue to operate acceptably under background and background plus project conditions. The future signalized intersection of Zanker Road and Nortech Parkway also would operate acceptably under background plus project conditions.

North San Jose Traffic Impact Fees

The project site is located immediately north of the North San Jose Area Development Policy (NSJADP) boundary. The NSJADP establishes a policy framework to guide development in the North

San Jose area as an important employment center. The Policy identifies specific transportation improvements necessary to support new development and establishes an equitable funding mechanism for new development to share the cost of those improvements through a Traffic Impact Fee (TIF). The TIF is used to fund various improvements needed to address current and future traffic conditions resulting from implementation of the NSJADP. The initial NSJADP TIF established back in 2005 for industrial/office/R&D development was $10.44 per square foot (s.f.). Based on a 3.3% annual fee escalation that was established as part of the NSJADP, the 2020 TIF is $16.99 per s.f. of industrial, office and R&D development. The next fee increase is anticipated to take place on July 1, 2021.

Although the project site is not actually located within the NSJADP boundaries, the project would contribute toward traffic growth within the NSJADP area since it would add vehicle trips to intersections located within the Policy area boundaries. Therefore, the project would be required to pay the applicable NSJADP TIF based on the amount of industrial space being proposed.

For the purpose of calculating the applicable NSJADP fee amount, the size of the proposed data center would need to be converted to equivalent industrial space square footage since data center is not a land use listed in the NSJADP. Data centers, such as the project, are similar to industrial spaces in that they are essentially warehouses that store customer data and associated ancillary operations and have a small number of employees and visitors. Data centers may also include maintenance areas and a small office component.

Other Transportation Items

The proposed site plan shows adequate site access and on-site circulation for automobiles. The project would enhance pedestrian and bicycle access and circulation by providing sidewalks and bike facilities along the Nortech Parkway extension. In addition, the project would construct a Class I Bikeway Trail extension along the east side of Zanker Road (within the City's ROW), connecting the existing trail segment with the new Nortech Parkway extension. Below are recommendations resulting from the site plan review, which are recommended to be included as part of the project in addition to the foregoing improvements.

Recommendation

- Provide a sidewalk along the project driveway from the Nortech Parkway extension to the data center site.

1. Introduction

This report presents the results of the transportation analysis conducted for a proposed approximately 479,000 square-foot (s.f.) data center located at 1657 Alviso-Milpitas Road in San Jose, California (see Figure 1). The project site is currently vacant and is located north of SR 237 and east of Zanker Road. The project site is in North San Jose but is located just outside the North San Jose Area Development Policy (NSJADP) boundaries. The proposed project would have primary access with the construction of a new public street (Nortech Parkway Extension) from Zanker Road to the east (see Figure 2). The site plan shows a secondary driveway on Alviso Milpitas Road at the south end of the site. Initially, this driveway would be used only for construction purposes. Following completion of the project, this driveway would be for emergency access only.

The transportation impacts of the project were evaluated following the standards and methodologies established in the City of San Jose's Transportation Analysis Handbook, adopted in April 2018. Based on the City of San Jose's Transportation Analysis Policy (Policy 5-1) and the Transportation Analysis Handbook and in accordance with applicable provisions of the California Environmental Quality Act (CEQA), the Transportation Analysis report for the project includes a CEQA transportation analysis and a non-CEQA Local Transportation Analysis (LTA).

Transportation Policies

To align the City of San Jose's transportation analysis guidelines with State of California Senate Bill 743 (SB 743), as reflected in the updated CEQA Guidelines, and the City's goals as set forth in the Envision San Jose 2040 General Plan, the City of San Jose adopted Transportation Analysis Policy 5-1. The Policy establishes the thresholds for transportation impacts under CEQA based on vehicle-miles-traveled (VMT) instead of intersection level of service (LOS).

The Transportation Analysis Policy aligns with the Envision San Jose 2040 General Plan which seeks to focus new development growth within Planned Growth Areas, bringing together office, residential, and service land uses to internalize trips and reduce VMT. VMT-based policies support dense, mixed-use, infill projects as established in the General Plan's Planned Growth Areas. 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:

- Accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and VMT (TR-1.1);
- Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects (TR-1.2);
- Increase substantially the proportion of commute travel using modes other than the single-occupant vehicle in order to meet the City's mode split targets for San Jose residents and workers (TR-1.3);

Figure 1
Site Location and Study Intersections

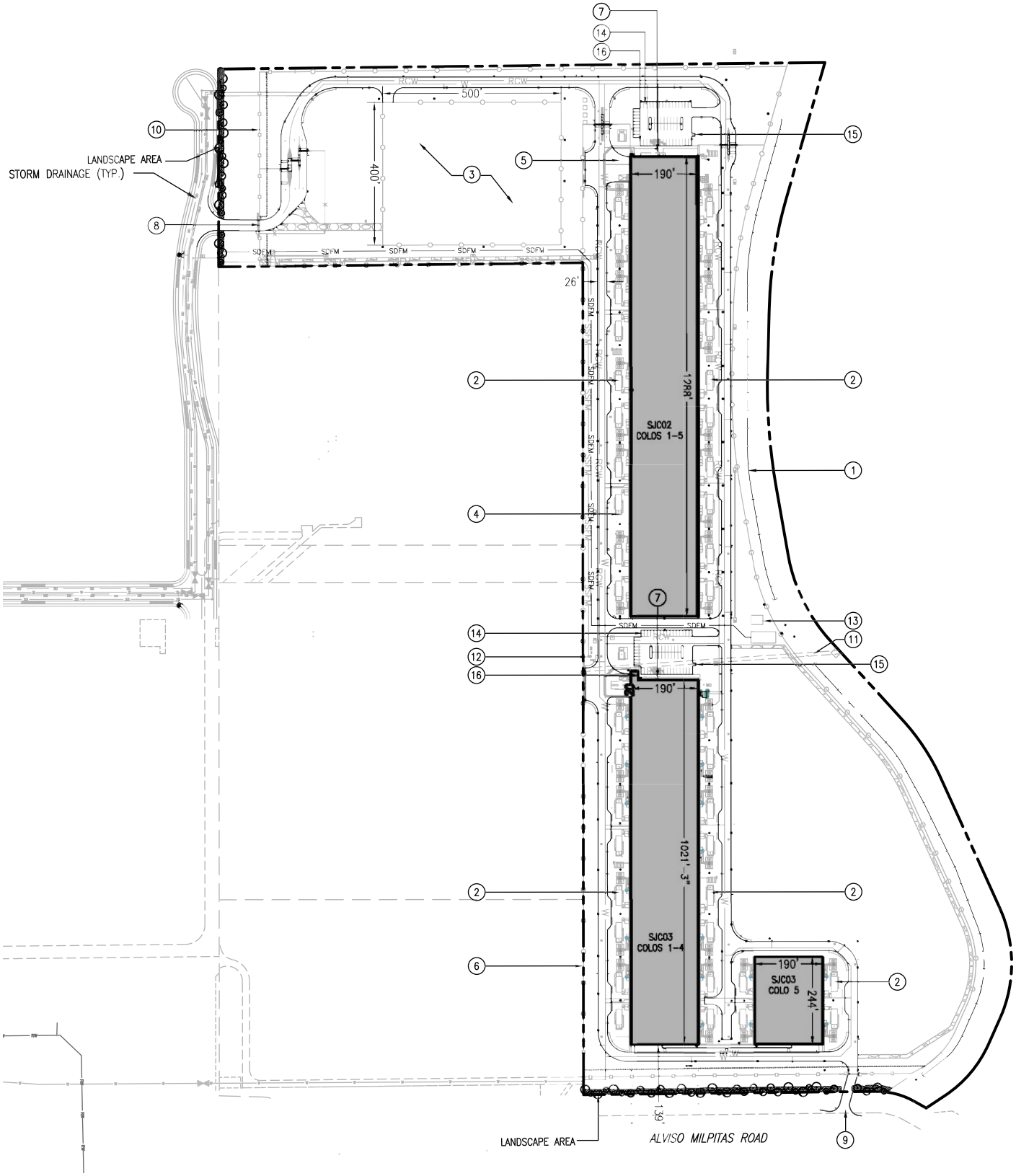


Figure 2
Site Plan

NORTH
Not to Scale

- Through the entitlement process for new development, projects shall be required to fund or construct needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling, walking and transit facilities and services that encourage reduced vehicle travel demand (TR-1.4);
- Actively coordinate with regional transportation, land use planning, and transit agencies to develop a transportation network with complementary land uses that encourage travel by bicycling, walking and transit, and ensure that regional greenhouse gas emissions standards are met (TR-1.8);
- Coordinate the planning and implementation of citywide bicycle and pedestrian facilities and supporting infrastructure. Give priority to bicycle and pedestrian safety and access improvements at street crossings and near areas with higher pedestrian concentrations (school, transit, shopping, hospital, and mixed-use areas) (TR-2.1);
- Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments. Eliminate or minimize physical obstacles and barriers that impede pedestrian and bicycle movement on City streets. Include consideration of grade-separated crossings at railroad tracks and freeways. Provide safe bicycle and pedestrian connections to all facilities regularly accessed by the public, including the Mineta San Jose International Airport (TR-2.2);
- Integrate the financing, design and construction of pedestrian and bicycle facilities with street projects. Build pedestrian and bicycle improvements at the same time as improvements for vehicular circulation (TR-2.5);
- Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements (TR-2.8);
- As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute towards transit ridership, and require that new development is designed to accommodate and provide direct access to transit facilities (TR-3.3);
- Support the development of amenities and land use and development types and intensities that increase daily ridership on the VTA, BART, Caltrain, ACE and Amtrak California systems and provide positive fiscal, economic, and environmental benefits to the community (TR-4.1);
- Promote transit-oriented development with reduced parking requirements and promote amenities around appropriate transit hubs and stations to facilitate the use of available transit services (TR-8.1);
- Support using parking supply limitations and pricing as strategies to encourage the use of non-automobile modes (TR-8.3);
- Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use (TR-8.4);
- Allow reduced parking requirements for mixed-use developments and for developments providing shared parking or a comprehensive transportation demand management (TDM) program, or developments located near major transit hubs or within Urban Villages and other Growth Areas (TR-8.6);

- Within new development, create and maintain a pedestrian-friendly environment by connecting the internal components with safe, convenient, accessible, and pleasant pedestrian facilities and by requiring pedestrian connections between building entrances, other site features, and adjacent public streets (CD-3.3);
- Create a pedestrian-friendly environment by connecting new residential development with safe, convenient, accessible, and pleasant pedestrian facilities. Provide such connections between new development, its adjoining neighborhood, transit access points, schools, parks, and nearby commercial areas (LU-9.1); and
- Facilitate the development of housing close to jobs to provide residents with the opportunity to live and work in the same community (LU-10.5).

CEQA Transportation Analysis Scope

The CEQA Transportation Analysis includes an evaluation of VMT.

VMT Analysis

The City of San Jose's Transportation Analysis Policy (Policy 5-1) 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 the appropriate 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 to determine VMT per worker. 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.

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool to streamline the analysis for residential, office, and industrial projects with local traffic. The tool estimates a project's VMT and compares it to the appropriate thresholds of significance based on the project location (i.e., assessor's parcel number) and type of development.

The San Jose VMT Evaluation Tool does not provide express guidance on evaluating VMT for the data center land use specifically. Instead, as noted above, the Evaluation Tool only specifies three broad categories of uses: residential, office and industrial. For the purpose of VMT evaluation, it has been determined that the proposed data center use should be treated as industrial and thus the trips would be converted to an equivalent amount of industrial space and analyzed for VMT impacts using the tool. The basis for this determination is the employment associated with a data center is significantly less than that of office space because much of the data center space is used to house equipment. Although the proposed data center would incorporate some office space, the vast majority of the data center square footage would operate more like industrial warehouse space and, therefore, industrial is the most accurate category of land use to select for the San Jose VMT Evaluation Tool.

Screening Criteria for VMT Analysis Exemption

The City of San Jose's *Transportation Analysis Handbook, 2018* includes screening criteria for projects that are expected to result in a less-than-significant VMT impact based on the project description, characteristics and/or location. The screening criterion set forth in the *Transportation Analysis Handbook* for small infill industrial projects is described below.

Screening Criterion for Small Infill Industrial Projects

- 30,000 square feet of total gross floor area or less

The project is proposing to construct an approximately 479,000 s.f. data center, which is equivalent to 96,000 s.f. of industrial space in terms of trip generation (see Table 3 in Chapter 3 for the land use conversion). Therefore, the project does not meet the screening criterion for small infill industrial projects. And since there is no other basis to screen out the project under another land use category, a CEQA transportation analysis is required to address potential significant VMT impacts.

Figure 3 shows the current VMT levels estimated by the City for workers based on the locations of industrial jobs. Developments in the green-colored areas are estimated to have VMT levels that are below the thresholds of significance, developments in the yellow-colored areas have typical City average VMT, while the orange- and pink-colored areas are estimated to have VMT levels that are above the thresholds of significance. Orange areas are deemed to be capable of being mitigated, whereas pink areas are considered incapable of being mitigated to a less than significant level. The project site is identified as being located in an orange area.

Local Transportation Analysis Scope

The non-CEQA Local Transportation Analysis (LTA) supplements the VMT analysis by identifying potential adverse operational effects that may arise due to a new development, as well as evaluating the effects of a new development on site access, circulation, and other safety-related elements in the proximate area of the project. As part of the LTA, a project is generally required to conduct an intersection operations analysis if the project is expected to add 10 or more vehicle trips per hour per lane to any signalized intersection that is located within a half-mile of the project site. Based on these criteria, as outlined in the City's *Transportation Analysis Handbook,* a list of study intersections is then developed for the LTA. Note, however, that signalized intersections that do not meet all the criteria may still be added to the list of study intersections at the City's discretion. Unsignalized intersections may also be added; though, unlike signalized intersections, unsignalized intersections typically are not evaluated for level of service.

For purposes of the project's LTA, it comprises an analysis of AM and PM peak hour traffic conditions for the following four intersections:

1. Zanker Road and SR 237 Westbound Ramps – CMP intersection
2. Zanker Road and SR 237 Eastbound Ramps – CMP intersection
3. Zanker Road and Tasman Drive
4. Zanker Road and Nortech Parkway (New Intersection)

The list of study intersections was approved by City of San Jose staff. 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 traffic congestion occurs on the roadways.

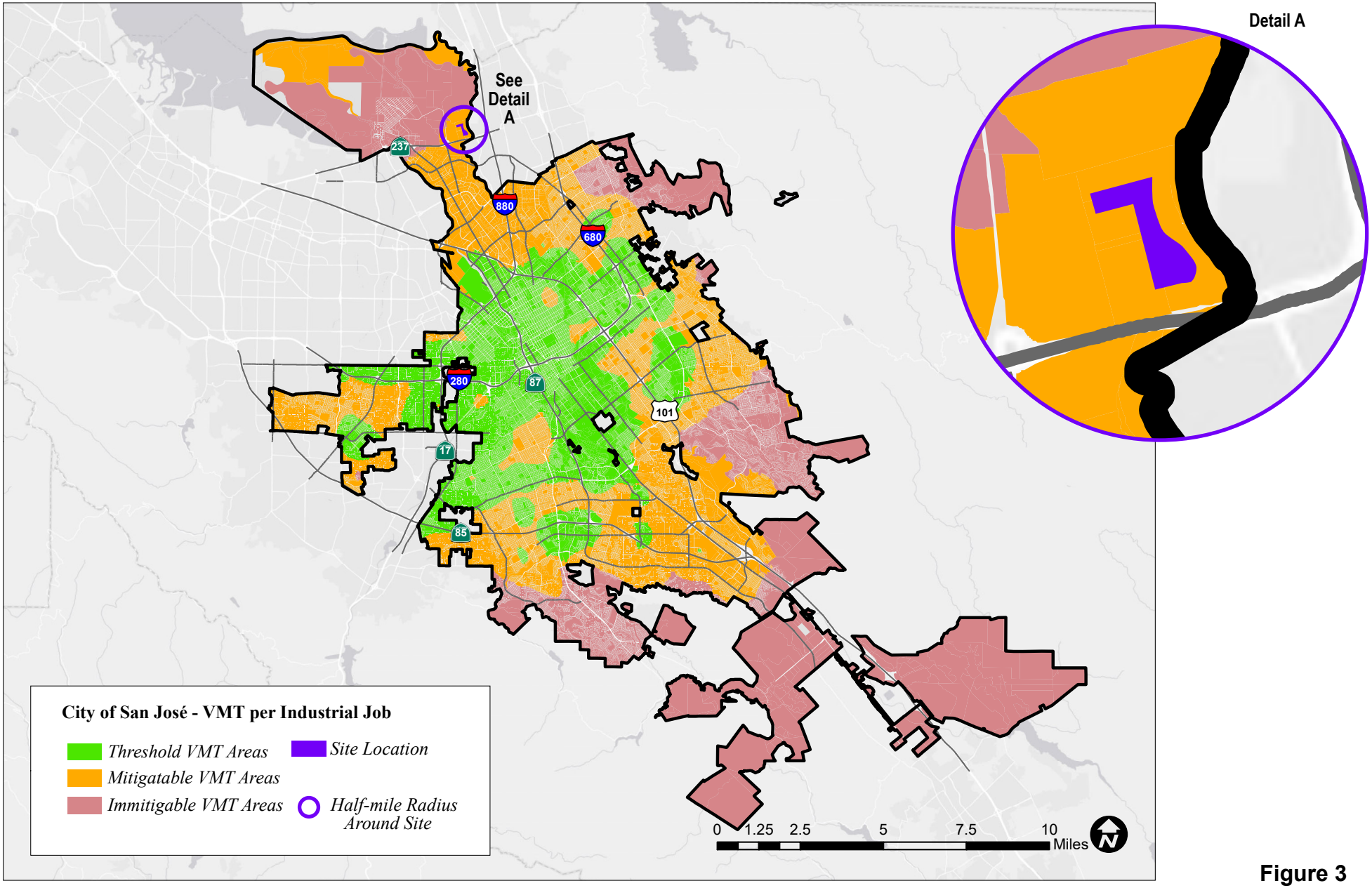


Figure 3
VMT per Industrial Job Heat Map in San Jose

Traffic conditions for the project's LTA were evaluated for the following scenarios: existing conditions, background conditions, and background plus project conditions. Traffic volumes for all scenarios are tabulated in Appendix A. The traffic scenarios are described in detail below.

- ***Existing Conditions.*** Due to the current COVID-19 pandemic situation, the City of San Jose is requiring that all new traffic counts for study intersections be put on hold until further notice. Instead of conducting new turning movement counts, City staff are requesting that an annual growth factor of 1% be applied to historical count data. Accordingly, a 1% annual growth factor was applied to the turning movement counts provided by City staff for this project. The study intersections were evaluated with a level of service analysis using TRAFFIX software in accordance with the *2000 Highway Capacity Manual* methodology as required by the City of San Jose.
- ***Background Conditions*.** Background traffic volumes reflect traffic added by nearby approved projects that are not yet completed or occupied. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). Background conditions represent the baseline conditions to which project conditions are compared for the purpose of determining potential adverse operational effects of the project. The ATI sheets are contained in Appendix B.
- ***Background Plus Project Conditions.*** Background plus project conditions reflect projected traffic volumes on the planned roadway network with completion of the project and approved developments that are not yet completed or occupied. Background plus project traffic volumes 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 adverse effects on bicycle, pedestrian, and transit facilities, and a review of site access, on-site circulation, and parking demand.

VMT Analysis Methodology

Methodology

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool to streamline the analysis for residential, office, and industrial projects with local traffic. Accordingly, the City's VMT Evaluation Tool was used for this VMT analysis; it calculates VMT and compares it to the appropriate thresholds of significance based on the project location and type of development.

Based on the assessor's parcel number (APN) of a project, the VMT Evaluation Tool identifies the existing average VMT per capita and VMT per employee for the area. Based on the project location, type of development, project description, and proposed trip reduction measures, the evaluation tool calculates the project VMT. Projects located in areas where the existing VMT is above 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.

The VMT Evaluation 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 Evaluation 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 are typically enforced through annual trip monitoring to assess the project's status in meeting the VMT reduction goals.

Thresholds of Significance

Table 1 shows the VMT thresholds of significance for development projects, as established in the City's Transportation Analysis Policy. The VMT impact threshold is the regional average for industrial employment uses. Thus, projects that include industrial employment uses (such as the proposed project) are said to create a significant adverse impact when the estimated project-generated VMT exceeds the existing regional average VMT, which is 14.37 VMT per employee (significant impact threshold).

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

Intersection Operations Analysis Methodology

This section presents the methods used to determine the traffic conditions at the study intersections and the potential adverse operational effects due to the project. It includes descriptions of the data requirements, the analysis methodologies, the applicable intersection level of service standards, and the criteria used to determine adverse effects on intersection operations. The study intersections are located within the City of San Jose and were evaluated according to the City of San Jose level of service (LOS) standards.

Data Requirements

The data required for the analysis were obtained from the City of San Jose. The following data were collected from these sources:

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

Table 1
VMT Thresholds of Significance for Development Projects (March 2018)

Project Types	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 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 / 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 Jose, *2018 Transportation Analysis Handbook* , Table 2.

Level of Service Standards and Analysis Methodologies

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

City of San Jose Signalized Intersections

The City of San Jose level of service methodology for signalized intersections is the 2000 *Highway Capacity Manual* (HCM) method. This method is applied using the TRAFFIX software. The 2000 HCM operations method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. The City of San Jose level of service standard for the City's signalized intersections and CMP intersections is LOS D or better. The correlation between average control delay and level of service is shown in Table 2.

Table 2
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

Source: Transportation Research Board, *2010 Highway Capacity Manual,* (Washington, D.C., 2010).

Adverse Intersection Operations Effects

According to the City of San Jose's *Transportation Analysis Handbook, 2018*, an adverse effect on signalized intersection operations would occur 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 (4) 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 is negative. In this case, the threshold is when the project increases the critical v/c value by 0.01 or more.

Adverse effects at signalized intersections can be addressed by one of the following approaches:

- Construct improvements to the subject intersection or other roadway segments of the citywide transportation system to increase overall capacity, or
- Reduce project-generated vehicle trips (e.g., implement a "trip cap") to eliminate the adverse operational effects and restore intersection operations to background conditions. The extent of

trip reduction should be set at a level that is realistically attainable through proven methods of reducing trips.

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at study intersections where the project would add a noteworthy 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 per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement.

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

North San Jose Area Development Policy Traffic Impact Fee

The project site is located immediately north of the North San Jose Area Development Policy (NSJADP) boundary. The NSJADP guides the ongoing growth and development of the North San Jose area as an important employment center for San Jose. Its key goals include proactively planning for growth to allow more industrial development in a way that benefits current San Jose residents. In order to support this employment growth, it also aims to develop pedestrian infrastructure, encourage use of the transit system, and provide local and regional transportation improvements. The Policy identifies specific transportation improvements necessary to support new development and establishes an equitable funding mechanism for new development to share the cost of those improvements through a Traffic Impact Fee (TIF). The TIF is used to fund various improvements needed to address current and future traffic conditions resulting from implementation of the NSJADP. The initial NSJADP TIF established back in 2005 for industrial/office/R&D development was $10.44 per square foot (s.f.). Based on a 3.3% annual fee escalation that was established as part of the NSJADP, the 2020 TIF is $16.99 per s.f. of industrial, office and R&D development. The next fee increase is anticipated to take place on July 1, 2021.

Although the project site is not actually located within the NSJADP boundaries, the project would contribute toward traffic growth within the NSJADP area since it would add vehicle trips to intersections located within the Policy area boundaries. Therefore, the project would be required to pay the applicable NSJADP TIF based on the amount of industrial space being proposed.

For the purpose of calculating the applicable NSJADP fee amount, the size of the proposed data center would need to be converted to equivalent industrial space square footage since data center is not a land use listed in the NSJADP. Data centers, such as the project, are similar to industrial spaces in that they are essentially warehouses that store customer data and associated ancillary operations and have a small number of employees and visitors. Data centers may also include maintenance areas and a small office component.

Report Organization

This report has a total of five chapters. Chapter 2 describes the existing roadway network, transit service, bicycle, and pedestrian facilities. Chapter 3 describes the VMT analysis. Chapter 4 describes the local transportation analysis (LTA) including the method by which project traffic is estimated, intersection operations analysis for background plus project conditions, any adverse intersection operations 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 Conditions

This chapter describes the existing conditions of the transportation system within the study area of the project. It presents the VMT of the existing land uses in the proximity of the project and describes transportation facilities in the vicinity of the project site, including the roadway network, transit service, and pedestrian and bicycle facilities. The analysis of existing intersection operations is included as part of the LTA (see Chapter 4).

VMT of Existing Land Uses

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool to streamline the analysis for residential, office, and industrial projects. Based on the Evaluation Tool and the project's APN, the existing area VMT for employment uses in the project vicinity is 17.30 VMT per worker. The current regional average VMT for employment uses is 14.37 VMT per worker (see Table 1 in Chapter 1). Thus, the VMT levels of existing employment uses in the project area are higher than the regional average VMT levels. The VMT Evaluation Tool summary report for the project is included in Chapter 3.

Existing Roadway Network

Regional access to the project site is provided via State Route 237 (SR 237) and Interstate 880 (I-880). Local access to the project site is provided via Zanker Road, Tasman Drive, Alviso Milpitas Road, Thomas Foon Chew Way, and Nortech Parkway (future extension).

SR 237 is a six-lane freeway that extends in an east/west direction between Sunnyvale and Milpitas and provides access to I-880 and US 101. Two of the six lanes (one in each direction) are designated as HOV/Toll lanes. A toll lane is provided in the westbound direction between I-880 and North First Street. The freeway terminates at I-880 and transitions to Calaveras Boulevard into Milpitas. Access to the site is provided via its interchange with Zanker Road.

I-880 is a north-south freeway that extends from San Jose in the south to Oakland in the north. I-880 is eight lanes wide with three mixed-flow lanes and one HOV lane in each direction in the project vicinity. South of San Jose, I-880 transitions into SR 17 and terminates in Santa Cruz. I-880 provides site access via it interchange with SR 237.

Zanker Road is a north-south two-lane undivided roadway in the study area. It extends from Los Esteros Road north of SR 237 to Old Bayshore Road in the south. In the vicinity of the project site (north of SR 237), Zanker Road has a posted speed limit of 45 mph and is designated an On-Street

Primary Bicycle Facility in the City's General Plan. North of McCarthy Lane, Zanker Road bends to the west and transitions into Los Esteros Road. West of Spreckles Avenue, Los Esteros Road bends to the south and transitions into Disk Drive, where it ultimately terminates at Nortech Parkway. Zanker Road currently has no bike lanes or sidewalks north of SR 237. South of SR 237, Zanker Road has a posted speed limit of 45 mph, has Class II bike lanes, and is designated a City Connector Street in the City's General Plan. Between SR 237 and River Oaks Parkway, Zanker Road is a six-lane roadway. Five travel lanes, three northbound and two southbound, are provided between River Oaks Parkway and Montague Expressway. Zanker Road narrows to four lanes south of Montague Expressway. Access to the project site would be provided via a new signalized intersection at Zanker Road/Nortech Parkway.

Tasman Drive is an east/west roadway that extends from Lawrence Expressway to I-880 and is designated a Grand Boulevard in the City's General Plan. The roadway is generally a four-lane facility in the North San Jose area but widens to six-lanes east of McCarthy Boulevard to I-880 in Milpitas. East of I-880, the roadway transitions to Great Mall Parkway into Milpitas. The Santa Clara Valley Transportation Authority (VTA) Light Rail Transit (LRT) system operates within the median between the cities of Sunnyvale and Milpitas.

Alviso Milpitas Road is a two-way east-west local roadway along the southern edge of the site between Thomas Foon Chew Way in the west and Ranch Drive in the east. West of Thomas Foon Chew Way, Alviso Milpitas Road transitions to a bike path. Emergency vehicle access (EVA) to the project site would be provided via Alviso Milpitas Road.

Thomas Foon Chew Way is a two-way east-west private service road that extends from Zanker Road east to the Los Esteros Substation. It does not provide access to the project site.

Nortech Parkway is a two-lane east-west local roadway with a two-way left-turn lane that terminates approximately 0.8 miles west of Zanker Road near Fortran Drive. The City of San Jose has plans to extend Nortech Parkway east to Zanker Road, where a new traffic signal would be constructed by the project (approximately 400 feet north of Thomas Foon Chew Way). In addition to a new signalized intersection at Zanker Road/Nortech Parkway, the project would extend Nortech Parkway east of Zanker Road. The eastern extension of Nortech Parkway would provide access to the project site.

Existing Intersection Lane Configurations

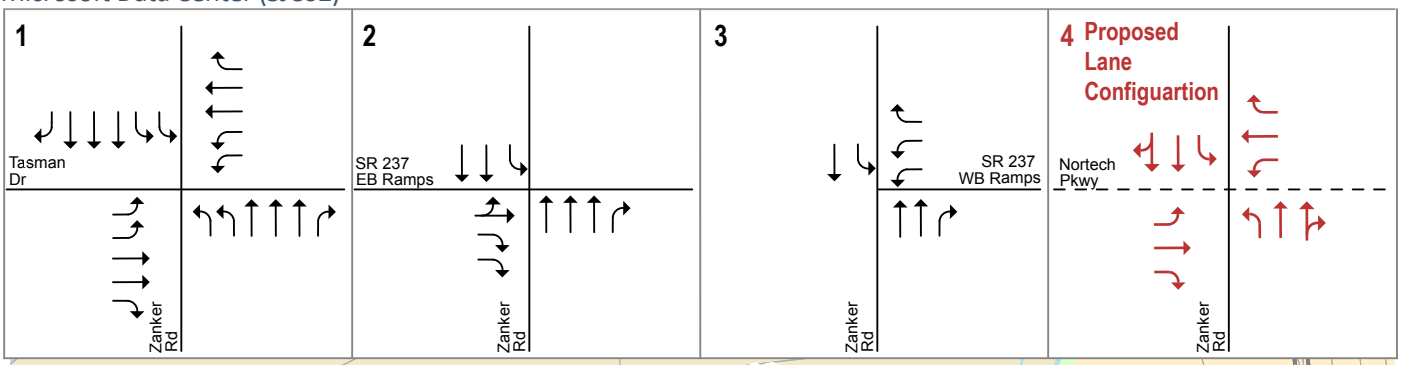
The existing lane configurations at the study intersections are shown on Figure 4.

Existing Pedestrian and Bicycle Facilities

There are bike paths and several roadways with bike lanes in the vicinity of the project site. Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. Class II striped bike lanes are provided on the following roadways:

- *Tasman Drive* - Between I-880 and Old Ironsides Drive.
- *Zanker Road* - Between Holger Way (just south of SR 237) and Old Bayshore Highway.
- *Holger Way* - Along its entirety between North First Street and Zanker Road.
- *North First Street* - Between Alviso and Brokaw Road
- *McCarthy Boulevard* - Between SR 237 and Dixon Landing Road.
- *Alviso Milpitas Road* - Between Thomas Foon Chew Way and Ranch Drive

Though Zanker Road does not have striped bike lanes north of SR 237, it is a designated Class III bike route and provides "sharrows" or shared-lane pavement markings between SR 237 and Spreckles Ave.



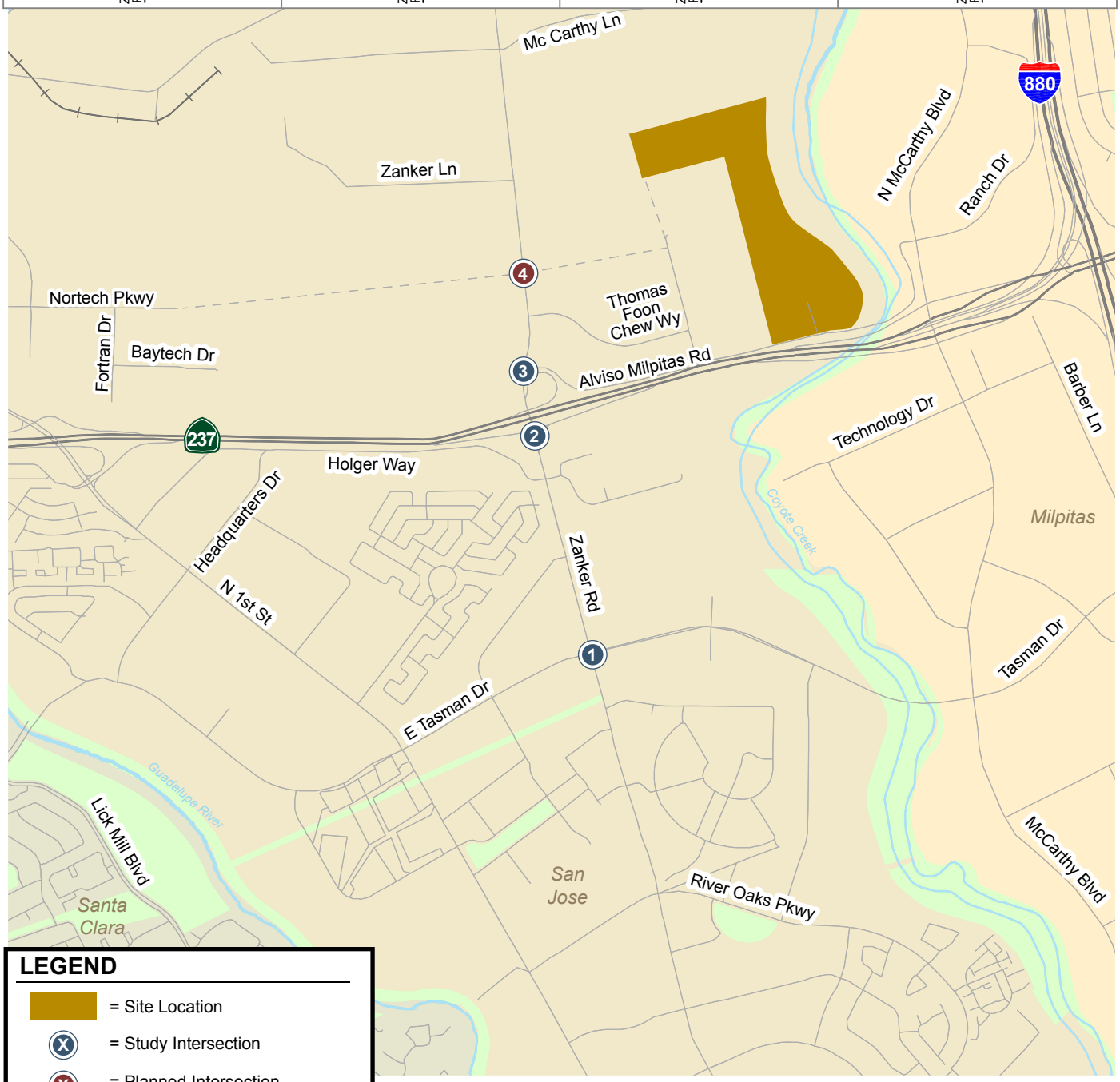


Figure 4
Existing Lane Configurations

The Coyote Creek Trail is a multi-use trail that runs along both sides of Coyote Creek. The Coyote Creek Trail extends from the northern extent of McCarthy Boulevard south to Zanker Road in San Jose. A bike path also is provided along the south side of SR 237 between Zanker Road and McCarthy Boulevard. Along the north side of SR 237, a path is provided only between Zanker Road and Alviso Milpitas Road. Alviso Milpitas Road provides a connection between Zanker Road and McCarthy Boulevard and is a designated bike route with bike lanes on a portion of the roadway. The majority of Alviso Milpitas Road is part of the Highway 237 Bikeway Trail Program and is also designated as part of the San Francisco Bay Trail, the Juan Bautista De Anza National Historic Trail, and the National Recreation Trail.

Existing bicycle facilities within the study area are shown on Figure 5.

Pedestrian facilities in the immediate project area are limited. Sidewalks are found along both sides of Zanker Road south of the SR 237 eastbound ramps. However, no sidewalks are present along Zanker Road north of the SR 237 westbound ramps. There also is no sidewalk along the east side of the Zanker Road overpass of SR 237. Alviso Milpitas Road provides no sidewalks between the project site and Ranch Drive.

Collision Analysis along Zanker Road

Since 2012, there have been 27 collisions along Zanker Road in the vicinity of the project site. Fourteen collisions occurred on Zanker Road north of SR 237 (near the Coyote Creek Trail connection), two collisions occurred near the intersection of Zanker Road and McCarthy Lane, and eleven collisions occurred near the intersection of Zanker Road and Holger Way. Sixteen collisions resulted in injury but did not result in a fatality. Three collisions involved bicycles, and none of the collisions involved pedestrians.

Existing Transit Service

Existing transit service to the study area is provided by the Valley Transportation Authority (VTA). However, the project site is not well-served by transit. The nearest bus stops are located at the McCarthy Boulevard/Ranch Drive intersection (approximately 0.5 mile east of the project site) and the Zanker Road/Tasman Drive intersection (about 1.5 miles south of the project site). There are neither sidewalks nor paths linking the project site with the nearby bus stops. The VTA transit services in the project area as of April 2021 are described below and shown on Figure 6. Transit services in the area are currently reduced due to COVID-19 conditions.

VTA Bus Service

Local Route 44 provides service between the Milpitas BART station and McCarthy Ranch. Route 44 operates along McCarthy Boulevard and Great Mall Parkway, with 60-minute headways during the weekday peak commute hours. The nearest bus stops for Route 44 are located at the McCarthy Boulevard and Ranch Drive intersection, approximately a half-mile from the project site.

Local Route 47 provides service between the Great Mall Transit Center and McCarthy Ranch. Route 47 operates along McCarthy Ranch Boulevard and Calaveras Boulevard, with 60-minute headways during the weekday peak commute hours. The nearest bus stops for Route 47 are located at the McCarthy Boulevard and Ranch Drive intersection, approximately a half-mile from the project site.