

<b>DOCKETED</b>	
<b>Docket Number:</b>	19-SPPE-04
<b>Project Title:</b>	SJ2
<b>TN #:</b>	239940
<b>Document Title:</b>	SJC Data Center Final Transportation Assessment Report
<b>Description:</b>	N/A
<b>Filer:</b>	Jerry Salamy
<b>Organization:</b>	Jacobs
<b>Submitter Role:</b>	Applicant Consultant
<b>Submission Date:</b>	10/1/2021 3:52:48 PM
<b>Docketed Date:</b>	10/1/2021



# HEXAGON TRANSPORTATION CONSULTANTS, INC.



## San Jose Data Center (SJC02)

### Transportation Analysis

Prepared for:

**FirstCarbon Solutions**

September 28, 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

**San Jose • Gilroy • Pleasanton**

[www.hextrans.com](http://www.hextrans.com)

Areawide Circulation Plans Corridor Studies Pavement Delineation Plans Traffic Handling Plans Impact Fees Interchange Analysis Parking  
Transportation Planning Traffic Calming Traffic Control Plans Traffic Simulation Traffic Impact Analysis Traffic Signal Design Travel Demand Forecasting

## Table of Contents

---

Executive Summary .....	i
1. Introduction .....	1
2. Existing Conditions .....	14
3. CEQA Analysis .....	21
4. Local Transportation Analysis .....	28
5. Conclusions .....	45

## Appendices

Appendix A	Intersection Traffic Volumes
Appendix B	City of San Jose Approved Trips Inventory (ATI)
Appendix C	Intersection Level of Service Calculations
Appendix D	Signal Warrants
Appendix E	Truck Turning Templates
Appendix F	Zanker Road Plan Line
Appendix G	Data Center Parking Demand Study

## List of Tables

Table 1	VMT Thresholds of Significance for Development Projects .....	10
Table 2	Signalized Intersection Level of Service Definitions Based on Control Delay .....	11
Table 3	Daily Trip Conversion from Data Center Trips to General Light Industrial Trips .....	21
Table 4	Summary of VMT Mitigation Measures and VMT per Worker .....	24
Table 5	Project Trip Generation Estimates .....	29
Table 6	Intersection Levels of Service .....	35
Table 7	Intersection Vehicle Queuing Analysis .....	36
Table 8	City of San Jose Vehicle Parking Requirements .....	42
Table 9	Summary of Vehicle Parking Demand Counts for Data Centers .....	43

## List of Figures

Figure 1	Site Location and Study Intersections .....	2
Figure 2	Site Plan .....	3
Figure 3	VMT Per Industrial Job Heat Map in San Jose .....	7
Figure 4	Existing Lane Configurations .....	16
Figure 5	Existing Bicycle Facilities .....	18
Figure 6	Existing Transit Facilities .....	19
Figure 7A	San Jose VMT Evaluation Tool Summary Report – No Mitigation .....	25
Figure 7B	San Jose VMT Evaluation Tool Summary Report – With Mitigation .....	26
Figure 8	Project Trip Distribution Pattern and Trip Assignment .....	30
Figure 9	Existing Traffic Volumes .....	32
Figure 10	Background Traffic Volumes .....	33
Figure 11	Background Plus Project Traffic Volumes .....	34
Figure 12	Project Trips at the Driveway .....	38

## Executive Summary

---

This report presents the results of the transportation analysis conducted for a proposed 396,914 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 17.28 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), bike facilities measure (number 6 below), and Transportation Demand Management (TDM) measure (number 7 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. **End of Trip Bike Facilities**
7. **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 306 new daily vehicle trips, with 34 new trips (19 inbound and 15 outbound) occurring during the AM peak hour and 28 new trips (8 inbound and 20 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 industrial, office and R&D 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.

Although the project site is not physically 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 number of PM peak hour vehicle trips the project would send into the NSJADP area. The current NSJADP fee is \$18,725 per PM peak hour trip (as of July 1, 2021).

Based on the current NSJADP fee, the project would be required to pay a fair share contribution of \$187,250 as follows: 10 PM peak hour trips x \$18,725 = \$187,250.

## 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.

### Recommendations

- Provide a sidewalk along the project driveway from the Nortech Parkway extension to the data center site.
- Provide additional pavement at the loading docks to provide adequate CA Legal truck access.

# 1. Introduction

---

This report presents the results of the transportation analysis conducted for a proposed 396,914 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.

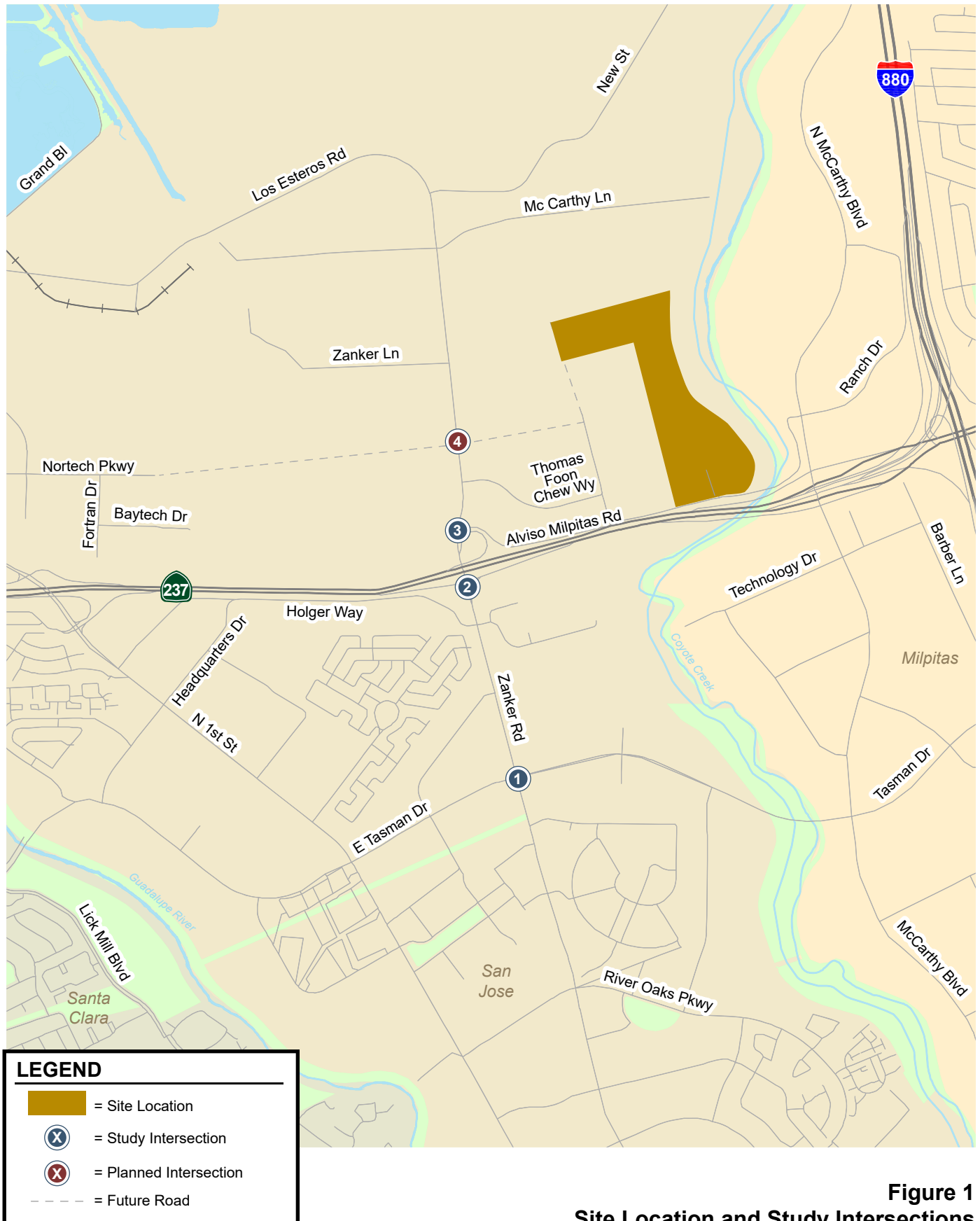
The transportation impacts of the project were evaluated following the standards and methodologies established in the City of San Jose's Transportation Analysis Handbook, adopted in April 2018. Based on the City of San Jose's Transportation Analysis Policy (Policy 5-1) and the Transportation Analysis 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**

LEGEND:

- PROPERTY LINE AND LIMIT OF DISTURBANCE
- 1. BIOSWALE
  - 2. GENERATORS/UTILITY YARDS
  - 3. SUBSTATION
  - 4. GENERATOR PAD (TYP.)
  - 5. REFUSE/RECYCLING CANOPY
  - 6. PROPERTY LINE
  - 7. ADA ENTRY
  - 8. SITE ENTRANCE/EXIT
  - 9. SECONDARY SITE ENTRANCE/EXIT
  - 10. FENCED PERIMETER (8')
  - 11. EXISTING STORMWATER EASEMENT
  - 12. SANITARY PUMP STATION
  - 13. CAR PARKING
  - 14. MOTORCYCLE PARKING
  - 15. BICYCLE PARKING

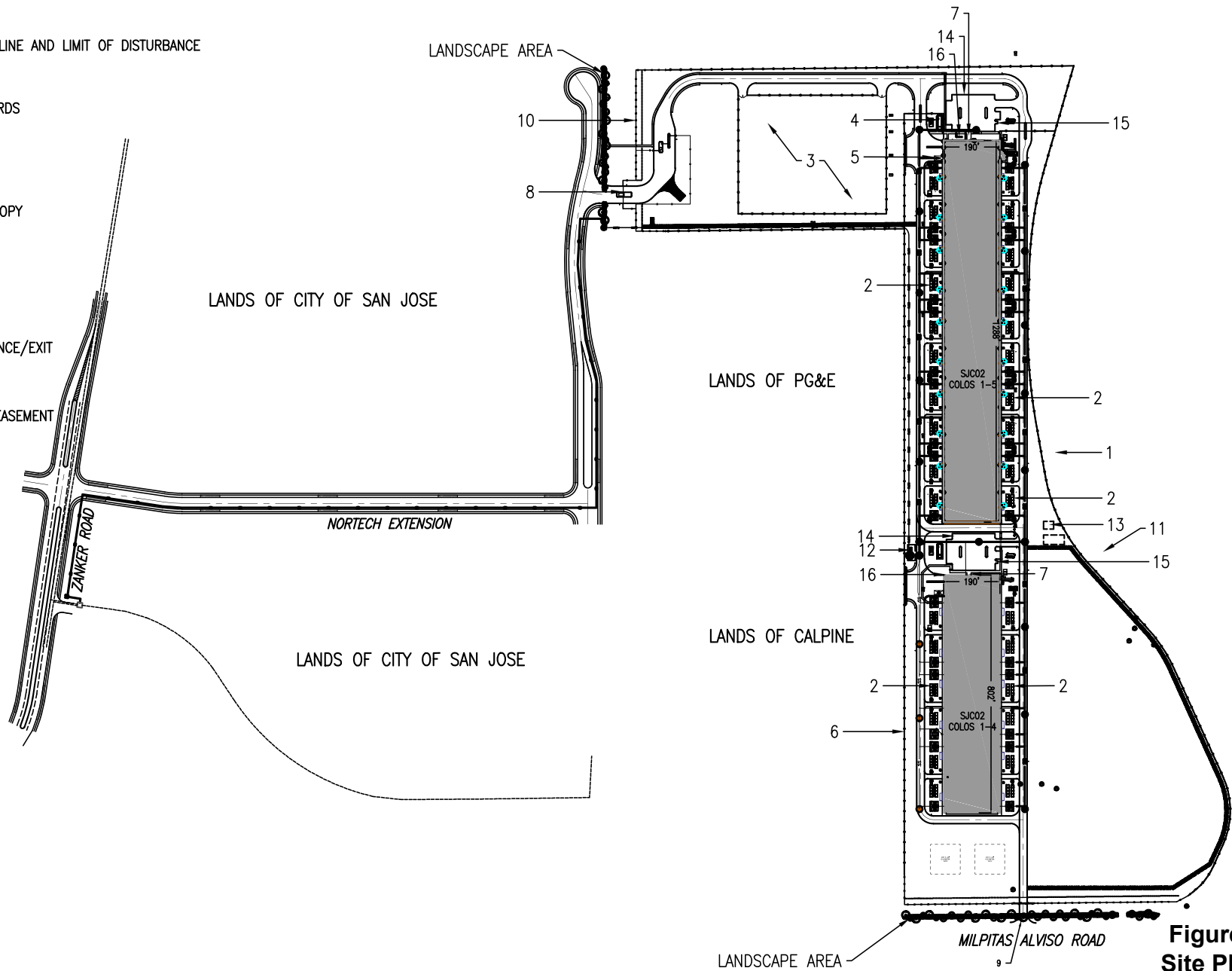


Figure 2  
Site Plan

- 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 the VMT evaluation, it has been determined that the proposed data center use should be treated as industrial as opposed to office. The basis for this determination is due to the fact that 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 computer equipment. Data centers are essentially warehouses that store customer data and associated ancillary operations and have a small number of employees and visitors. Although the proposed data center would incorporate some office space (27,652 s.f.), the vast majority of the data center square footage (369,262 s.f. of the 396,914 s.f. total, or approximately 93%) would operate more like industrial warehouse space and, therefore, industrial is the most accurate land use category to select for the San Jose VMT Evaluation Tool. Based on this approach, the data center trips were converted to an equivalent amount of industrial space and analyzed for VMT impacts using the 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 a 396,914 s.f. data center, which is equivalent to 79,234 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.



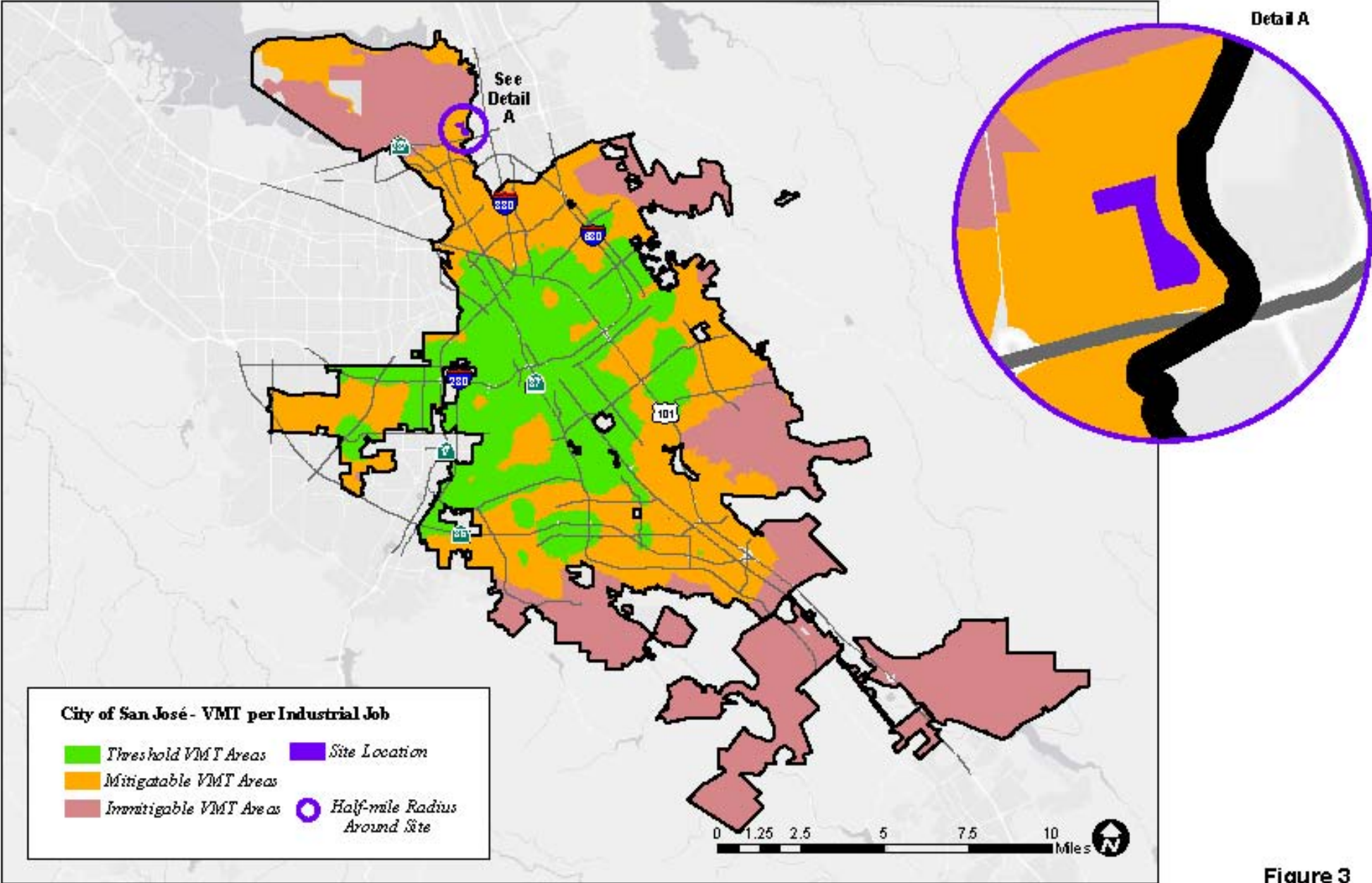


Figure 3  
VMT per Industrial Job Heat Map in San Jose

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
<b>Residential Uses</b>	Project VMT per capita exceeds existing citywide average VMT per capita minus 15 percent, <u>or</u> existing regional average VMT per capita minus 15 percent, whichever is lower.	11.91  VMT per capita (Citywide Average)	10.12  VMT per capita
<b>General Employment Uses</b>	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
<b>Industrial Employment Uses</b>	Project VMT per employee exceeds existing regional average VMT per employee.	14.37  VMT per employee (Regional Average)	14.37  VMT per employee
<b>Retail / Hotel / School Uses</b>	Net increase in existing regional total VMT.	Regional Total VMT	Net Increase
<b>Public / Quasi-Public Uses</b>	In accordance with most appropriate type(s) as determined by Public Works Director.	Appropriate levels listed above	Appropriate thresholds listed above
<b>Mixed-Uses</b>	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
<b>Change of Use / Additions to Existing Development</b>	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
<b>Area Plans</b>	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.)
<b>A</b>	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
<b>B</b>	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
<b>C</b>	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
<b>D</b>	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
<b>E</b>	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
<b>F</b>	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

$\lambda$  = 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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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 95<sup>th</sup> 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 industrial, office and R&D 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.

Although the project site is not physically 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 number of PM peak hour vehicle trips the project would send into the NSJADP area. The current NSJADP fee is \$18,725 per PM peak hour trip (as of July 1, 2021).

## 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 its 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.

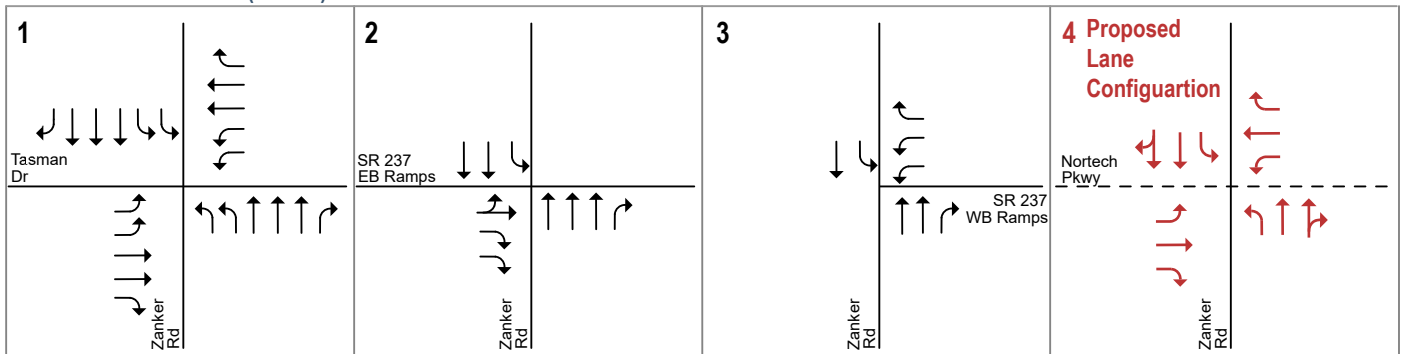
## Existing Pedestrian and Bicycle Facilities

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.

# San Jose Data Center (SJC02)



**LEGEND**

- = Site Location
- = Study Intersection
- = Planned Intersection
- = Future Road

**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.



**Figure 5**  
**Existing Bicycle Facilities**



**Figure 6**  
**Existing Transit Facilities**

### **Light Rail Transit (LRT) Service**

Light Rail Transit (LRT) service is provided in the project area by the VTA. The nearest LRT station (Baypointe LRT Station) is located along Tasman Drive at its intersection with Baypointe Parkway, approximately 1.7 miles south of the project site and serves the Mountain View-Alum Rock and the Santa Teresa-Baypointe LRT lines. The Mountain View-Alum Rock line operates from 5:30 AM to 12:30 AM with 30-minute headways and the Santa Teresa-Baypointe line operates from 5:00 AM to 1:00 AM with 20-minute headways during peak commute and midday hours. The Mountain View-Alum Rock line provides service between Mountain View and Alum Rock in east San Jose via Tasman Drive and Capitol Avenue. The Santa Teresa-Baypointe line provides service between the Santa Teresa station in south San Jose and North San Jose via N. 1<sup>st</sup> Street, SR 87, and SR 85.

### **Observed Existing Traffic Conditions**

Due the current COVID-19 pandemic situation, traffic volumes are generally lower than during “normal” conditions. However, it is still valuable to observe traffic conditions in the field to identify any existing operational deficiencies. Accordingly, traffic conditions in the study area were observed during the weekday AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak traffic periods.

Based on the field observations, the study intersections operated adequately during both the weekday AM and PM peak hours of traffic, and no noteworthy operational issues were observed.



### 3.

## CEQA Transportation Analysis

This chapter describes the CEQA transportation analysis, including the VMT threshold of significance, the project-level VMT impact analysis results, mitigation measures to reduce a VMT impact, and the cumulative transportation impact analysis used to determine consistency with the City's General Plan.

### Project Level VMT Analysis

An evaluation of VMT per the City of San Jose's guidelines for transportation impact analysis was completed using the City's VMT Evaluation Tool. Based on the project location, type of development, project description, and proposed trip reduction measures, the VMT tool calculates VMT. However, the City's VMT Evaluation Tool is limited to the evaluation of the general land use categories of residential, office, and industrial. Therefore, the use of the VMT tool for land uses that are not reflective of one of the three land use types, such as the data center, requires the conversion of the proposed land use to an equivalent number of residential units, office space, or industrial space.

For the purpose of the VMT evaluation, it has been determined that the proposed data center should be treated as industrial as opposed to office. The basis for this determination is due to the fact that the employment associated with a data center is significantly less than that of office space since much of the data center space is used to house computer equipment. Data centers are essentially warehouses that store customer data and associated ancillary operations and have a small number of employees and visitors. Although the proposed data center would incorporate some office space (27,652 s.f.), the vast majority of the data center square footage (369,262 s.f. of the 396,914 s.f. total, or approximately 93%) would operate more like industrial warehouse space and, therefore, industrial is the most accurate land use category to select for the San Jose VMT Evaluation Tool. Based on this approach, the data center trips were converted to an equivalent amount of industrial space (see Table 3), and the project was analyzed for VMT impacts using the industrial land use category.

**Table 3**  
**Daily Trip Conversion from Data Center Trips to General Light Industrial Trips**

Land Use	ITE Land Use Code	Size	Daily	
			Rate	Trip
Data Center	160	396,914 Square Feet	0.99	393
General Light Industrial	110	<b>Equivalent Industrial Space<sup>1</sup> = 79,234 Square Feet</b>	4.96	393

Source: ITE Trip Generation Manual, 10<sup>th</sup> Edition 2017

<sup>1</sup>The VMT Evaluation Tool does not provide for the evaluation of VMT for a Data Center use. Therefore, the proposed project trips were converted to equivalent General Light Industrial space and evaluated as an Industrial land use in the tool.

As shown in Table 3, the equivalent industrial square footage for the proposed data center is 79,234 square feet. Based on the City's CEQA VMT Analysis screening criteria for development projects, the project would not meet the screening criteria for VMT analysis exemption because it is not equivalent to 30,000 gross square feet or less and, thus, does not qualify as a small infill industrial project.

### **Project VMT Impact Analysis Results**

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 17.28 VMT per employee, which also exceeds the industrial threshold of 14.37 VMT per employee. According to the *Transportation Analysis Handbook*, projects located in areas where the existing VMT is above the established threshold (such as the study area) are referred to as being in "high-VMT areas", and projects in high-VMT areas are required to include VMT reduction measures that would reduce the project VMT to the extent possible.

### **Project Impact**

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** – The project would construct a new street (an extension of Nortech Parkway) that would extend east from Zanker Road and provide access to the project site. The new intersection created at Zanker Road/Nortech Parkway would be signalized and would be located approximately 400 feet north of the Zanker Road/Thomas Foon Chew Way intersection. There are currently 20 signalized intersections within a one-mile radius of the project site. The addition of the new intersection would increase that number to 21 signalized intersections, thereby increasing the overall roadway network connectivity in the project area. Currently, Nortech Parkway is an east-west local public roadway 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 the new traffic signal would be constructed by the project. Note that the project would not be responsible for constructing or contributing toward the construction of the segment of the Nortech Parkway extension west of Zanker Road. Building new street connections/intersections improves vehicular, pedestrian, and bicycle access. Furthermore, increasing the roadway network connectivity shortens vehicle trips, enhances walkability, and provides more opportunities for bicyclists. Accordingly, this multi-modal infrastructure improvement would reduce VMT.
2. **Traffic Calming Measures** – The project would construct a raised median island along Zanker Road between the new Nortech Parkway extension and the SR 237 westbound off-ramp. The raised median is part of the City's Plan Line design for Zanker Road. Raised median islands help to reduce vehicular speeds by narrowing the roadway, as well as provide a physical barrier for vehicles and a refuge for pedestrians. Providing traffic calming measures creates a safer environment and promotes walking and biking as alternatives to driving. Accordingly, this multi-modal infrastructure improvement would reduce drive-alone commute trips and thus VMT.
3. **Pedestrian Network Improvements** – The project would construct a Class I Bikeway Trail extension along the east side of Zanker Road, connecting the existing Coyote Creek Trail segment with the new Nortech Parkway extension. The future location of the trail falls within the City's right-of-way (ROW). Pedestrian improvements at the new signalized intersection of



Zanker Road and the Nortech Parkway extension include striped crosswalks and pedestrian signals and push buttons. These multi-modal infrastructure improvements would promote walking, thereby reducing drive-alone commute trips and VMT.

4. **Bike Access Improvements** – 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 SR 237 Bikeway Trail segment with the new Nortech Parkway extension. Bike lanes and sidewalks would be included along both sides of the Nortech Parkway extension. In addition, the project would provide bicycle racks near the administrative buildings and wayfinding signage and bike route markings on the site's internal roadway network. These multi-modal infrastructure improvements would promote bicycling, thus reducing drive-alone commute trips. Providing new bicycle facilities that close gaps in the existing bike network improves overall bike access and circulation and promotes bicycling as an alternative to driving, thereby reducing VMT.
5. **Limit Parking Supply** – The project would provide 122 vehicle parking spaces, which is 63 fewer spaces than what the City of San Jose Municipal Code requires. The project would request a parking exception in order to qualify for the parking reduction. Decreasing a project's parking supply encourages employees to choose an alternative transportation mode for their commutes, thereby reducing VMT.
6. **End of Trip Bike Facilities** – The project would provide and maintain bike facilities for active alternative transportation users of the project. Examples of end of trip bike facilities include bike parking, bike lockers, showers, and personal lockers. Providing on-site bicycle facilities encourages employees to bike to work as an alternative to driving, thereby reducing VMT.
7. **Commute Trip Reduction Marketing and Education** – The project would implement a marketing campaign targeting all employees that encourages the use of shared rides and active modes of transportation. Marketing strategies may include new employee orientation on alternative commute options, event promotions, and publications. The project would provide information and encouragement to use transit, shared ride modes, and active modes to reduce drive-alone commute trips and, thus, VMT. It is assumed that 100% of the employees would be subject to the commute trip reduction education program.

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). These mitigation measures and the resulting reduction in VMT per worker are summarized in Table 4.

Figures 7A and 7B show the VMT summary reports generated by the City of San Jose's VMT Evaluation Tool without and with implementation of the recommended mitigation measures, respectively. The column chart at the bottom of each figure shows the Area VMT (red column), Project VMT (blue and green columns), and the Impact Threshold for industrial employment uses (grey line at the top of the chart).

### **Cumulative VMT Impact Analysis**

Projects must demonstrate consistency with the *Envision San Jose 2040 General Plan* to address cumulative impacts. Consistency with the City's General Plan is based on a consideration of all of its aspects, including the project's density, design, and ability to further the General Plan goals and policies and not obstruct their attainment. If a project is determined to be inconsistent with the General Plan, a cumulative impact analysis is required as part of the City's *Transportation Analysis Handbook*.

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*.

**Table 4**  
**Summary of VMT Mitigation Measures and Resulting VMT per Worker**

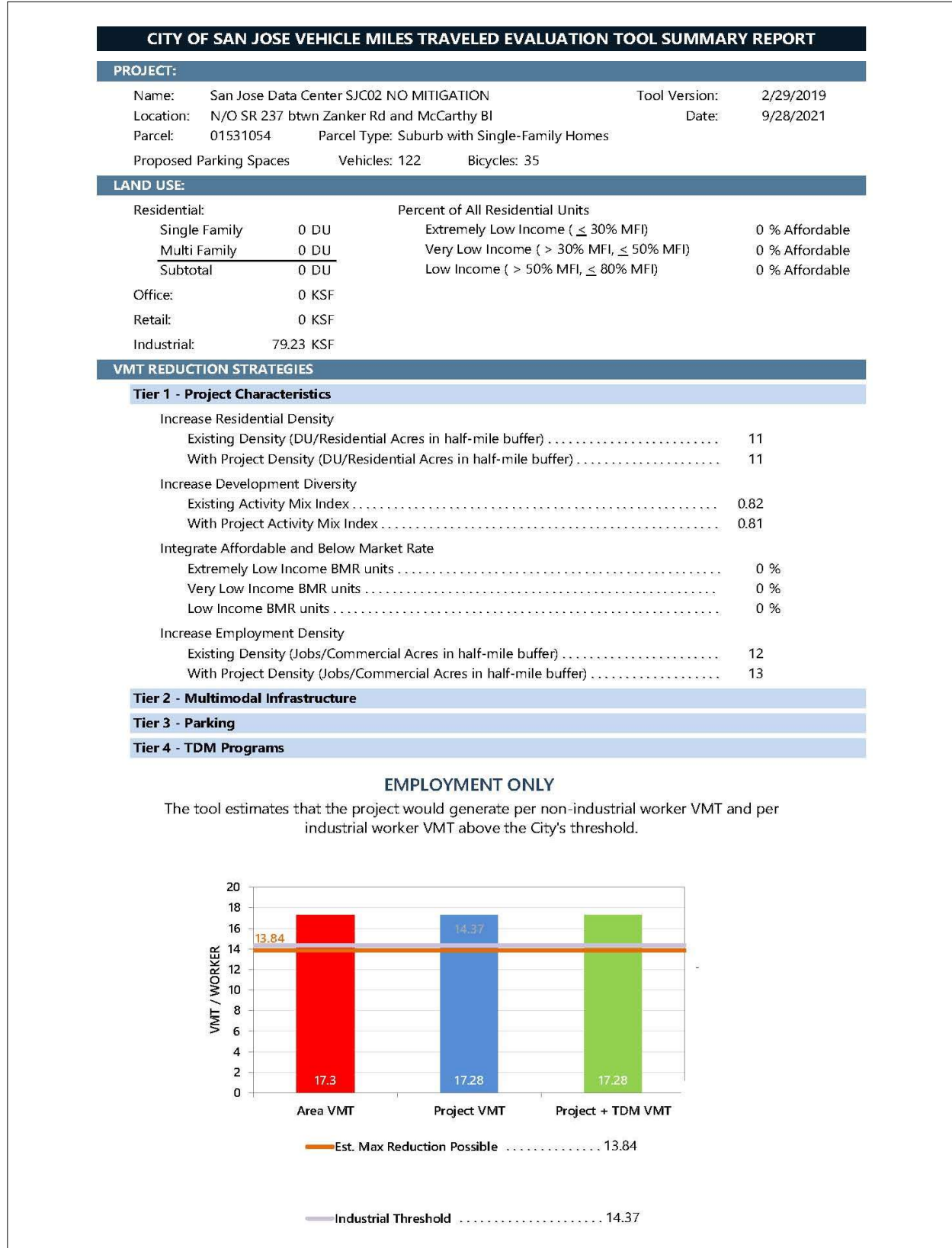
Mitigation Measure	Mitigation Description	Vehicle Miles Traveled (VMT)		
		VMT Per Worker with Single Mitigation Measure	Industrial Threshold (VMT / Worker)	Significant VMT Impact?
1 - Increase Roadway Network Connectivity (Tier 2)	Construct a new signalized intersection at Zanker Rd and Nortech Pkwy, thereby increasing the overall roadway network connectivity in the project area. Building new street connections/intersections improves vehicular, pedestrian, and bicycle access, increases the roadway network connectivity, shortens vehicle trips, enhances walkability, and provides more opportunities for bicyclists.	17.18	14.37	YES
2 - Traffic Calming Measures (Tier 2)	Construct a raised median island along Zanker Rd between the new Nortech Parkway extension and the SR 237 westbound off-ramp. The raised median is part of the City's Plan Line design for Zanker Road. Raised median islands help to reduce vehicular speeds by narrowing the roadway, provide a physical barrier for vehicles, provide a refuge for pedestrians, create an overall safer environment, and promote walking and biking as alternatives to driving.	16.93	14.37	YES
3 - Pedestrian Network Improvements (Tier 2)	Construct a Class I Bikeway Trail extension along the east side of Zanker Rd, connecting the existing Coyote Creek Trail segment with the new Nortech Pkwy extension. Pedestrian improvements at the new signalized intersection of Zanker Rd and Nortech Pkwy include striped crosswalks and pedestrian signals and push buttons. These multi-modal infrastructure improvements would promote walking as an alternative to driving.	16.93	14.37	YES
4 - Bike Access Improvements (Tier 2)	Construct a Class I Bikeway Trail extension along the east side of Zanker Rd, connecting the existing SR 237 Bikeway Trail segment with the new Nortech Pkwy extension. Bike lanes and sidewalks would be included along both sides of the Nortech Pkwy extension. The project would provide bicycle racks near the administrative buildings and wayfinding signage and bike route markings on the site's internal roadway network. These multi-modal infrastructure improvements would help to close gaps in the existing bike network, improve bike access and circulation, and promote bicycling as an alternative to driving.	17.22	14.37	YES
5 - Limit Parking Supply (Tier 3)	Provide 122 vehicle parking spaces, which is 63 fewer spaces than what the City of San Jose Municipal Code requires. The project would request a parking exception in order to qualify for the parking reduction. Decreasing a project's parking supply encourages employees to choose an alternative transportation mode for their commutes.	15.12	14.37	YES
6 - End of Trip Bike Facilities (Tier 3)	Provide and maintain bike facilities for active alternative transportation users of the project. Examples of end of trip bike facilities include bike parking, bike lockers, showers, and personal lockers. Providing on-site bicycle facilities encourages employees to bike to work as an alternative to driving.	17.24	14.37	YES
7 - Commute Trip Reduction Marketing and Education (Tier 4)	Implement a marketing campaign targeting all employees that encourages the use of shared rides and active modes of transportation. Marketing strategies may include new employee orientation on alternative commute options, event promotions, and publications. The project would provide information and encouragement to use transit, shared ride modes, and active modes to reduce drive-alone commute trips. It is assumed that 100% of the employees would be subject to the commute trip reduction education program.	16.59	14.37	YES
<b>VMT Per Worker with Implementation of all 6 Mitigation Measures:</b>		<b>14.12</b>	<b>14.37</b>	<b>NO</b>

The project is consistent with the 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.

**Figure 7A**  
**San Jose VMT Evaluation Tool Summary Report – No Mitigation**



**Figure 7B**  
**San Jose VMT Evaluation Tool Summary Report – With Mitigation**

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT			
PROJECT:			
Name:	San Jose Data Center SJC02 MITIGATED	Tool Version:	2/29/2019
Location:	N/O SR 237 btwn Zanker Rd and McCarthy Bl	Date:	8/10/2021
Parcel:	01531054	Parcel Type:	Suburb with Single-Family Homes
Proposed Parking Spaces	Vehicles: 122	Bicycles:	35
LAND USE:			
Residential:	Percent of All Residential Units		
Single Family	0 DU	Extremely Low Income ( $\leq$ 30% MFI)	0 % Affordable
Multi Family	0 DU	Very Low Income ( $>$ 30% MFI, $\leq$ 50% MFI)	0 % Affordable
Subtotal	0 DU	Low Income ( $>$ 50% MFI, $\leq$ 80% MFI)	0 % Affordable
Office:	0 KSF		
Retail:	0 KSF		
Industrial:	79.23 KSF		
VMT REDUCTION STRATEGIES			
Tier 1 - Project Characteristics			
Increase Residential Density			
Existing Density (DU/Residential Acres in half-mile buffer)			11
With Project Density (DU/Residential Acres in half-mile buffer)			11
Increase Development Diversity			
Existing Activity Mix Index			0.82
With Project Activity Mix Index			0.81
Integrate Affordable and Below Market Rate			
Extremely Low Income BMR units			0 %
Very Low Income BMR units			0 %
Low Income BMR units			0 %
Increase Employment Density			
Existing Density (Jobs/Commercial Acres in half-mile buffer)			12
With Project Density (Jobs/Commercial Acres in half-mile buffer)			13
Tier 2 - Multimodal Infrastructure			
Bike Access Improvements <i>(In Coordination with SJ)</i>			
Distance to Nearest Existing Bicycle Facility			900 feet
Distance to Nearest Bicycle Facility With Project			0 feet
Increase Network Connectivity <i>(In Coordination with SJ)</i>			
Intersection Density			20 int/sqmi
Intersection Density with Project			21 int/sqmi
Traffic Calming Measures <i>(In Coordination with SJ)</i>			
Are improvements provided beyond the development frontage?			Yes
Pedestrian Network Improvements <i>(In Coordination with SJ)</i>			
Are pedestrian improvements provided beyond the development frontage?			Yes

**Figure 7B (Continued)**  
**San Jose VMT Evaluation Tool Summary Report – With Mitigation**

### CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

#### Tier 3 - Parking

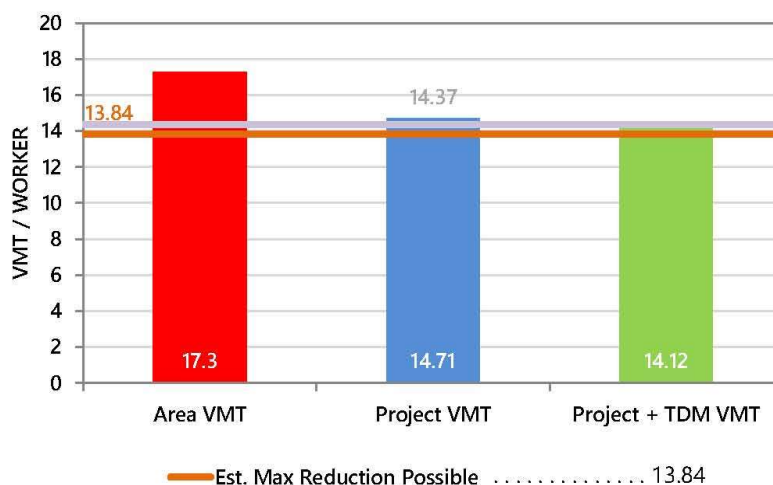
Limit Parking Supply	
Minimum Parking Required by Municipal Code .....	185 spaces
Total Parking Spaces Available to Employees .....	122 spaces
Does the surrounding street parking have RPP, meters, or time limits? .....	Yes
End of Trip Bike Facilities	
Bicycle Parking Spaces Provided by Project .....	35 spaces
Project Provides Additional End-of-Trip Facilities Beyond Parking? .....	No

#### Tier 4 - TDM Programs

Commute Trip Reduction Marketing/ Education	
Percent of Eligible Employees .....	100 %

### EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT below the City's threshold. There are selected strategies that require coordination with the City of San Jose to implement.





## 4.

# Local Transportation Analysis

---

This chapter describes the non-CEQA local transportation analysis (LTA) including existing traffic conditions, the method by which project traffic is estimated, intersection operations analysis for existing, background and background plus project scenarios, any adverse effects to intersection level of service caused by the project, intersection queuing analysis, site access and on-site circulation review, effects on bicycle, pedestrian and transit facilities, and parking supply.

### Intersection Operations Analysis

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

### Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel are estimated. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

#### Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. This research is compiled in the *Trip Generation Manual, 10<sup>th</sup> Edition* (2017) published by the Institute of Transportation Engineers (ITE). The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rate(s) by the size of the development. Trips that would be generated by the proposed project were estimated using the ITE trip rates for Data Center (ITE Land Use 160) located in a general urban/suburban setting. As defined by the ITE, a "data center" is a free-standing warehouse type of facility that is primarily used for off-site storage of computer systems and associated components and may include maintenance areas and a small office.

### **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 trip generation. 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 Evaluation Tool, the project site is located within a *Suburban with Single-Family Homes* place type. Therefore, the baseline project trips were adjusted to reflect the mode share associated with this place type.

Industrial developments located within areas designated *Suburban with Single-Family Homes* have a vehicle mode share of 95 percent (according to Table 6 of the City's *Transportation Analysis Handbook*). Thus, a 5 percent reduction was applied to the project trip generation estimates based on the location-based vehicle mode share outputs produced from the San Jose Travel Demand Model.

In addition, to address the significant VMT impact as described in Chapter 3, the project would implement multi-modal infrastructure improvements, parking reduction measures, and a commute trip reduction education program to lower the project VMT and reduce the project impact to a less-than-significant level. Accordingly, an 18 percent reduction was applied based on the corresponding external trip adjustment obtained from the VMT Evaluation Tool. The reduction was applied to the adjusted project trips (with location-based adjustment).

### **Net Project Trips**

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 306 new daily vehicle trips, with 34 new trips (19 inbound and 15 outbound) occurring during the AM peak hour and 28 new trips (8 inbound and 20 outbound) occurring during the PM peak hour (See Table 5).

**Table 5**  
**Project Trip Generation Estimates**

ITE Land Use	% of Vehicle Mode Share	Reduction %	Size	Daily		AM Peak Hour			PM Peak Hour				
						Pk-Hr Rate	Trips		Pk-Hr Rate	Trips		Total	
				In	Out		Total	In		Out	Total		
Data Center <sup>1</sup>			396,914 SF	0.99	393	0.11	24	20	44	0.09	11	25	36
Location-Based Vehicle Mode Share Reduction <sup>2</sup>	95%	5%			(20)		(1)	(1)	(2)		(1)	(1)	(2)
Project-Specific Trip Reduction <sup>3</sup>		18%			(67)		(4)	(4)	(8)		(2)	(4)	(6)
Net Project Trips					306		19	15	34		8	20	28

**Notes:**

<sup>1</sup> The project trip generation estimates are based on average rates contained in the *ITE Trip Generation Manual*, 10th Edition, for Data Center (Land Use 160) located in a General Urban/Suburban setting. Rates are expressed in trips per 1,000 SF.

<sup>2</sup> The project site is located within the place type Suburban with Single-Family Homes based on the City of San Jose VMT Evaluation Tool (February 29, 2019). The location-based vehicle mode share percentage outputs are obtained from Table 6 of the City of San Jose *Transportation Analysis Handbook* (April 2018). The 5% trip reduction is based on the percent of mode share for other modes of travel besides vehicles.

<sup>3</sup> An 18% trip reduction was applied based on the external trip adjustments obtained from the City's VMT Evaluation Tool. This trip reduction reflects the multi-modal infrastructure improvements, parking reduction measures, and commute trip reduction education program being proposed by the project to reduce the project VMT impact to a less-than-significant level. It is assumed that every percent reduction in VMT per worker is equivalent to one percent reduction in peak-hour vehicle trips.

### **Trip Distribution and Assignment**

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour vehicle trips associated with the project were added to the roadway network in accordance with the trip distribution pattern, the roadway network connections, and the location of the project driveway. The project trip distribution pattern and trip assignment are shown on Figure 8.

# San Jose Data Center (SJC02)

<p><b>1</b></p> <p>Tasman Dr</p> <p>Zanker Rd</p>	<p><b>2</b></p> <p>SR 237 EB Ramps</p> <p>Zanker Rd</p>	<p><b>3</b></p> <p>Zanker Rd</p> <p>SR 237 WB Ramps</p>	<p><b>4</b></p> <p>Nortech Pkwy (Future)</p> <p>Zanker Rd</p>
---------------------------------------------------	-------------------------------------------------------------	-------------------------------------------------------------	-------------------------------------------------------------------



**Figure 8**  
**Project Trip Distribution and Assignment**



## Traffic Volumes Under All Scenarios

### Existing Traffic Volumes

Due to the current COVID-19 pandemic situation, some businesses and schools are closed, and people are working at home to the extent possible. As a result, existing traffic volume is lower than what it was prior to the virus outbreak. It is not known when traffic levels will return to pre-virus conditions. Even though many businesses and schools have reopened, most are operating well below capacity. Thus, traffic volume is expected to remain reduced for an indefinite amount of time. For this reason, 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. This approach allows transportation studies such as this to move forward without waiting for conditions to return to “normal”.

Existing AM and PM peak hour traffic volumes for the three existing study intersections were obtained from the CMP Traffix count database and from counts provided by City of San Jose staff. The counts used were conducted in 2016 and 2018. An annual growth factor of 1% was applied to estimate existing traffic conditions. The existing AM and PM peak hour intersection volumes are shown on Figure 9.

### Background Traffic Volumes

Background AM and PM 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 10). The vehicular trips associated with the approved projects in the area are listed in the City of San Jose’s Approved Trips Inventory (ATI) contained in Appendix B.

### Background Plus Project Traffic Volumes

Project trips were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 11).

## Intersection Traffic Operations

Intersection levels of service were evaluated against the standards of the City of San Jose. The results of the analysis show that the 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 (see Table 6).

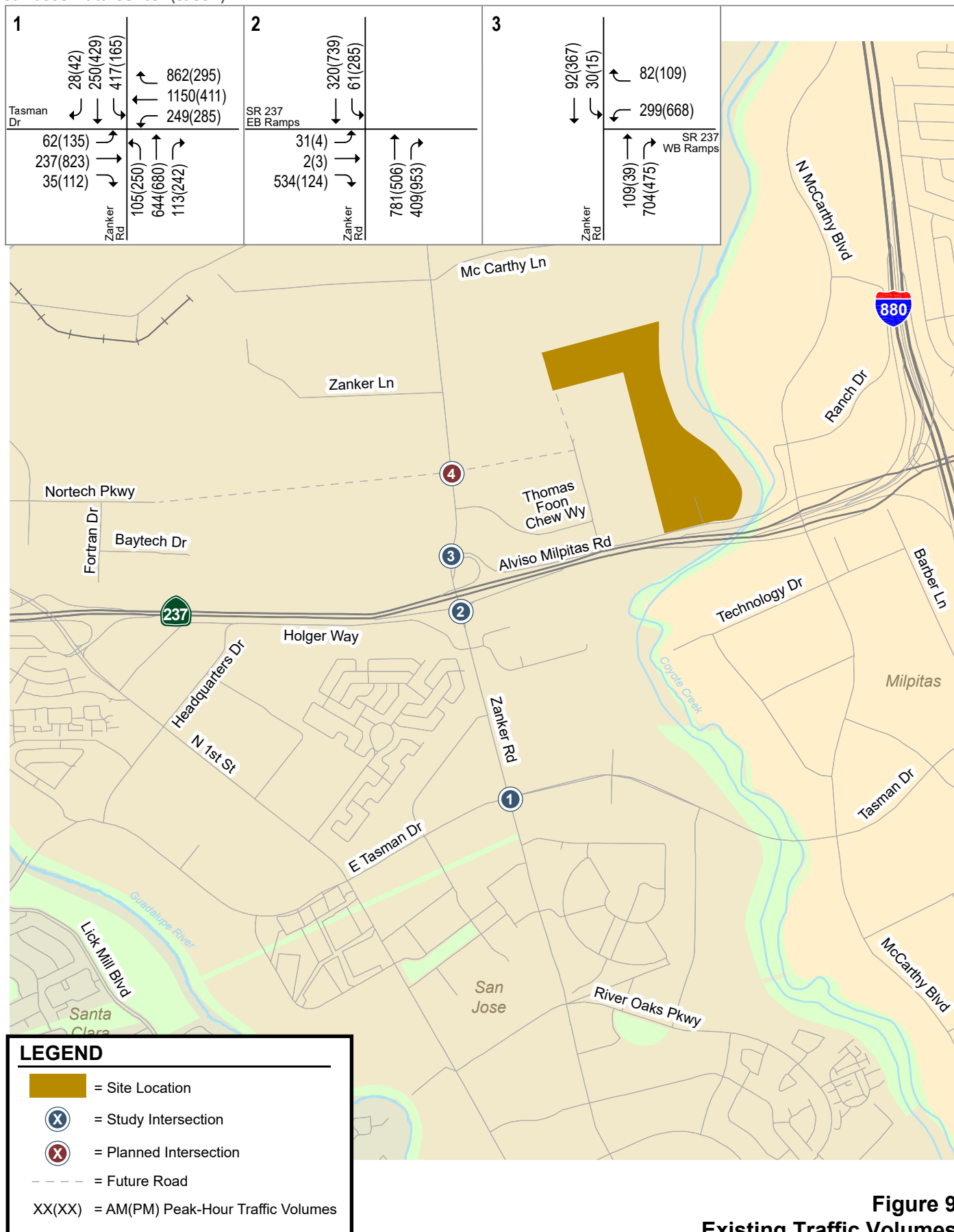
As previously discussed, the project would construct a new signalized intersection where the Nortech Parkway extension would intersect Zanker Road. This future signalized intersection is analyzed under background plus project conditions. The east leg of the intersection would provide access to the project site. The future geometry for the new signalized intersection is shown previously on Figure 5.

The detailed signalized intersection level of service calculations are contained in Appendix C.

### Signal Warrant Check

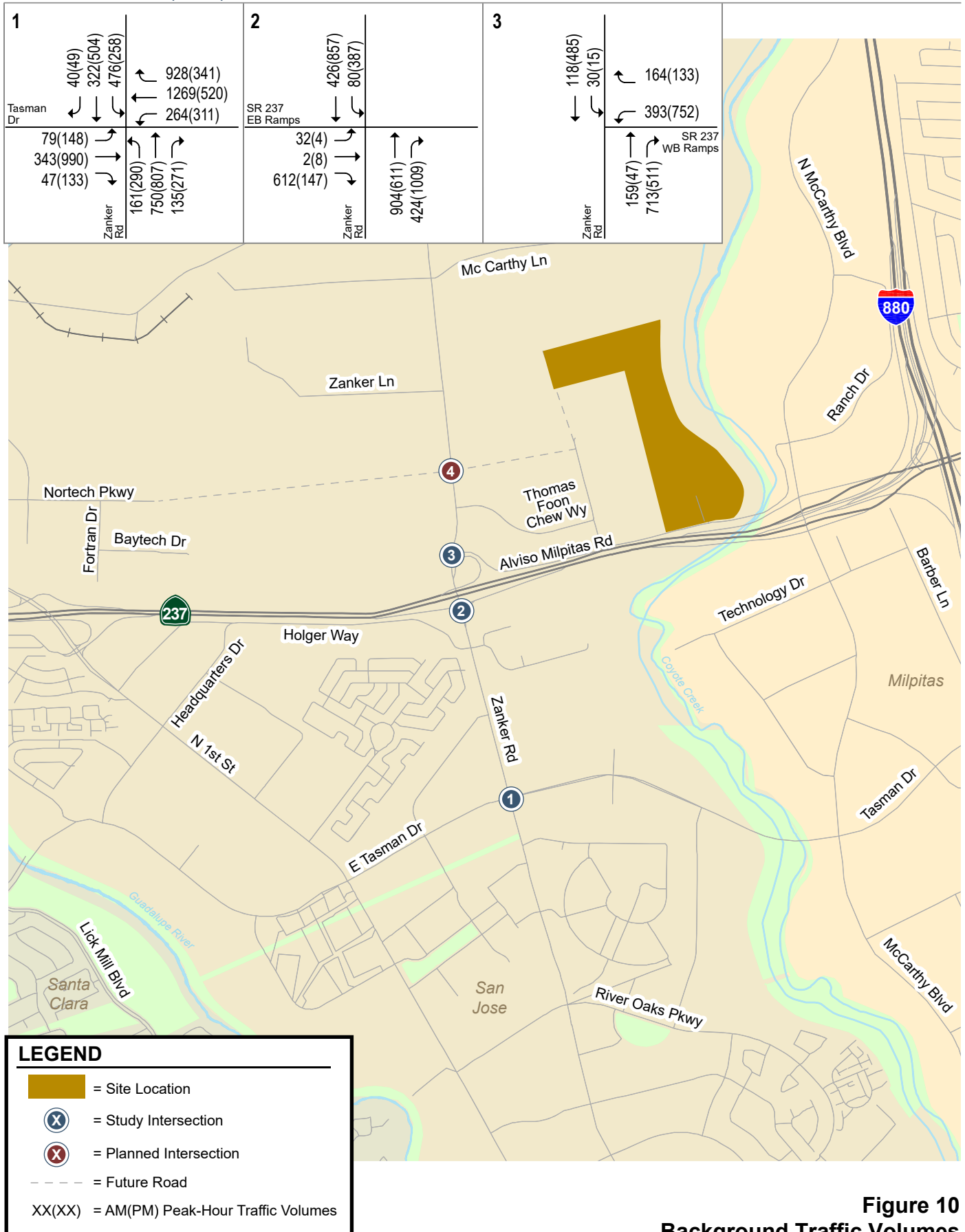
Traffic conditions at the future intersection of Zanker Road and Nortech Parkway were assessed to determine whether a traffic signal would be warranted based on the peak hour volume signal warrant (Warrant #3) described in the *California Manual on Uniform Traffic Control Devices* (CA MUTCD). This method makes no evaluation of intersection level of service, but simply provides an indication whether the estimated peak hour traffic volumes at the intersection would be sufficient to justify installation of a traffic signal.

# San Jose Data Center (SJC02)



**Figure 9**  
**Existing Traffic Volumes**

# San Jose Data Center (SJC02)



# San Jose Data Center (SJC02)

<p><b>1</b></p> <p>Tasman Dr</p> <p>41(51) 325(509) 477(259)</p> <p>929(341) 1269(520) 264(311)</p> <p>81(149) 343(990) 47(133)</p> <p>Zanker Rd</p> <p>161(290) 754(809) 135(271)</p>	<p><b>2</b></p> <p>SR 237 EB Ramps</p> <p>431(864) 88(397)</p> <p>35(5) 2(8) 612(147)</p> <p>Zanker Rd</p> <p>911(614) 424(1009)</p>	<p><b>3</b></p> <p>131(502) 32(18)</p> <p>174(137) 393(752)</p> <p>SR 237 WB Ramps</p> <p>169(51) 713(511)</p> <p>Zanker Rd</p>	<p><b>4</b></p> <p>Nortech Pkwy</p> <p>151(508)</p> <p>15(20)</p> <p>328(183) 19(8)</p> <p>Zanker Rd</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------



## LEGEND

- = Site Location
- X = Study Intersection
- X = Planned Intersection
- = Future Road
- XX(XX) = AM(PM) Peak-Hour Traffic Volumes

**Figure 11**  
**Background Plus Project Traffic Volumes**

The results of the signal warrant check indicate that the AM and PM peak hour volumes at the future intersection would not meet the signal warrant under background plus project conditions (see Appendix D). However, even though it would not meet the peak hour signal warrant (which is just one of 8 possible warrants), a traffic signal at the future intersection would be beneficial for safety reasons because it would provide protected left turns to and from the project site. Specifically, a traffic signal would greatly benefit data center employees and trucks when leaving the project site and turning left onto southbound Zanker Road toward SR 237. In addition to providing protected left turns for vehicles, a traffic signal would offer multimodal benefits since it would provide pedestrians and bicyclists a safe way to cross Zanker Road. A signalized intersection at this location, which would include striped crosswalks and pedestrian signals with push buttons, is a multi-modal improvement that would help to reduce VMT. Accordingly, it serves as mitigation as described in Chapter 3 (mitigation measure #1).

**Table 6**  
**Intersection Levels of Service**

#	Signalized Intersection	Peak Hour	Count Date <sup>1</sup>	Existing		Background		Background + Project			
				Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. In Crit. Delay (sec)	Incr. In Crit. V/C
1	Zanker Rd & Tasman Dr	AM	3/6/2018	35.0	D	37.9	D	38.0	D	0.1	0.002
		PM	3/6/2018	39.8	D	41.4	D	41.4	D	0.0	0.001
2	Zanker Rd & SR 237 EB Ramps *	AM	10/12/2016	14.9	B	15.3	B	15.4	B	0.1	0.007
		PM	11/1/2018	10.6	B	11.3	B	11.4	B	0.1	0.008
3	Zanker Rd & SR 237 WB Ramps *	AM	10/12/2016	11.6	B	11.4	B	11.6	B	0.3	0.004
		PM	11/1/2018	11.1	B	13.5	B	14.2	B	0.1	0.003
4	Zanker Rd & Nortech Pkwy (Future)	AM	--	--	--	--	--	3.3	A	--	--
		PM	--	--	--	--	--	3.3	A	--	--
<u>Notes:</u>											
* Denotes CMP intersection											
<sup>1</sup> An annual growth factor of 1% was applied to the historical count date to estimate "normal" (i.e., pre-COVID-19) traffic 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 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 industrial, office and R&D 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.

Although the project site is not physically 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 number of PM peak hour vehicle trips the project would send into the NSJADP area. The current NSJADP fee is \$18,725 per PM peak hour trip (as of July 1, 2021).

Based on the current NSJADP fee, the project would be required to pay a fair share contribution of \$187,250 as follows: 10 PM peak hour trips x \$18,725 = \$187,250.

## Vehicle Queuing Analysis

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for left turn movements where the project would add a noteworthy number of trips to the left-turn movements of signalized intersections. This analysis provides a basis for estimating future storage requirements at the intersections under background plus project conditions. Vehicle queues were estimated using Poisson probability distribution, as described in Chapter 1. Vehicle queuing was analyzed for the southbound left-turn pocket at the intersection of Zanker Road and the SR 237 eastbound ramps and the westbound left-turn pocket at the future intersection of Zanker Road and Nortech Parkway. As shown in Table 7, both intersections would provide adequate left-turn pocket vehicle storage under background plus project conditions.

**Table 7**  
**Intersection Vehicle Queuing Analysis Results**

Measurement	Zanker Rd & SR 237 Eastbound Ramps		Zanker Rd & Nortech Pkwy (Future)	
	SBL		WBL	
	AM	PM	AM	PM
<b>Existing</b>				
Cycle/Delay <sup>1</sup> (sec)	65	53	--	--
Volume (vphpl )	61	285	--	--
Total 95th %. Queue (veh.)	3	8	--	--
Total 95th %. Queue (ft.) <sup>2</sup>	75	200	--	--
Total Storage	300	300	--	--
Adequate (Y/N)	Y	Y	--	--
<b>Background</b>				
Cycle/Delay <sup>1</sup> (sec)	65	53	--	--
Volume (vphpl )	80	387	--	--
Total 95th %. Queue (veh.)	4	10	--	--
Total 95th %. Queue (ft.) <sup>2</sup>	100	250	--	--
Total Storage	300	300	--	--
Adequate (Y/N)	Y	Y	--	--
<b>Background Plus Project</b>				
Cycle/Delay <sup>1</sup> (sec)	65	53	100	100
Volume (vphpl )	88	397	15	20
Total 95th %. Queue (veh.)	4	10	2	2
Total 95th %. Queue (ft.) <sup>2</sup>	100	250	50	50
Total Storage	300	300	100	100
Adequate (Y/N)	Y	Y	Y	Y
<b>Notes:</b> SBL = southbound left-turn movement; WBL = westbound left-turn movement <sup>1</sup> Vehicle queue calculations are based on cycle length for signalized intersections. <sup>2</sup> Assumes 25 Feet Per Vehicle Queued.				



## Zanker Road and Nortech Parkway

Based on available project information, it is assumed that the east leg (i.e., westbound approach) of the new Zanker Road and Nortech Parkway intersection, which would provide access to the project site, would consist of one left-turn lane, one through lane, and one right-turn lane. It is also assumed that the westbound left-turn pocket would provide at least 100 feet of vehicle storage, which would be adequate to serve the estimated westbound left-turn vehicle queues that would occur under background plus project conditions.

## Vehicular Access and Circulation

The site access and circulation evaluation is based on the June 28, 2021 site plan prepared by Jacobs. Site access and on-site vehicular circulation were reviewed in accordance with generally accepted traffic engineering standards.

### Site Access and Circulation

The project generated traffic would access the site via a signalized intersection at Zanker Road and the new Nortech Parkway extension. The east leg of the intersection would be a two-lane road with one eastbound lane and one westbound lane and would provide access to the project site (see Figure 12). It is our understanding that the westbound (outbound) movement would flare out at the intersection to provide a dedicated left-turn lane, through lane, and right-turn lane. A single eastbound (inbound) receiving lane would be provided.

The entrance to the project site would be gated, with the gates open during regular hours of operation. East of the project entrance, the road would widen to two inbound lanes and one outbound lane before narrowing again to one inbound lane and one outbound lane. The widened portion of the roadway would have barrier arms and kiosks. One inbound lane would allow for free passage for employees with badges. The other inbound lane would be for visitors and deliveries requiring permission to enter the project site. Although not currently shown on the site plan, it is our understanding that the project intends to provide a sidewalk along the project driveway from the Nortech Parkway extension (near the gated entrance) to the data center site.

### Recommendation

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

Between the driveway entrance at Nortech Parkway and the barrier arms, there would be a short angled paved roadway for vehicles denied entry at the barrier arms to turn around and exit. There would also be an east-west paved roadway connecting the driveway entrance to the project site. This roadway would be a gated entrance to be used only by maintenance vehicles to access the substation.

Further east, at the northern portion of the project site, on each side of the first building, the internal roadway would widen to accommodate a center median and more barrier arms which would provide additional restrictions to on-site circulation.

As shown on Figure 12, the project site is a long and narrow, inverted L-shaped site with two buildings. The northern 244,676 square-foot building is an elongated building in line with the southern 152,238 square-foot elongated building. The buildings would each have a parking lot and a loading dock. The internal roadway network would provide access to the parking lots on the north end of each building and to the loading docks on the west side of each building near the parking lots. The internal roadway would loop around building two. The on-site internal roadway network is shown to be 26 feet wide, which meets the City's design guideline for minimum drive aisle width.

LEGEND

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

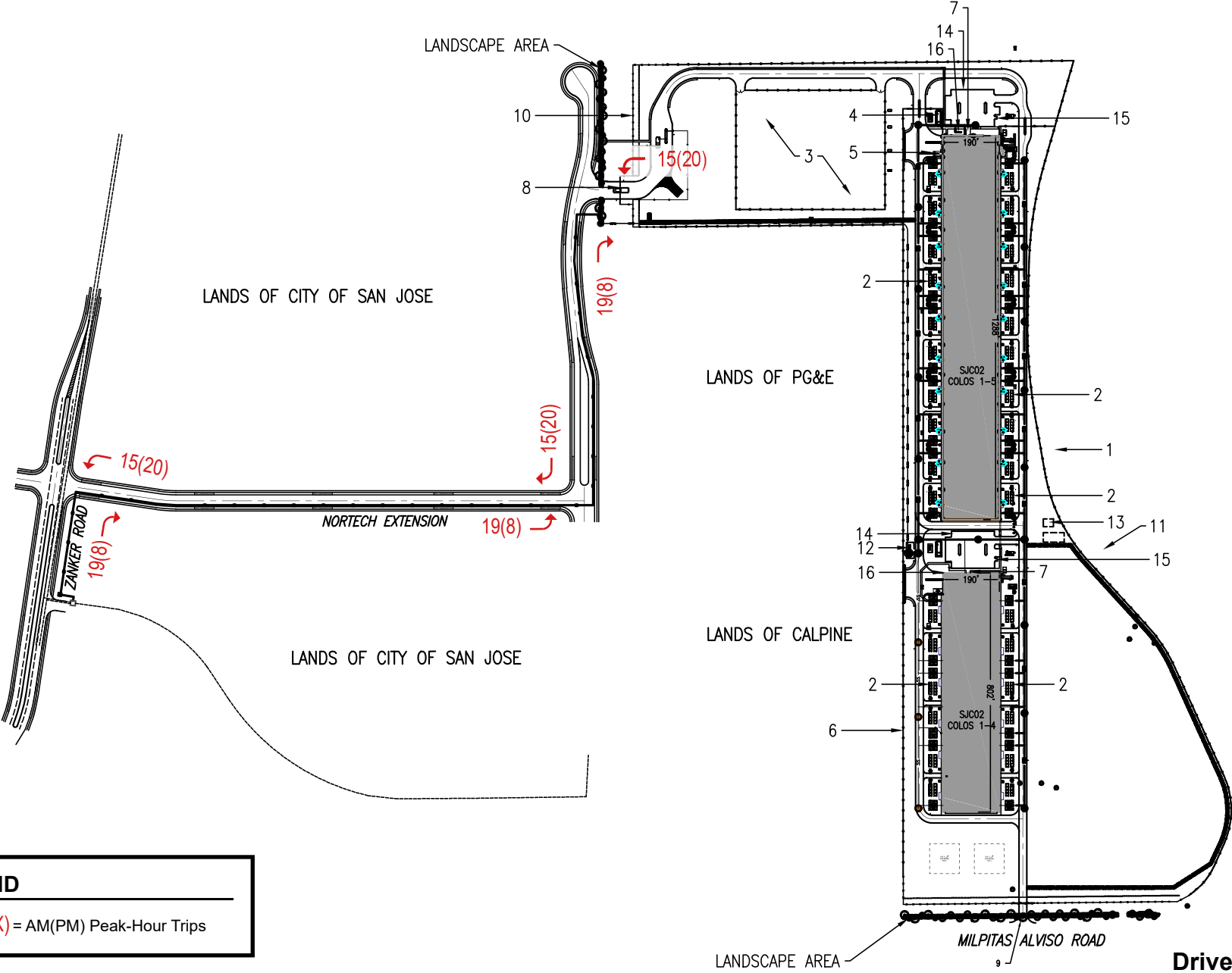


Figure 12  
Driveway Trips

### **Sight Distance at Project Driveway**

The project driveway should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on the Nortech Parkway extension. Any landscaping and signage should be located in such a way as to ensure an unobstructed view for drivers entering and exiting the site. Adequate sight distance reduces the likelihood of a collision at a driveway or intersection and provides drivers with the ability to locate sufficient gaps in traffic to exit a driveway. According to the site plan, the project proposes no tall vegetation or objects that could affect sight distance at the project driveway.

Since only project traffic would utilize the Nortech Parkway extension (east of Zanker Road), adequate sight distance would be provided, and project traffic would be low (see Figure 12), vehicles are not expected to experience any operational issues entering or exiting the driveway.

### **Surface Parking Circulation Review**

The project proposes two parking lots, each with one driveway entrance measuring 26 feet wide. Each parking lot would have 90-degree parking spaces. The City's standard minimum width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of the parking spaces. According to the site plan, the drive aisles throughout the parking measure 26 feet wide. Thus, adequate access to all parking stalls would be provided throughout the site.

### **Parking Stall Dimensions**

The City of San Jose Off-Street Parking Design Standards require that standard 90-degree parking stall be a minimum of 8.5 feet wide by 17 feet long and full-size parking stalls be 9 feet wide by 18 feet long. The site plan shows the parking stalls would be 9 feet wide and 18 feet long and the ADA and van accessible parking spaces would be between 9 feet and 12 feet wide to 18 feet long, which would meet the City of San Jose's applicable requirements for parking stall dimensions.

### **Truck Access and Circulation**

The project site plan was reviewed for truck access using truck turning-movement templates for the CA Legal truck type (WB-65 truck), which is the largest semi-trailer truck that would access the site. The new Nortech Parkway extension between Zanker Road and the project site would be adequate to serve these semi-trailer trucks. The security gates would also be adequate to serve these trucks. The truck turning templates are contained in Appendix E.

### **General Loading Operations**

Both buildings would have an associated loading zone with three loading docks each and a trash compactor, which would be accessed from the west side of the buildings. Two loading docks would be for active deliveries. Per the City's Zoning Code 20.90.420, each off-street freight loading space must be no less than 10 feet wide by 30 feet long and provide at least 15 feet of vertical clearance, exclusive of driveways for ingress and egress and maneuvering areas. The proposed loading zones measure more than 10 feet wide and are approximately 55 feet long. Since the loading zones are located outside the buildings with no height limitations, they would meet the City's requirements for loading zone dimensions.

The truck turning templates show that semi-trailer trucks would have difficulty accessing the three loading docks at both buildings. As shown in the truck turning templates contained in Appendix E, inadequate space would be provided for semi-trailer trucks to maneuver in and out of the loading docks. Accordingly, additional pavement should be provided adjacent to the loading docks. Also, due to

the limited space, exiting trucks may need to turn left from the northernmost and central loading docks at both buildings and circle the site in a counterclockwise direction. Trucks pulling out of the southernmost loading docks at both buildings could turn right and immediately head north to exit the site.

### **Recommendation**

- Provide additional pavement at the loading docks to provide adequate CA Legal truck access.

### **Emergency Vehicle Access**

Emergency vehicles can access the site via the primary entrance off Nortech Parkway extension as well as a secondary entrance from Alviso Milpitas Road located on the south end of the site. The secondary entrance would be used for emergency vehicle access (EVA) only. Furthermore, the internal roadways would have drive aisles at regular intervals for emergency vehicle access. Overall, emergency vehicle access at the project site would be adequate.

### **Garbage Collection**

The site plan shows a 15-foot by 15-foot covered refuse area adjacent to each of the two loading dock locations. Garbage trucks (SU-30 type trucks) could easily access these outside areas on collection days. Adequate clearance would be provided for garbage trucks to empty the bins over the truck.

### **Zanker Road Plan Line Improvements**

Plans documenting the planned improvements along Zanker Road in the immediate vicinity of the project site, including a new raised median, are attached in Appendix F. As shown in the Plan Line improvements, a short median would be built north of the Nortech Parkway extension and Zanker Road intersection. South of the intersection, the median would extend to the SR 273 westbound ramps. Currently, the Zanker Road and Thomas Foon Chew Way intersection is unsignalized with left-turn access provided. With the median, vehicles exiting Thomas Foon Chew Way and intending to travel south would have to turn-right from Thomas Foon Chew Way onto Zanker Road and make a U-turn at the new Zanker Road/Nortech Parkway intersection. Similarly, for southbound vehicles on Zanker Road turning left onto Thomas Foon Chew Way would have to make a U-turn at the Zanker Road/Holger Way intersection since U-turns are restricted on Zanker Road at the SR 237 ramps. However, Thomas Foon Chew Way is a private service road that provides access to the Los Esteros Substation and is expected to continue to generate very few trips.

### **Construction Activities**

The applicant will commence construction of the project after the existing structures have been demolished and any agriculture-related soil contamination is remediated consistent with requirements to be provided by the local lead agency. Possible remediation may include excavation for off-site disposal or capping in place. No off-site staging or laydown areas are proposed, as construction staging will occur on the project site or within the 75-foot construction corridor for linear features.

Demolition of the existing structures and soil excavation and removal work is expected to take approximately one month to complete. Once demolition and excavation work is complete, construction of the project is expected to take approximately 16 months to complete. Construction of the off-site linear features within the off-site infrastructure alignment areas is expected to be completed within the 17-month construction window. On-site construction is expected to require a maximum of 215 workers (craft and supervisory) per month and an average of 108 workers per month.

Per City standard practice, the project would be required to submit a construction management plan for City approval that includes the information described above (i.e., demolition plan, remediation procedure, construction schedule, and construction staging and parking areas), as well as planned street closures and/or detours and planned truck routes.

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.

### **Construction Vehicle Access**

The site plan shows a driveway on Alviso Milpitas Road at the south end of the site. This secondary entrance would be constructed in advance of the Nortech Parkway extension and main project driveway. Thus, all construction vehicles would use Alviso Milpitas Road to access the site during construction of the project including the Nortech Parkway extension. It is expected that all construction vehicles would access Alviso Milpitas Road via the McCarthy Boulevard/Ranch Drive intersection east of the site, since this is the only paved connection to Alviso Milpitas Road that currently exists. Accordingly, construction vehicles would be routed through the SR 237/McCarthy Boulevard interchange and away from residential neighborhoods and dense employment areas. Ultimately, the mandatory construction management plan would identify the official truck routes. Due to the relatively isolated project site location and secluded southern driveway, no operational issues related to construction vehicles would be expected.

## **Pedestrian, Bicycle and Transit Facilities**

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.

### **Pedestrian and Bicycle Facilities**

The project proposes to make several bicycle and pedestrian improvements in the vicinity of the project site as well as internally on the project site. These improvements include the following:

- Bike lanes and sidewalks along both sides of the Nortech Parkway extension.
- Bicycle racks on the project site near the administrative buildings and wayfinding signage and bike route markings on the on-site internal roadway network.
- Pedestrian improvements at the new signalized intersection of Zanker Road and the Nortech Parkway extension including striped crosswalks and pedestrian signals and push buttons. These improvements would be constructed as part of the project VMT mitigation.
- A new raised median along Zanker Road between Nortech Parkway and the SR 237 westbound ramps, which will reduce vehicular speeds by narrowing the roadway and will provide a refuge for pedestrians. These improvements would be constructed as part of the project VMT mitigation.

- A new multi-use two-way trail along the east side of Zanker Road connecting the SR 237 Bikeway Trail to the future Nortech Parkway extension. The trail extension would be constructed as part of the project VMT mitigation.

## Transit Service

There are no transit stops in the immediate vicinity of the project site. The nearest transit facilities are located at the McCarthy Boulevard/ Ranch Drive intersection (about 0.5 mile east of the project site) and at the Zanker Road/Tasman Drive intersection (about 1.5 miles south of the project site) and have limited first mile/last mile connectivity. However, due to the isolated site location and general nature of the industrial project, the project is expected to generate very few new transit trips.

## Parking

### Vehicular Parking

According to the City of San Jose's off-street parking requirements (Chapter 20.90, Table 20-190 of the City's Zoning Code), the vehicle parking requirements for the 396,914 s.f. Data Center are as follows:

- Office/Meeting/Technician Workspace: 1 space per 250 s.f. of floor area, and
- Computer Equipment Space: 1 space per 5,000 s.f. of floor area.

The project proposes approximately 27,652 s.f. of office/meeting/technician workspace and approximately 369,262 s.f. of computer equipment space. Thus, based on the City's municipal code, the project would require 185 vehicular parking spaces as show in Table 8 below.

**Table 8**  
**Vehicle Parking Requirements Based on City of San Jose Municipal Code**

Unit Type	Square Feet	City of San Jose Parking Requirements	
		Parking Ratio	Spaces Required
Office/Meeting/Technician Workspace	27,652	1 space per 250 sq.ft.	111
Computer Equipment Space	369,262	1 space per 5,000 sq.ft.	74
<b>Total:</b>	<b>396,914</b>		<b>185</b>
Source: San Jose Municipal Code Chapter 20.90, Table 20-190.			

According to the site plan, the project proposes to provide 122 vehicle parking spaces, or 63 fewer parking spaces than what the City's municipal code requires. The project would require a parking exception from the City of San Jose Planning Department to allow for a reduction in parking supply. Accordingly, previous parking data collected at two existing Data Centers operating in the City of Santa Clara will be used to demonstrate that the actual parking demand for Data Centers is less than the City of San Jose's parking requirement. The details of the parking demand analysis are described below.

### Parking Demand for Data Centers

Parking demand data at five Data Centers in the City of Santa Clara were collected in 2017. Of the five Data Centers, three are smaller and two are similar in size to the proposed project. For this reason,



only the parking counts for the two similarly sized Data Centers were used. Parking demand counts were conducted on three weekdays in August of 2017 at both locations.

The two comparable Data Centers that were counted are located at 2045 Lafayette Street in Santa Clara (323,122 s.f.) and 2220 De La Cruz Boulevard in Santa Clara (365,489 s.f.). Parking demand was counted every hour between 8:00 AM and 6:00 PM on August 8, 2017 (Tuesday), August 9, 2017 (Wednesday), and August 10, 2017 (Thursday). The parking demand study is contained in Appendix G.

The total number of cars parked every hour were counted at each site. The peak parking demand occurs when the maximum number of cars are present at the site. The peak parking demand for both Data Center locations occurred at 1:00 PM with 75 total cars parked on site at 2045 Lafayette Street (Wednesday 8/9/2017) and 84 cars parked on site at 2220 De La Cruz Boulevard (Thursday 8/10/2017). The results of the parking study are presented below in Table 9.

The peak parking demand per 1,000 s.f. was calculated by dividing the number of parked cars by the size of each Data Center. As shown in the table, both Data Centers had a peak demand of 0.23 parking spaces per 1,000 s.f. Based on this observed peak parking demand rate, the proposed 396,914 s.f. Data Center project would need to provide 92 parking spaces as follows:

$$(396,914 \text{ s.f.} / 1,000 \text{ s.f.}) \times 0.23 \text{ spaces} = 91.29 = 92 \text{ spaces (rounded up)}$$

The project proposes to provide 122 parking spaces, which would exceed the calculated peak parking demand by 30 parking spaces. Therefore, based on the Data Center parking demand analysis, 122 vehicle parking spaces would be adequate to serve the project. However, a parking exception would be required to allow the proposed reduction in parking supply based on the City's municipal code requirement. It is ultimately up to the City of San Jose Planning Department purview to adopt a different parking requirement standard for the project.

**Table 9**  
**Summary of Parking Demand Counts for Data Centers in Santa Clara**

Time	Parked Cars							
	2045 Lafayette Street				2220 De La Cruz Boulevard			
	8/8/2017 Tuesday	8/9/2017 Wednesday	8/10/2017 Thursday	Daily Average	8/8/2017 Tuesday	8/9/2017 Wednesday	8/10/2017 Thursday	Daily Average
8:00 AM	58	54	56	56	67	69	70	69
9:00 AM	60	55	58	58	71	71	73	72
10:00 AM	58	56	62	59	83	74	81	79
11:00 AM	59	51	56	55	81	76	81	79
12:00 PM	56	51	54	54	75	69	71	72
1:00 PM	63	75	74	71	70	68	84	74
2:00 PM	65	71	68	68	71	68	76	72
3:00 PM	53	65	67	62	72	60	63	65
4:00 PM	50	52	61	54	51	53	57	54
5:00 PM	32	35	41	36	41	49	52	47
6:00 PM	24	32	36	31	27	30	34	30
Size (s.f.)	323,122				365,489			
Max. Parking Demand (veh/ ksf)	0.232				0.230			

## Bicycle Parking

The project is required to provide 1 bicycle parking space per 5,000 s.f. of office/meeting/technician workspace, plus 1 bicycle parking space for each 50,000 s.f. of floor area devoted to computer

equipment space according to the City of San Jose Municipal Code (Chapter 20.90, Table 20-190). This equates to a total parking requirement of 14 bicycle spaces as follows:

Office/Meeting/Technician Workspace:  $27,652 \text{ s.f.} / 5,000 \text{ s.f.} = 5.53 = 6 \text{ spaces (rounded up)}$

Computer Equipment Space:  $369,262 \text{ s.f.} / 50,000 \text{ s.f.} = 7.39 = 8 \text{ spaces (rounded up)}$

The project proposes to provide 35 bicycle parking spaces, which would exceed the City's bicycle parking requirement. Bicycle racks would be provided near the entrances to the administrative portion of the buildings.

### **Motorcycle Parking**

General industrial land uses are required to provide one motorcycle space per 50 code required auto parking spaces according to the City of San Jose parking standards (San Jose Municipal Code Chapter 20.90, Table 20-250). As described in the previous chapter, a data center has similar characteristics to industrial land uses. Accordingly, the project would be required to provide 4 motorcycle parking spaces as follows:

$185 \text{ Code-required auto spaces} / 50 = 3.7 = 4 \text{ motorcycle spaces (rounded up)}$

The project proposes to provide two motorcycle parking spaces in each parking lot, which meets the City's parking requirement of 4 motorcycle spaces.

## 5. Conclusions

---

This report presents the results of the transportation analysis conducted for a proposed 396,914 square-foot (s.f.) data center campus located at 1657 Alviso Milpitas Road in San Jose, California. 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).

### 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 17.28 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), bike facilities measure (number 6 below), and Transportation Demand Management (TDM) measure (number 7 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. **End of Trip Bike Facilities**

## 7. 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 306 new daily vehicle trips, with 34 new trips (19 inbound and 15 outbound) occurring during the AM peak hour and 28 new trips (8 inbound and 20 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

Although the project site is not physically 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 number of PM peak hour vehicle trips the project would send into the NSJADP area. The current NSJADP fee is \$18,725 per PM peak hour trip (as of July 1, 2021).

Based on the current NSJADP fee, the project would be required to pay a fair share contribution of \$187,250 as follows: 10 PM peak hour trips x \$18,725 = \$187,250.

### **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.

### **Recommendations**

- Provide a sidewalk along the project driveway from the Nortech Parkway extension to the data center site.
- Provide additional pavement at the loading docks to provide adequate CA Legal truck access.

## **San Jose Data Center (SJC02) TA Technical Appendices**



## **Appendix A**

### **Intersection Volumes**

Intersection Number: **1**  
 Trafix Node Number: 3821  
 Intersection Name: Zanker Road & Tasman Drive  
**Peak Hour:** AM  
 Count Date: 03/06/18  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **3.08**

		Movements												Total
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Mar 2018)		27	243	405	836	1116	242	110	625	102	34	230	60	4030
1% Annual Growth (SJ Count Adjustment)		1	7	12	26	34	7	3	19	3	1	7	2	124
Existing Conditions (Apr 2021)		28	250	417	862	1150	249	113	644	105	35	237	62	4154
Approved Project Trips														
	San Jose ATI	12	72	59	66	119	15	22	106	56	12	106	17	662
	Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Approved Trips	12	72	59	66	119	15	22	106	56	12	106	17	662
Background Conditions		40	322	476	928	1269	264	135	750	161	47	343	79	4816
	Bkgrd check	40	322	476	928	1269	264	135	750	161	47	343	79	
Project Trips														
	Project Trips	2	4	1	1	0	0	0	5	0	0	0	2	15
	Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Project Trips	2	4	1	1	0	0	0	5	0	0	0	2	15
Background + Project Conditions		42	326	477	929	1269	264	135	755	161	47	343	81	4831
	Bkgrd+Proj check	42	326	477	929	1269	264	135	755	161	47	343	81	

Intersection Number: **2**  
 Trafix Node Number: 3031  
 Intersection Name: Zanker Road & SR 237 EB Ramps  
**Peak Hour:** AM  
 Count Date: 10/12/16  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **4.50**

		Movements												Total
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Oct 2016)		0	306	58	0	0	0	391	747	0	511	2	30	2045
1% Annual Growth (SJ Count Adjustment)		0	14	3	0	0	0	18	34	0	23	0	1	92
Existing Conditions (Apr 2021)		0	320	61	0	0	0	409	781	0	534	2	31	2137
Approved Project Trips														
	San Jose ATI	0	106	19	0	0	0	15	123	0	78	0	1	342
	Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Approved Trips	0	106	19	0	0	0	15	123	0	78	0	1	342
Background Conditions		0	426	80	0	0	0	424	904	0	612	2	32	2479
	Bkgrd check	0	426	80	0	0	0	424	904	0	612	2	32	
Project Trips														
	Project Trips	0	7	9	0	0	0	0	8	0	0	0	3	27
	Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Project Trips	0	7	9	0	0	0	0	8	0	0	0	3	27
Background + Project Conditions		0	433	89	0	0	0	424	912	0	612	2	35	2506
	Bkgrd+Proj check	0	433	90	0	0	0	424	912	0	612	2	35	

Intersection Number: **3**  
 Traffic Node Number: 3030  
 Intersection Name: Zanker Road & SR 237 WB Ramps  
**Peak Hour:** AM  
 Count Date: 10/12/16  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **4.50**

Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Oct 2016)	0	88	29	78	0	286	674	104	0	0	0	0	1259
1% Annual Growth (SJ Count Adjustment)	0	4	1	4	0	13	30	5	0	0	0	0	57
Existing Conditions (Apr 2021)	0	92	30	82	0	299	704	109	0	0	0	0	1316
Approved Project Trips													
San Jose ATI	0	26	0	82	0	94	9	50	0	0	0	0	261
Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	0	26	0	82	0	94	9	50	0	0	0	0	261
Background Conditions	0	118	30	164	0	393	713	159	0	0	0	0	1577
Bkgrd check	0	118	30	164	0	393	713	159	0	0	0	0	
Project Trips													
Project Trips	0	16	3	11	0	0	0	11	0	0	0	0	41
Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	16	3	11	0	0	0	11	0	0	0	0	41
Background + Project Conditions	0	134	33	175	0	393	713	170	0	0	0	0	1618
Bkgrd+Proj check	0	134	33	175	0	393	713	170	0	0	0	0	

Intersection Number: **4**  
 Traffic Node Number: 4000  
 Intersection Name: Zanker Road & Nortech Parkway  
**Peak Hour:** AM  
 Count Date: --  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **2.42**

		Movements												
		North Approach			East Approach			South Approach			West Approach			Total
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (NA)		0	122	0	0	0	0	0	191	0	0	0	0	313
1% Annual Growth (SJ Count Adjustment)		0	3	0	0	0	0	0	5	0	0	0	0	8
Existing Conditions (Apr 2021)		0	125	0	0	0	0	0	196	0	0	0	0	321
Approved Project Trips														
San Jose ATI		0	26	0	0	0	0	0	132	0	0	0	0	158
Approved 2		0	0	0	0	0	0	0	0	0	0	0	0	0
Approved 3		0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips		0	26	0	0	0	0	0	132	0	0	0	0	158
Background Conditions		0	151	0	0	0	0	0	328	0	0	0	0	479
Bkgrd check		0	151	0	0	0	0	0	328	0	0	0	0	
Project Trips														
Project Trips		0	0	0	0	0	19	22	0	0	0	0	0	41
Project Trips 2		0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Trip Credits		0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips		0	0	0	0	0	19	22	0	0	0	0	0	41
Background + Project Conditions		0	151	0	0	0	19	22	328	0	0	0	0	520
Bkgrd+Proj check		0	151	0	0	0	19	22	328	0	0	0	0	

Intersection Number: **1**  
 Traffic Node Number: 3821  
 Intersection Name: Zanker Road & Tasman Drive  
**Peak Hour:** PM  
 Count Date: 03/06/18  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **3.08**

		Movements												Total
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Mar 2018)		41	416	160	286	399	276	235	660	243	109	798	131	3754
1% Annual Growth (SJ Count Adjustment)		1	13	5	9	12	9	7	20	7	3	25	4	116
Existing Conditions (Apr 2021)		42	429	165	295	411	285	242	680	250	112	823	135	3870
Approved Project Trips														
	San Jose ATI	7	75	93	46	109	26	29	127	40	21	167	13	753
	Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Approved Trips	7	75	93	46	109	26	29	127	40	21	167	13	753
Background Conditions		49	504	258	341	520	311	271	807	290	133	990	148	4623
	Bkgrd check	49	504	258	341	520	311	271	807	290	133	990	148	
Project Trips														
	Project Trips	2	5	1	0	0	0	0	2	0	0	0	1	11
	Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Project Trips	2	5	1	0	0	0	0	2	0	0	0	1	11
Background + Project Conditions		51	509	259	341	520	311	271	809	290	133	990	149	4634
	Bkgrd+Proj check	51	510	259	341	520	311	271	809	290	133	990	149	

Intersection Number: **2**  
 Traffic Node Number: 3031  
 Intersection Name: Zanker Road & SR 237 EB Ramps  
**Peak Hour:** PM  
 Count Date: 11/01/18  
 Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year): **0.01**  
 Number of Years: **2.42**

		Movements												Total
		North Approach			East Approach			South Approach			West Approach			
Scenario:		RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Nov 2018)		0	722	278	0	0	0	931	494	0	121	3	4	2553
1% Annual Growth (SJ Count Adjustment)		0	17	7	0	0	0	22	12	0	3	0	0	62
Existing Conditions (Apr 2021)		0	739	285	0	0	0	953	506	0	124	3	4	2615
Approved Project Trips														
	San Jose ATI	0	118	102	0	0	0	56	105	0	23	5	0	409
	Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Approved Trips	0	118	102	0	0	0	56	105	0	23	5	0	409
Background Conditions		0	857	387	0	0	0	1009	611	0	147	8	4	3024
	Bkgrd check	0	857	387	0	0	0	1009	611	0	147	8	4	
Project Trips														
	Project Trips	0	8	12	0	0	0	0	3	0	0	0	2	25
	Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Project Trips	0	8	12	0	0	0	0	3	0	0	0	2	25
Background + Project Conditions		0	865	399	0	0	0	1009	614	0	147	8	6	3049
	Bkgrd+Proj check	0	865	399	0	0	0	1009	615	0	147	8	6	

Intersection Number: **3**  
 Traffic Node Number: 3030  
 Intersection Name: Zanker Road & SR 237 WB Ramps  
**Peak Hour:** PM  
 Count Date: 11/01/18  
 Scenario: 479,000 SF Data Center

Date of Analysis: 04/27/21

SJ Growth Factor (% Per Year): **0.01**

Number of Years: **2.42**

Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (Nov 2018)	0	358	15	106	0	652	464	38	0	0	0	0	1633
1% Annual Growth (SJ Count Adjustment)	0	9	0	3	0	16	11	1	0	0	0	0	39
Existing Conditions (Apr 2021)	0	367	15	109	0	668	475	39	0	0	0	0	1672
Approved Project Trips													
San Jose ATI	0	118	0	24	0	84	36	8	0	0	0	0	270
Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	0	118	0	24	0	84	36	8	0	0	0	0	270
Background Conditions	0	485	15	133	0	752	511	47	0	0	0	0	1942
Bkgrd check	0	485	15	133	0	752	511	47	0	0	0	0	
Project Trips													
Project Trips	0	20	4	5	0	0	0	5	0	0	0	0	34
Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	20	4	5	0	0	0	5	0	0	0	0	34
Background + Project Conditions	0	505	19	138	0	752	511	52	0	0	0	0	1976
Bkgrd+Proj check	0	505	19	138	0	752	511	52	0	0	0	0	

Intersection Number: **4**  
 Traffic Node Number: 4000  
 Intersection Name: Zanker Road & Nortech Parkway  
**Peak Hour:** PM  
 Count Date: --  
 Scenario: 479,000 SF Data Center

Date of Analysis: 04/27/21

SJ Growth Factor (% Per Year): **0.01**

Number of Years: **2.17**

Movements													
Scenario:	North Approach			East Approach			South Approach			West Approach			Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Existing Count (NA)	0	382	0	0	0	0	0	148	0	0	0	0	530
1% Annual Growth (SJ Count Adjustment)	0	8	0	0	0	0	0	3	0	0	0	0	11
Existing Conditions (Apr 2021)	0	390	0	0	0	0	0	151	0	0	0	0	541
Approved Project Trips													
San Jose ATI	0	118	0	0	0	0	0	32	0	0	0	0	150
Approved 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Approved 3	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approved Trips	0	118	0	0	0	0	0	32	0	0	0	0	150
Background Conditions	0	508	0	0	0	0	0	183	0	0	0	0	691
Bkgrd check	0	508	0	0	0	0	0	183	0	0	0	0	
Project Trips													
Project Trips	0	0	0	0	0	24	10	0	0	0	0	0	34
Project Trips 2	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Trip Credits	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	24	10	0	0	0	0	0	34
Background + Project Conditions	0	508	0	0	0	24	10	183	0	0	0	0	725
Bkgrd+Proj check	0	508	0	0	0	24	10	183	0	0	0	0	

## **Appendix B**

### **Approved Trips Inventory (ATI)**



[illegible]

## AM PROJECT TRIPS

03/08/2021

Intersection of : WB 237 From Zanker Rp &amp; Zanker Rd

Traffix Node Number : 3030

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	0	19	0	0	7	0	0	0	0	0	0	30

TOTAL:	0	<del>373</del> 50	9	<del>15</del> 0	<del>110</del> 26	0	0	0	0	94	0	<del>369</del> 82
--------	---	----------------------	---	--------------------	----------------------	---	---	---	---	----	---	----------------------

	LEFT	THRU	RIGHT
NORTH	<del>150</del>	<del>110</del> 26	0
EAST	94	0	<del>369</del> 82
SOUTH	0	<del>373</del> 50	9
WEST	0	0	0

Traffix Node Number : 3030

[illegible]

## PM PROJECT TRIPS

03/08/2021

Intersection of : WB 237 From Zanker Rp &amp; Zanker Rd

Traffix Node Number : 3030

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	0	3	0	0	43	0	0	0	0	0	0	6

TOTAL:	0	<del>58</del> 8	36	<del>98</del> 0	<del>672</del> 118	0	0	0	0	84	0	<del>68</del> 24
--------	---	--------------------	----	--------------------	-----------------------	---	---	---	---	----	---	---------------------

	LEFT	THRU	RIGHT
NORTH	<del>98</del> 0	<del>672</del> 118	0
EAST	84	0	<del>68</del> 24
SOUTH	0	<del>58</del> 8	36
WEST	0	0	0

[illegible]

## AM PROJECT TRIPS

03/08/2021

Intersection of : EB 237 From Zanker Rp &amp; EB 237 To Zanker Rp &amp; Zanker Rd

Traffix Node Number : 3031

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	0	19	0	4	3	0	0	0	0	0	0	0

TOTAL:	0	<del>355</del> 123	15	<del>66</del> 19	<del>144</del> 106	0	<del>93</del> 1	0	78	0	0	0
--------	---	-----------------------	----	---------------------	-----------------------	---	--------------------	---	----	---	---	---

	LEFT	THRU	RIGHT
NORTH	<del>66</del> 19	<del>144</del> 106	0
EAST	0	0	0
SOUTH	0	<del>355</del> 123	15
WEST	<del>93</del> 1	0	78



**Intersection of :** EB 237 From Zanker Rp & EB 237 To Zanker Rp & Zanker Rd

[illegible]

## PM PROJECT TRIPS

03/08/2021

Intersection of : EB 237 From Zanker Rp &amp; EB 237 To Zanker Rp &amp; Zanker Rd

Traffix Node Number : 3031

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	0	3	0	26	17	0	0	0	0	0	0	0

TOTAL:	0	<del>141</del> 105	56	<del>408</del> 102	<del>366</del> 118	0	<del>14</del> 0	5	23	0	0	0
--------	---	-----------------------	----	-----------------------	-----------------------	---	--------------------	---	----	---	---	---

	LEFT	THRU	RIGHT
NORTH	<del>408</del> 102	<del>366</del> 118	0
EAST	0	0	0
SOUTH	0	<del>141</del> 105	56
WEST	<del>14</del> 0	5	23

## AM PROJECT TRIPS

03/08/2021

Intersection of : E Tasman Dr &amp; Zanker Rd

Traffix Node Number : 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	<del>140</del> 0	0	<del>6</del> 0	<del>23</del> 0	<del>8</del> 0	<del>53</del> 0	0	0	0	0	<del>37</del> 0
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	8	0	0	0	0	0	0	1	5	0	1	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	3	0	0	22	0	0	0	0	2	0	0
NSJ LEGACY	38	77	22	55	45	12	17	92	5	13	71	43
NORTH SAN JOSE												
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	6	16	0	3	4	0	0	5	2	0	21	14
PD13-039 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (R&D)	0	0	0	0	0	0	0	0	0	0	0	0
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	4	10	0	1	1	0	0	2	0	0	14	9

## AM PROJECT TRIPS

03/08/2021

Intersection of : E Tasman Dr &amp; Zanker Rd

Traffix Node Number : 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC16-013 (3-06800) Retail/Commercial N. FIRST ST. BETWEEN GOLD STREET AND SR 237 TOP GOLF	0	0	0	0	0	0	0	6	0	0	12	0

TOTAL:	56	<del>24</del> 59	22	<del>65</del> 59	<del>95</del> 72	<del>21</del> 12	<del>72</del> 17	106	12	15	119	<del>103</del> 66
--------	----	------------------	----	------------------	------------------	------------------	------------------	-----	----	----	-----	-------------------

	LEFT	THRU	RIGHT
NORTH	<del>65</del> 59	<del>95</del> 72	<del>21</del> 12
EAST	15	119	<del>103</del> 66
SOUTH	56	<del>248</del> 106	22
WEST	<del>72</del> 17	106	12

## PM PROJECT TRIPS

03/08/2021

Intersection of : E Tasman Dr &amp; Zanker Rd

Traffix Node Number : 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	<del>22</del> 0	0	<del>39</del> 0	<del>150</del> 0	<del>58</del> 0	<del>8</del> 0	0	0	0	0	<del>8</del> 0
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	9	0	0	0	0	0	0	1	6	0	1	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	22	2	0	3	0	0	0	0	0	0	0
NSJ LEGACY	29	101	27	71	47	7	13	104	6	26	76	43
NORTH SAN JOSE												
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	1	2	0	14	16	0	0	21	6	0	2	2
PD13-039 (3-18698) Office/Industrial NW CORNER OF NORTHECH PKWY AND DISK DR TRAMMEL CROW (R&D)	0	0	0	0	0	0	0	0	0	0	0	0
PD14-007 (3-18698) Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)	1	2	0	8	9	0	0	12	3	0	2	1

## PM PROJECT TRIPS

03/08/2021

Intersection of : E Tasman Dr &amp; Zanker Rd

Traffix Node Number : 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC16-013 (3-06800)	0	0	0	0	0	0	0	29	0	0	28	0
Retail/Commercial												
N. FIRST ST. BETWEEN GOLD STREET AND SR 237												
TOP GOLF												

TOTAL:	40	<del>149</del> 127	29	<del>132</del> 93	225 75	<del>68</del> 7	<del>21</del> 13	167	21	26	109	<del>52</del> 46
--------	----	-----------------------	----	----------------------	-----------	--------------------	---------------------	-----	----	----	-----	---------------------

	LEFT	THRU	RIGHT
NORTH	<del>132</del> 93	225 75	<del>68</del> 7
EAST	26	109	<del>52</del> 46
SOUTH	40	<del>149</del> 127	29
WEST	<del>21</del> 13	167	21

## **Appendix C**

### **Intersection Level of Service Calculations**



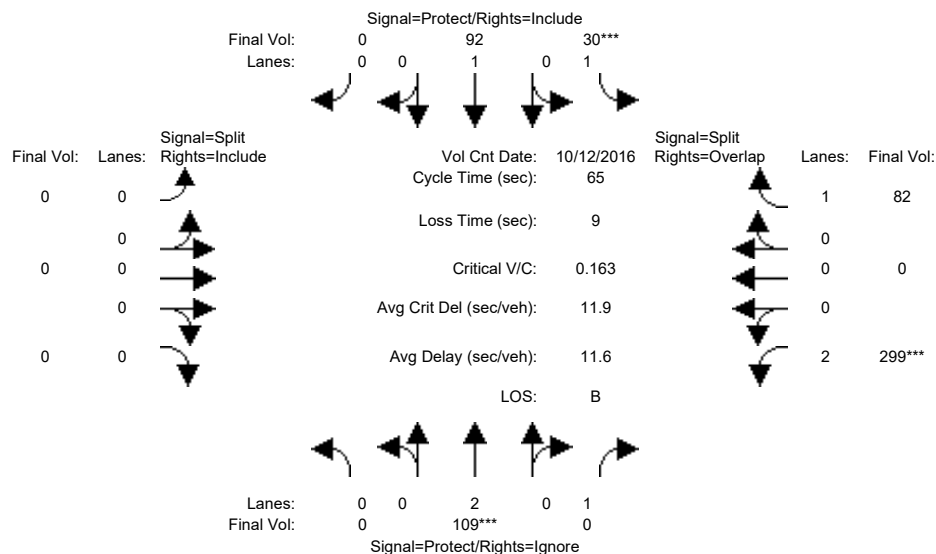
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (AM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name:	Zanker Road						SR 237 (North)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	>> Count Date: 12 Oct 2016 << 7:50-8:50AM											
Base Vol:	0	109	704	30	92	0	0	0	0	299	0	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	109	704	30	92	0	0	0	0	299	0	82
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	109	704	30	92	0	0	0	0	299	0	82
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	109	0	30	92	0	0	0	0	299	0	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	109	0	30	92	0	0	0	0	299	0	82
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	109	0	30	92	0	0	0	0	299	0	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3800	1750	1750	1900	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.03	0.00	0.02	0.05	0.00	0.00	0.00	0.00	0.09	0.00	0.05
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.17	0.00	0.11	0.28	0.00	0.00	0.00	0.00	0.58	0.00	0.69
Volume/Cap:	0.00	0.16	0.00	0.16	0.17	0.00	0.00	0.00	0.00	0.16	0.00	0.07
Delay/Veh:	0.0	22.9	0.0	26.7	17.7	0.0	0.0	0.0	0.0	6.4	0.0	3.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.9	0.0	26.7	17.7	0.0	0.0	0.0	0.0	6.4	0.0	3.4
LOS by Move:	A	C	A	C	B	A	A	A	A	A	A	A
DesignQueue:	0	2	0	1	2	0	0	0	0	3	0	1
Note: Queue reported is the number of cars per lane.												

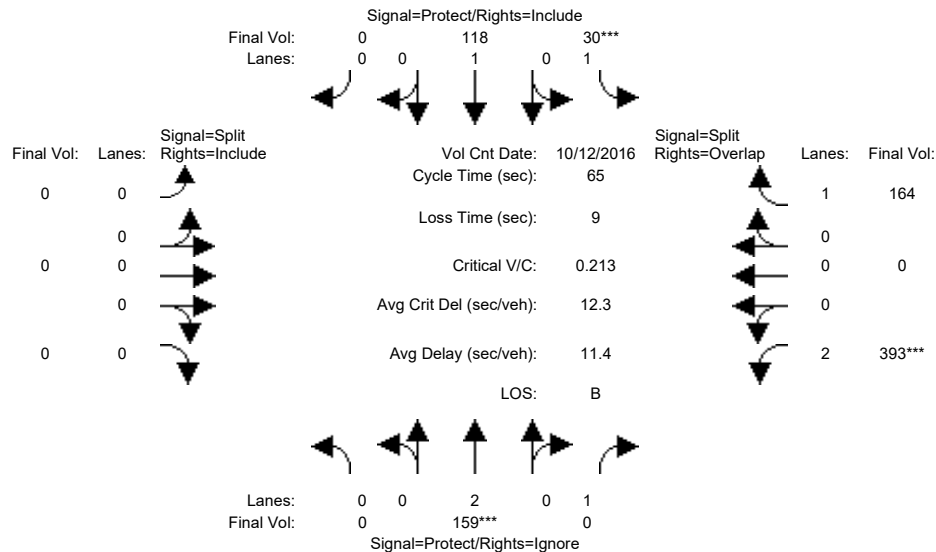
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (AM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name:	Zanker Road						SR 237 (North)								
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Min. Green:	0		10		10	7		10		0	0		0		10
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0		4.0
Volume Module: >> Count Date:	12 Oct 2016 << 7:50-8:50AM														
Base Vol:	0		109		704	30		92		0	0		0		299
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	0		109		704	30		92		0	0		0		299
Added Vol:	0		0		0	0		0		0	0		0		0
ATI:	0		50		9	0		26		0	0		0		94
Initial Fut:	0		159		713	30		118		0	0		0		393
User Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Volume:	0		159		0	30		118		0	0		0		393
Reduct Vol:	0		0		0	0		0		0	0		0		0
Reduced Vol:	0		159		0	30		118		0	0		0		393
PCE Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	0		159		0	30		118		0	0		0		393
Saturation Flow Module:															
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		0.83		1.00
Lanes:	0.00		2.00		1.00	1.00		0.00		0.00	0.00		2.00		0.00
Final Sat.:	0		3800		1750	1750		1900		0	0		0		3150
Capacity Analysis Module:															
Vol/Sat:	0.00		0.04		0.00	0.02		0.06		0.00	0.00		0.00		0.00
Crit Moves:	****			****			****			****					
Green/Cycle:	0.00		0.19		0.00	0.11		0.30		0.00	0.00		0.00		0.56
Volume/Cap:	0.00		0.22		0.00	0.16		0.21		0.00	0.00		0.00		0.22
Delay/Veh:	0.0		22.4		0.0	26.7		17.3		0.0	0.0		0.0		7.1
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	0.0		22.4		0.0	26.7		17.3		0.0	0.0		0.0		7.1
LOS by Move:	A		C		A	C		B		A	A		A		A
DesignQueue:	0		2		0	1		3		0	0		0		4
Note: Queue reported is the number of cars per lane.															

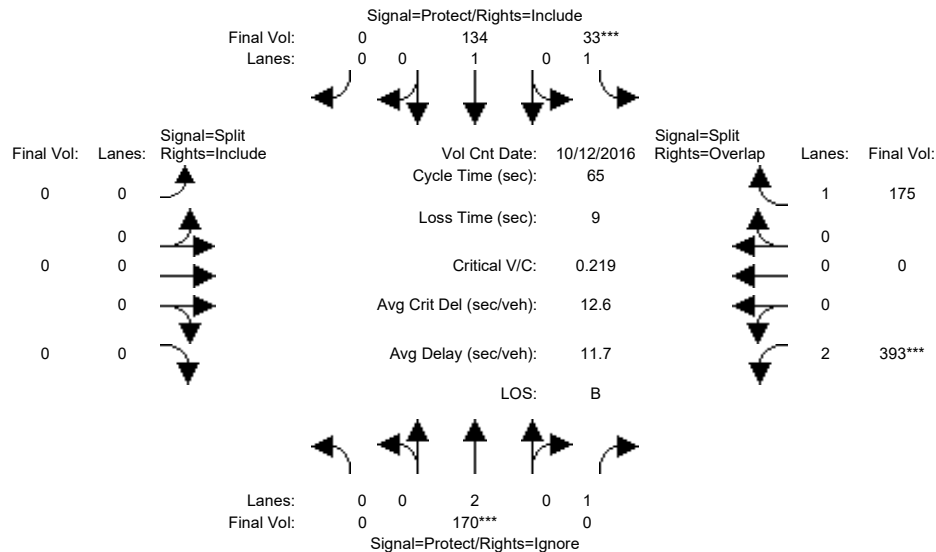
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (AM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name:	Zanker Road						SR 237 (North)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date:	12 Oct 2016 << 7:50-8:50AM											
Base Vol:	0	109	704	30	92	0	0	0	0	299	0	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	109	704	30	92	0	0	0	0	299	0	82
Added Vol:	0	11	0	3	16	0	0	0	0	0	0	11
ATI:	0	50	9	0	26	0	0	0	0	94	0	82
Initial Fut:	0	170	713	33	134	0	0	0	0	393	0	175
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	170	0	33	134	0	0	0	0	393	0	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	170	0	33	134	0	0	0	0	393	0	175
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	170	0	33	134	0	0	0	0	393	0	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3800	1750	1750	1900	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.00	0.02	0.07	0.00	0.00	0.00	0.00	0.12	0.00	0.10
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.20	0.00	0.11	0.31	0.00	0.00	0.00	0.00	0.55	0.00	0.66
Volume/Cap:	0.00	0.22	0.00	0.18	0.23	0.00	0.00	0.00	0.00	0.22	0.00	0.15
Delay/Veh:	0.0	22.0	0.0	26.8	17.0	0.0	0.0	0.0	0.0	7.4	0.0	4.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.0	0.0	26.8	17.0	0.0	0.0	0.0	0.0	7.4	0.0	4.2
LOS by Move:	A	C	A	C	B	A	A	A	A	A	A	A
DesignQueue:	0	2	0	1	3	0	0	0	0	4	0	2
Note: Queue reported is the number of cars per lane.												

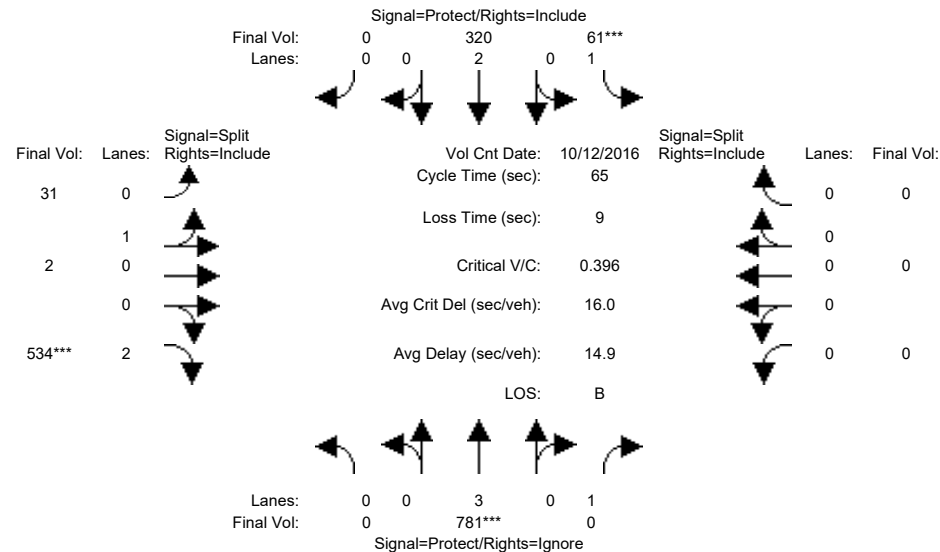
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (AM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 12 Oct 2016 << 8:00-9:00AM												
Base Vol:	0	781	409	61	320	0	31	2	534	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	781	409	61	320	0	31	2	534	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	781	409	61	320	0	31	2	534	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	781	0	61	320	0	31	2	534	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	781	0	61	320	0	31	2	534	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	781	0	61	320	0	31	2	534	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.94	0.06	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	1691	109	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.00	0.03	0.08	0.00	0.02	0.02	0.17	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.34	0.00	0.11	0.44	0.00	0.42	0.42	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.41	0.00	0.32	0.19	0.00	0.04	0.04	0.41	0.00	0.00	0.00
Delay/Veh:	0.0	16.7	0.0	27.8	11.0	0.0	11.3	11.3	13.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.7	0.0	27.8	11.0	0.0	11.3	11.3	13.5	0.0	0.0	0.0
LOS by Move:	A	B	A	C	B	A	B	B	B	A	A	A
DesignQueue:	0	6	0	2	3	0	1	1	7	0	0	0
Note: Queue reported is the number of cars per lane.												

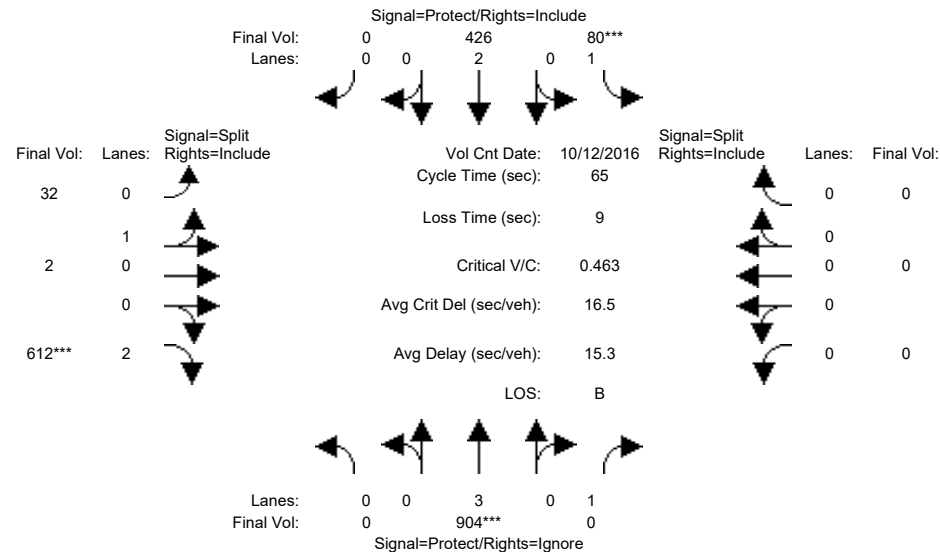
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (AM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 12 Oct 2016 << 8:00-9:00AM												
Base Vol:	0	781	409	61	320	0	31	2	534	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	781	409	61	320	0	31	2	534	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	123	15	19	106	0	1	0	78	0	0	0
Initial Fut:	0	904	424	80	426	0	32	2	612	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	904	0	80	426	0	32	2	612	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	904	0	80	426	0	32	2	612	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	904	0	80	426	0	32	2	612	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.94	0.06	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	1694	106	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.00	0.05	0.11	0.00	0.02	0.02	0.19	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.34	0.00	0.11	0.45	0.00	0.42	0.42	0.42	0.00	0.00	0.00
Volume/Cap:	0.00	0.47	0.00	0.42	0.25	0.00	0.05	0.05	0.47	0.00	0.00	0.00
Delay/Veh:	0.0	17.1	0.0	28.7	11.3	0.0	11.4	11.4	14.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.1	0.0	28.7	11.3	0.0	11.4	11.4	14.1	0.0	0.0	0.0
LOS by Move:	A	B	A	C	B	A	B	B	B	A	A	A
DesignQueue:	0	8	0	3	4	0	1	1	8	0	0	0
Note: Queue reported is the number of cars per lane.												

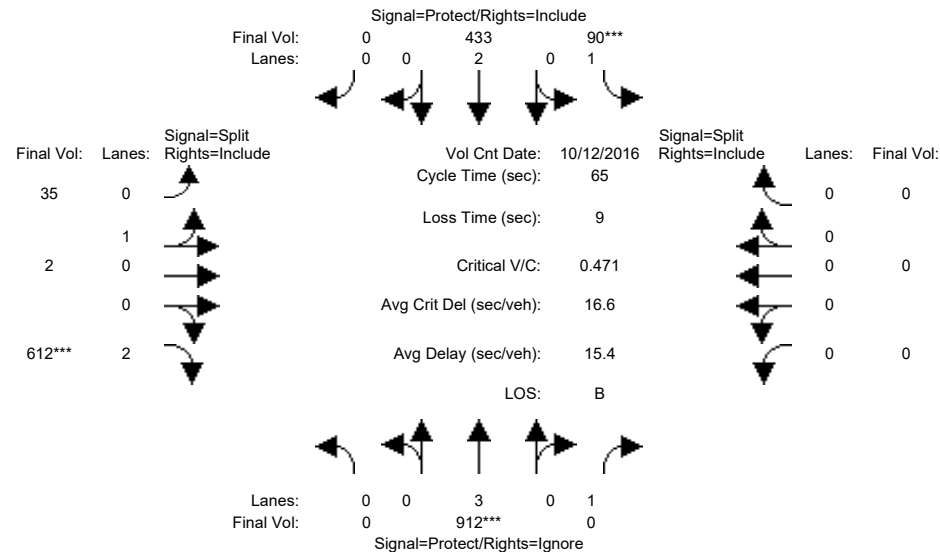
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (AM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 12 Oct 2016 << 8:00-9:00AM												
Base Vol:	0	781	409	61	320	0	31	2	534	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	781	409	61	320	0	31	2	534	0	0	0
Added Vol:	0	8	0	10	7	0	3	0	0	0	0	0
ATI:	0	123	15	19	106	0	1	0	78	0	0	0
Initial Fut:	0	912	424	90	433	0	35	2	612	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	912	0	90	433	0	35	2	612	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	912	0	90	433	0	35	2	612	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	912	0	90	433	0	35	2	612	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.95	0.05	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	1703	97	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.00	0.05	0.11	0.00	0.02	0.02	0.19	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.34	0.00	0.11	0.45	0.00	0.41	0.41	0.41	0.00	0.00	0.00
Volume/Cap:	0.00	0.47	0.00	0.47	0.25	0.00	0.05	0.05	0.47	0.00	0.00	0.00
Delay/Veh:	0.0	17.0	0.0	29.0	11.2	0.0	11.5	11.5	14.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.0	0.0	29.0	11.2	0.0	11.5	11.5	14.2	0.0	0.0	0.0
LOS by Move:	A	B	A	C	B	A	B	B	B	A	A	A
DesignQueue:	0	8	0	3	4	0	1	1	8	0	0	0

Note: Queue reported is the number of cars per lane.

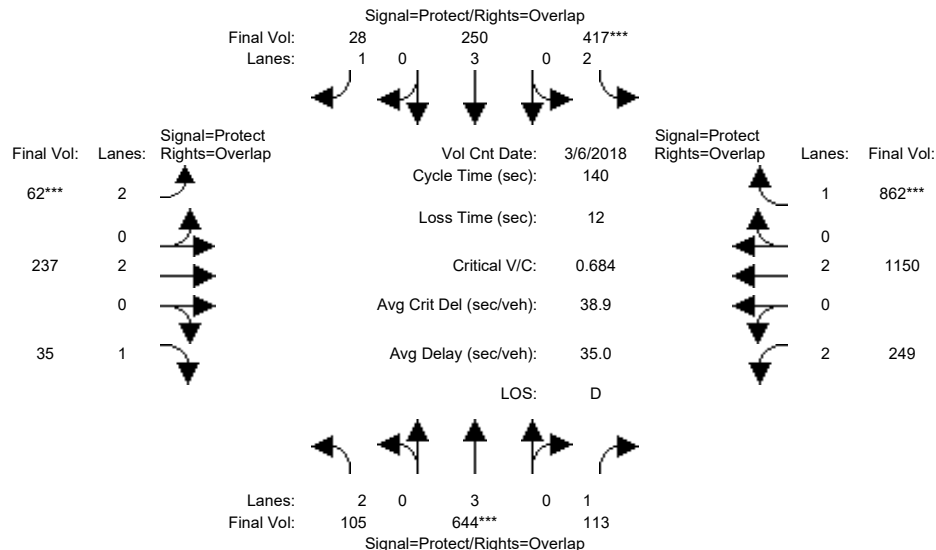
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (AM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name:	Zanker Road						Tasman Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Mar 2018 <<												
Base Vol:	105	644	113	417	250	28	62	237	35	249	1150	862
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	644	113	417	250	28	62	237	35	249	1150	862
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	644	113	417	250	28	62	237	35	249	1150	862
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	644	113	417	250	28	62	237	35	249	1150	862
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	644	113	417	250	28	62	237	35	249	1150	862
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	105	644	113	417	250	28	62	237	35	249	1150	862
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.06	0.13	0.04	0.02	0.02	0.06	0.02	0.08	0.30	0.49
Crit Moves:	****			****			****			****		
Green/Cycle:	0.14	0.16	0.46	0.19	0.21	0.26	0.05	0.27	0.41	0.30	0.51	0.70
Volume/Cap:	0.23	0.70	0.14	0.70	0.21	0.06	0.39	0.23	0.05	0.27	0.59	0.70
Delay/Veh:	53.3	58.0	22.1	56.8	46.2	39.4	66.1	40.1	24.7	37.8	24.2	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.3	58.0	22.1	56.8	46.2	39.4	66.1	40.1	24.7	37.8	24.2	14.0
LOS by Move:	D	E	C	E	D	D	E	D	C	D	C	B
DesignQueue:	4	14	5	16	5	2	3	7	2	8	24	25

Note: Queue reported is the number of cars per lane.



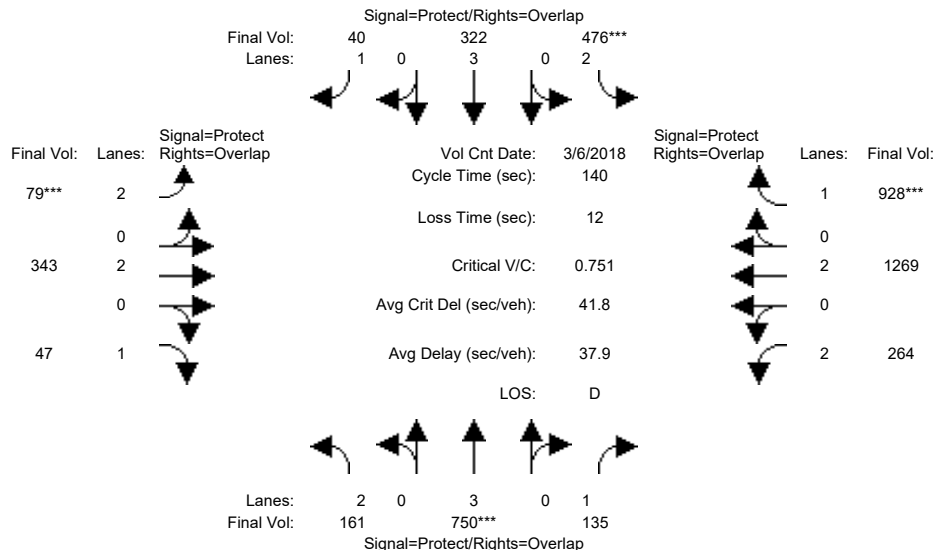
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (AM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name:	Zanker Road						Tasman Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Mar 2018 <<												
Base Vol:	105	644	113	417	250	28	62	237	35	249	1150	862
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	644	113	417	250	28	62	237	35	249	1150	862
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	56	106	22	59	72	12	17	106	12	15	119	66
Initial Fut:	161	750	135	476	322	40	79	343	47	264	1269	928
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	750	135	476	322	40	79	343	47	264	1269	928
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	750	135	476	322	40	79	343	47	264	1269	928
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	161	750	135	476	322	40	79	343	47	264	1269	928
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.13	0.08	0.15	0.06	0.02	0.03	0.09	0.03	0.08	0.33	0.53
Crit Moves:	****			****			****			****		
Green/Cycle:	0.15	0.17	0.43	0.20	0.22	0.27	0.05	0.28	0.44	0.26	0.50	0.69
Volume/Cap:	0.33	0.77	0.18	0.77	0.26	0.09	0.50	0.32	0.06	0.32	0.67	0.77
Delay/Veh:	53.2	59.0	24.4	58.8	45.8	38.8	67.3	39.8	22.9	41.8	27.8	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	59.0	24.4	58.8	45.8	38.8	67.3	39.8	22.9	41.8	27.8	17.1
LOS by Move:	D	E	C	E	D	D	E	D	C	D	C	B
DesignQueue:	6	17	7	19	7	2	4	10	2	9	27	28
Note: Queue reported is the number of cars per lane.												

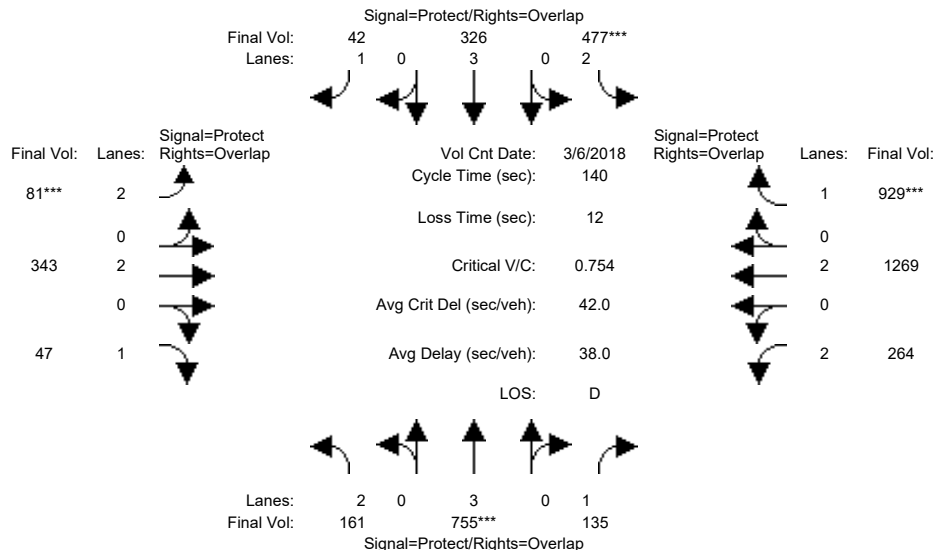
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (AM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name:	Zanker Road						Tasman Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Mar 2018 <<												
Base Vol:	105	644	113	417	250	28	62	237	35	249	1150	862
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	644	113	417	250	28	62	237	35	249	1150	862
Added Vol:	0	5	0	1	4	2	2	0	0	0	0	1
ATI:	56	106	22	59	72	12	17	106	12	15	119	66
Initial Fut:	161	755	135	477	326	42	81	343	47	264	1269	929
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	161	755	135	477	326	42	81	343	47	264	1269	929
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	161	755	135	477	326	42	81	343	47	264	1269	929
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	161	755	135	477	326	42	81	343	47	264	1269	929
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.13	0.08	0.15	0.06	0.02	0.03	0.09	0.03	0.08	0.33	0.53
Crit Moves:	****			****			****			****		
Green/Cycle:	0.15	0.17	0.43	0.20	0.22	0.27	0.05	0.28	0.44	0.26	0.49	0.69
Volume/Cap:	0.33	0.77	0.18	0.77	0.27	0.09	0.51	0.32	0.06	0.32	0.68	0.77
Delay/Veh:	53.2	58.9	24.4	58.9	45.8	38.8	67.7	39.8	22.9	41.8	27.9	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	58.9	24.4	58.9	45.8	38.8	67.7	39.8	22.9	41.8	27.9	17.2
LOS by Move:	D	E	C	E	D	D	E	D	C	D	C	B
DesignQueue:	6	17	7	19	7	3	4	10	2	9	27	28

Note: Queue reported is the number of cars per lane.

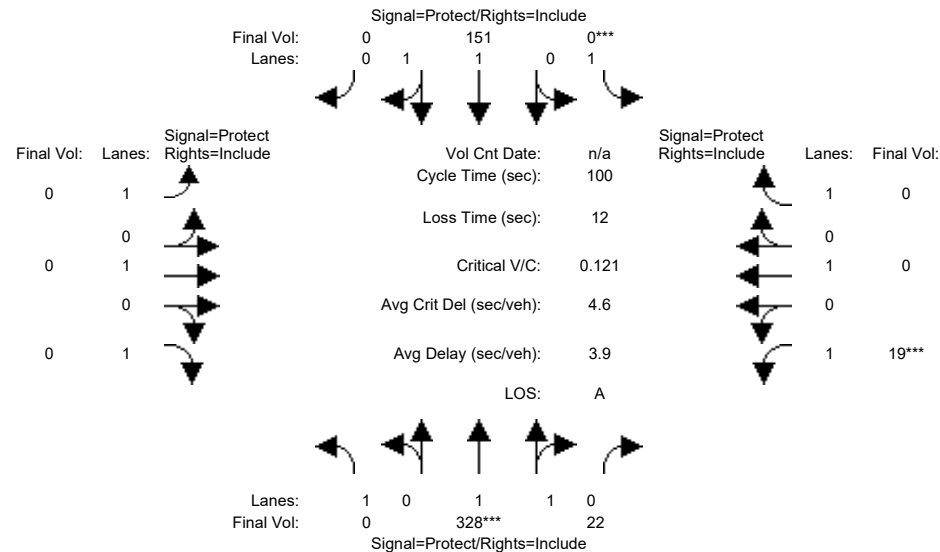
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (AM)

## Intersection #4000: Zanker Rd &amp; Nortech Pkwy



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

## Volume Module:

Base Vol:	0	196	0	0	125	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	196	0	0	125	0	0	0	0	0	0	0
Added Vol:	0	0	22	0	0	0	0	0	0	19	0	0
ATI(extrapo):	0	132	0	0	26	0	0	0	0	0	0	0
Initial Fut:	0	328	22	0	151	0	0	0	0	19	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	328	22	0	151	0	0	0	0	19	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	328	22	0	151	0	0	0	0	19	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	328	22	0	151	0	0	0	0	19	0	0

## Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.94	0.92	0.97	0.92	0.92	1.00	0.92	0.88	1.00	0.92
Lanes:	1.00	1.87	0.13	1.00	2.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3436	230	1750	3700	0	1750	1900	1750	1663	1900	1750

## Capacity Analysis Module:

Vol/Sat:	0.00	0.10	0.10	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.00	0.79	0.79	0.00	0.79	0.00	0.00	0.00	0.00	0.09	0.00	0.00
Volume/Cap:	0.00	0.12	0.12	0.00	0.05	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Delay/Veh:	0.0	2.6	2.6	0.0	2.4	0.0	0.0	0.0	0.0	41.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.6	2.6	0.0	2.4	0.0	0.0	0.0	0.0	41.9	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
DesignQueue:	0	2	2	0	1	0	0	0	0	1	0	0

Note: Queue reported is the number of cars per lane.

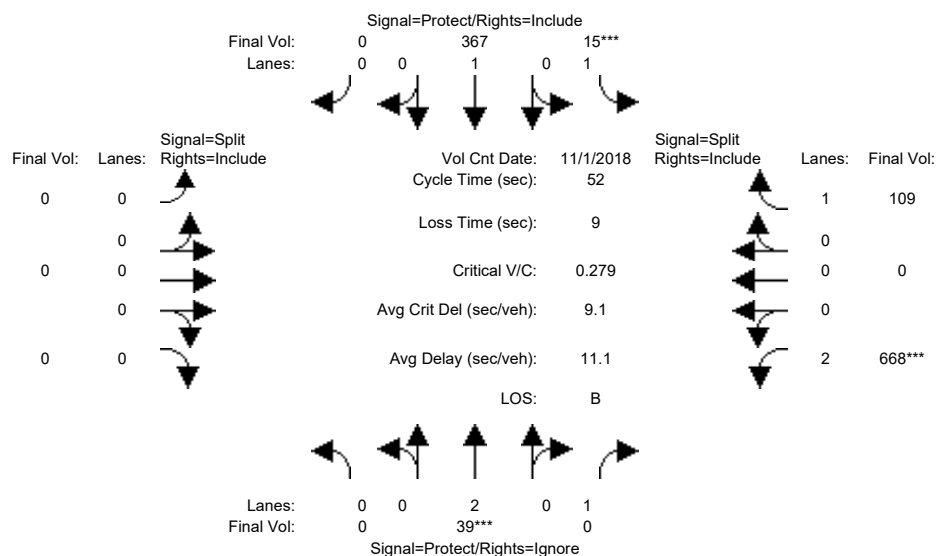
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (PM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name: Zanker Road SR 237 (North)

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM

Base Vol:	0	39	475	15	367	0	0	0	0	668	0	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	39	475	15	367	0	0	0	0	668	0	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	39	475	15	367	0	0	0	0	668	0	109
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	39	0	15	367	0	0	0	0	668	0	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	39	0	15	367	0	0	0	0	668	0	109
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	39	0	15	367	0	0	0	0	668	0	109

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3800	1750	1750	1900	0	0	0	0	3150	0	1750

Capacity Analysis Module:

Vol/Sat:	0.00	0.01	0.00	0.01	0.19	0.00	0.00	0.00	0.00	0.21	0.00	0.06
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.19	0.00	0.13	0.33	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Volume/Cap:	0.00	0.05	0.00	0.06	0.59	0.00	0.00	0.00	0.00	0.42	0.00	0.12
Delay/Veh:	0.0	17.2	0.0	19.8	16.1	0.0	0.0	0.0	0.0	8.4	0.0	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.2	0.0	19.8	16.1	0.0	0.0	0.0	0.0	8.4	0.0	7.0
LOS by Move:	A	B	A	B	B	A	A	A	A	A	A	A
DesignQueue:	0	0	0	0	8	0	0	0	0	6	0	2

Note: Queue reported is the number of cars per lane.

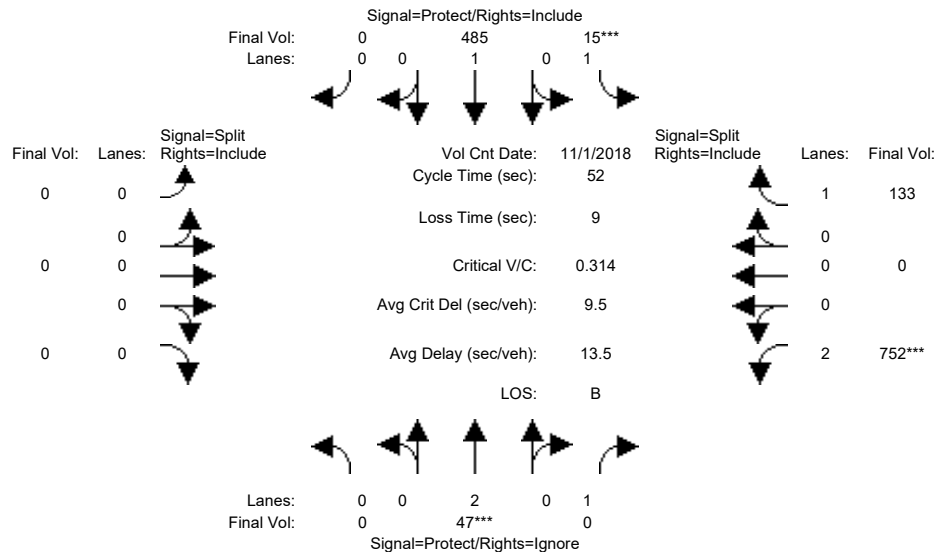
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (PM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name:	Zanker Road						SR 237 (North)									
Approach:	North Bound			South Bound			East Bound			West Bound						
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	
----- ----- ----- ----- ----- -----																
Min. Green:	0		10		10	7		10		0	0		0	0		
Y+R:	4.0		4.0		4.0	4.0		4.0		4.0	4.0		4.0	4.0		
----- ----- ----- ----- ----- -----																
Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM																
Base Vol:	0		39		475	15		367		0	0		0	0		
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	1.00		
Initial Bse:	0		39		475	15		367		0	0		0	0		
Added Vol:	0		0		0	0		0		0	0		0	0		
ATI:	0		8		36	0		118		0	0		0	0		
Initial Fut:	0		47		511	15		485		0	0		0	0		
User Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00	1.00		
PHF Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00	1.00		
PHF Volume:	0		47		0	15		485		0	0		0	0		
Reduct Vol:	0		0		0	0		0		0	0		0	0		
Reduced Vol:	0		47		0	15		485		0	0		0	0		
PCE Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00	1.00		
MLF Adj:	1.00		1.00		0.00	1.00		1.00		1.00	1.00		1.00	1.00		
FinalVolume:	0		47		0	15		485		0	0		0	0		
----- ----- ----- ----- ----- -----																
Saturation Flow Module:																
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900	1900		
Adjustment:	0.92		1.00		0.92	0.92		1.00		0.92	0.92		0.83	1.00		
Lanes:	0.00		2.00		1.00	1.00		0.00		0.00	0.00		0.00	0.00		
Final Sat.:	0		3800		1750	1750		1900		0	0		0	3150		
----- ----- ----- ----- ----- -----																
Capacity Analysis Module:																
Vol/Sat:	0.00		0.01		0.00	0.01		0.26		0.00	0.00		0.00	0.00		
Crit Moves:	****			****			****			****			****			
Green/Cycle:	0.00		0.19		0.00	0.13		0.33		0.00	0.00		0.00	0.50		
Volume/Cap:	0.00		0.06		0.00	0.06		0.78		0.00	0.00		0.00	0.48		
Delay/Veh:	0.0		17.2		0.0	19.8		22.2		0.0	0.0		0.0	8.8		
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	1.00		
AdjDel/Veh:	0.0		17.2		0.0	19.8		22.2		0.0	0.0		0.0	8.8		
LOS by Move:	A		B		A	B		C		A	A		A	A		
DesignQueue:	0		1		0	0		10		0	0		0	7		
Note: Queue reported is the number of cars per lane.																

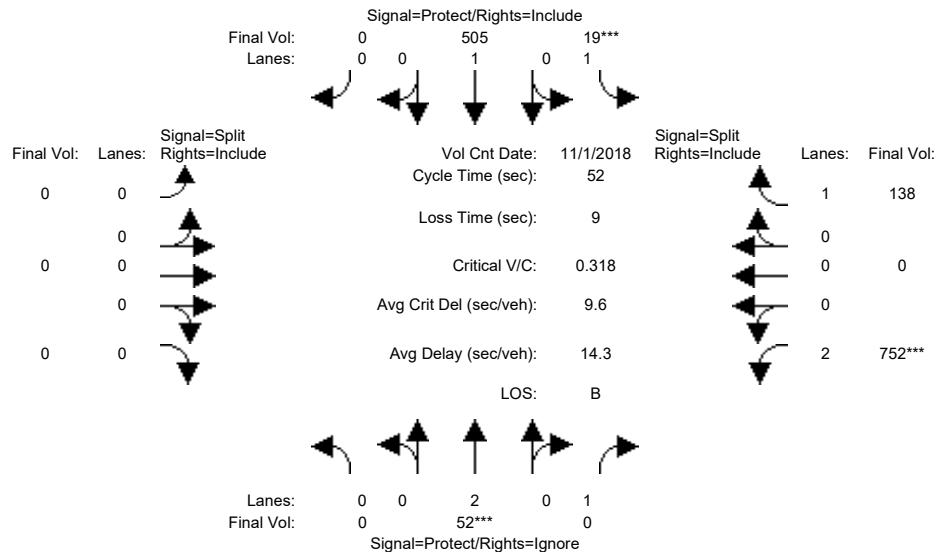
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (PM)

## Intersection #3030: Zanker Rd &amp; SR 237 North



Street Name:	Zanker Road						SR 237 (North)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM												
Base Vol:	0	39	475	15	367	0	0	0	0	668	0	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	39	475	15	367	0	0	0	0	668	0	109
Added Vol:	0	5	0	4	20	0	0	0	0	0	0	5
ATI:	0	8	36	0	118	0	0	0	0	84	0	24
Initial Fut:	0	52	511	19	505	0	0	0	0	752	0	138
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	52	0	19	505	0	0	0	0	752	0	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	52	0	19	505	0	0	0	0	752	0	138
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	52	0	19	505	0	0	0	0	752	0	138
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	3800	1750	1750	1900	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.00	0.01	0.27	0.00	0.00	0.00	0.00	0.24	0.00	0.08
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.19	0.00	0.13	0.33	0.00	0.00	0.00	0.00	0.50	0.00	0.50
Volume/Cap:	0.00	0.07	0.00	0.08	0.81	0.00	0.00	0.00	0.00	0.48	0.00	0.16
Delay/Veh:	0.0	17.2	0.0	19.8	24.1	0.0	0.0	0.0	0.0	8.8	0.0	7.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.2	0.0	19.8	24.1	0.0	0.0	0.0	0.0	8.8	0.0	7.1
LOS by Move:	A	B	A	B	C	A	A	A	A	A	A	A
DesignQueue:	0	1	0	1	11	0	0	0	0	7	0	2

Note: Queue reported is the number of cars per lane.

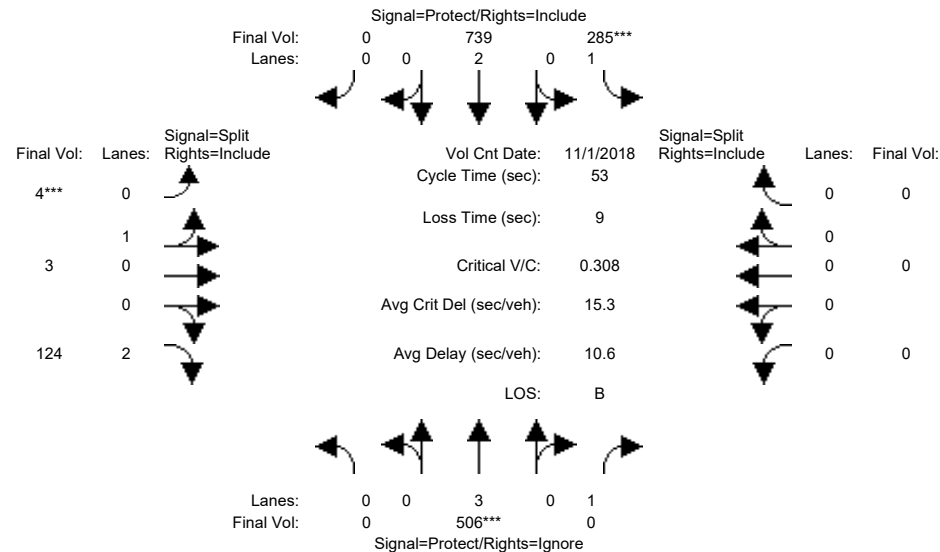
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (PM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM												
Base Vol:	0	506	953	285	739	0	4	3	124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	506	953	285	739	0	4	3	124	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	506	953	285	739	0	4	3	124	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	506	0	285	739	0	4	3	124	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	506	0	285	739	0	4	3	124	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	506	0	285	739	0	4	3	124	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.57	0.43	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	1029	771	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.00	0.16	0.19	0.00	0.00	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green/Cycle:	0.00	0.23	0.00	0.42	0.64	0.00	0.19	0.19	0.19	0.00	0.00	0.00
Volume/Cap:	0.00	0.39	0.00	0.39	0.30	0.00	0.02	0.02	0.21	0.00	0.00	0.00
Delay/Veh:	0.0	17.6	0.0	11.2	4.3	0.0	17.5	17.5	18.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	17.6	0.0	11.2	4.3	0.0	17.5	17.5	18.3	0.0	0.0	0.0
LOS by Move:	A	B	A	B	A	A	B	B	B	A	A	A
DesignQueue:	0	4	0	6	4	0	0	0	2	0	0	0
Note: Queue reported is the number of cars per lane.												



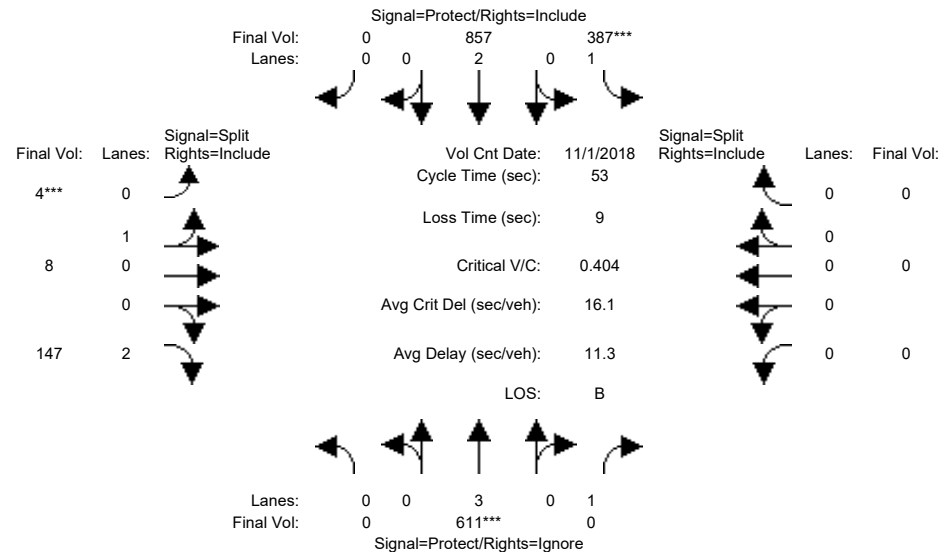
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (PM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM												
Base Vol:	0	506	953	285	739	0	4	3	124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	506	953	285	739	0	4	3	124	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	105	56	102	118	0	0	5	23	0	0	0
Initial Fut:	0	611	1009	387	857	0	4	8	147	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	611	0	387	857	0	4	8	147	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	611	0	387	857	0	4	8	147	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	611	0	387	857	0	4	8	147	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.33	0.67	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	600	1200	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.00	0.22	0.23	0.00	0.01	0.01	0.05	0.00	0.00	0.00
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.00	0.21	0.00	0.43	0.64	0.00	0.19	0.19	0.19	0.00	0.00	0.00
Volume/Cap:	0.00	0.51	0.00	0.51	0.35	0.00	0.04	0.04	0.25	0.00	0.00	0.00
Delay/Veh:	0.0	18.9	0.0	11.6	4.5	0.0	17.6	17.6	18.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	18.9	0.0	11.6	4.5	0.0	17.6	17.6	18.5	0.0	0.0	0.0
LOS by Move:	A	B	A	B	A	A	B	B	B	A	A	A
DesignQueue:	0	5	0	7	5	0	0	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

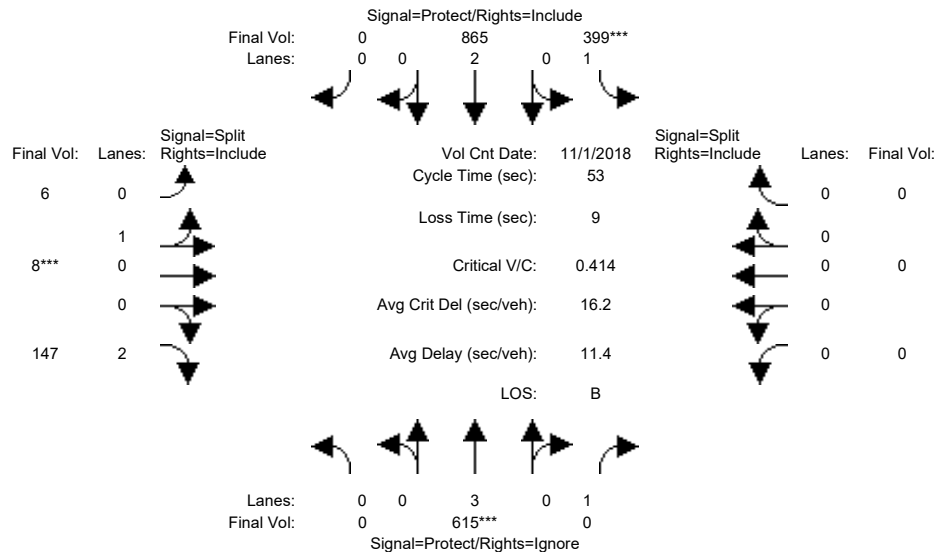
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (PM)

## Intersection #3031: Zanker Rd &amp; SR 237 South



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 << 5:00-6:00PM												
Base Vol:	0	506	953	285	739	0	4	3	124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	506	953	285	739	0	4	3	124	0	0	0
Added Vol:	0	4	0	12	8	0	2	0	0	0	0	0
ATI:	0	105	56	102	118	0	0	5	23	0	0	0
Initial Fut:	0	615	1009	399	865	0	6	8	147	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	615	0	399	865	0	6	8	147	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	615	0	399	865	0	6	8	147	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	615	0	399	865	0	6	8	147	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	0.43	0.57	2.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	1750	3800	0	771	1029	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.00	0.23	0.23	0.00	0.01	0.01	0.05	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.21	0.00	0.44	0.64	0.00	0.19	0.19	0.19	0.00	0.00	0.00
Volume/Cap:	0.00	0.52	0.00	0.52	0.35	0.00	0.04	0.04	0.25	0.00	0.00	0.00
Delay/Veh:	0.0	19.2	0.0	11.6	4.5	0.0	17.6	17.6	18.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.2	0.0	11.6	4.5	0.0	17.6	17.6	18.5	0.0	0.0	0.0
LOS by Move:	A	B	A	B	A	A	B	B	B	A	A	A
DesignQueue:	0	5	0	8	5	0	0	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

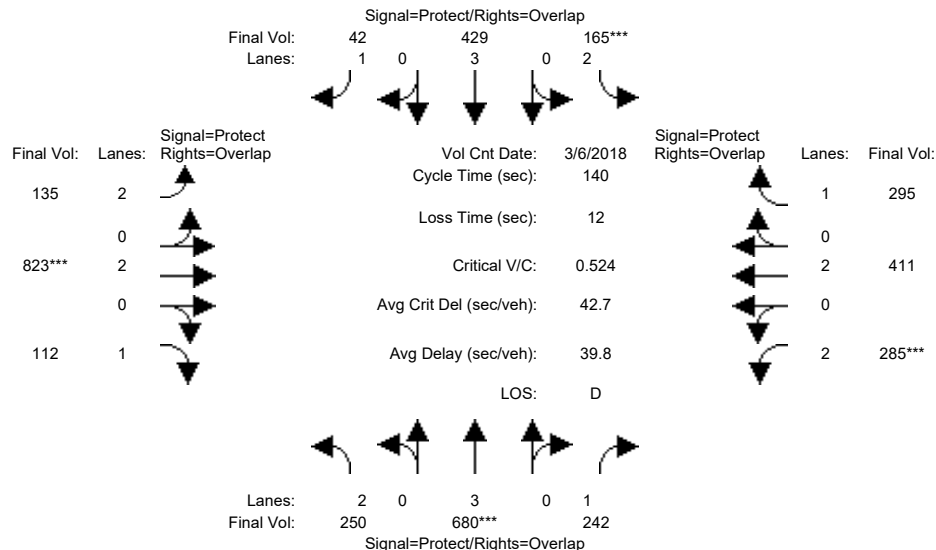
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Existing (PM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name:	Zanker Road						Tasman Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 6 Mar 2018 <<												
Base Vol:	250	680	242	165	429	42	135	823	112	285	411	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	250	680	242	165	429	42	135	823	112	285	411	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	250	680	242	165	429	42	135	823	112	285	411	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	250	680	242	165	429	42	135	823	112	285	411	295
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	680	242	165	429	42	135	823	112	285	411	295
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	250	680	242	165	429	42	135	823	112	285	411	295
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.14	0.05	0.08	0.02	0.04	0.22	0.06	0.09	0.11	0.17
Crit Moves:	****			****			****			****		
Green/Cycle:	0.17	0.23	0.40	0.10	0.16	0.34	0.18	0.41	0.58	0.17	0.41	0.51
Volume/Cap:	0.47	0.52	0.35	0.52	0.47	0.07	0.24	0.52	0.11	0.52	0.26	0.33
Delay/Veh:	53.3	47.8	29.5	61.4	53.9	31.7	49.8	31.0	13.1	53.6	27.4	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.3	47.8	29.5	61.4	53.9	31.7	49.8	31.0	13.1	53.6	27.4	20.4
LOS by Move:	D	D	C	E	D	C	D	C	B	D	C	C
DesignQueue:	10	14	13	7	10	2	5	20	4	11	10	13

Note: Queue reported is the number of cars per lane.

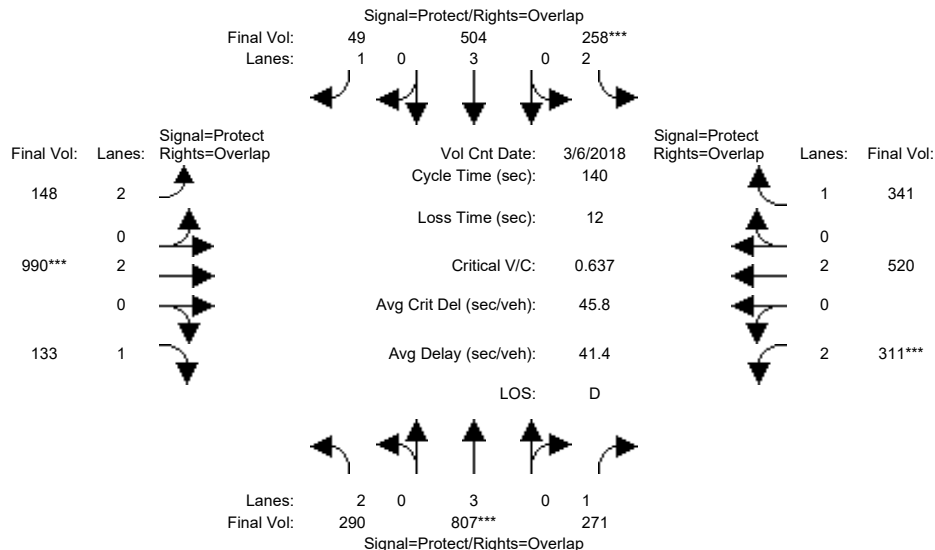
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Background (PM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name: Zanker Road Tasman Drive

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module: >> Count Date: 6 Mar 2018 <<

	North Bound			South Bound			East Bound			West Bound		
Base Vol:	250	680	242	165	429	42	135	823	112	285	411	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	250	680	242	165	429	42	135	823	112	285	411	295
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	40	127	29	93	75	7	13	167	21	26	109	46
Initial Fut:	290	807	271	258	504	49	148	990	133	311	520	341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	290	807	271	258	504	49	148	990	133	311	520	341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	807	271	258	504	49	148	990	133	311	520	341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	290	807	271	258	504	49	148	990	133	311	520	341

Saturation Flow Module:

	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750

Capacity Analysis Module:

	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.09	0.14	0.15	0.08	0.09	0.03	0.05	0.26	0.08	0.10	0.14	0.19
Crit Moves:	****			****			****			****		
Green/Cycle:	0.18	0.22	0.38	0.13	0.17	0.32	0.15	0.41	0.59	0.15	0.41	0.54
Volume/Cap:	0.51	0.64	0.41	0.64	0.51	0.09	0.31	0.64	0.13	0.64	0.33	0.36
Delay/Veh:	52.8	50.4	32.6	61.3	53.1	33.1	53.3	34.0	12.9	58.3	28.1	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.8	50.4	32.6	61.3	53.1	33.1	53.3	34.0	12.9	58.3	28.1	18.5
LOS by Move:	D	D	C	E	D	C	D	C	B	E	C	B
DesignQueue:	11	17	15	11	11	3	6	24	5	13	12	14

Note: Queue reported is the number of cars per lane.

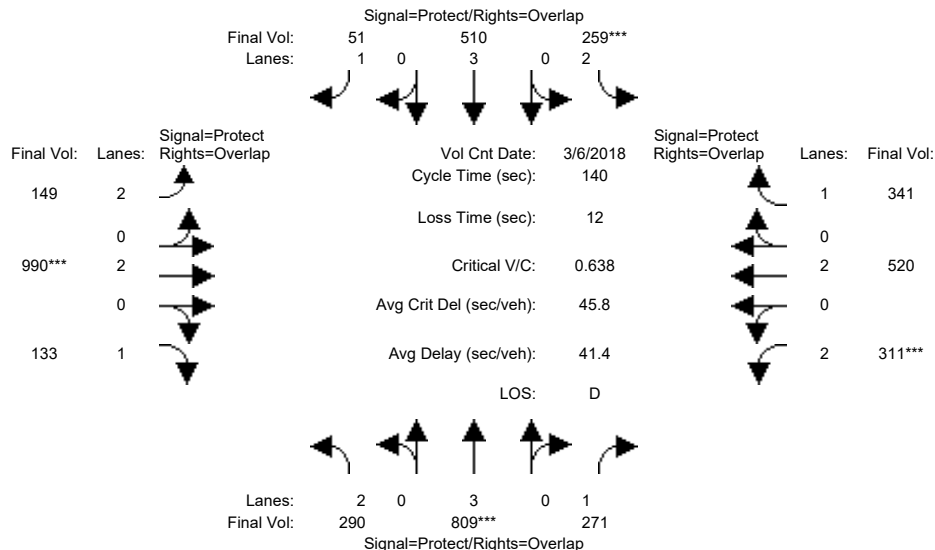
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (PM)

## Intersection #3821: Zanker Rd &amp; Tasman Dr



Street Name: Zanker Road Tasman Drive

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Volume Module: >> Count Date: 6 Mar 2018 <<

	North Bound			South Bound			East Bound			West Bound		
Base Vol:	250	680	242	165	429	42	135	823	112	285	411	295
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	250	680	242	165	429	42	135	823	112	285	411	295
Added Vol:	0	2	0	1	6	2	1	0	0	0	0	0
ATI:	40	127	29	93	75	7	13	167	21	26	109	46
Initial Fut:	290	809	271	259	510	51	149	990	133	311	520	341
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	290	809	271	259	510	51	149	990	133	311	520	341
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	809	271	259	510	51	149	990	133	311	520	341
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	290	809	271	259	510	51	149	990	133	311	520	341

Saturation Flow Module:

	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	3150	3800	1750

Capacity Analysis Module:

	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.09	0.14	0.15	0.08	0.09	0.03	0.05	0.26	0.08	0.10	0.14	0.19
Crit Moves:	****			****			****			****		
Green/Cycle:	0.18	0.22	0.38	0.13	0.17	0.32	0.15	0.41	0.59	0.15	0.41	0.54
Volume/Cap:	0.52	0.64	0.41	0.64	0.52	0.09	0.31	0.64	0.13	0.64	0.33	0.36
Delay/Veh:	52.9	50.4	32.5	61.3	53.0	33.0	53.4	34.0	13.0	58.3	28.1	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.9	50.4	32.5	61.3	53.0	33.0	53.4	34.0	13.0	58.3	28.1	18.5
LOS by Move:	D	D	C	E	D	C	D	C	B	E	C	B
DesignQueue:	11	17	15	11	11	3	6	24	5	13	12	14

Note: Queue reported is the number of cars per lane.

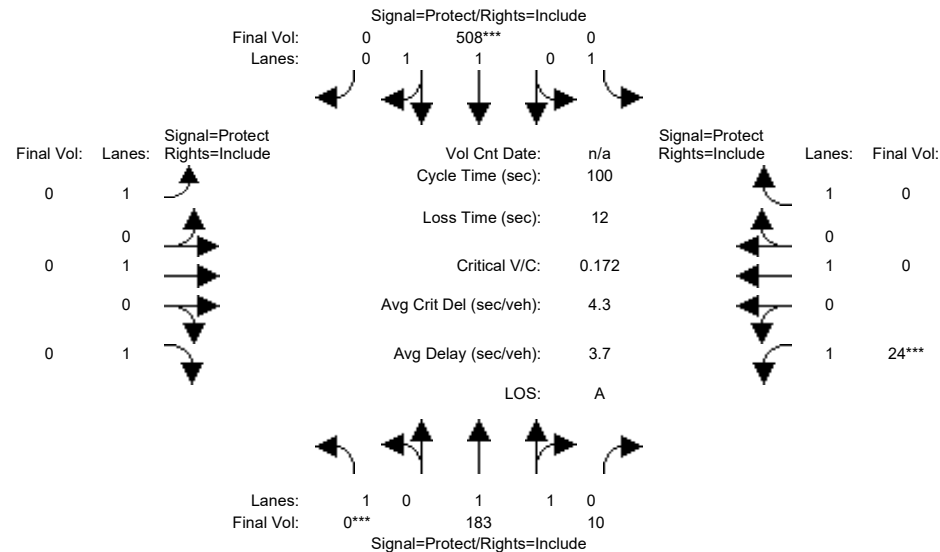
Microsoft Data Center (SJC02)

479,000 SF

North San Jose, CA

Level Of Service Computation Report  
 2000 HCM Operations (Future Volume Alternative)  
 Bkgrd + Proj (PM)

## Intersection #4000: Zanker Rd &amp; Nortech Pkwy



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

## Volume Module:

Base Vol:	0	151	0	0	390	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	151	0	0	390	0	0	0	0	0	0	0
Added Vol:	0	0	10	0	0	0	0	0	0	24	0	0
ATI(extrapo):	0	32	0	0	118	0	0	0	0	0	0	0
Initial Fut:	0	183	10	0	508	0	0	0	0	24	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	183	10	0	508	0	0	0	0	24	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	183	10	0	508	0	0	0	0	24	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	183	10	0	508	0	0	0	0	24	0	0

## Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.94	0.92	0.97	0.92	0.92	1.00	0.92	0.88	1.00	0.92
Lanes:	1.00	1.89	0.11	1.00	2.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3480	190	1750	3700	0	1750	1900	1750	1663	1900	1750

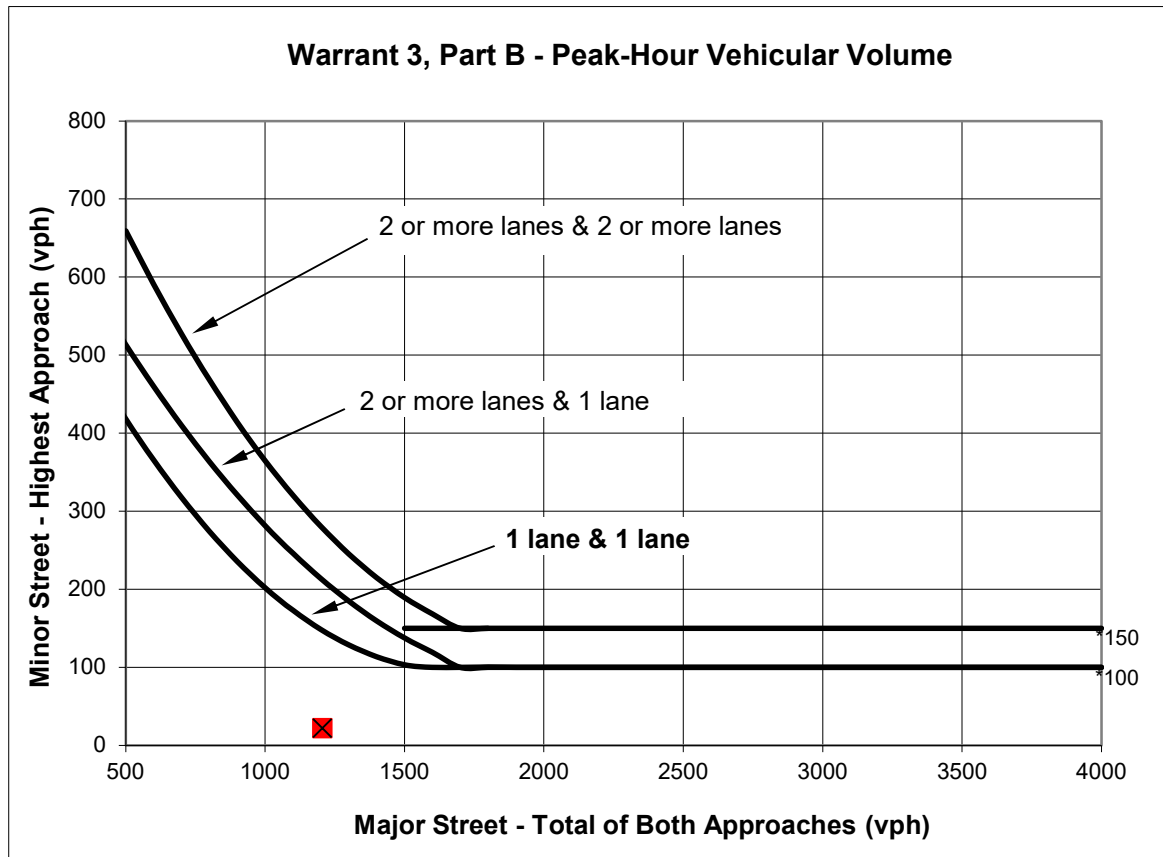
## Capacity Analysis Module:

Vol/Sat:	0.00	0.05	0.05	0.00	0.14	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.80	0.80	0.00	0.80	0.00	0.00	0.00	0.00	0.08	0.00	0.00
Volume/Cap:	0.00	0.07	0.07	0.00	0.17	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Delay/Veh:	0.0	2.2	2.2	0.0	2.4	0.0	0.0	0.0	0.0	43.2	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.2	2.2	0.0	2.4	0.0	0.0	0.0	0.0	43.2	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
DesignQueue:	0	1	1	0	3	0	0	0	0	1	0	0

Note: Queue reported is the number of cars per lane.

## **Appendix D**

### **Signal Warrants**

**Zanker Road And Nortech Parkway****AM Peak Hour**

Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways* (FHWA's MUTCD 2010 Edition, as amended for use in California).

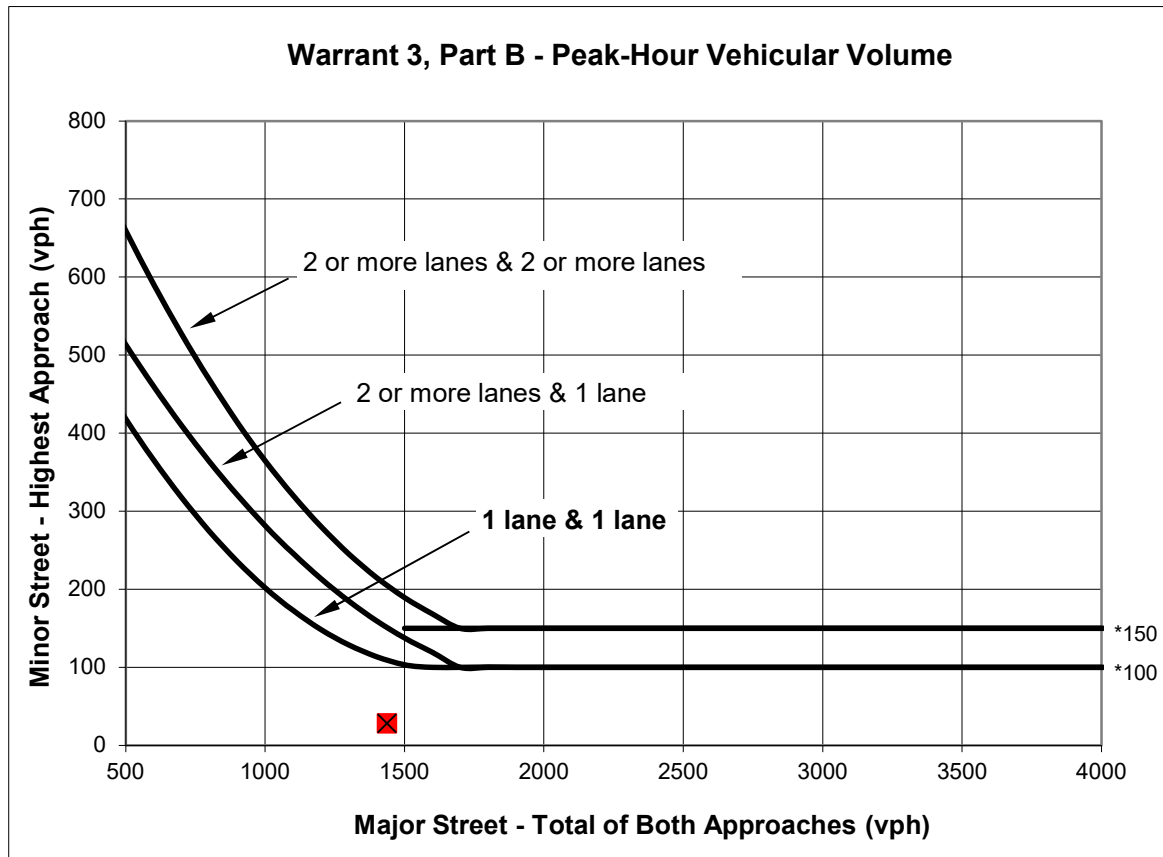
\* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

**Warrant 3, Part B - Peak-Hour Vehicular Volume**

		Approach Lanes		Background + Proj	AM Peak Hour				
		2 or More	One						
Major Street - Both Approaches	Zanker Road	X		1206					
Minor Street - Highest Approach	Nortech Parkway	X		22					
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>					<b>NO</b>				

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.



**Zanker Road And Nortech Parkway****PM Peak Hour**

Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways* (FHWA's MUTCD 2010 Edition, as amended for use in California).

\* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

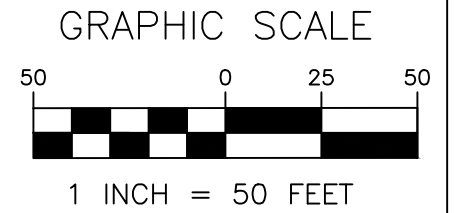
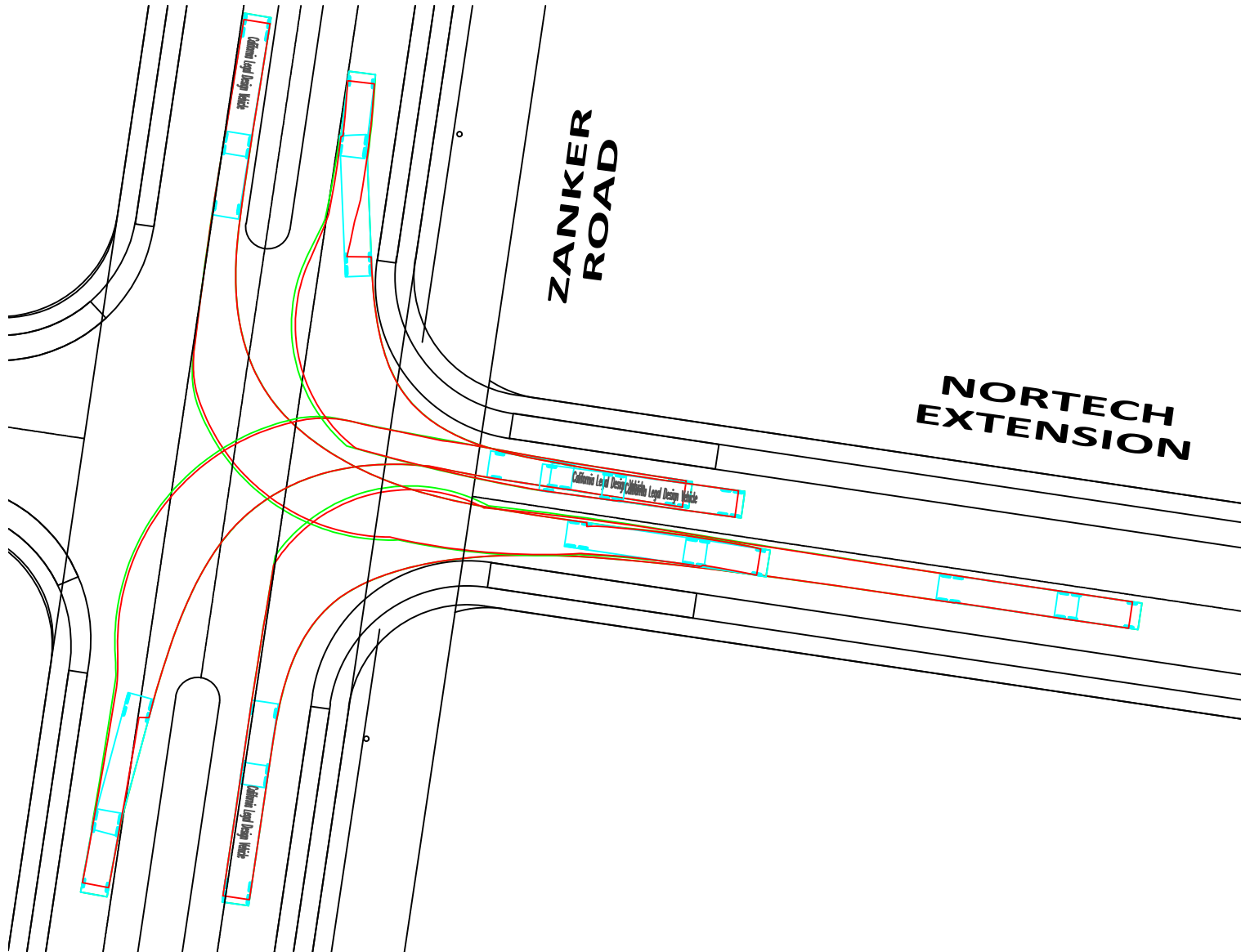
**Warrant 3, Part B - Peak-Hour Vehicular Volume**


		Approach Lanes		Background + Proj	PM Peak Hour				
		2 or One	More						
Major Street - Both Approaches	Zanker Road	X		1437					
Minor Street - Highest Approach	Nortech Parkway	X		28					
<b>Signal Warranted Based on Part B - Peak-Hour Volumes?</b>					<b>No</b>				

\*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

## **Appendix E**

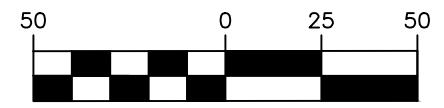
### **Truck Turning Templates**



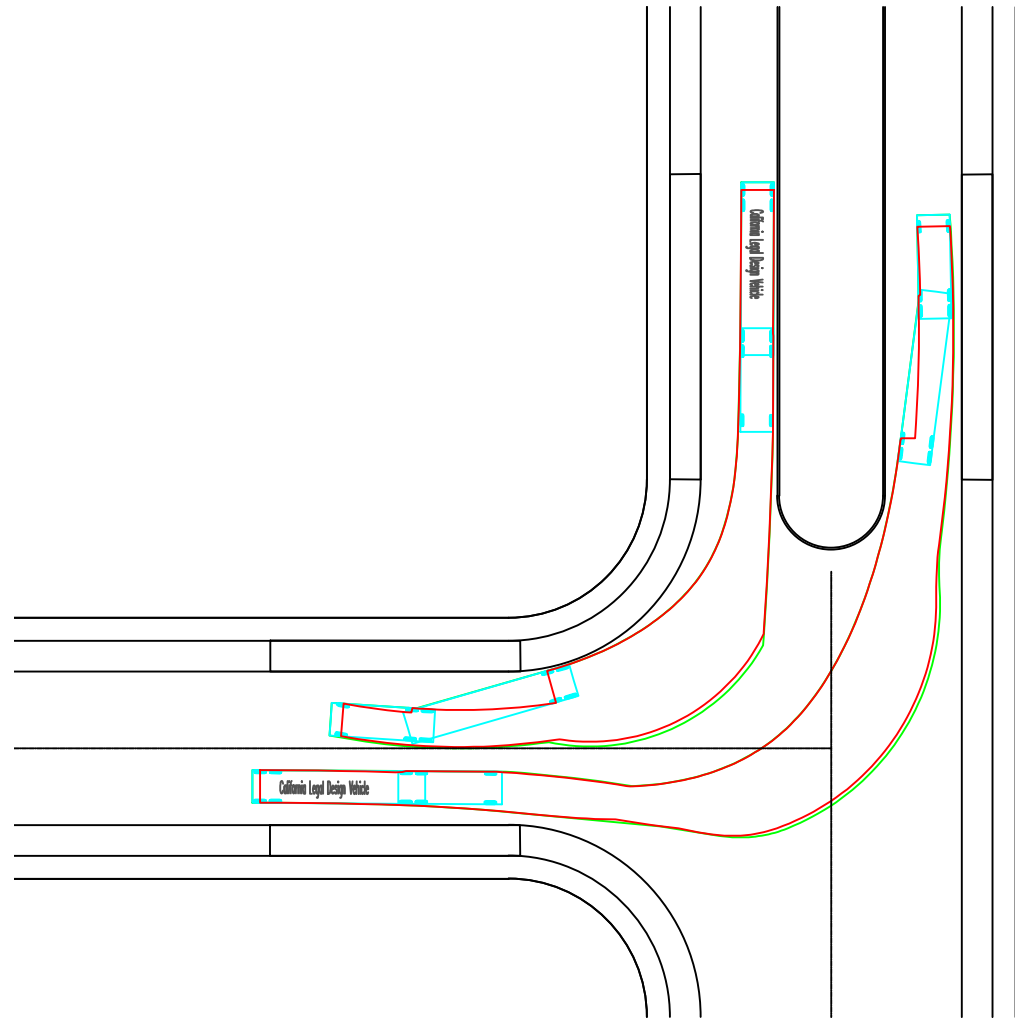
DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 PH: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		SAN JOSE DATA CENTER TURNING TEMPLATE	




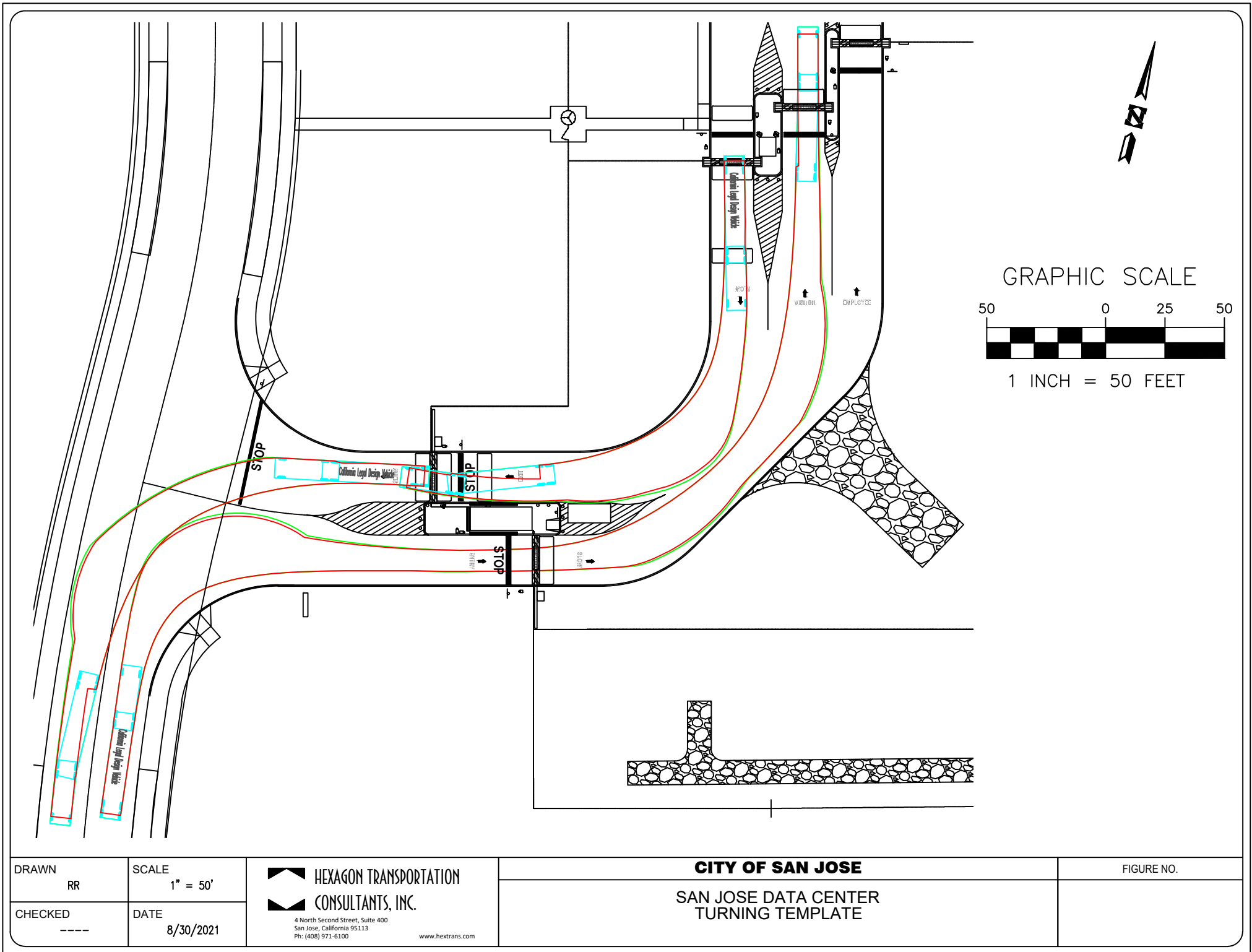
GRAPHIC SCALE

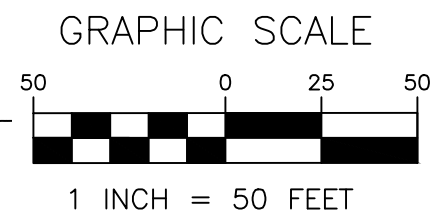
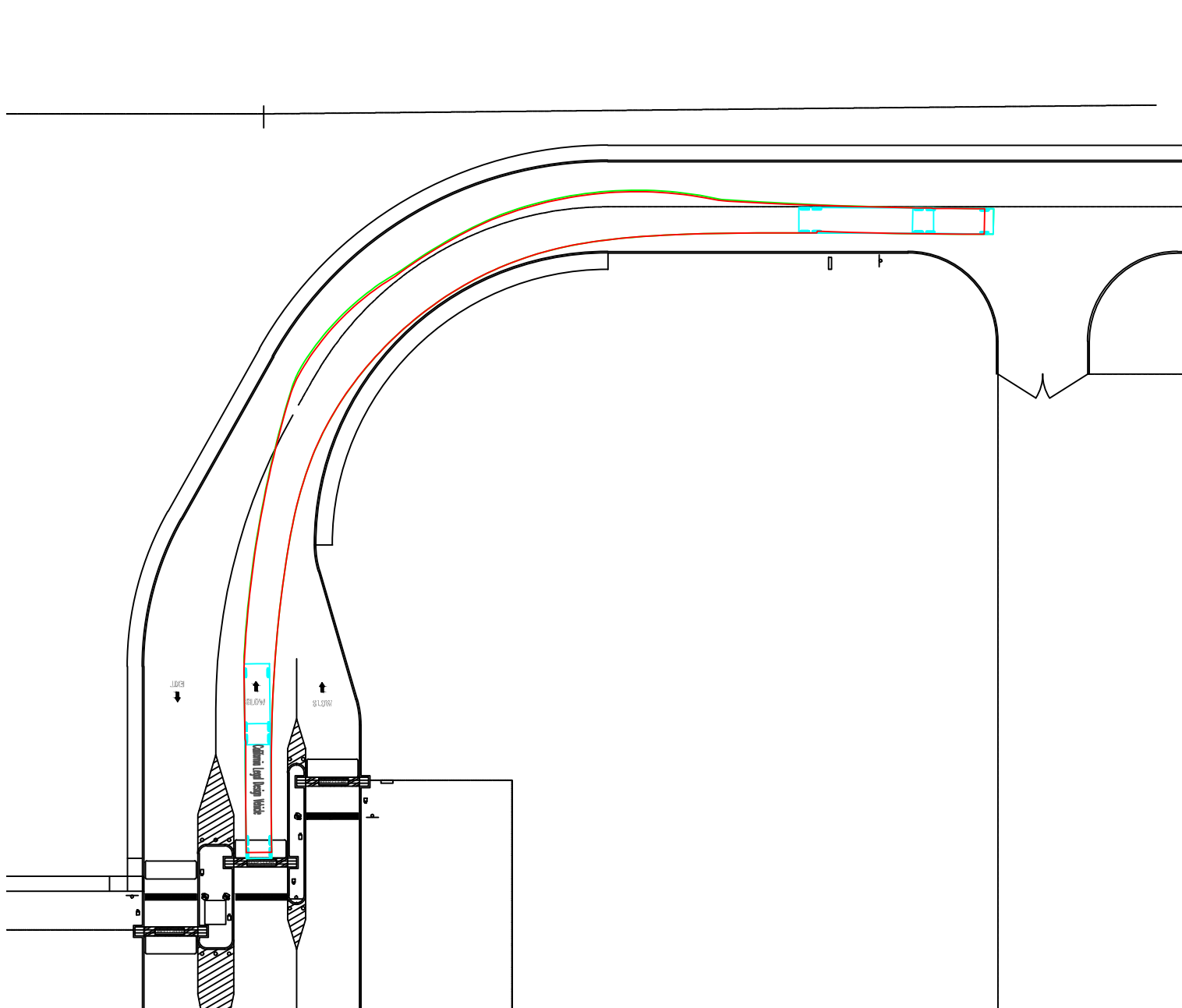


1 INCH = 50 FEET



DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 PH: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		SAN JOSE DATA CENTER TURNING TEMPLATE	





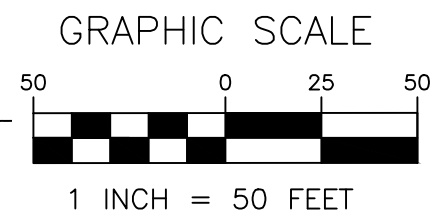
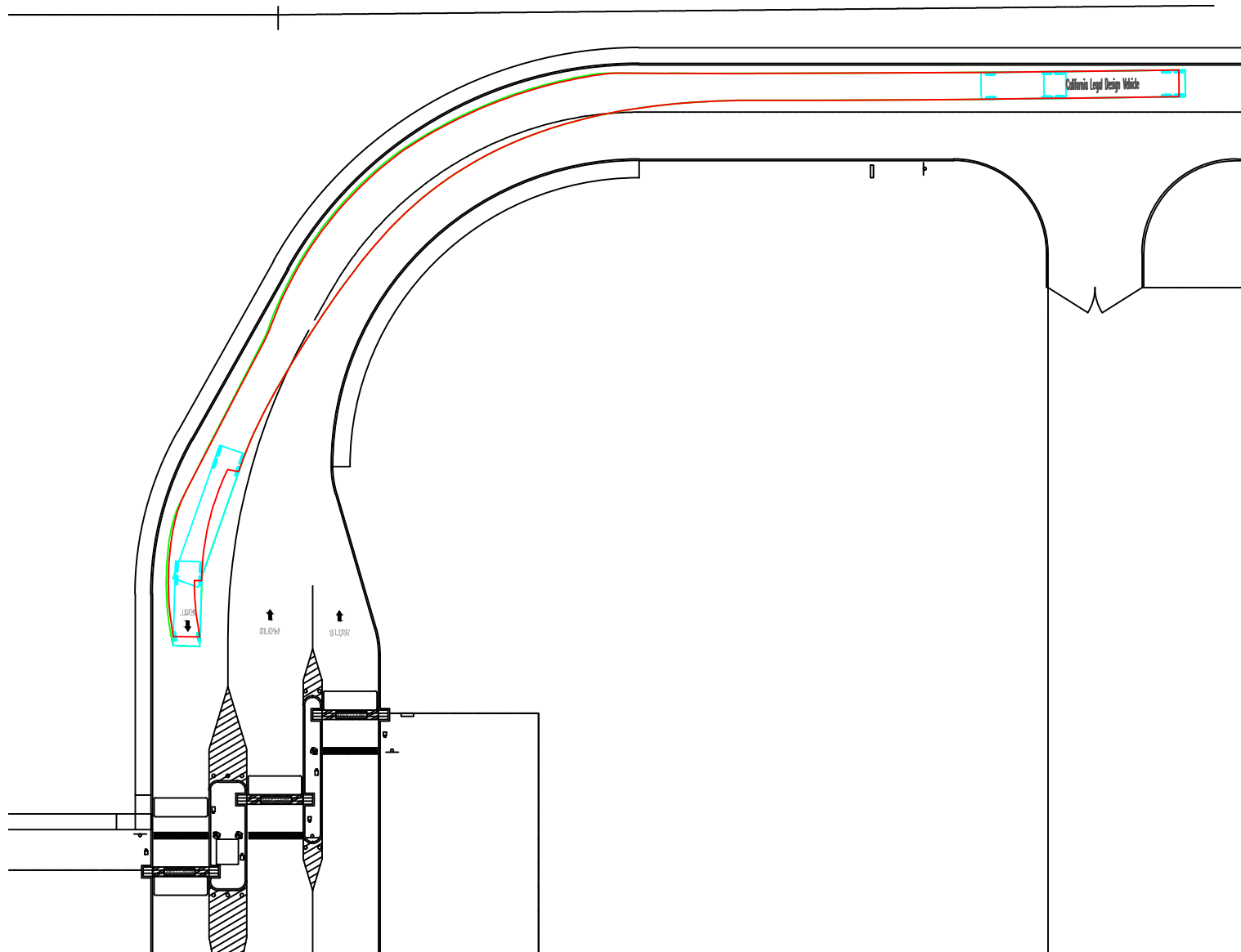
DRAWN RR	SCALE 1" = 50'
CHECKED ----	DATE 8/30/2021


 **HEXAGON TRANSPORTATION**  
 **CONSULTANTS, INC.**  
4 North Second Street, Suite 400  
 San Jose, California 95113  
 Ph: (408) 971-6100  
[www.hextrans.com](http://www.hextrans.com)

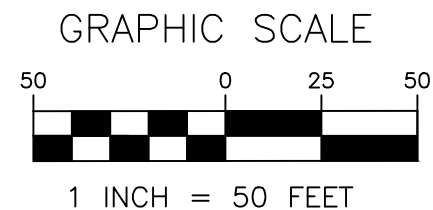
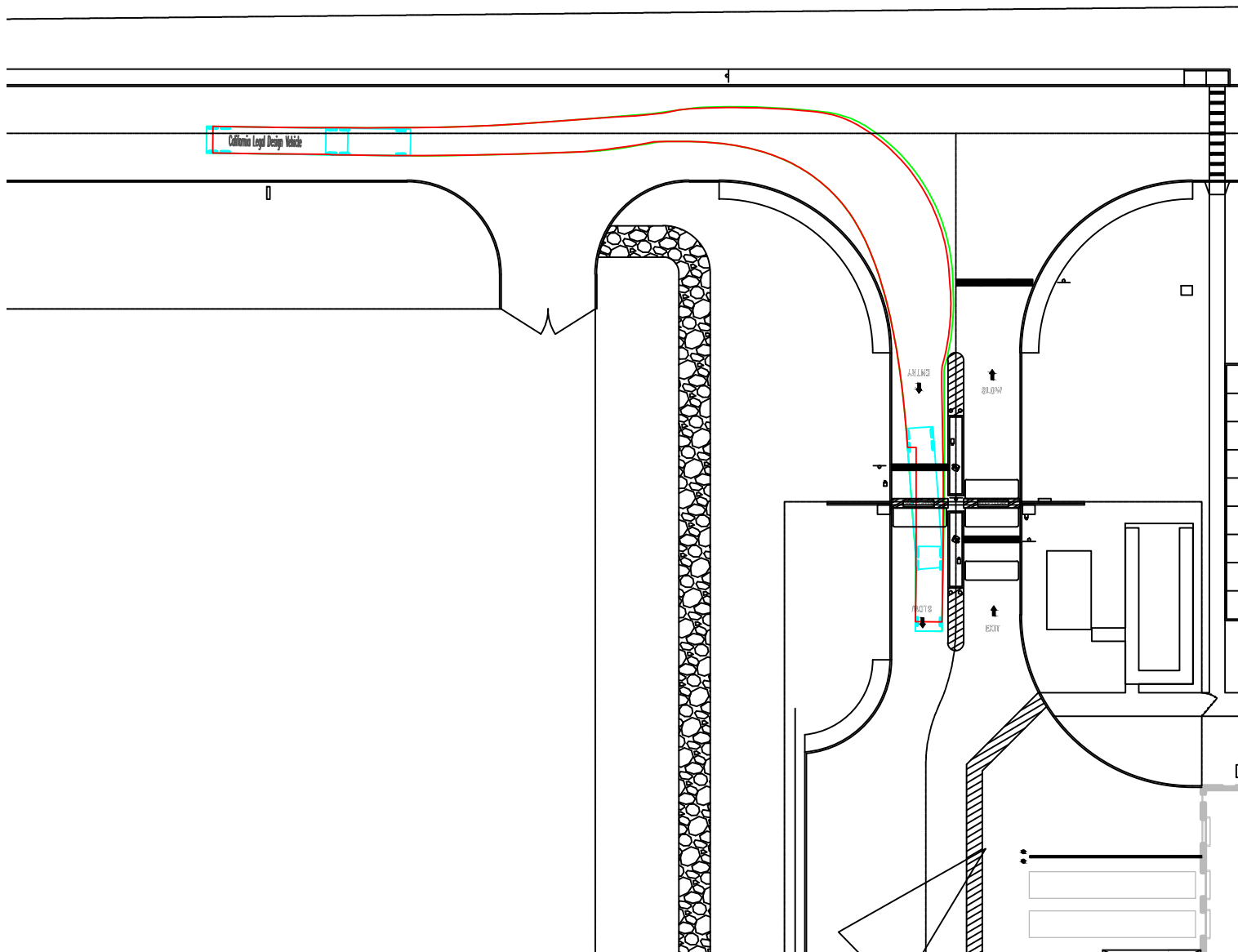
**CITY OF SAN JOSE**

**SAN JOSE DATA CENTER  
TURNING TEMPLATE**

FIGURE NO.



DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		SAN JOSE DATA CENTER TURNING TEMPLATE	



DRAWN	SCALE
RR	1" = 50'
CHECKED	DATE
----	8/30/2021

 **HEXAGON TRANSPORTATION**  
 **CONSULTANTS, INC.**  
 4 North Second Street, Suite 400  
 San Jose, California 95113  
 Ph: (408) 971-6100  
[www.hextrans.com](http://www.hextrans.com)

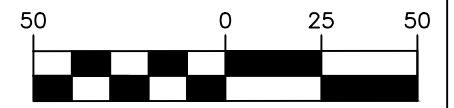
**CITY OF SAN JOSE**  
**SAN JOSE DATA CENTER**  
**TURNING TEMPLATE**

FIGURE NO.

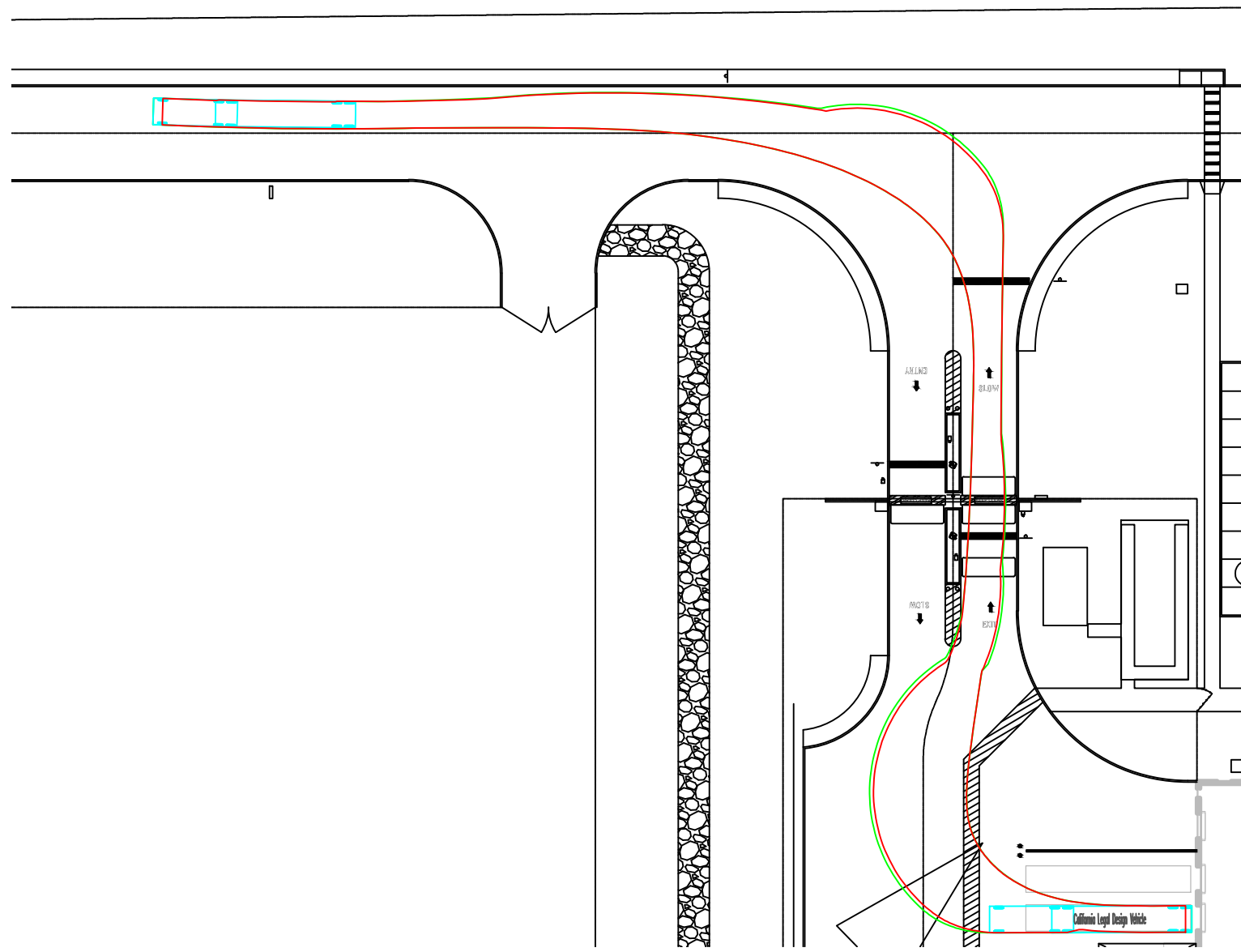





GRAPHIC SCALE



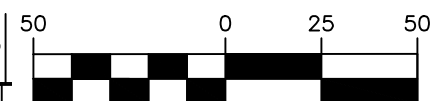
1 INCH = 50 FEET



DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		<b>SAN JOSE DATA CENTER TURNING TEMPLATE</b>	



GRAPHIC SCALE



1 INCH = 50 FEET

DRAWN RR	SCALE 1" = 50'
CHECKED ----	DATE 8/30/2021



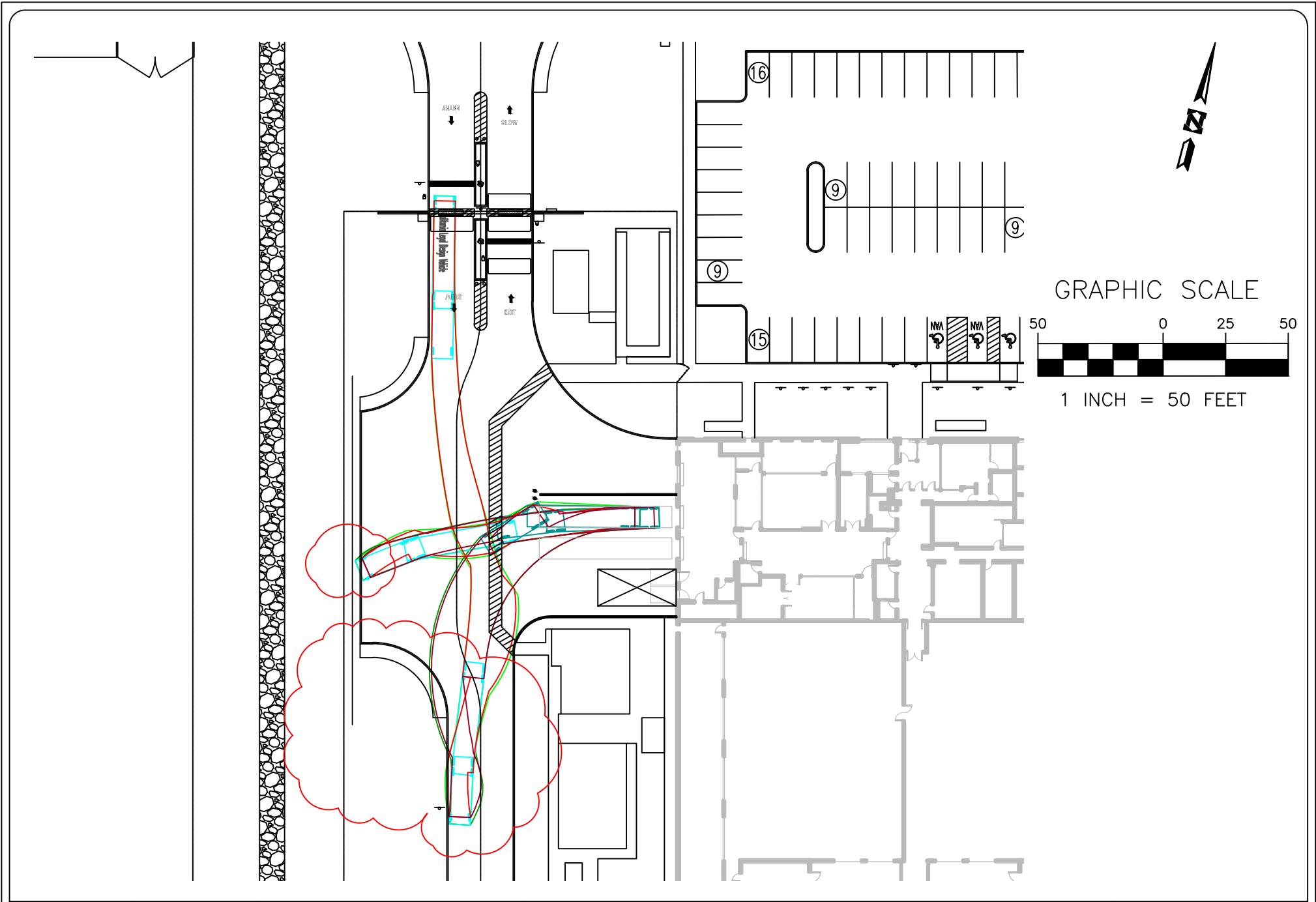
HEXAGON TRANSPORTATION  
CONSULTANTS, INC.

4 North Second Street, Suite 400  
San Jose, California 95113  
PH: (408) 971-6100  
www.hextrans.com

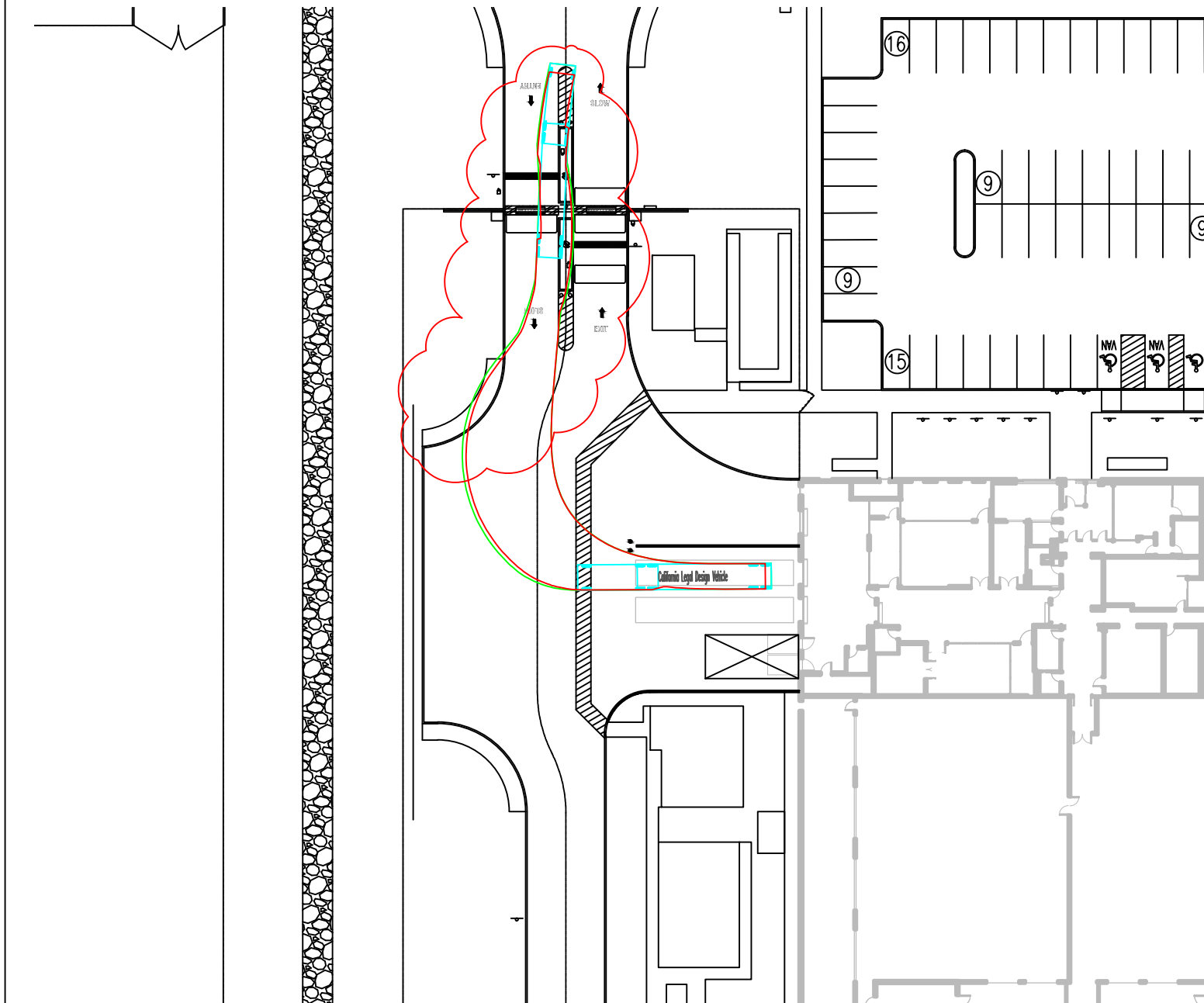
**CITY OF SAN JOSE**

**SAN JOSE DATA CENTER  
TURNING TEMPLATE**

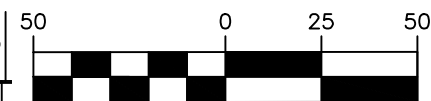
FIGURE NO.



DRAWN RR	SCALE 1" = 50'	<div data-bbox="470 1433 533 1507"> </div> <div data-bbox="541 1433 785 1507"> <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> </div> <div data-bbox="512 1515 806 1555"> <small>4 North Second Street, Suite 400 San Jose, California 95113 PH: (408) 971-6100 www.hextrans.com</small> </div>	<div data-bbox="1152 1421 1428 1450"> <b>CITY OF SAN JOSE</b> </div> <div data-bbox="1125 1466 1457 1523"> <b>SAN JOSE DATA CENTER TURNING TEMPLATE</b> </div>	FIGURE NO.
CHECKED ----	DATE 8/30/2021			



GRAPHIC SCALE



1 INCH = 50 FEET

DRAWN	RR
CHECKED	----
SCALE	1" = 50'
DATE	8/30/2021

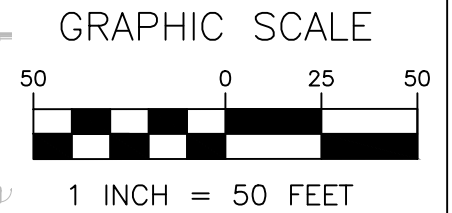
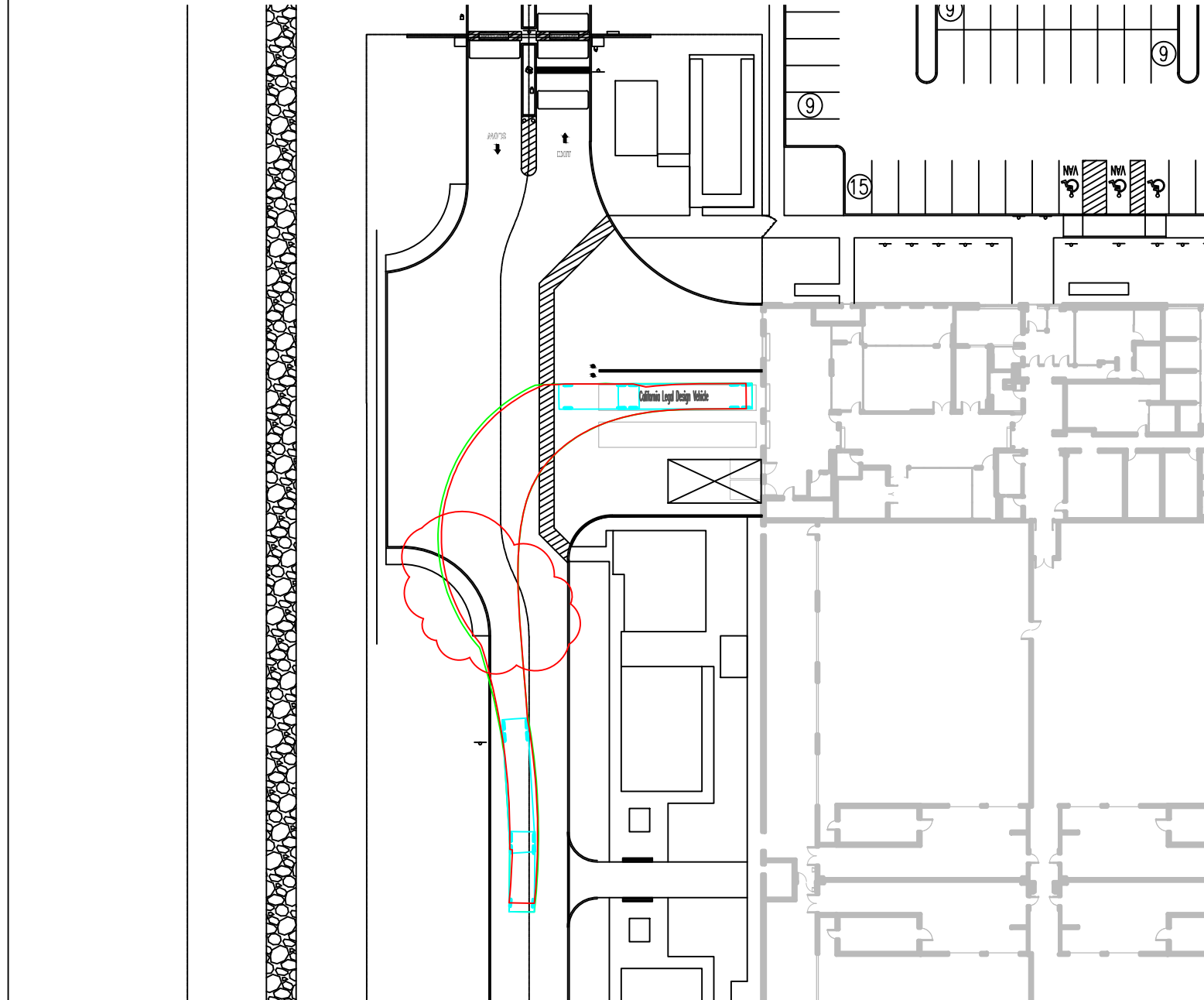
**HEXAGON TRANSPORTATION  
CONSULTANTS, INC.**


4 North Second Street, Suite 400  
San Jose, California 95113  
Ph: (408) 971-6100  
www.hextrans.com

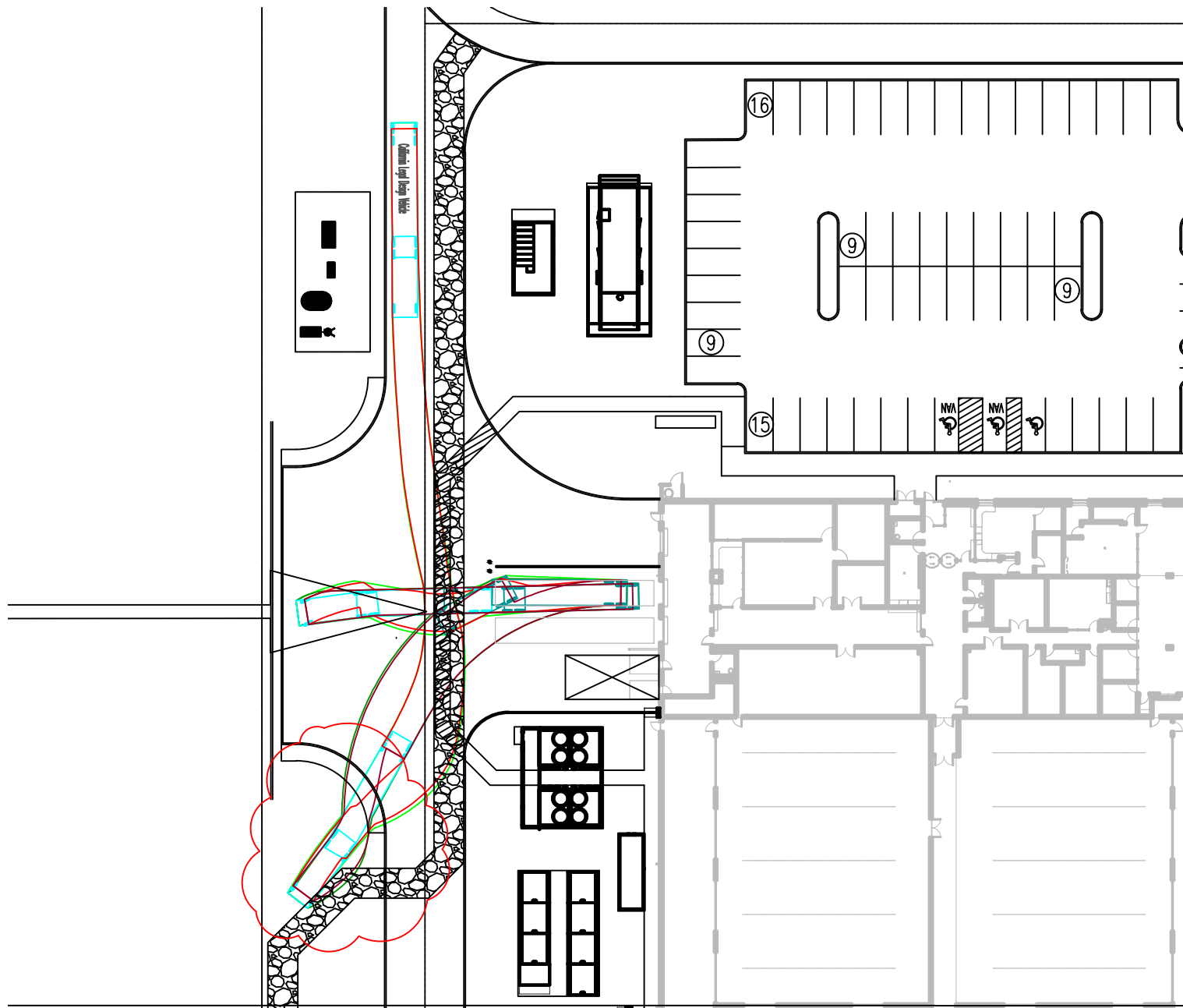
**CITY OF SAN JOSE**

**SAN JOSE DATA CENTER  
TURNING TEMPLATE**

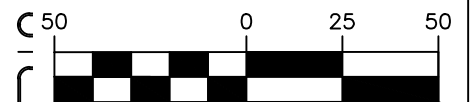
FIGURE NO.



DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 PH: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		<b>SAN JOSE DATA CENTER TURNING TEMPLATE</b>	



GRAPHIC SCALE



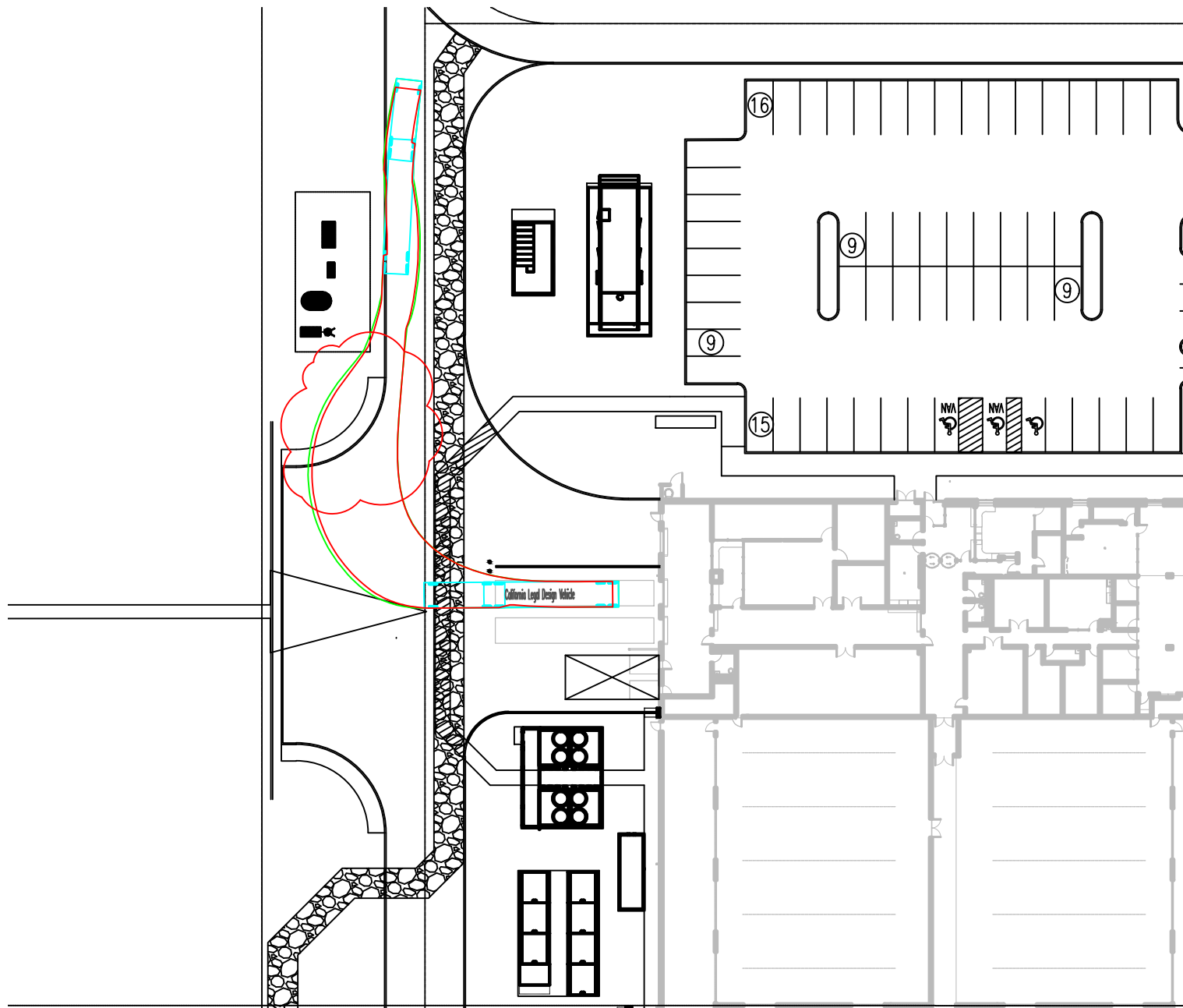
1 INCH = 50 FEET

DRAWN RR	SCALE 1" = 50'
CHECKED ----	DATE 8/30/2021

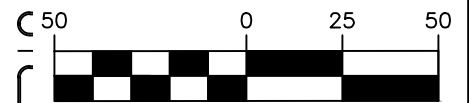
 **HEXAGON TRANSPORTATION**  
 **CONSULTANTS, INC.**  
4 North Second Street, Suite 400  
 San Jose, California 95113  
 Ph: (408) 971-6100  
[www.hextrans.com](http://www.hextrans.com)

**CITY OF SAN JOSE**  
**SAN JOSE DATA CENTER**  
**TURNING TEMPLATE**

FIGURE NO.



GRAPHIC SCALE



1 INCH = 50 FEET

DRAWN  
RR

CHECKED  
----

SCALE  
1" = 50'

DATE  
8/30/2021



HEXAGON TRANSPORTATION  
CONSULTANTS, INC.

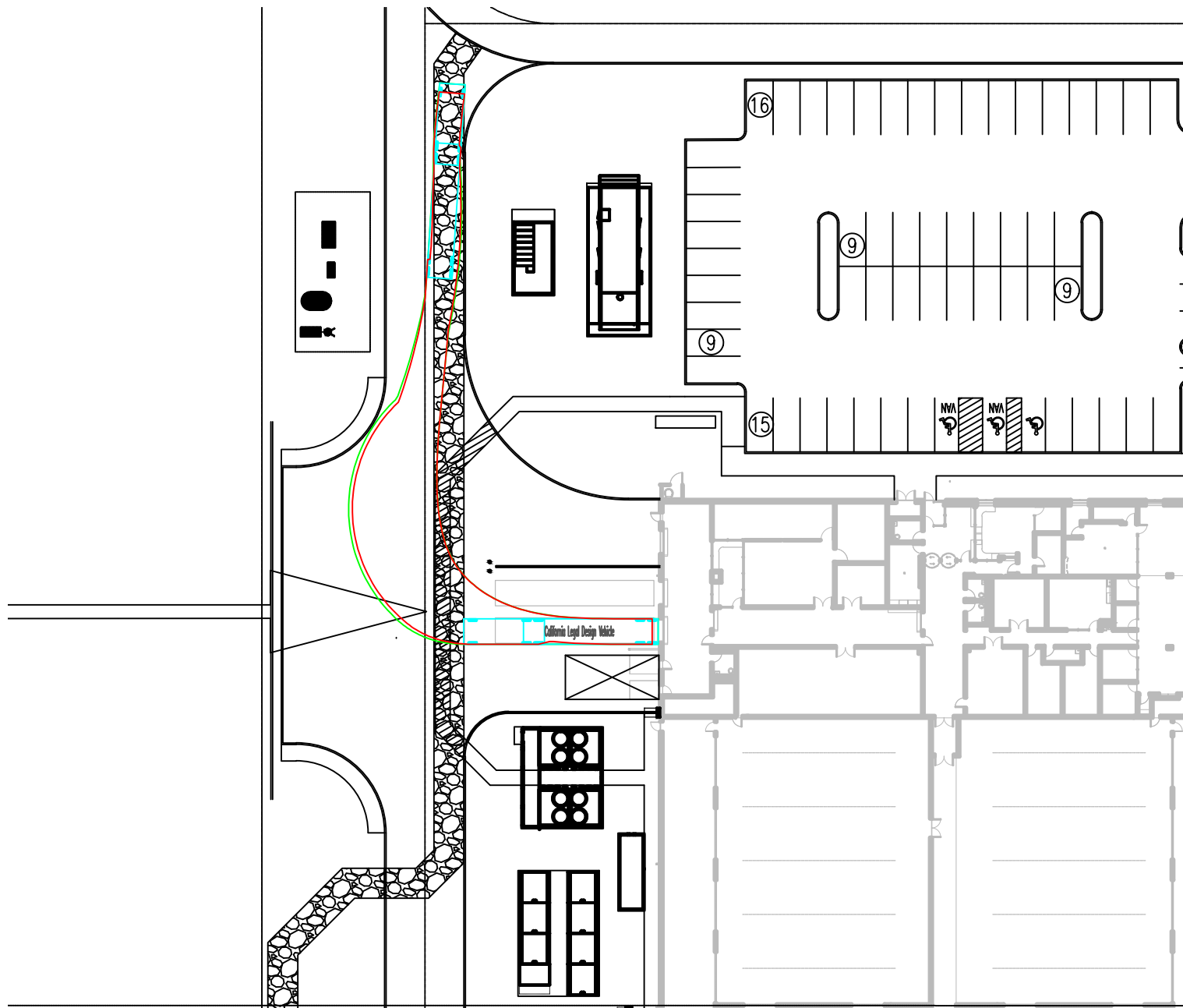
4 North Second Street, Suite 400  
San Jose, California 95113  
Ph: (408) 971-6100


www.hextrans.com

**CITY OF SAN JOSE**

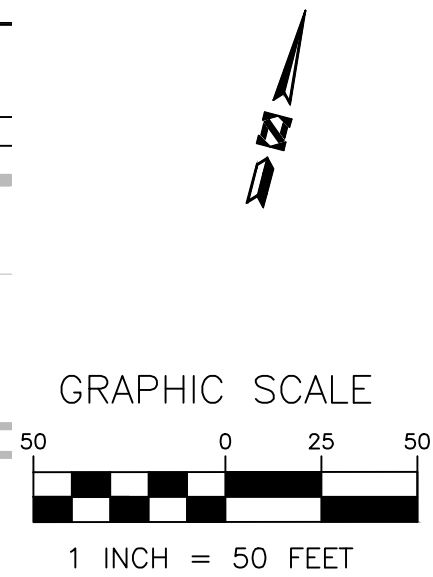
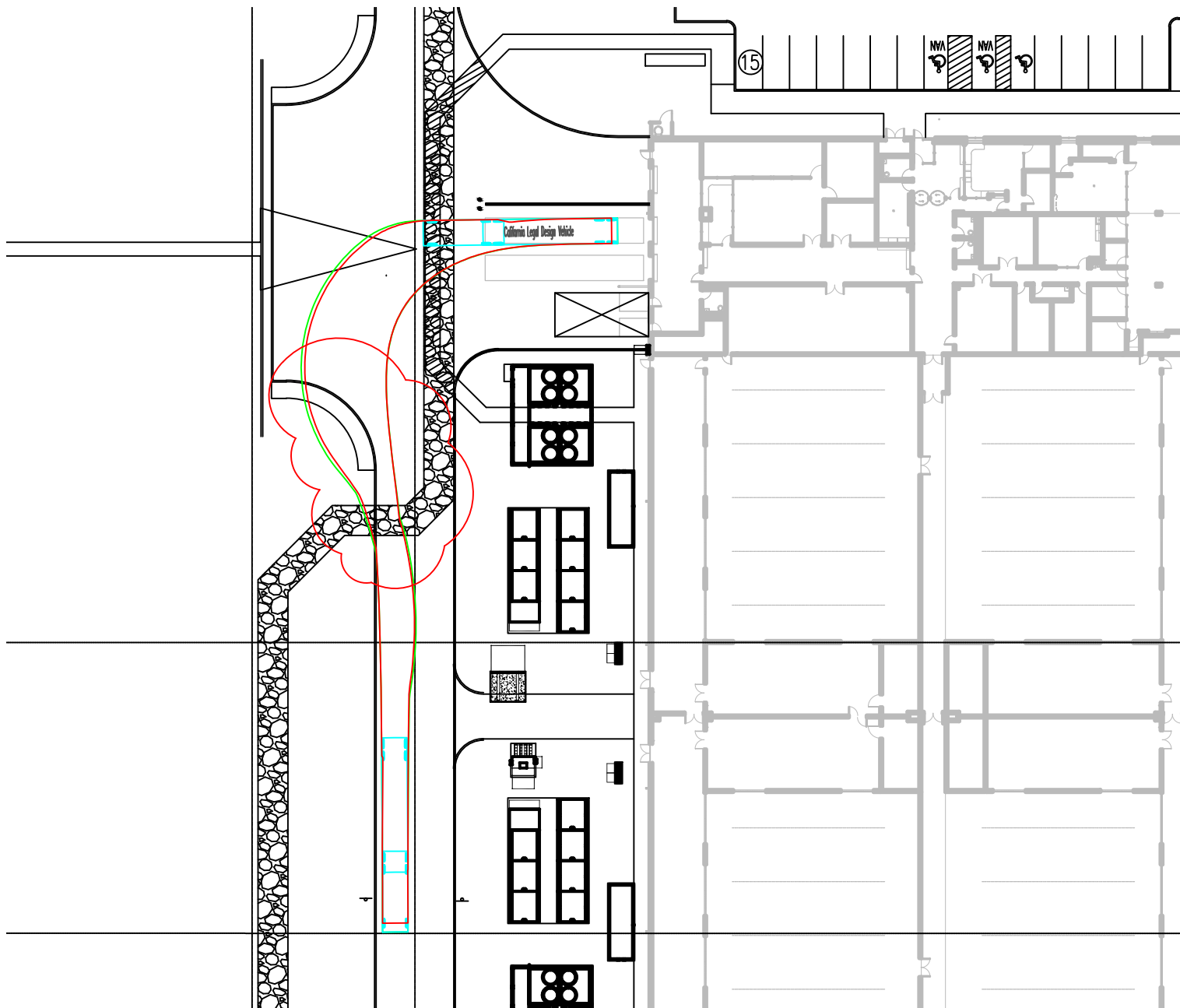
**SAN JOSE DATA CENTER  
TURNING TEMPLATE**


FIGURE NO.

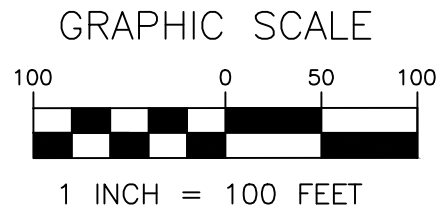
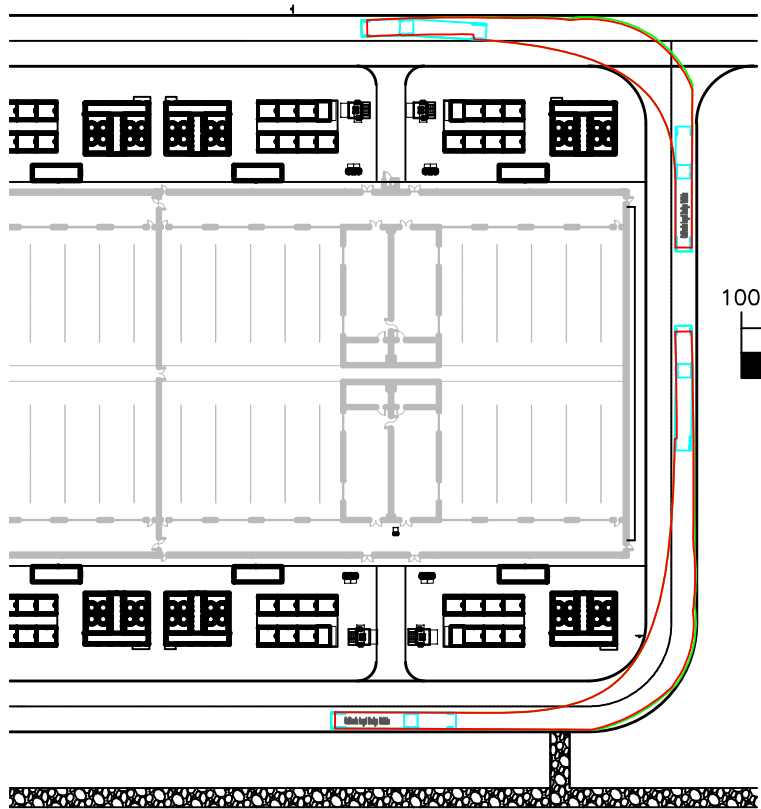
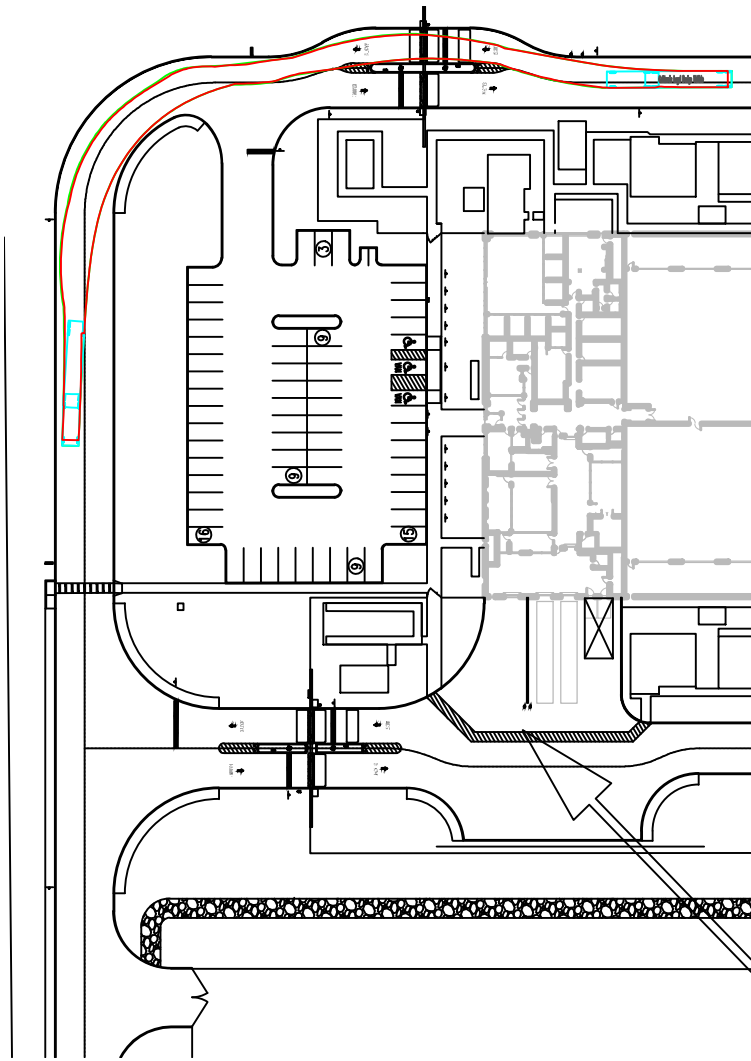



DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		<b>SAN JOSE DATA CENTER TURNING TEMPLATE</b>	





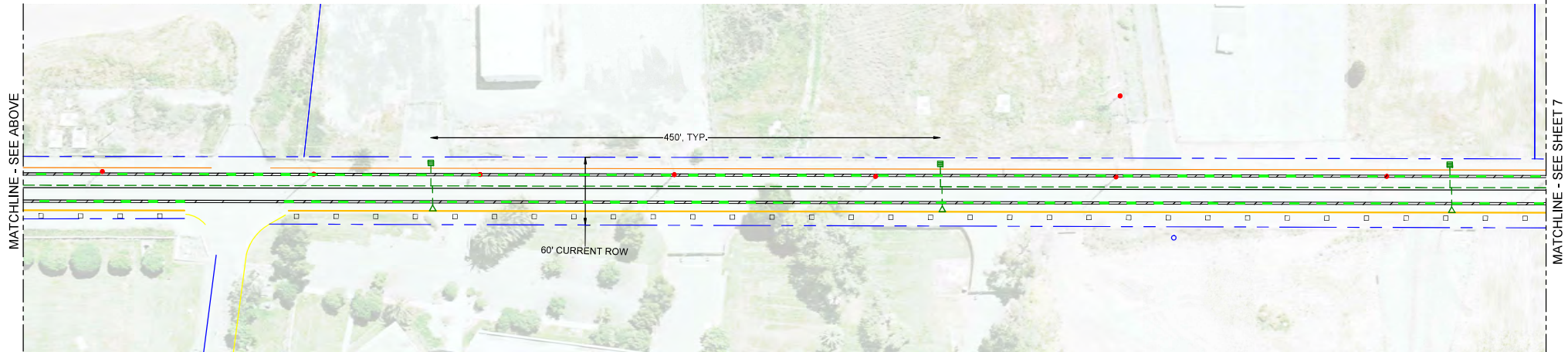
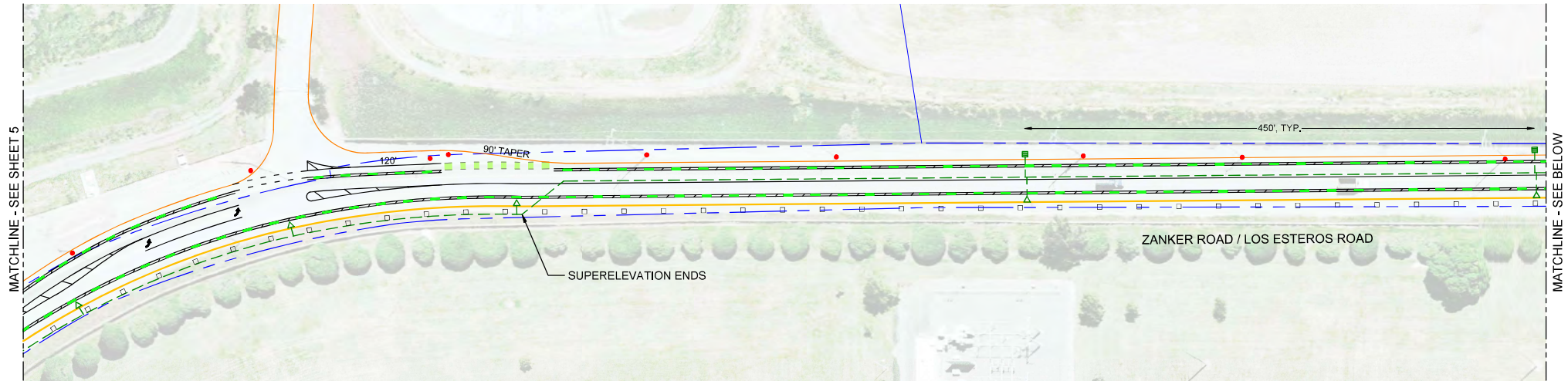
DRAWN RR	SCALE 1" = 50'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		SAN JOSE DATA CENTER TURNING TEMPLATE	



DRAWN RR	SCALE 1" = 100'	 <b>HEXAGON TRANSPORTATION CONSULTANTS, INC.</b> <small>4 North Second Street, Suite 400 San Jose, California 95113 PH: (408) 971-6100 www.hextrans.com</small>	<b>CITY OF SAN JOSE</b>	FIGURE NO.
CHECKED ----	DATE 8/30/2021		SAN JOSE DATA CENTER TURNING TEMPLATE	

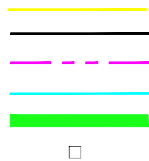
## **Appendix F**

### **Zanker Road Plan Line**

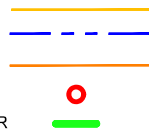


**LEGEND:**

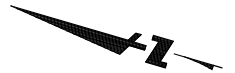
PROPOSED FACE OF CURB  
 PROPOSED STRIPING  
 PROPOSED RIGHT OF WAY  
 PROPOSED BACK OF S/W  
 PROPOSED MEDIAN  
 TREE WELL



EXISTING FACE OF CURB  
 EXISTING ROW  
 AC BERM  
 UTILITY POLE  
 PRECAST PCC BIKE SEPARATOR



CATCH BASIN  
 GROUND GRATE INLET  
 STORM DRAIN LINE



**LOS ESTEROS ROAD PLAN LINE  
 CONCEPTUAL LAYOUT**

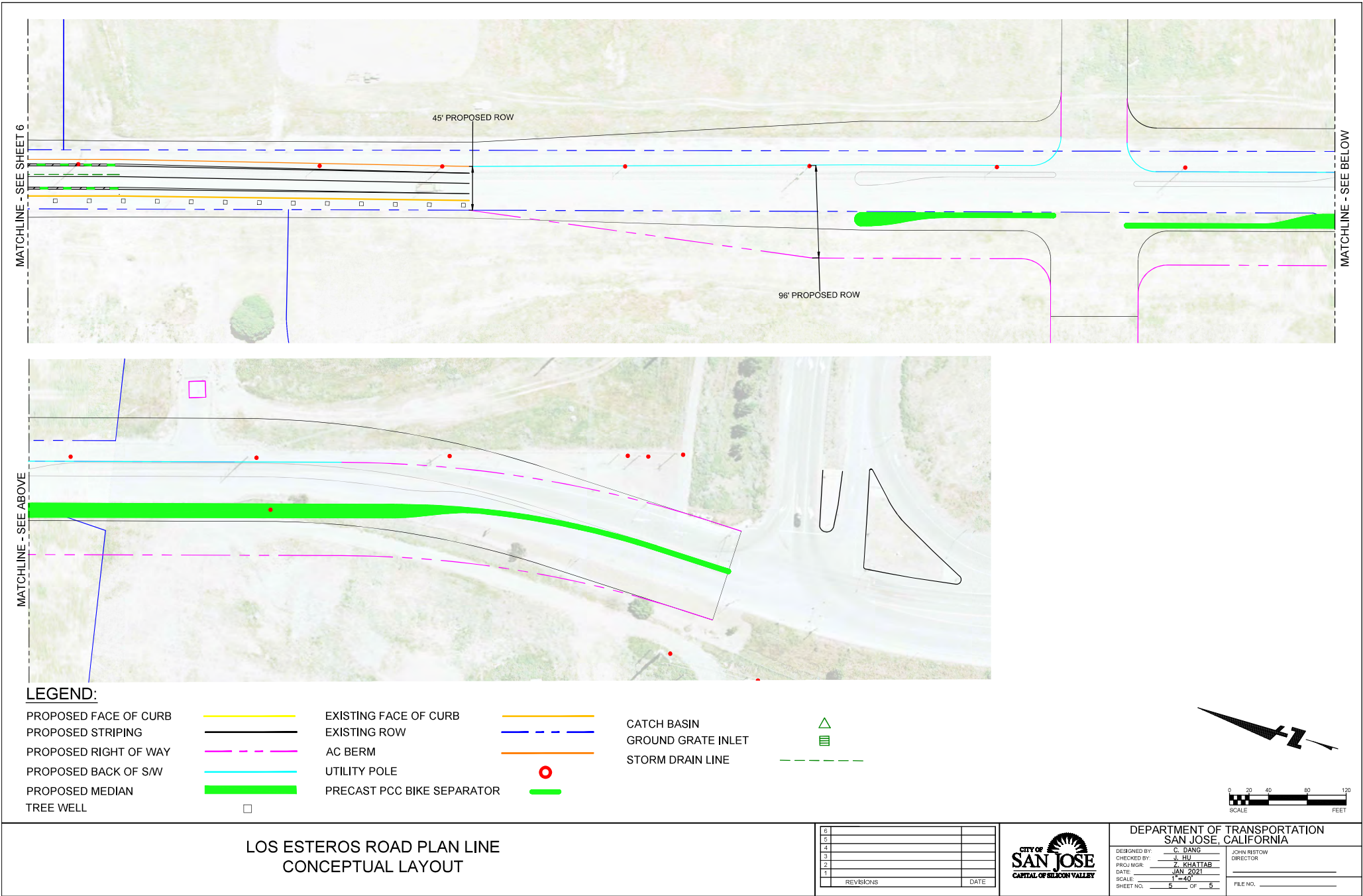
5		
4		
3		
2		
1		
REVISIONS		DATE



**DEPARTMENT OF TRANSPORTATION  
 SAN JOSE, CALIFORNIA**

DESIGNED BY: C. DANG  
 CHECKED BY: J. HU  
 PROJ MGR: Z. KHATTAB  
 DATE: JAN 2021  
 SCALE: 1"=40'  
 SHEET NO. 4 OF 5

JOHN RISTOW  
 DIRECTOR  
 FILE NO. \_\_\_\_\_



5		
5		
4		
3		
2		
1		
REVISIONS		DATE



DEPARTMENT OF TRANSPORTATION  
SAN JOSE, CALIFORNIA

DESIGNED BY:	C. DANG	JOHN RISTOW
CHECKED BY:	J. HU	DIRECTOR
PROJ MGR:	Z. KHATTAB	
DATE:	JAN 2021	
SCALE:	1"=40'	
SHEET NO.	5 OF 5	FILE NO.



## **Appendix G**

### **Data Center Parking Demand Study**



# HEXAGON TRANSPORTATION CONSULTANTS, INC.

## Memorandum

**Date:** August 18, 2017  
**To:** Mr. Ray Hashimoto  
**From:** Gary Black  
Ollie Zhou  
**Subject:** Parking Study for Server Farm Sites in Santa Clara, California

Hexagon Transportation Consultants, Inc. has completed a parking study for server farm facilities in Santa Clara, California. This study was conducted for the purpose of recommending a parking requirement for server farm facilities to be included in the City of Santa Clara's parking code. The parking requirement should ensure that the peak parking demands at future server farm sites could be contained on site. Hexagon conducted parking demand counts at five server farm sites within the City of Santa Clara to determine the existing peak parking demands. Three of the five server farm sites that were counted were approved by City staff. Subsequent to the initiation of this project, Hexagon was contracted to count two other server farms within the City of Santa Clara for another project. A description of each site and the study findings are discussed below.

### Server Farm Sites

Hexagon counted the parking lots at five server farm sites in the City of Santa Clara (see Figure 1). Each site is discussed in detail below:

- Site 1: This 42,585 square feet (s.f.) server farm site is located at 1525 Comstock Street (see Figure 2), east of Kenneth Street. The site is not gated and has 28 parking spaces on site.
- Site 2: This 39,324 s.f. server farm site is located at 1725 Comstock Street (see Figure 3), west of Kenneth Street. The site is not gated and has 25 parking spaces on site.
- Site 3: This 272,000 s.f. server farm site is located at 2401 Walsh Avenue (see Figure 4), west of San Tomas Aquino Creek. The site has gates restricting access to the northern end of the property. There are 160 parking spaces in the ungated area, and 26 spaces in the gated area. The parking spaces along the west edge of the site are mostly occupied by containers and were not counted.
- Site 4: This 323,122 s.f. server farm site is located at 2045 Lafayette Street (see Figure 5), south of Mathew Street. The site is gated and has 138 parking spaces in the gated area.
- Site 5: This 365,489 s.f. server farm site is located at 2220 De La Cruz Boulevard (see Figure 6), north of Reed Street. The site is gated and has 96 parking spaces in the gated area. An additional building recently has been built on the site but is not yet occupied.

## Parking Demand Analysis

According to the site managers for sites 1-3, the sites were believed to be busier on Fridays and weekends than weekdays. Therefore, Hexagon conducted parking demand counts at these three server farm sites on a Friday, Saturday and Sunday from 8 AM to 6 PM in July/August 2017. According to the site managers for sites 4-5, the sites were believed to be busier on weekdays. Therefore, Hexagon conducted parking demand counts at these two server farm sites on a Tuesday, Wednesday and Thursday from 8 AM to 6 PM in August 2017.

The collected data (see Appendix) show that parking demand typically peaked between 11:30 AM and 2:30 PM. Site 1 parking demand peaked on July 27<sup>th</sup> at 1:30 PM with 14 vehicles parked. Site 2 parking demand peaked on July 27<sup>th</sup> at 12:30 PM with 16 vehicles parked. Site 3 parking demand peaked on July 27<sup>th</sup> at 2:00 PM with 44 vehicles parked. Site 4 parking demand peaked on August 9<sup>th</sup> at 1:00 PM with 75 vehicles parked. Site 5 parking demand peaked on August 10<sup>th</sup> at 1:00 PM with 84 vehicles parked. Based on the maximum observed parking demand at each site, the weighted average peak parking demand (see Table 1) is 0.22 space per 1,000 square feet. However, the maximum observed parking demand rate was 0.41 space per 1,000 square feet. As shown in Table 1, it appears that the smaller server farms (sites 1 and 2) have parking demand rates higher than the larger server farms (sites 3-5).

**Table 1**  
**Observed Maximum Parking Demands**

Site #	Address	Building Size (s.f.)	Max. Observed Parking Demand	Demand Rate per 1,000 s.f.
1	1525 Comstock St <sup>1</sup>	42,585	14	0.329
2	1725 Comstock St <sup>1</sup>	39,324	16	0.407
3	2401 Walsh Ave <sup>1</sup>	272,000	44	0.162
4	2045 Lafayette St <sup>2</sup>	323,122	75	0.232
5	2220 De La Cruz Blvd <sup>2</sup>	365,489	84	0.230
<b>Weighted Average</b>				<b>0.22</b>
<b>Maximum Observed</b>				<b>0.41</b>
<b>Notes:</b>				
1. Parking demand counts were conducted on a Friday, Saturday and Sunday in July/August 2017.				
2. Parking demand counts were conducted on three weekdays in August 2017.				



## Discussion

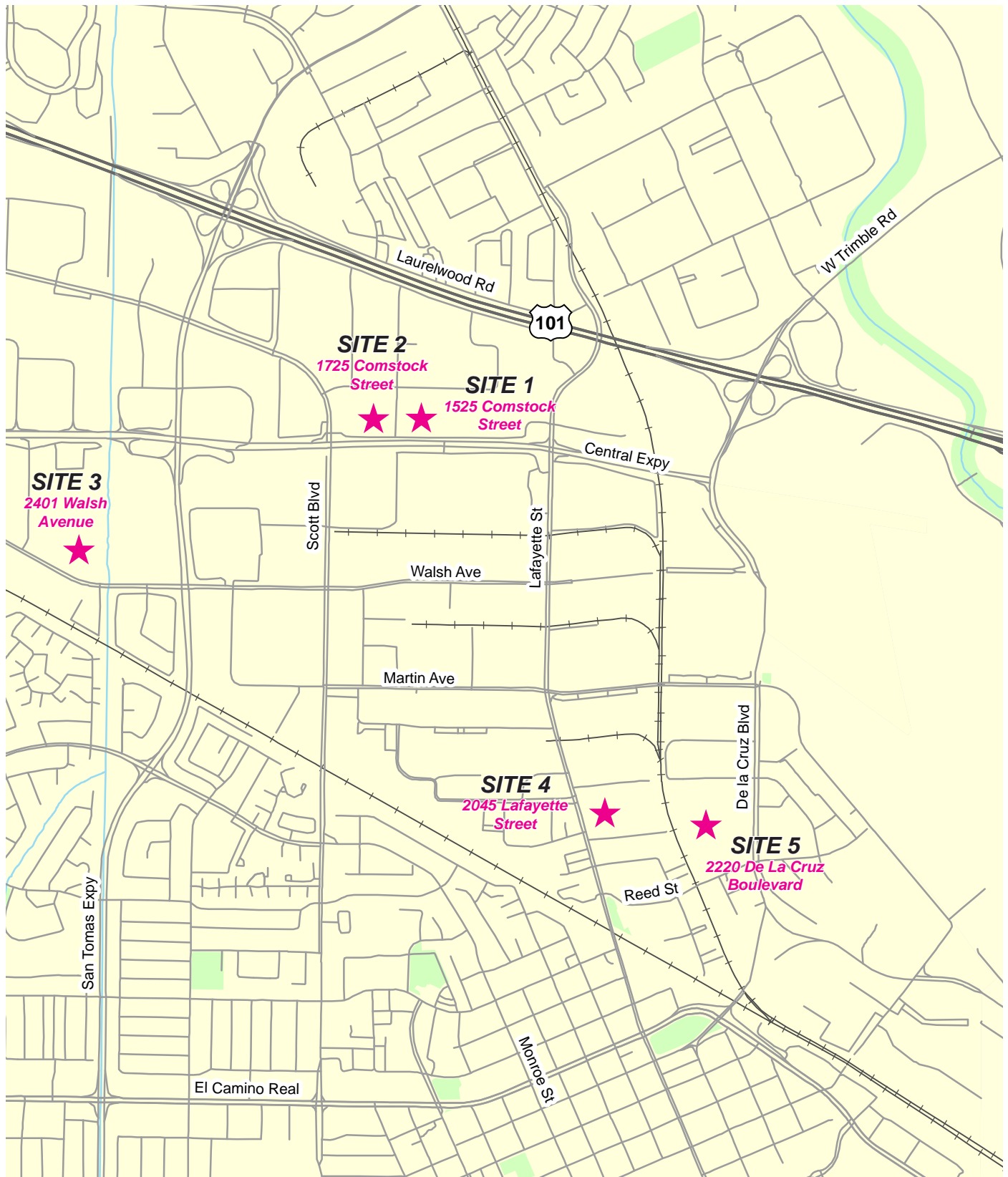
Based on Hexagon's analysis, the observed average maximum parking demand rate was 0.22 space per 1,000 square feet. However, the maximum observed parking demand rate was 0.41 space per 1,000 square feet. Using the average maximum parking demand rate would result in smaller server farms providing too few parking spaces, while using the maximum parking demand rate would result in larger server farms providing too many parking spaces. Therefore, Hexagon recommends the City to require server farms to provide a minimum of six parking spaces plus 0.22 space for every 1,000 s.f. As shown on Table 2, the suggested parking requirement would best reflect the peak parking demand at the sites that were counted. Site 2 would be required to provide 15 parking spaces, which would be one less than the observed peak parking demand. Site 3 would be required to provide 66 parking spaces, which would be 22 spaces more than the observed peak parking demand.

**Table 2**  
**Proposed Parking Requirement for Server Farms**

Site #	Address	Building Size (s.f.)	Max. Observed Parking Demand	Required Parking Provision <sup>1</sup>
1	1525 Comstock St	42,585	14	15
2	1725 Comstock St	39,324	16	15
3	2401 Walsh Ave	272,000	44	66
4	2045 Lafayette St	323,122	75	77
5	2220 De La Cruz Blvd	365,489	84	86

Notes:

1. Required parking provision is calculated based on Hexagon's recommended requirement of 6 spaces plus 0.22 space per 1,000 s.f.

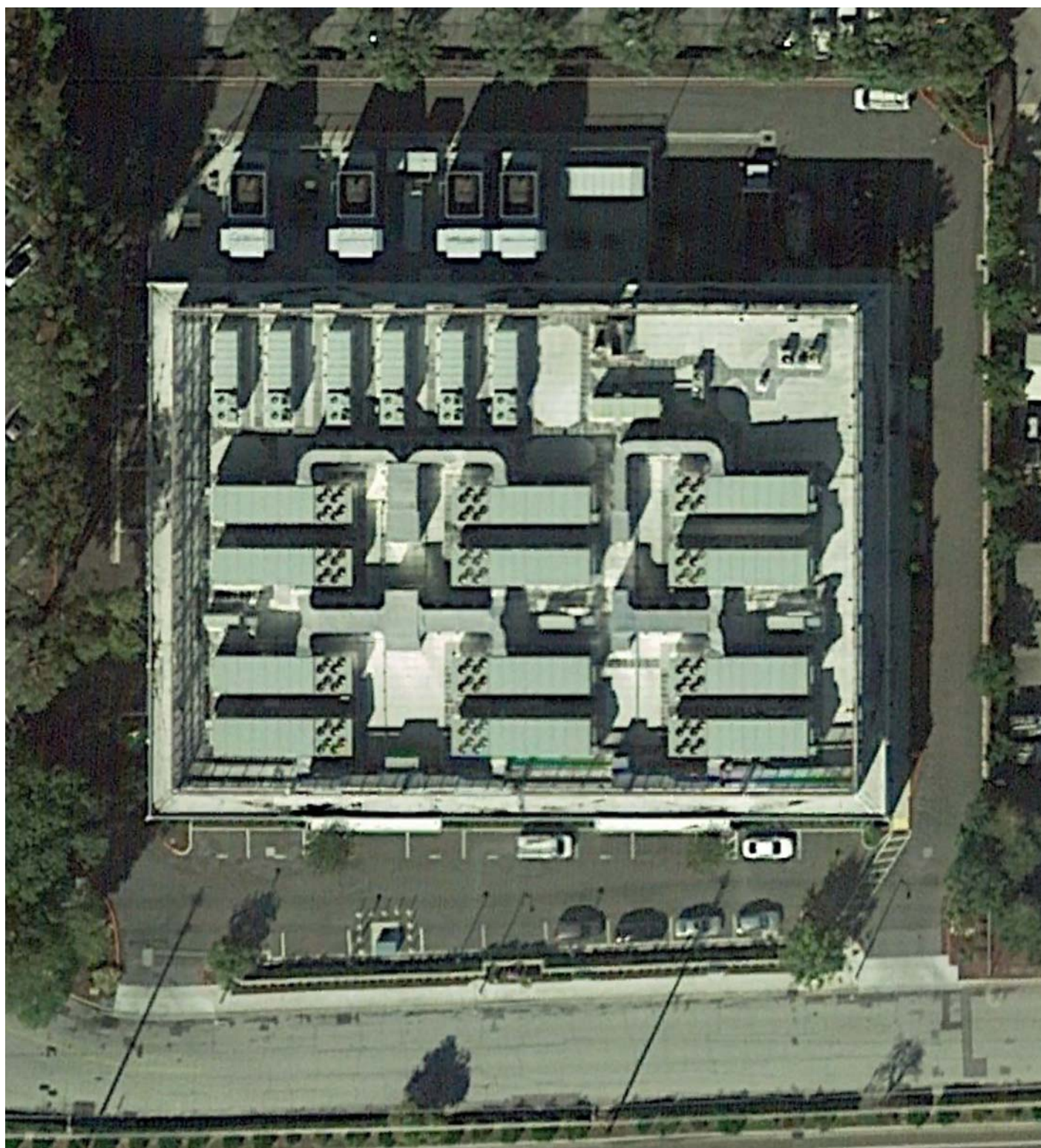


**Figure 1**  
**Count Locations**



Figure 2  
Site 1 - 1525 Comstock Street





**Figure 3**  
**Site 2 - 1725 Comstock Street**



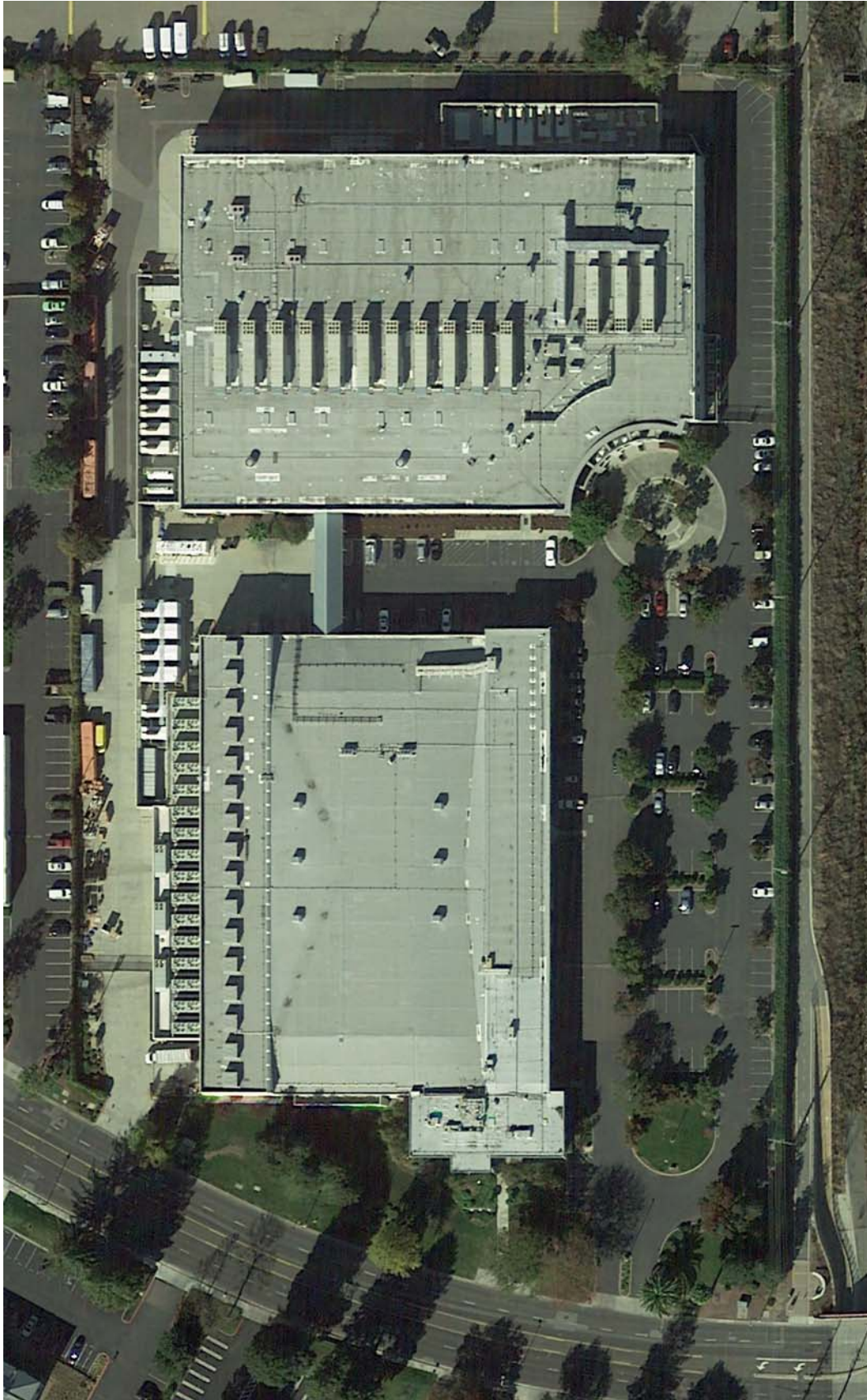


Figure 4  
Site 3 - 2401 Walsh Avenue





Figure 5  
Site 4 - 2045 Lafayette Street





**Figure 6**  
**Site 5 - 2220 De La Cruz Boulevard**

**Parking Study for Server Farm Sites in Santa Clara, CA**  
**Appendix**



Data-storage Sites Parking Counts

7-26-2017 through 8-1-2017

Counts by Auto-Census staff

Time	1525 Comstock				1725 Comstock				2401 Walsh			
	26-Jul	27-Jul	1-Aug	average	26-Jul	27-Jul	1-Aug	average	26-Jul	27-Jul	1-Aug	average
8:00AM	5	6	7	6.0	10	9	10	9.7	28	31	28	29.0
8:30 AM	6	7	8	7.0	11	10	10	10.3	30	34	30	31.3
9:00 AM	6	7	8	7.0	11	10	10	10.3	31	33	33	32.3
9:30 AM	8	8	10	8.7	11	10	10	10.3	32	36	30	32.7
10:00 AM	9	9	14	10.7	12	11	11	11.3	31	35	26	30.7
10:30 AM	10	10	13	11.0	11	11	11	11.0	35	32	28	31.7
11:00 AM	10	10	13	11.0	11	11	11	11.0	33	33	31	32.3
11:30AM	10	10	14	11.3	12	13	11	12.0	27	35	33	31.7
12:00 PM	11	7	12	10.0	11	14	9	11.3	30	29	36	31.7
12:30 PM	11	12	11	11.3	12	16	11	13.0	34	34	37	35.0
1:00 PM	11	11	11	11.0	10	15	14	13.0	32	41	35	36.0
1:30 PM	9	14	13	12.0	11	11	12	11.3	33	43	36	37.3
2:00 PM	9	11	12	10.7	12	11	12	11.7	39	44	36	39.7
2:30 PM	10	8	9	9.0	15	11	11	12.3	30	36	38	34.7
3:00 PM	11	10	9	10.0	15	11	10	12.0	27	31	37	31.7
3:30 PM	9	6	7	7.3	6	5	4	5.0	25	27	28	26.7
4:00PM	8	4	7	6.3	3	3	3	3.0	19	21	21	20.3
4:30PM	8	4	8	6.7	3	2	3	2.7	18	19	14	17.0
5:00PM	8	4	8	6.7	2	2	2	2.0	17	20	16	17.7
5:30PM	4	4	5	4.3	2	2	2	2.0	15	14	11	13.3
6:00PM	6	5	5	5.3	2	2	2	2.0	15	12	9	12.0
Daily Max	11	14	14	12.0	15	16	14	13.0	39	44	38	39.7

Note: Includes loading vehicles. Excludes construction vehicles and vehicles stored behind locked gate