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San Jose Data Center (SJC02)

Transportation Analysis



Prepared for:

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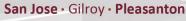
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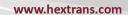
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Areawide Circulation Plans Corridor Studies Pavement Delineation Plans Traffic Handling Plans Impact Fees Interchange Analysis Parking Transportation Planning Traffic Calming Traffic Control Plans Traffic Simulation Traffic Impact Analysis Traffic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









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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 17.24 VMT per employee, which also exceeds the applicable industrial threshold of 14.37 VMT per employee. Since the VMT generated by the project would exceed the threshold of significance for industrial employment uses in the area, the project would result in a significant transportation impact on VMT, and mitigation measures are required to reduce the VMT impact.

Project Mitigation

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

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



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

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

Cumulative VMT Impact Analysis

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

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

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

Local Transportation Effects

Project Trip Generation

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, it is estimated that the project would generate 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 \$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).

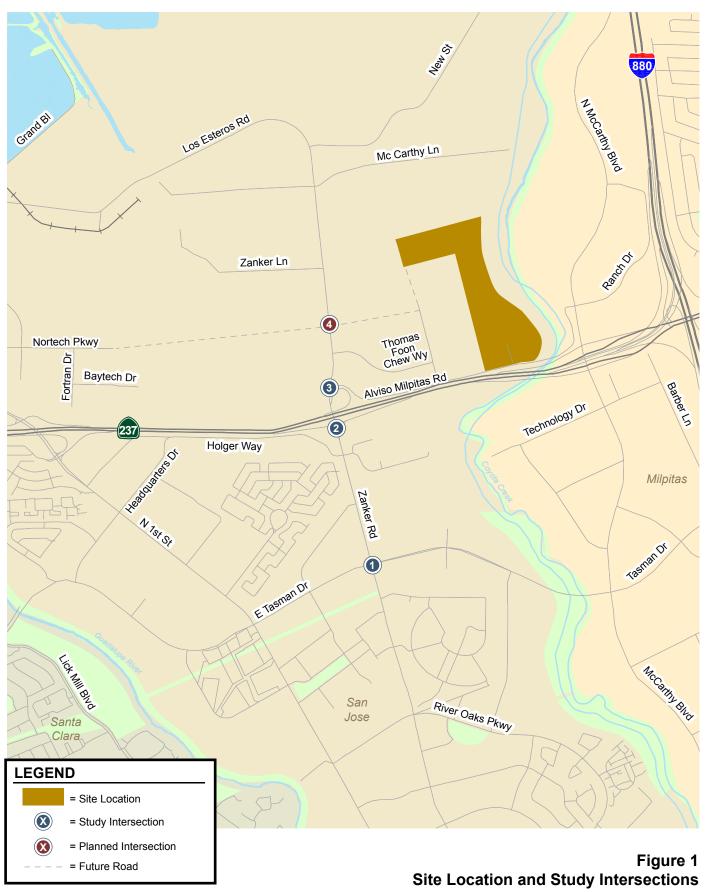
Transportation Policies

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, mixeduse, 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 singleoccupant vehicle in order to meet the City's mode split targets for San Jose residents and workers (TR-1.3);









LEGEND: -PROPERTY LINE AND LIMIT OF DISTURBANCE LANDSCAPE AREA 1. BIOSWALE 2. GENERATORS/UTILITY YARDS -15 3. SUBSTATION GENERATOR PAD (TYP.) REFUSE/RECYCLING CANOPY PROPERTY LINE ADA ENTRY LANDS OF CITY OF SAN JOSE SITE ENTRANCE/EXIT SECONDARY SITE ENTRANCE/EXIT LANDS OF PG&E 10. FENCED PERIMETER (8') 11. EXISTING STORMWATER EASEMENT 12. SANITARY PUMP STATION 13. CAR PARKING 14. MOTORCYCLE PARKING NORTECH EXTENSION 15. BICYCLE PARKING LANDS OF CALPINE LANDS OF CITY OF SAN JOSE Figure 2 MILPITAS ALVISO ROAD LANDSCAPE AREA 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 gradeseparated 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 nonautomobile 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

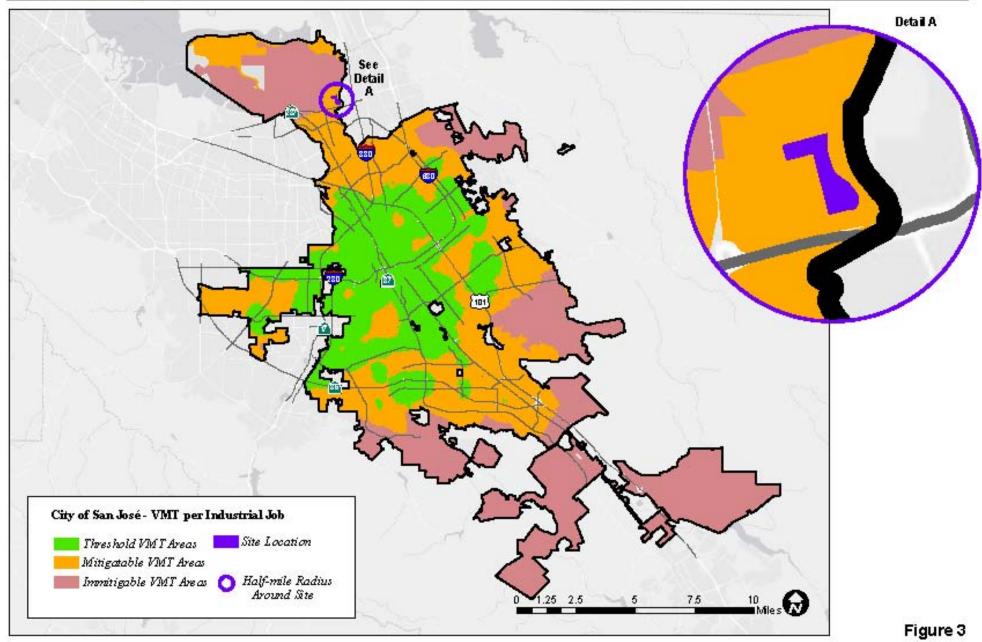
The non-CEQA Local Transportation Analysis (LTA) supplements the VMT analysis by identifying potential adverse operational effects that may arise due to a new development, as well as evaluating the effects of a new development on site access, circulation, and other safety-related elements in the proximate 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.





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	
	Project VMT per capita exceeds existing citywide	11.91	10.12	
Residential Uses	average VMT per capita minus 15 percent, <u>or</u> existing regional average VMT per capita minus 15 percent, whichever is lower.	VMT per capita (Citywide Average)	VMT per capita	
General Employment	Project VMT per employee exceeds existing regional	14.37	12.21	
Uses	average VMT per employee minus 15 percent.	VMT per employee (Regional Average)	VMT per employee	
Industrial Employment	Project VMT per employee exceeds existing regional	14.37	14.37	
Uses	mployment Project VMT per employee exceeds existing regional average VMT per employee.		VMT per employee	
Retail / Hotel / School Uses	Net increase in existing regional total VMT.	Regional Total VMT	Net Increase	
Public / Quasi-Public Uses	In accordance with most appropriate type(s) as determined by Public Works Director.	Appropriate levels listed above	Appropriate thresholds listed above	
Mixed-Uses	Evaluate each land use component of a mixed-use project independently, and apply the threshold of significance for each land use type included.	Appropriate levels listed above	Appropriate thresholds listed above	
Change of Use / Additions to Existing Development	Evaluate the full site with the change of use or additions to existing development, and apply the threshold of significance for each project type included.	Appropriate levels listed above	Appropriate thresholds listed above	
Area Plans	Evaluate each land use component of the Area Plan independently, and apply the threshold of significance for each land use type included.	Appropriate levels listed above	Appropriate thresholds listed above	
Source: City of San Jose, 2018	Transportation Analysis Handbook , Table 2.			

Level of Service Standards and Analysis Methodologies

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

City of San Jose Signalized Intersections

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



Table 2
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
В	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
С	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0
Source: Transp	ortation Research Board, 2010 Highway Capacity Manual, (Washington, D.C., 2	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:

- The level of service at the intersection degrades from an acceptable level (LOS D or better) under background conditions to an unacceptable level under background plus project conditions, or
- 2. The level of service at the intersection is an unacceptable level (LOS E or F) under background conditions and the addition of project trips cause both the critical-movement delay at the intersection to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

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

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

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



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

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at study intersections where the project would add a noteworthy number of trips to the left-turn movements. The queuing analysis is presented for informational purposes only, since the City of San Jose has not defined a policy related to queuing. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

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

Where:

P(x = n) = probability of "n" vehicles in queue per lane

n = number of vehicles in the queue per lane

 λ = average # of vehicles in the queue per lane (vehicles per hr. per lane/signal cycles per hr.)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement.

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

North San Jose Area Development Policy Traffic Impact Fee

The project site is located immediately north of the North San Jose Area Development Policy (NSJADP) boundary. The NSJADP guides the ongoing growth and development of the North San Jose area as an important employment center for San Jose. Its key goals include proactively planning for growth to allow more industrial development in a way that benefits current San Jose residents. In order to support this employment growth, it also aims to develop pedestrian infrastructure, encourage use of the transit system, and provide local and regional transportation improvements. The Policy identifies specific transportation improvements necessary to support new 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 it interchange with SR 237.

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



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

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

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

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

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

Existing Intersection Lane Configurations

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

Existing Pedestrian and Bicycle Facilities

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

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

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



Microsoft Data Center (SJC02) 4 Proposed 2 1 3 Lane Tasman Dr Configuartion Nortech Pkwy SR 237 WB Ramps 1111 $\uparrow\uparrow\uparrow\uparrow$ Zanker Rd Mc Carthy Ln 880 Zanker Ln 4 Thomas Foon Chew Wy Nortech Pkwy Fortran Dr Alviso Milpitas Rd Baytech Dr 3 Technology Dr 2 reddings of Holger Way Milpitas Zanker Rd NISTST TashanDr 1 E Tasman Dr River Oaks Pkwy San Jose Santa Clara **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





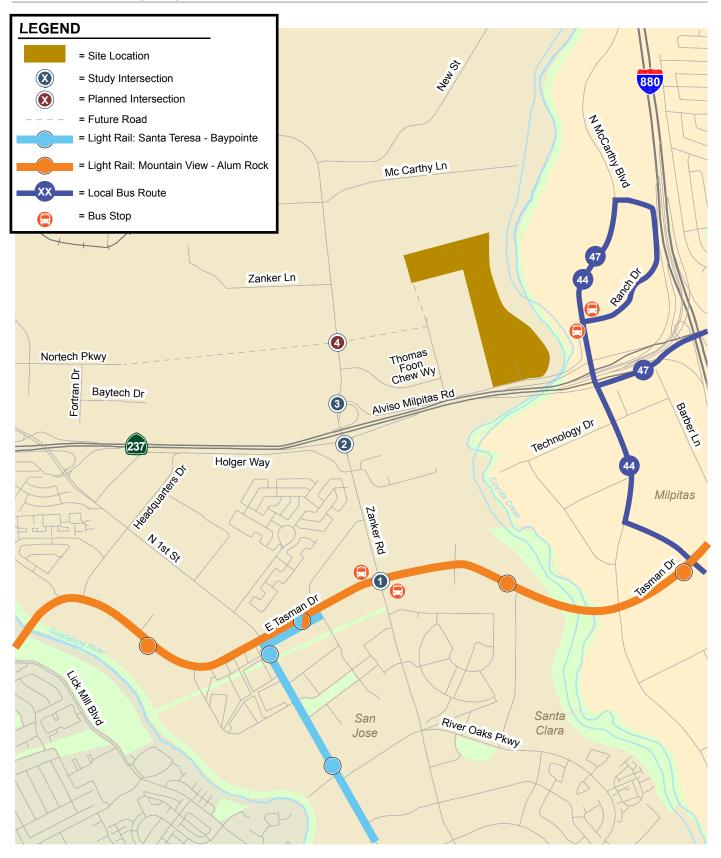


Figure 6 Existing Transit Facilities





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. 1st 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	Da Rate	nily Trip
Data Center	160		396,914 Square Feet	0.99	393
General Light Industrial	110	Equivalent Industrial Space ¹ =	79,234 Square Feet	4.96	393
Source: ITE Trip Generation Manual, The VMT Evalution Tool does not prover the converted to equivalent Generation.	ovide for the evaluation			ject trips	



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 17.24 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 multimodal 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. 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

		Vehicle I	Miles Traveled (V	MT)	
Mitigation Measure	Mitigation Description	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 w alkability, 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 betw een the new Nortech Parkw ay extension and the SR 237 w estbound 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 narrow ing 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 Bikew ay 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 Bikew ay Trail extension along the east side of Zanker Rd, connecting the existing SR 237 Bikew ay Trail segment with the new Nortech Pkwy extension. Bike lanes and sidew alks 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 few er 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 - 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	
	VMT Per Worker with Implementation of all 6 Mitigation Measures:	14.12	14.37	NO	

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

PROJECT:	
Name: San Jose Data Center SJC02 NO MITIGATION Tool Version: Location: N/O SR 237 btwn Zanker Rd and McCarthy Bl Date: Parcel: 01531054 Parcel Type: Suburb with Single-Family Homes	2/29/2019 8/10/2021
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) Multi Family 0 DU Very Low Income (\geq 30% MFI, \leq 50% MFI) Subtotal 0 DU Low Income ($>$ 50% MFI, \leq 80% MFI) Office: 0 KSF Retail: 0 KSF	0 % Affordable 0 % Affordable 0 % Affordable
Industrial: 79.23 KSF	
VMT REDUCTION STRATEGIES	
Tier 1 - Project Characteristics	
Increase Residential Density	
Existing Density (DU/Residential Acres in half-mile buffer) With Project Density (DU/Residential Acres in half-mile buffer)	11 11
Increase Development Diversity Existing Activity Mix Index With Project Activity Mix Index	0.82 0.81
Integrate Affordable and Below Market Rate Extremely Low Income BMR units Very Low Income BMR units Low Income BMR units	0 % 0 % 0 %
Increase Employment Density Existing Density (Jobs/Commercial Acres in half-mile buffer) With Project Density (Jobs/Commercial Acres in half-mile buffer)	12 13
Tier 2 - Multimodal Infrastructure	
Tier 3 - Parking	
End of Trip Bike Facilities Bicycle Parking Spaces Provided by Project	35 spaces No
Tier 4 - TDM Programs	
EMPLOYMENT ONLY The tool estimates that the project would generate per non-industrial worker VMT above the City's threshold.	and per
20	
Area VMT Project VMT Project + TDM VMT Est. Max Reduction Possible	



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

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMA	RY REPORT
PROJECT:	
Name: San Jose Data Center SJC02 MITIGATED Tool Version: Location: N/O SR 237 btwn Zanker Rd and McCarthy Bl Date: Parcel: 01531054 Parcel Type: Suburb with Single-Family Homes Proposed Parking Spaces Vehicles: 122 Bicycles: 35	2/29/2019 8/10/2021
LAND USE:	
Residential: Percent of All Residential Units Single Family 0 DU Extremely Low Income (\leq 30% MFI) Multi Family 0 DU Very Low Income ($>$ 30% MFI, \leq 50% MFI) Subtotal 0 DU Low Income ($>$ 50% MFI, \leq 80% MFI) Office: 0 KSF Retail: 0 KSF	0 % Affordable 0 % Affordable 0 % Affordable
Industrial: 79.23 KSF	
VMT REDUCTION STRATEGIES	
Tier 1 - Project Characteristics	
Increase Residential Density Existing Density (DU/Residential Acres in half-mile buffer) With Project Density (DU/Residential Acres in half-mile buffer) Increase Development Diversity Existing Activity Mix Index	11 11 0.82
With Project Activity Mix Index	0.81
Integrate Affordable and Below Market Rate Extremely Low Income BMR units Very Low Income BMR units Low Income BMR units	0 % 0 % 0 %
Increase Employment Density Existing Density (Jobs/Commercial Acres in half-mile buffer) With Project Density (Jobs/Commercial Acres in half-mile buffer)	12 13
Tier 2 - Multimodal Infrastructure	
Bike Access Improvements (In Coordination with SJ) Distance to Nearest Existing Bicycle Facility	900 feet 0 feet
Increase Network Connectivity (In Coordination with SJ) Intersection Density	20 int/sqmi 21 int/sqmi
Traffic Calming Measures (In Coordination with SJ) Are improvements provided beyond the development frontage?	Yes
Pedestrian Network Improvements (In Coordination with SJ) 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 Code185 spacesTotal Parking Spaces Available to Employees122 spacesDoes the surrounding street parking have RPP, meters, or time limits?Yes

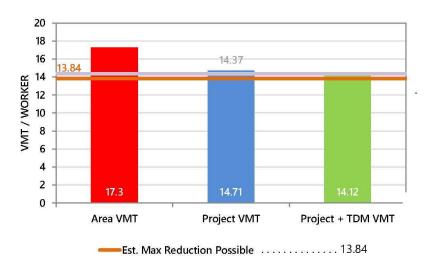
End of Trip Bike Facilities

Tier 4 - TDM Programs

Commute Trip Reduction Marketing/ Education

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*, 10th 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

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

Notes

¹ 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.

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.



²The 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.

³ 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.

Microsoft Data Center (SJC02) 1 2 3 4 £ £ £ £ £ 1(0) € 9(4) SR 237 EB Ramps Nortech Pkwy (Future) **1**5(20) SR 237 WB Ramps 10(4) 7(3)-19(8) Zanker Rd Zanker Rd Mc Carthy Ln 880 Zanker Ln 50% 4 Thomas Foon Chew Wy Nortech Pkwy Fortran Dr Alviso Milpitas Rd Baytech Dr 3 Technology Dr 15% 2 237 To so did not be Holger Way Milpitas Zanker Rd N Ist St Tasman Dr 1 E Tasman Lick Mill Blvd Santa Clara San River Oaks Pkwy **LEGEND** Jose = Site Location = Study Intersection = Planned Intersection = Future Road **XX%** = Trip Distribution XX(XX) = AM(PM) Peak-Hour Trips **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.



Microsoft Data Center (SJC02) 3 1 2 28(42) 250(429) 92(367) 30(15) 82(109) 862(295) 1150(411) 249(285) SR 237 EB Ramps 299(668) Tasman Dr SR 237 WB Ramps 62(135) 31(4) 781(506) → 409(953) → 2(3) 534(124) 237(823) 35(112) 109(39) -704(475) ⁻ 644(680) -113(242) ⁻ Zanker Rd Zanker Rd Mc Carthy Ln 880 South Digital Control of the Control Zanker Ln 4 Thomas Foon Chew Wy Nortech Pkwy Fortran Dr Alviso Milpitas Rd Baytech Dr Barber Ln 3 Technology Dr 2 237 To San Transfer of the San Holger Way Milpitas Zanker Rd N Ist St TashanDr 1 E Tasman Dr River Oaks Pkwy San Jose Santa **LEGEND** = Site Location = Study Intersection = Planned Intersection = Future Road Figure 9 XX(XX) = AM(PM) Peak-Hour Traffic Volumes **Existing Traffic Volumes**





Microsoft Data Center (SJC02) 2 3 1 118(485) 30(15) 40(49) 322(504) 476(258) 928(341) 1269(520) 164(133) SR 237 EB Ramps Tasman Dr 393(752) 264(311) SR 237 WB Ramps 79(148) 32(4) 904(611) ** 424(1009) ** 343(990) 2(8) 159(47) -713(511) ⁻ 47(133) 612(147) Zanker Rd Zanker Rd Mc Carthy Ln 880 Zanker Ln 4 Thomas Foon Chew Wy Nortech Pkwy Fortran Dr Alviso Milpitas Rd Baytech Dr Barber Ln 3 Technology Dr 2 237 To so did not be Holger Way Milpitas Zanker Rd N Ist St TashanDr 1 E Tasman Dr Santa River Oaks Pkwy San Clara Jose **LEGEND** = Site Location = Study Intersection = Planned Intersection = Future Road Figure 10 XX(XX) = AM(PM) Peak-Hour Traffic Volumes **Background Traffic Volumes**





Microsoft Data Center (SJC02) 2 3 1 4 151(508) 41(51) 325(509) 431(864) 88(397) 174(137) 929(341) 1269(520) Tasman Dr SR 237 EB Ramps ___ 15(20) Nortech 393(752) 264(311) Pkwy_ SR 237 WB Ramps 81(149) 35(5) 911(614) — 424(1009) ~ 343(990) 47(133) 2(8) 328(183) -19(8) ⁻ 169(51) -713(511) ⁻ 612(147) Zanker Rd Zanker Rd Mc Carthy Ln 880 Zanker Ln 4 Thomas Foon Chew Wy Norteck Pkwy Fortran Dr Alviso Milpitas Rd Baytech Dr Barberun 3 Technology Dr 2 237 To so did not be Holger Way Milpitas Zanker Rd N Ist St Tasman Dr 1 E Tasman Dr Santa River Oaks Pkwy San Clara Jose **LEGEND** = Site Location = Study Intersection = Planned Intersection = Future Road Figure 11 XX(XX) = AM(PM) Peak-Hour Traffic Volumes **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

				Exist	ing	Backgr	ound	Background + Project						
#	Signalized Intersection	Peak Hour	Count Date ¹	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			
'	Zanker Rd & Fasman Dr	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	В	15.3	В	15.4	В	0.1	0.007			
2	Zanker Ku & SK 237 EB Kamps	PM	11/1/2018	10.6	В	11.3	В	11.4	В	0.1	0.008			
3	Zanker Rd & SR 237 WB Ramps *	AM	10/12/2016	11.6	В	11.4	В	11.6	В	0.3	0.004			
3	Zalikel Ru & SR 23/ WB Rallips	PM	11/1/2018	11.1	В	13.5	В	14.2	В	0.1	0.003			
1	Zankar Dd 9 Nortach Dkun (Eutura)	AM				-		3.3	Α	-				
4	Zanker Rd & Nortech Pkwy (Future)	PM						3.3	Α	-				

Notes:

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 \$18,725 = \$187,250.



^{*} Denotes CMP intersection

¹ An annual growth factor of 1% was applied to the historical count date to estimate "normal" (i.e., pre-COVID-19) traffic conditions.

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

		Rd & SR 237 und Ramps	Zanker Rd Pkwy (l	& Nortech Future)
	SI	BL	WI	BL
Measurement	AM	PM	AM	PM
Existing				
Cycle/Delay ¹ (sec)	65	53		
Volume (vphpl)	61	285		
Total 95th %. Queue (veh.)	3	8		
Total 95th %. Queue (ft.) ²	75	200		
Total Storage	300	300		
Adequate (Y/N)	Υ	Υ		
Background				
Cycle/Delay 1 (sec)	65	53		
Volume (vphpl)	80	387		
Total 95th %. Queue (veh.)	4	10		
Total 95th %. Queue (ft.) 2	100	250		
Total Storage	300	300		
Adequate (Y/N)	Υ	Υ		
Background Plus Project				
Cycle/Delay ¹ (sec)	65	53	100	100
Volume (vphpl)	88	397	15	20
Total 95th %. Queue (veh.)	4	10	2	2
Total 95th %. Queue (ft.) ²	100	250	50	50
Total Storage	300	300	100	100
Adequate (Y/N)	Υ	Υ	Υ	Υ

Notes:

SBL = southbound left-turn movement; WBL = westbound left-turn movement



¹ Vehicle queue calculations are based on cycle length for signalized intersections.

² 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

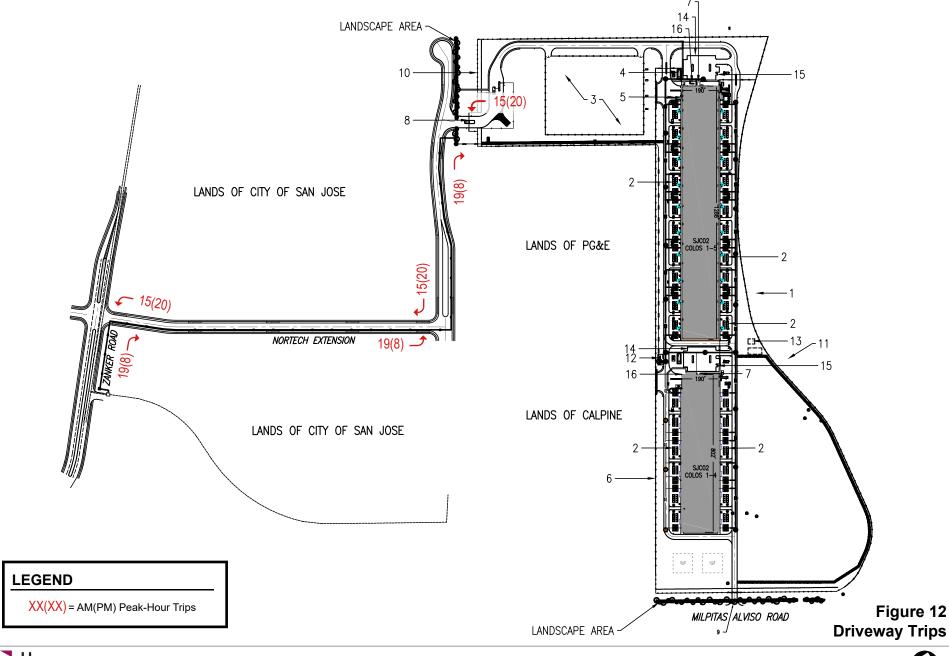
 Provide a sidewalk along the project driveway from the Nortech Parkway extension to the data center site.

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.









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

		City of San Jose Parking R	Requirements
Unit Type	Square Feet	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
Total:	396,914		185
Total: Source: San Jose Municipal Code Chapte	•	190.	185

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:

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

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

				Parke	ed Cars						
		2045 Lafaye	tte Street			2220 De La Cru	ız Boulevard				
	8/8/2017	8/9/2017	8/10/2017	Daily	8/8/2017	8/9/2017	8/10/2017	Daily			
Time	Tuesday	Wednesday	Thursday	Average	Tuesday	Wednesday	Thursday	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)		323,1	122		365,489						
Max. Parking Demand (veh/ksf)		0.23	32		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 s.f. / 5,000 s.f. = 5.53 = 6 spaces (rounded up) Computer Equipment Space: 369,262 s.f. / 50,000 s.f. = 7.39 = 8 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 Code-required auto spaces / 50 = 3.7 = 4 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 17.24 VMT per employee, which also exceeds the applicable industrial threshold of 14.37 VMT per employee. Since the VMT generated by the project would exceed the threshold of significance for industrial employment uses in the area, the project would result in a significant transportation impact on VMT, and mitigation measures are required to reduce the VMT impact.

Project Mitigation

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

- 1. Increase Roadway Network Connectivity
- 2. Traffic Calming
- 3. Pedestrian Network Improvements
- 4. Bike Access Improvements
- 5. Limit Parking Supply
- 6. Commute Trip Reduction Marketing and Education



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

Cumulative VMT Impact Analysis

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

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

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

Local Transportation Effects

Project Trip Generation

After applying the ITE trip rates to the proposed project and applying the appropriate trip adjustments and reductions, it is estimated that the project would generate 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 \$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 AIntersection Volumes



Intersection Number: Traffix Node Number:

Intersection Name:

3821

Zanker Road

& Tasman Drive

Peak Hour: Count Date:

ΑM 03/06/18

Scenario:

479,000 SF Data Center

SJ Growth Factor (% Per Year):

(/-	
Number	of Years:	3.08

Date of Analysis: 04/27/21

									IN	umber of	rears.	3.08	,
						Movem	ents						
	No	rth Appro	ach	Eas	t Appro	ach	Sout	th Appr	oach	West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Count (Mar 2018)	27	243	405	836	1116	242	110	625	102	34	230	60	4030
· · · · · · · · · · · · · · · · · · ·	21	243 7			34	7					230 7		
1% Annual Growth (SJ Count Adjustment)	7	,	12	26			3	19	3	1		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: Traffix Node Number:

3031

Intersection Name:

Scenario:

Zanker Road

& SR 237 EB Ramps

Peak Hour: Count Date:

ΑM

10/12/16

479,000 SF Data Center

SJ Growth Factor (% Per Year):

									N	lumber of `	Years:	4.50)
						Movem	nents						
	No	rth Appro	ach	Eas	t Appro	oach	South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Count (Oct 2016)	0	306	58	0	0	0	391	747	0	511	2	30	2045
1% Annual Growth (SJ Count Adjustment)	ō	14	3	Ö	0	Ō	18	34	Ö	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	

3 Intersection Number: Traffix Node Number: 3030

Intersection Name: Zanker Road & SR 237 WB Ramps

Peak Hour: ΑM Date of Analysis: 04/27/21

Count Date: 10/12/16

Scenario: 479,000 SF Data Center

SJ Growth Factor (% Per Year):	0.01
Number of Voores	4 E0

									IN	umber of	rears.	4.50	<u> </u>
						Movem	ents						
_	Noi	rth Appro	ach	East	Appro	oach	Sout	h Appro	oach	West Approach			_
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Tota
Existing Count (Oct 2016)	0	00	20	70	0	200	674	101	0		0		405
,	0	88	29	78	0	286	674	104	0	0	0	0	125
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	1310
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	157
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	161
Bkgrd+Proj check	0	134	33	175	0	393	713	170	0	0	0	0	

Intersection Number:

Traffix Node Number: 4000 Intersection Name: Zanker Road

& Nortech Parkway

Peak Hour: ΑM

Count Date: 479,000 SF Data Center Scenario:

SJ Growth Factor (% Per Year): 0.01

									N	umber of	Years:	2.42	2
						Movem	ents						
_	No	rth Appro	ach	Eas	t Appro	oach	Sou	th Appro	oach	Wes	st Appro	oach	
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
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

Traffix Node Number: Intersection Name: 3821

Zanker Road

& Tasman Drive

Peak Hour: Count Date:

PM 03/06/18

Count Date: Scenario:

479,000 SF Data Center

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

Date of Analysis: 04/27/21

					Movem	ents						
No	rth Appro	ach	Eas	t Appro	ach	Sou	th Appr	oach	Wes	t Appro	oach	
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Tota
11	416	160	286	300	276	235	660	243	100	708	121	375
41												11
12								-				387
42	429	100	295	411	200	242	000	250	112	023	133	301
7	75	93	46	109	26	29	127	40	21	167	13	753
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
7	75	93	46	109	26	29	127	40	21	167	13	753
49	504	258	341	520	311	271	807	290	133	990	148	462
49	504	258	341	520	311	271	807	290	133	990	148	
2	5	1	0	0	0	0	2	0	0	0	1	11
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
2	5	1	0	0	0	0	2	0	0	0	1	11
51	509	259	341	520	311	271	809	290	133	990	149	463
51	510	259	341	520	311	271	809	290	133	990	149	
	7 0 0 7 49 49 2 0 2	RT TH 41 416 1 13 42 429 7 75 0 0 0 0 7 75 49 504 49 504 2 5 0 0 0 0 2 5 51 509	41 416 160 1 13 5 42 429 165 7 75 93 0 0 0 0 0 0 7 75 93 49 504 258 49 504 258 2 5 1 0 0 0 2 5 1 51 509 259	RT TH LT RT 41 416 160 286 1 13 5 9 42 429 165 295 7 75 93 46 0 0 0 0 0 0 0 0 7 75 93 46 49 504 258 341 49 504 258 341 2 5 1 0 0 0 0 0 0 0 0 0 2 5 1 0 51 509 259 341	RT TH LT RT TH 41 416 160 286 399 1 13 5 9 12 42 429 165 295 411 7 75 93 46 109 0 0 0 0 0 0 0 0 0 0 7 75 93 46 109 49 504 258 341 520 49 504 258 341 520 2 5 1 0 0 0 0 0 0 0 0 0 0 0 0 2 5 1 0 0 0 0 0 0 0 2 5 1 0 0 51 509 259 341 520	North Approach East Approach RT TH LT RT TH LT 41 416 160 286 399 276 1 13 5 9 12 9 42 429 165 295 411 285 7 75 93 46 109 26 0 0 0 0 0 0 7 75 93 46 109 26 49 504 258 341 520 311 49 504 258 341 520 311 2 5 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 5 1 0 0 0 0 0 0 0 0 0 0	RT TH LT RT TH LT RT 41 416 160 286 399 276 235 1 13 5 9 12 9 7 42 429 165 295 411 285 242 7 75 93 46 109 26 29 0 0 0 0 0 0 0 0 0 0 0 0 0 0 7 75 93 46 109 26 29 49 504 258 341 520 311 271 49 504 258 341 520 311 271 2 5 1 0 0 0 0 0 0 0 0 0 0 0 2 5 1 0 0 0 0	North Approach East Approach South Approach RT TH LT RT TH LT RT TH 41 416 160 286 399 276 235 660 1 13 5 9 12 9 7 20 42 429 165 295 411 285 242 680 7 75 93 46 109 26 29 127 0 0 0 0 0 0 0 0 7 75 93 46 109 26 29 127 49 504 258 341 520 311 271 807 49 504 258 341 520 311 271 807 2 5 1 0 0 0 0 0 0 0 0 0 0 0	North Approach East Approach South Approach RT TH LT RT TH LT RT TH LT 41 416 160 286 399 276 235 660 243 1 13 5 9 12 9 7 20 7 42 429 165 295 411 285 242 680 250 7 75 93 46 109 26 29 127 40 0 0 0 0 0 0 0 0 0 7 75 93 46 109 26 29 127 40 49 504 258 341 520 311 271 807 290 49 504 258 341 520 311 271 807 290 2 5 1 0 0 0 </td <td>North Approach East Approach South Approach Wee RT TH LT RT TH LT RT TH LT RT RT TH LT RT 243 109 26 29 127 40 21 21 21 21 49 504 258 341 520 311 271 <td< td=""><td> North Approach East Approach RT TH LT RT TH TH LT RT TH TH LT RT TH TH LT RT TH TH TH TH TH TH T</td><td>North Approach East Approach South Approach West Approach RT TH LT LT RT TH LT RT RT TH LT RT RT TH LT RT 243 103 103</td></td<></td>	North Approach East Approach South Approach Wee RT TH LT RT TH LT RT TH LT RT RT TH LT RT 243 109 26 29 127 40 21 21 21 21 49 504 258 341 520 311 271 <td< td=""><td> North Approach East Approach RT TH LT RT TH TH LT RT TH TH LT RT TH TH LT RT TH TH TH TH TH TH T</td><td>North Approach East Approach South Approach West Approach RT TH LT LT RT TH LT RT RT TH LT RT RT TH LT RT 243 103 103</td></td<>	North Approach East Approach RT TH LT RT TH TH LT RT TH TH LT RT TH TH LT RT TH TH TH TH TH TH T	North Approach East Approach South Approach West Approach RT TH LT LT RT TH LT RT RT TH LT RT RT TH LT RT 243 103 103

Intersection Number:

2

Traffix Node Number: 3031 Intersection Name: Zanker

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

									IN	umber of	rears:	2.42	<u> </u>
						Moven							
_	No	rth Appro	ach	Eas	t Appro	ach	Sout	h Appro	oach	Wes	t Appro	oach	_
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
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	Ö	Ö	22	12	0	3	ō	0	62
Existing Conditions (Apr 2021)	0	739	285	0	0	0				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 Traffix Node Number: 3030

Intersection Name: Zanker Road & SR 237 WB Ramps

Peak Hour: PΜ Date of Analysis: 04/27/21

Count Date: Scenario:

11/01/18 479,000 SF Data Center

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

									IN	lumber of	rears:	2.44	
						Movem	ents						
- 	No	rth Appro	ach	East	t Appro	oach	Sout	h Appr	oach	Wes	st Appr	oach	_
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Count (Nov 2018)	0	358	15	106	0	652	464	38	0	0	0	0	163
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:

Traffix Node Number: 4000 Intersection Name: Zanker Road

& Nortech Parkway

Peak Hour: PM

Count Date: Scenario:

479,000 SF Data Center

SJ Growth Factor (% Per Year): 0.01

									N	umber of	Years:	2.17	<u> </u>
						Movem	ents						
_	No	rth Appro	ach	Eas	t Appro	oach	Sou	th Appr	oach	Wes	st Appro	oach	_
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
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)



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
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	328	0	E	84	0	0	0	0	0	0	287
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	0	0	0	0	0	.0	0	0	0	0	0	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	0	0	0	0	0	0	0	0	16	0	0
H89-01-008 (3-08288) LEGACY TASMAN & ZANKER (SW/C) OFC 88,433;IND 88433, WHSE	0	0	0	0	0	0	0	0	0	12	0	0
NSJ LEGACY NORTH SAN JOSE	0	1	9	0	0	.0	0	0	0	66	0	6
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	0	30	0	0	19	0	0	0	0	0	0	46
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

Intersection	of	:	WB	237	From	Zanker	Rp	8	Zanker	Rd	
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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)	.0	19	0	0	7	0	0	0	0	0	0	30
Office/Industrial												

NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)

TOTAL: 0 378 9 15 110 0 0 0 0 50 0 26	0 94 0	369
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	LEFT	THRU	RIGHT
NORTH	100	20 26	0
EAST	94	0	389 82
SOUTH	0	373 50	9
WEST	0	0	0

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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	MO4
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	50	0	98	554	.0	0	0	0	0	0	<i>∮</i> ⁴ 0
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	0	0	0	0	0	0	0	0	0	0	0	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	0	0	0	0	0	0	.0	0	1	0	0
H89-01-008 (3-08288) LEGACY TASMAN & ZANKER (SW/C) OFC 88,433;IND 88433, WHSE	0	0	0	0	0	0	0	0	0	3	0	0
NSJ LEGACY	0	2	36	0	2	0	0	0	0	80	0	13
NORTH SAN JOSE												
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	0	3	0	0	73	0	0	0	0	0	0	5
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

Intersection of : WB 237 From Zanker Rp & 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		M04 WBR
PD14-007 (3-18698)	0	3	0	0	43	0	0	0	0	0	0	6

Office/Industrial

NW CORNER OF NORTECH PKWY AND DISK DR

TRAMMEL CROW (MFG.)

TOTAL:	0	58	36	28	672	0	0	0	0	84	0	58
		8		0	118							24

	LEFT	THRU	RIGHT
NORTH	280	622118	0
EAST	84	0	824
SOUTH	0	288	36
WEST	0	0	0

Intersection of : EB 237 From Zanker Rp &	EB 237 T	o Zank	er Rp	& Zank	er 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
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	232	0	97	<i>3</i> 8 0	.0	92	0	0	0	.0	0
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	0	0	0	0	0	0	0	0	0	0	0	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	3	0	0	16	0	0	0	0	0	0	0
H89-01-008 (3-08288) LEGACY TASMAN & ZANKER (SW/C) OFC 88,433;IND 88433, WHSE	0	7	0	0	12	0	0	0	0	0	0	0
NSJ LEGACY	0	64	15	4	68	0	1	0	78	0.	0	0
NORTH SAN JOSE												
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	0	30	0	11	7	0	0	0	0	0	.0	0
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

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Intersection	of	:	EB	237	From	Zanker	Rp	&	EB	237	To	Zanker	Rp	&	Zanker	Rd	
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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)	0	19	0	4	3	0	0	0	0	0	0	0
Office/Industrial												

NW CORNER OF NORTECH PKWY AND DISK DR TRAMMEL CROW (MFG.)

TOTAL:	0	355	15	56	144	0	93	0	78	0	0	0
		123		19	106		1					

	LEFT	THRU	RIGHT
NORTH	8619	144 106	0
EAST	0	0	0
SOUTH	0	358123	15
WEST	931	0	78

Permit No./Proposed Land	M09	M08	M07	M03	M02	M01	M12	M11	M10	M06	M05	M04
Use/Description/Location	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBF
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	36	0	326	248	0	16	0	0	0	0	0
H14-011 (3-18810) Retail/Commercial NW CORNER OF SR 237 AND N. FIRST STREET HOMEWOOD SUITES HOTEL	.0	4	0	0	3	0	0	0	0	0	0	0
H83-01-001 (3-12093) Office/Industrial JUNCTION AV, N/O PLUMERIA ULTRATECH STEPPER - ORIGINAL APPROVED TRIPS	0	16	0	0	1	0	0	0	2	0	0	0
H89-01-008 (3-08288) LEGACY TASMAN & ZANKER (SW/C) OFC 88,433;IND 88433, WHSE	0	12	0	0	3	0	0	0	3	0	0	0
NSJ LEGACY	0	67	56	32	65	0	0	5	18	0	0	0
NORTH SAN JOSE												
PD13-012 (3-09684) Office/Industrial NW CORNER OF SR237 AND N. FIRST STREET SOUTH BAY	0	3	0	44	29	0	0	0	0	0	0	0
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

TRAMMEL CROW (MFG.)

Intersection of : EB 237 From Zanker Rp & EB 237 To Zanker Rp & 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)	0.	3	0	26	17	0	0	0	0	0	0	0
Office/Industrial NW CORNER OF NORTECH PKWY AND DISK DR												

TOTAL: 0 14T 56 408 366 0 14 5 23 0 0 0 0 105 105 102 118 0

	LEFT	THRU	RIGHT
NORTH	488/02	366/18	0
EAST	0	0	0
SOUTH	0	141/05	56
WEST	40	5	23

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	MO7 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	MO4 WBR
C15-054 (3-14457) Office/Industrial 1657 ALVISO-MILPITAS ROAD 237 INDUSTRIAL CENTER/ CILKER	0	240	0	80	20	80	58	0	0	0	0	291
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 NORTH SAN JOSE	38	77	22	55	45	12	17	92	5	13	71	43
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 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.)	4	10	0	1	1	0	0	2	0	0	14	9

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Intersection of : E Tasman Dr & Zanker Rd

Traffix Node Number: 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL			M12 EBL		M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC16-013 (3-06800)	0	0	0	0	0	0	0	6	0	0	12	0

PDC16-013 (3-06800)

Retail/Commercial

N. FIRST ST. BETWEEN GOLD STREET AND SR 237

TOP GOLF

TOTAL: 56 246 22 65 95 21 72 106 12 15 119 105 106 59 72 12 17 66

NORTH \$559 \$872 \$112 EAST 15 119 \$183 666 SOUTH 56 \$248/06 22 WEST \$217 106 12

Intersection of : E Tasman Dr & 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	20	0	35	150	58	80	0	0	0	0	80
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									20014822			
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

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Intersection	of	:	E	Tasman	Dr	&	Zanker	Rd	
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Traffix Node Number: 3821

Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT		M12 EBL		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	149	29	132"	225	66	21	167	21	26	109	5/2
TOTAL:		127		93	75	4827	13					46

LEFT THRU RIGHT

NORTH 12293 22575 267

EAST 26 109 5/246

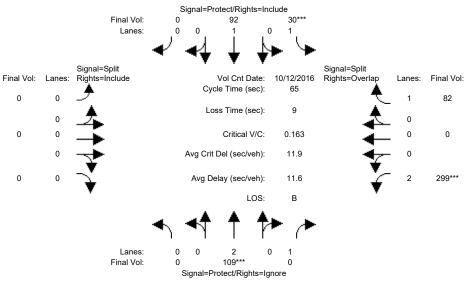
SOUTH 40 149/27 29

WEST 2/13 167 21

Appendix CIntersection Level of Service Calculations

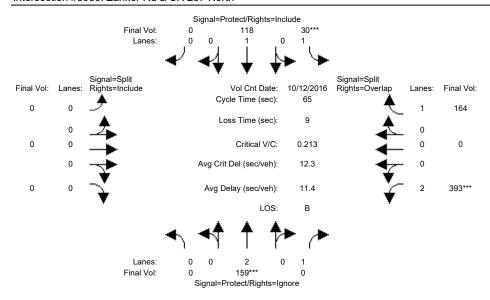


Level Of Service Computation Report 2000 HCM Operations (Future Volume Alternative) Existing (AM)



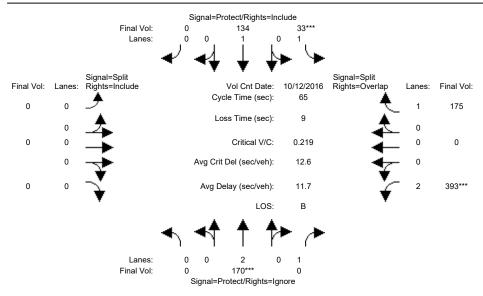
Street Name: Approach: Movement:	No	rth Bo	Zanker und	Road Soi	uth Bo	ound	Ea	s ast Bo	SR 237 ound	(Nort	h) est Bo	ound
Movement:	L ·	- T	- R	L ·	- Т	- R	L -	- T	- R	L ·	- T	- R
Min. Green: Y+R:	0 4.0	10 4.0	10	7 4.0	10 4.0	0 4.0	0 4.0	0 4.0	0 4.0	10	0 4.0	10
Volume Module												
		109		30			0	0	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
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
PHF Adj:			0.00		1.00	1.00			1.00		1.00	1.00
PHF Volume:	0	109	-	30	92	-	0	0	0	299	0	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:			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							1.00	1.00	1.00	1.00
FinalVolume:				30			0		0		0	82
Saturation Fi	low Mo	odule:										
Sat/Lane:							1900	1900	1900	1900	1900	1900
Adjustment:									0.92	0.83		0.92
Lanes:						0.00						1.00
Final Sat.:									0		0	
			,									
Capacity Anal	-											
Vol/Sat:			0.00		0.05	0.00	0.00	0.00	0.00		0.00	0.05
		****		****						****		
Green/Cycle:			0.00		0.28			0.00			0.00	0.69
Volume/Cap:			0.00		0.17		0.00		0.00		0.00	0.07
Delay/Veh:			0.0				0.0		0.0	6.4		3.4
User DelAdj:			1.00		1.00		1.00		1.00		1.00	1.00
AdjDel/Veh:									0.0	6.4		3.4
LOS by Move:	A	С	A	С	В	A	A	А	A		A	А
DesignQueue:	0	2			2	0	0	0	0	3	0	1
Note: Queue	repor	ted is	the n	umber	of ca	rs per	lane					

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



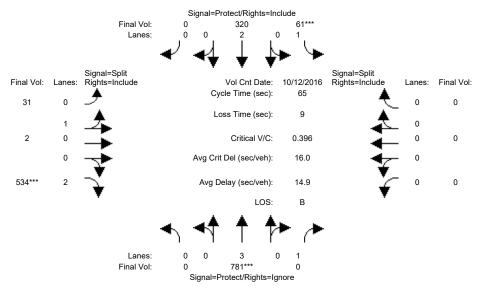
Street Name:			Zanker	Road					R 237			
Approach:	No	rth Bo	und	Soi	ath Bo	und	Εā	ast Bo	und	We	est Bo	und
Movement:		- T ·				- R			- R		- T	
		10			10				0	10		10
Y+R: 		4.0		4.0	4.0	4.0		4.0			4.0	4.0
Volume Module												
Base Vol:			704	30	92	0	0	0	0	299	0	82
Growth Adj:	1.00	1.00	1.00	1.00	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	50	9	0	26	0	0	0	0	94	0	82
Initial Fut:	0	159	713	30	118	0	0	0	0	393	0	164
User Adj:			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	159	0	30	118	0	0	0	0	393	0	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	159	0	30	118	0	0	0	0	393	0	164
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
FinalVolume:				30			0		0			164
 Saturation Fl												
		1900		1000	1900	1900	1900	1 0 0 0	1900	1 9 0 0	1900	1900
Adjustment:						0.92	0.92		0.92		1.00	0.92
Lanes:				1.00		0.00		0.00	0.00			1.00
Final Sat.:							0.00		0.00			1750
						-						
Capacity Anal	lysis	Module	e:									
Vol/Sat:	0.00	0.04	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.12	0.00	0.09
Crit Moves:		****		****						****		
Green/Cycle:			0.00	0.11	0.30	0.00	0.00	0.00	0.00	0.56	0.00	0.67
Volume/Cap:	0.00	0.22	0.00	0.16	0.21	0.00	0.00	0.00	0.00	0.22	0.00	0.14
Delay/Veh:	0.0	22.4	0.0	26.7	17.3	0.0	0.0	0.0	0.0	7.1	0.0	3.9
User DelAdj:	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	22.4	0.0	26.7	17.3	0.0	0.0	0.0	0.0	7.1	0.0	3.9
LOS by Move:	A	С	A	С	В	A	A	A	A		A	A
DesignQueue:	0	2	0	1	3	0	0	0	0	4	0	2
Note: Queue 1	repor	ted is	the n	umber	of ca	rs per	lane	•				

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



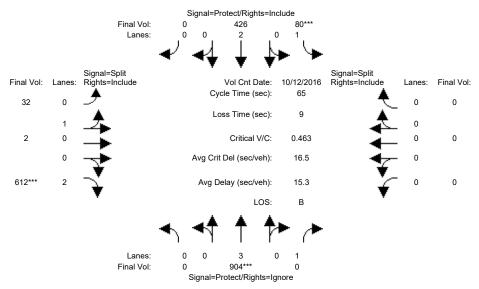
Street Name:			Zanker		.+b Da	und				(North	n) est Bo	
											est bo - T	
Movement:		- 1 -	- K		- 1	- K		- 1	- K			- K
		10			10			0		10		
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module	: >>	Count	Date:	12 00	ct 201	6 << 7	:50-8	:50AM				
Base Vol:	0	109	704	30	92	0	0	0	0	299	0	82
Growth Adj: 3	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:		109	704	30	92	0	0	0	0	299	0	82
Added Vol:		11	0	3	16	0	0	0	0	0	0	11
ATI:		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
FinalVolume:	0	170	0	33	134	0	0	0	0	393	0	175
Saturation Flo	ow Mo	odule:										
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 Analy	ysis	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	0.18	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	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:	Α	C	A		В	A		A	A	А	A	А
DesignQueue:	0	2	0	1	3	0	0	0	0	4	0	2
Note: Queue re			the nu	umber	of ca	rs per	lane					

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



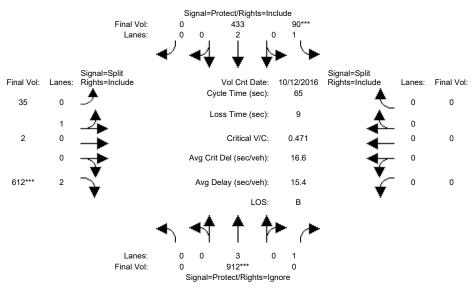
Approach: North Bound South Bound East Bound West Bound Movement: L - T - R
Min. Green: 0 10 10 7 10 0 10 10 0 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Volume Module: >> Count Date: 12 Oct 2016 << 8:00-9:00AM
Base Vol: 0 781 409 61 320 0 31 2 534 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0
Initial Bse: 0 781 409 61 320 0 31 2 534 0 0
Added Vol: 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
User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
PHF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
PHF Volume: 0 781 0 61 320 0 31 2 534 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 781 0 61 320 0 31 2 534 0 0
PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
FinalVolume: 0 781 0 61 320 0 31 2 534 0 0
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 190
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
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 1.0
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.

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



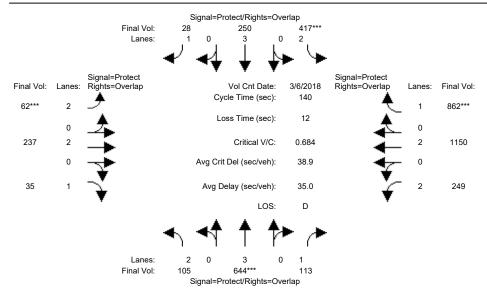
Approach: North Bound South Bound East Bound West Bound Movement: L - T - R
Min. Green: 0 10 10 7 10 0 10 10 10 0 0 0 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Base Vol: 0 781 409 61 320 0 31 2 534 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0
Initial Bse: 0 781 409 61 320 0 31 2 534 0 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0
ATI: 0 123 15 19 106 0 1 0 78 0 0
Initial Fut: 0 904 424 80 426 0 32 2 612 0 0
User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
PHF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
PHF Volume: 0 904 0 80 426 0 32 2 612 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 904 0 80 426 0 32 2 612 0 0
PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0
FinalVolume: 0 904 0 80 426 0 32 2 612 0 0
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 190
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
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 0.42 0.42 0.40 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 1.0
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.

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



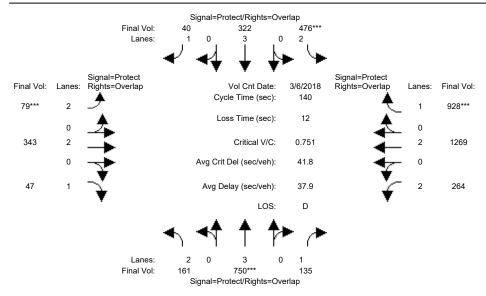
Movement:							ound						
Min. Green: 0 10 10 7 10 0 10 10 10 10 0 0 0 0													
Y+R:													
Volume Module: >> Count Date: 12 Oct 2016 << 8:00-9:00AM Base Vol: 0 781 409 61 320 0 31 2 534 0 0 0 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0		4.0									4.0	4.0	4.0
Base Vol: 0 781 409 61 320 0 31 2 534 0 0 0 1.00 1.00 1.00 Initial Bse: 0 781 409 61 320 0 31 2 534 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Volume Module	e: >>	Count	Date:	12 00	ct 20	16 << 8	:00-9	:00AM				
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 0 0 0 0 0 0 0 0 0 0 0	Base Vol:	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 0 0 ATI: 0 123 15 19 106 0 1 0 7 8 0 0 0 0 0 0 0 1 1 1 0 78 0 0 0 0 0 0 0 0 0 0 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
ATI: 0 123 15 19 106 0 1 0 78 0 0 0 0 1 1 1 1 0 78 0 0 0 0 1 1 1 0 1 1 0 1 1 0 0 0 0 0 0	Initial Bse:	0	781	409	61	320	0				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 1.0	Added Vol:	0	8	-	10	7		3	0		0	0	0
User Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0	ATI:	0	123	15	19	106		1	0	78	0	0	0
PHF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0	Initial Fut:	0	912	424	90	433	0	35	2	612	0	0	0
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 0 0 0 0 0 0 0	User Adj:	1.00	1.00	0.00	1.00	1.00	1.00			1.00			1.00
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	_			0.00							1.00	1.00	1.00
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 1.0	PHF Volume:	0	912	0	90	433	0	35	2		0	0	0
PCE Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0				0		-	-	-	-		0	0	0
MLF Adj: 1.00 1.00 0.00 1.00 1.00 1.00 1.00 1.0				0							-	-	-
FinalVolume: 0 912 0 90 433 0 35 2 612 0 0 0 0													
Saturation Flow Module: Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 190													
Saturation Flow Module: Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 190				-							-	-	-
Sat/Lane: 1900 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 0.05 0.05 0.00													
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 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													
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 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	,												
Final Sat.: 0 5700 1750 1750 3800 0 1703 97 3150 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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											•	-	ū
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 0.41 0.00 0.00 0.00		į.											
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 0.00					0 05	0 11	0 00	0 02	0 02	0 10	0 00	0 00	0 00
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				0.00		0.11	0.00	0.02	0.02		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 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				0 00	0 11	0 45	0 00	0 /1	0 /1	0 41	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 DelAdi: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	User DelAdj:			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	LOS by Move.	Δ. Δ	ъ В										
DesignQueue: 0 8 0 3 4 0 1 1 8 0 0	DesignOueue:	0	8										
Note: Queue reported is the number of cars per lane.										-		-	=

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



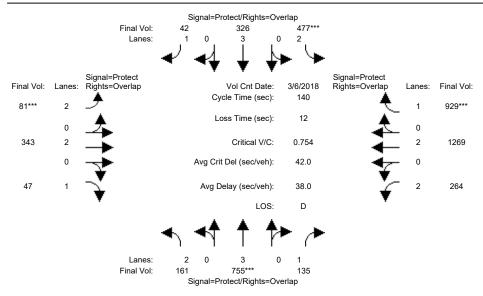
Street Name: Approach:		rth Bo	Zanker		1+h Bo	und	F:	ast Bo	Tasman		e est Bo	uind
Movement:	L ·	- T ·	- R	L -	- T	- R	L -	- T	- R	L -	- T	- R
Min. Green:		10			10		7				 10	
Y+R:		4.0			4.0		4.0		4.0	4.0		
Volume Module												
Base Vol:	105		113	417	250	28	62		35		1150	862
Growth Adj:				1.00		1.00		1.00	1.00		1.00	1.00
Initial Bse:		644		417	250	28	62		35		1150	862
Added Vol:				0	0	0	0	0	0	0	0	0
ATI:	0			0		0	0		0	0	0	0
Initial Fut:				417		28	62		35		1150	862
User Adj:			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
PHF Volume:		644	113	417	250	28	62	237	35		1150	862
Reduct Vol:		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
FinalVolume:			113		250	28		237	35		1150	862
Saturation Fl	low Mo	odule:										
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 Anal	lysis	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		E	D				С	D	С	В
DesignQueue:	4	14	5	16	5	2	3	7	2	8	24	25
Note: Queue			the n	umber	of ca	rs per	lane					

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



Street Name:									Tasman		€	
Approach:	No	rth Bo	und	Soi	ath Bo	und	Εā	ast Bo	und	We	est Bo	und
Movement:		- T ·				- R			- R		- T	
		10			10					7		10
Y+R:		4.0		4.0	4.0	4.0		4.0			4.0	4.0
Volume Module												1
		644		417		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:		644		417	250	28	62		35		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
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
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
FinalVolume:				476			79		47			928
	'											
Saturation F				1000	1000	1000	1 0 0 0	1000	1000	1 0 0 0	1 0 0 0	1000
		1900	1900		1900		1900		1900		1900	1900
Adjustment:				0.83			0.83		0.92		1.00	0.92
Lanes:			1.00	2.00			2.00		1.00			1.00
Final Sat.:				3150			3150		1750			1750
Capacity Anal				1		1	I		1	1		1
Vol/Sat:	-			0.15	0.06	0.02	0.03	0.09	0.03	0.08	0.33	0.53
Crit Moves:				****			***					***
Green/Cycle:			0.43		0.22	0.27	0.05	0.28	0.44	0.26	0.50	0.69
Volume/Cap:			0.18	0.77		0.09		0.32	0.06		0.67	0.77
Delay/Veh:			24.4	58.8		38.8	67.3		22.9		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
AdjDel/Veh:			24.4			38.8	67.3		22.9		27.8	17.1
LOS by Move:			С	E	D	D	E	D	С	D	С	В
DesignQueue:			7	19	7	2	4	10	2	9	27	28
Note: Queue			the n	umber	of ca	rs per	lane					

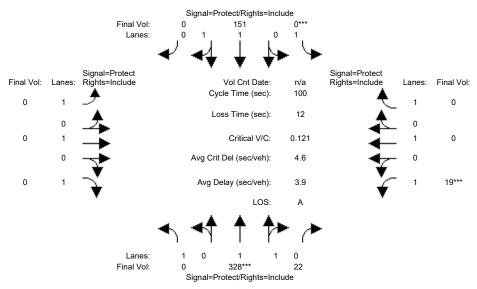
Level Of Service Computation Report 2000 HCM Operations (Future Volume Alternative) Bkgrd + Proj (AM)



Street Name: Approach:		rth Bo	Zanker			und	F:	ast Bo	Tasman			und
Movement:	L ·	- T	- R	L -	- T	- R	L ·	- T	- R	L -	- T	- R
Min. Green: Y+R:		10 4.0			10 4.0		7 4.0				10 4.0	
Volume Module			Date:	6 Mai	r 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
Initial Bse:				417		28	62		35		1150	862
Added Vol:			0	1	4	2	2	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
FinalVolume:	161	755	135	477	326	42	81	343	47	264	1269	929
Saturation Fl												
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 Anal	-											
Vol/Sat:	0.05		0.08		0.06	0.02		0.09	0.03	0.08	0.33	
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:			0.18		0.27	0.09	0.51	0.32	0.06	0.32		0.77
Delay/Veh:				58.9		38.8		39.8	22.9	41.8		17.2
User DelAdj:				1.00		1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:						38.8	67.7	39.8	22.9	41.8		17.2
LOS by Move:	D	E	С				E		С	D		В
DesignQueue:			7				4		2	9	27	28
Note: Queue 1	repor	ted is	the n	umber	of ca	rs per	lane	•				

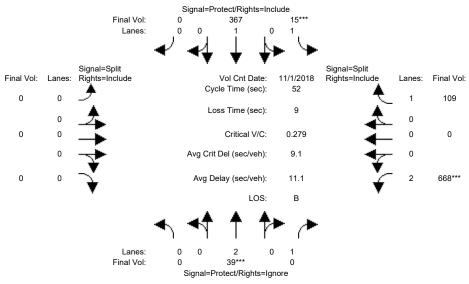
Level Of Service Computation Report 2000 HCM Operations (Future Volume Alternative) Bkgrd + Proj (AM)

Intersection #4000: Zanker Rd & Nortech Pkwy



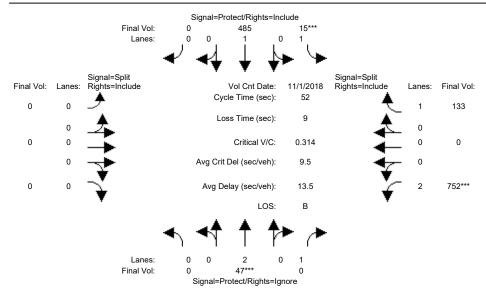
Approach:												
Movement:						- R					- T	
Min. Green:		10						10		7		
Y+R:		4.0			4.0			4.0			4.0	
Volume Module	e:											
Base Vol:	0	196	0	0	125	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	196	0	0	125	0	0	0	0	0	0	0
Added Vol:	0		22	0	0	0	0	0	0	19	0	0
ATI(extrapo:	0		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
PHF Adj:			1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00
PHF Volume:			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
MLF Adj:			1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00
FinalVolume:			22			0	0	-	0	19	0	0
	1											
Saturation F												
Sat/Lane:		1900	1900		1900	1900		1900	1900	1900		1900
Adjustment:			0.94	0.92		0.92		1.00	0.92	0.88		0.92
Lanes:			0.13		2.00	0.00		1.00	1.00	1.00		1.00
Final Sat.:			230		3700	0		1900	1750	1663		1750
	1											
Capacity Ana Vol/Sat:			e: 0.10	0 00	0.04	0.00	0 00	0.00	0.00	0.01	0 00	0.00
Crit Moves:			0.10	****	0.04	0.00	0.00	0.00	0.00	****	0.00	0.00
Green/Cycle:			0.79		0.79	0.00	0 00	0.00	0.00	0.09	0 00	0.00
Volume/Cap:			0.79	0.00		0.00		0.00	0.00	0.12		0.00
Delay/Veh:			2.6	0.00	2.4	0.0	0.0	0.00	0.00		0.0	0.0
User DelAdj:				1.00		1.00		1.00	1.00	1.00		1.00
AdjDel/Veh:			2.6				0.0	0.0	0.0	41.9		0.0
LOS by Move:	7.	Z. U	2.0 A			0.0 A	0.0 A		0.0 A	41.9 D	0.0 A	0.0 A
DesignQueue:	Α Λ	A 2		0	1		A 0			1	A 0	A 0
						-	-		U	1	U	U
Note: Queue	rebor	rea is	the n	uniber	OT CS	rrs ber	тапе	•				

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



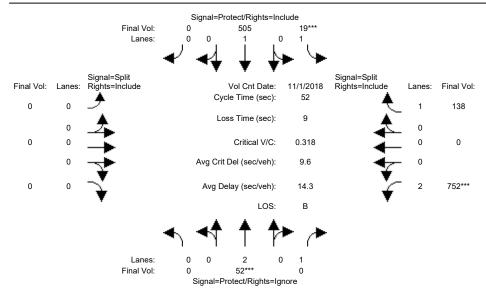
Street Name: Approach: Movement:	No:	rth Boi	Zanker und - R	Road Sou	ıth Boı - T -	und - R	Ea L -	S ast Bo - T	R 237 und - R	(North	n) est Bo · T	
Min. Green: Y+R:	0 4.0	10 4.0	10 4.0	7 4.0	10 4.0	0 4.0	0 4.0	0 4.0	0 4.0	10	0 4.0	10
Volume Module									'	1		I
Base Vol:	0		475	15		0	0	0	0	668	0	109
Growth Adi:			1.00	1.00		1.00		1.00	1.00	1.00		1.00
Initial Bse:			475	15	367	0	0	0	0	668	0	109
	0		0	0	0		0	-	0	0	0	0
ATI:	0		0	0	0	0	0		0	0	0	0
Initial Fut:				15		0	0		0	668	0	109
User Adi:			0.00	1.00		1.00		1.00	1.00	1.00		1.00
PHF Adj:			0.00	1.00		1.00		1.00	1.00	1.00		1.00
PHF Volume:			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:			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		1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	39	0	15	367	0	0	0	0	668	0	109
Saturation Fi	low Mo	odule:										
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:				1.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:									0	3150	0	1750
Capacity Anal	-		∋:									
Vol/Sat:	0.00		0.00		0.19	0.00	0.00	0.00	0.00		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	0.06	0.59	0.00	0.00	0.00	0.00	0.42	0.00	0.12
Delay/Veh:			0.0	19.8		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
AdjDel/Veh:			0.0	19.8		0.0	0.0	0.0		8.4		7.0
LOS by Move:	A	В	A	В	В	A	A	А	A	A		A
DesignQueue:	0	0		0	8	0	0	-	0	6	0	2
Note: Queue	repor	ted is	the n	umber	of car	rs per	lane					

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



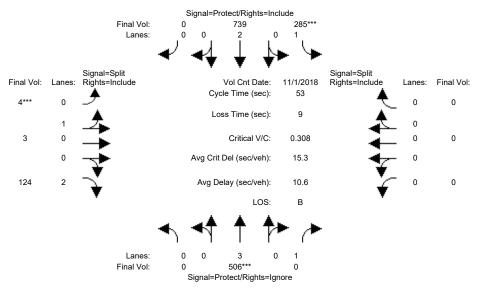
Street Name: Approach:			Zanker		1+h Bo	und				(North	n) est Bo	und
Movement:												
		10			10					10		
Y+R:		4.0		4.0					4.0			
Volume Module												
Base Vol:	0	39	475	15	367	0	0	0	0	668	0	109
Growth Adj:			1.00		1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	0		475	15	367	0	0	0	0	668	0	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	8	36	0	118	0	0	0	0	84	0	24
Initial Fut:	0		511	15		0	0	0	0	752	0	133
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	15	485	0	0	0	0	752	0	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	47	0	15	485	0	0	0	0	752	0	133
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
FinalVolume:			0			0	0	-	0	752	0	133
Saturation Fl												
Sat/Lane:							1900		1900		1900	
Adjustment:							0.92		0.92			0.92
Lanes:					1.00		0.00		0.00			1.00
Final Sat.:					1900		0		0		0	
Capacity Anal	_											
Vol/Sat:			0.00		0.26	0.00	0.00	0.00	0.00		0.00	0.08
Crit Moves:				****						****		
Green/Cycle:			0.00		0.33	0.00		0.00	0.00	0.50		0.50
Volume/Cap:			0.00	0.06		0.00	0.00		0.00	0.48		0.15
Delay/Veh:			0.0	19.8		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
AdjDel/Veh:				19.8			0.0		0.0	8.8		7.1
LOS by Move:	A	В	A			A		A	A	A		A
DesignQueue:				0	10		0		0	7	0	2
Note: Queue 1	report	ted is	the n	umber	of ca	rs per	1ane	•				

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



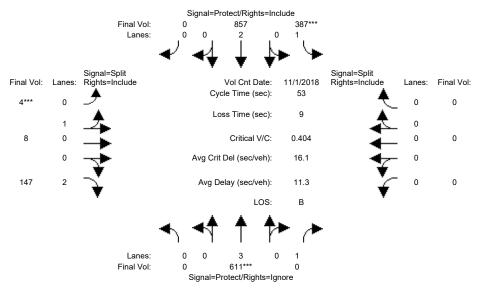
Street Name: Approach:			Zanker		1+h Poi	und				(North	n) est Bo	und
Movement:											est bo - T	
-			1	Г————		I	1			ш I = = = -		
		10						0		10		1
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
-												
Volume Module:	>>	Count	Date:	1 Nov	7 2018	<< 5:	00-6:0	00PM				
Base Vol:	0	39	475	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		475	15	367	0	0	0	0	668	0	109
Added Vol:		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:	O	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
FinalVolume:	0	52	0	19	505	0	0	0	0	752	0	138
-												
Saturation Flo	w Mo	odule:										
Sat/Lane: 1	900	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 Analy	sis,	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	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	В	A	В	С	A		A	A	A	A	A
DesignQueue:	0	1	0	1	11	0	0	0	0	7	0	2
Note: Queue re			the nu	umber	of car							

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



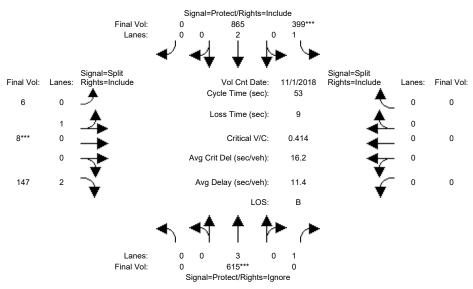
Approach:												
Movement:									- R		- T	
 Min. Green:		10			10			10		0		
Y+R:		4.0			4.0				4.0		4.0	
Volume Module	: >>	Count	Date:	1 Nov	7 2018	<< 5:	00-6:0	00PM				
Base Vol:	0	506	953	285	739	0	4	3	124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:			953	285		0	4	3	124	0	0	0
Added Vol:		0	0	0	0	0	0	0	0	0	0	0
ATI:		0		0		0	0		0	0	0	0
Initial Fut:			953	285	739	0	4	3	124	0	0	0
User Adj:			0.00	1.00		1.00		1.00	1.00		1.00	1.00
PHF Adj:			0.00	1.00		1.00		1.00	1.00	1.00		1.00
PHF Volume:			0	285	739	0	4	3	124	0	0	0
Reduct Vol:			0	0	0	0	0		0	0	0	0
Reduced Vol:			0			0	_	3		0		0
PCE Adj:	1.00	1.00		1.00					1.00			
MLF Adj:					1.00				1.00			1.00
FinalVolume:				285				3		0		0
Saturation Fl Sat/Lane:		1900	1900	1000	1900	1900	1000	1900	1900	1000	1900	1900
Adjustment:				0.92		0.92		0.95	0.83		1.00	0.92
Lanes:				1.00		0.92		0.43	2.00			0.92
Final Sat.:						0.00		771		0.00		0.00
						-						
Capacity Anal				1		1	ı		1	1		ı
Vol/Sat:			0.00	0.16	0.19	0.00	0.00	0.00	0.04	0.00	0.00	0.00
Crit Moves:			0.00	****	0.13	0.00	****	•••	0.01	0.00	0.00	0.00
Green/Cycle:			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		0.02	0.21	0.00		0.00
Delay/Veh:			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
AdjDel/Veh:	0.0	17.6	0.0		4.3	0.0	17.5	17.5	18.3	0.0		0.0
LOS by Move:	A	В	A	В	A	A	В	В	В	A	A	A
DesignQueue:	0	4	0	6	4	0	0	0	2	0	0	0
Note: Queue r	eport	ted is	the n	umber	of car	rs per	lane	•				

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



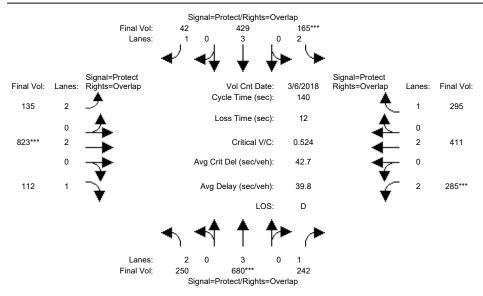
Approach: North Bo Movement: L - T	und So - R L				t Bound T -			st Bo	
Min. Green: 0 10		10		10		10		0	0
Y+R: 4.0 4.0		4.0			4.0	1.0	4.0	4.0	4.0
Volume Module: >> Count	Date: 1 No	v 2018	<< 5:0	00-6:001	PM				
Base Vol: 0 506	953 285	739	0	4	3 1	124	0	0	0
Growth Adj: 1.00 1.00	1.00 1.00	1.00	1.00	1.00 1		.00	1.00	1.00	1.00
Initial Bse: 0 506	953 285	739	0	4		124	0	0	0
Added Vol: 0 0	0 0		0	0		0	0	0	0
ATI: 0 105	56 102	118		0	5	23	0	0	0
Initial Fut: 0 611	1009 387	857	0	4	8 1	L47	0	0	0
User Adj: 1.00 1.00			1.00	1.00 1			1.00		1.00
PHF Adj: 1.00 1.00			1.00	1.00 1			1.00		1.00
PHF Volume: 0 611	0 387		0	4		L47	0	0	0
Reduct Vol: 0 0	0 0		0	0		0	0	0	0
	0 387		0	4			0		0
PCE Adj: 1.00 1.00			1.00	1.00 1			1.00		
MLF Adj: 1.00 1.00			1.00	1.00 1			1.00		1.00
			0	4			0	-	0
	1 1								
Saturation Flow Module:		1000	1000	1000 1	000 10		1000	1000	1000
Sat/Lane: 1900 1900			1900	1900 19			1900		1900
Adjustment: 0.92 1.00			0.92	0.95 0			0.92		0.92
			0.00	0.33 0			0.00		0.00
Final Sat.: 0 5700			0	600 12			0	-	0
Capacity Analysis Modul	1 1					!!			
Vol/Sat: 0.00 0.11		0.23	0.00	0.01 0	01 0	.05	0.00	0 00	0.00
Crit Moves: ****	****		0.00	****	.01 0.	.05	0.00	0.00	0.00
Green/Cycle: 0.00 0.21	0.00 0.43	0.64	0.00	0.19 0	19 N	.19	0.00	0 00	0.00
Volume/Cap: 0.00 0.51			0.00	0.04 0			0.00		0.00
-	0.0 11.6		0.0	17.6 1			0.0	0.0	0.0
<u> -</u>			1.00	1.00 1			1.00		1.00
	0.0 11.6		0.0	17.6 1			0.0	0.0	0.0
LOS by Move: A B				В			A	A	A
DesignQueue: 0 5	0 7			0			0	0	0
Note: Queue reported is		of car	s per	lane.					

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



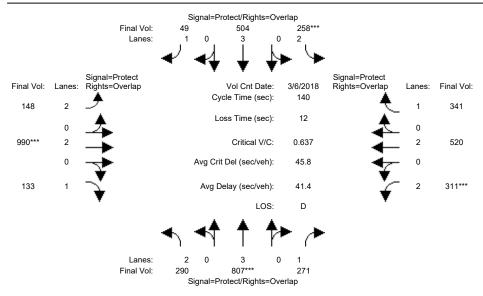
Approach: Movement:						und - R		ast Bo			est Bo - T	
Movement.												
	0				10			10		0		0
Y+R:	4.0	4.0			4.0				4.0	4.0	4.0	4.0
Volume Module	e: >>	Count	Date:	1 Nov	<i>y</i> 2018	<< 5:0	00-6:	Mq0C				
Base Vol:	0	506	953	285	739	0	4	3	124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	506	953	285	739	0	4	3	124	0	0	0
Added Vol:	0	4	0	12		0	2		0	0	0	0
ATI:	0		56	102			0		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
PHF Adj:			0.00		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		1.00	1.00		1.00	1.00
MLF Adj:			0.00	1.00		1.00		1.00	1.00	1.00		1.00
FinalVolume:				399		0				0	-	0
Saturation Fi												
Sat/Lane:		1900	1900		1900	1900		1900	1900	1900		1900
_	0.92		0.92			0.92		0.95	0.83	0.92		0.92
Lanes:			1.00			0.00		0.57	2.00	0.00		0.00
Final Sat.:			1750			0		1029		. 0	-	0
	į.											
Capacity Anal				0 00	0 00	0 00	0 01	0 01	0 0 5	0 00	0 00	0 00
<pre>Vol/Sat: Crit Moves:</pre>			0.00	U.Z3	0.23	0.00	0.01	0.01	0.05	0.00	0.00	0.00
			0 00		0 64	0 00	0 10		0 10	0 00	0 00	0 00
<pre>Green/Cycle: Volume/Cap:</pre>			0.00	0.44	0.64	0.00		0.19	0.19	0.00		0.00
-			0.00	11.6	4.5	0.00		0.04 17.6		0.00		0.00
Delay/Veh:				1.00				1.00	18.5	1.00	0.0	
User DelAdj:			1.00			1.00		17.6		0.0		1.00
AdjDel/Veh: LOS by Move:	0.0	19.Z		11.6 B		0.0 A	17.6 B			0.0 A		0.0 A
DesignQueue:	Α	D 5	A 0	8	A 5	A 0	_	В 0		A 0		A 0
							-	-	2	U	U	U
Note: Queue	repor	rea IS	the n	unber	or ca:	rs ber	тапе	•				

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



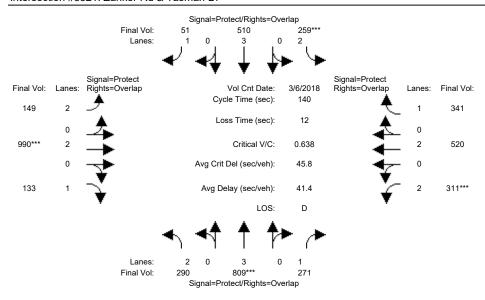
Street Name: Approach:		rth Bo	Zanker		ıth Bo	und	F.	ast Bo	Tasman			und
Movement:	L ·	- T ·	- R	L -	- T	- R	L -	- T	- R	L -	Т	- R
Min. Green: Y+R:		10 4.0		4.0	10 4.0		7 4.0		4.0	7 4.0		10 4.0
Volume Module	e: >>	Count		6 Mai	r 2018	<<						
Base Vol:	250	680	242	165	429	42	135	823	112	285	411	295
Growth Adj:		1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
Initial Bse:		680	2 12	165	429	42	135	823	112	285	411	295
Added Vol:	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
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
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
FinalVolume:	250	680	242	165	429	42	135	823	112	285	411	295
Saturation Fl	Low Mo	odule:										
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 Anal	Lysis	Module	e:									
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	С			С	D	С		D	С	С
DesignQueue:	10	14	13	7	10	2	5	20	4	11	10	13
Note: Queue 1	repor	ted is	the n	umber	of ca	rs per	lane					

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



Street Name: Approach:		rth Bo	Zanker		ıth Bo	und	F.	ast Bo	Tasman			und
Movement:	L ·	- T ·	- R	L -	- T	- R	L -	- T	- R	L -	- T	- R
Min. Green: Y+R:		10 4.0			10 4.0		7 4.0		10 4.0		10 4.0	
1 T K :												
Volume Module							'		'	1		1
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:		680		165	429	42	135	823	112	285	411	295
Added Vol:	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
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
FinalVolume:	290	807	271	258	504	49	148	990	133	311	520	341
Saturation Fl	Low Mo	odule:										
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.:					5700			3800	1750		3800	1750
Capacity Anal	-											
Vol/Sat:	0.09		0.15		0.09	0.03	0.05	0.26	0.08		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:			0.41	0.64	0.51	0.09	0.31		0.13	0.64		0.36
Delay/Veh:			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
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	С	D			E	С	В
DesignQueue:			15	11	11		6		5	13	12	14
Note: Queue 1	repor	ted is	the n	umber	of ca	rs per	lane					

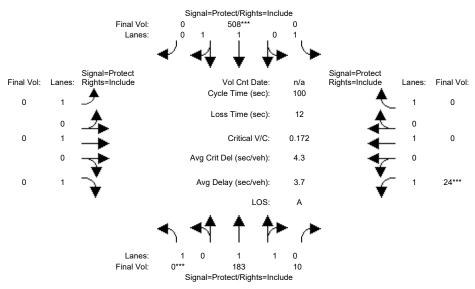
Level Of Service Computation Report 2000 HCM Operations (Future Volume Alternative) Bkgrd + Proj (PM)



Street Name:			Zanker	Road					Tasman	Drive	9	
Approach:						und	Εá	ast Bo	ound	We	est Bo	und
Movement:	L ·	- T -	- R	ь -	- T	- R	ь -	- T	- R	L -		
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	
Volume Module	e: >>	Count	Date:	6 Mai	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		242	165			135	823	112	285	411	295
Added Vol:	0	2	0	1			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
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
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:	290	809	271	259	510	51	149	990	133	311	520	341
Saturation Fl	Low Mo	odule:										
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.:					5700		3150	3800	1750	3150	3800	1750
Capacity Anal	lysis	Module	∋:									
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:				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
AdjDel/Veh:				61.3	53.0	33.0	53.4	34.0	13.0	58.3	28.1	18.5
LOS by Move:				E		С	D	С	В	E	С	В
DesignQueue:				11		3	6	24	5	13	12	
Note: Queue r	epor	ted is	the n	umber	of ca							

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

Intersection #4000: Zanker Rd & Nortech Pkwy



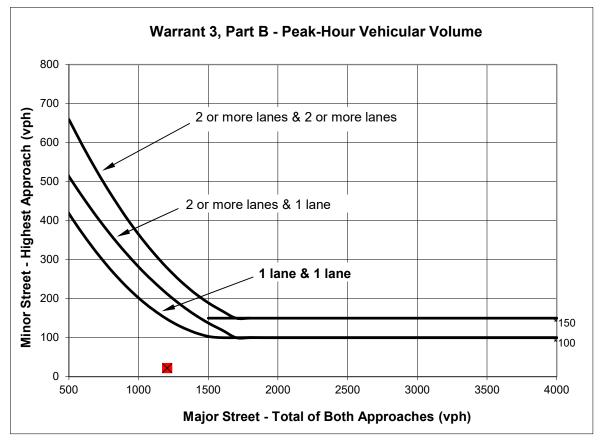
Approach:	No	rth Bo	und	Sot	uth Bo	und	Εá	ast Bo	und	We	est Bo	und
Movement:						- R					- T	
Min. Green:		10						10		7		
Y+R:		4.0			4.0			4.0			4.0	
Volume Module	e:											
Base Vol:	0		0	0	390	0	0	0	0	0	0	0
Growth Adj:			1.00		1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:			0	0	390	0	0	0	0	0	0	0
Added Vol:	0		10	0	0	0	0	0	0	24	0	0
ATI(extrapo:	0	32	0	0		0	0	0	0	0	0	0
Initial Fut:			10	0		0	0	0	0	24	0	0
User Adj:			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
PHF Volume:			10	0	508	0	0	0	0	24	0	0
Reduct Vol:			0	0	0	0	0	0	0	0	0	0
Reduced Vol:			10	0	508	0	0	-	0	24	0	0
PCE Adj:	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
FinalVolume:			10	0		0	0	-	0	24	0	0
Saturation F	1											
Sat/Lane:		1900	1900	1900	1900	1900	1900	1900	1900	1 9 0 0	1900	1900
Adjustment:			0.94	0.92		0.92		1.00	0.92	0.88		0.92
Lanes:			0.11		2.00	0.00		1.00	1.00	1.00		1.00
Final Sat.:			190		3700	0		1900	1750	1663		1750
						-						
Capacity Ana	lysis	Module	e:			·						
Vol/Sat:				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
AdjDel/Veh:	0.0	2.2					0.0	0.0	0.0	43.2	0.0	0.0
LOS by Move:	A	A	A				A		A	D	A	A
DesignQueue:			1	0	3		0		0	1	0	0
Note: Queue	repor	ted is	the n	umber	of ca	ırs 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

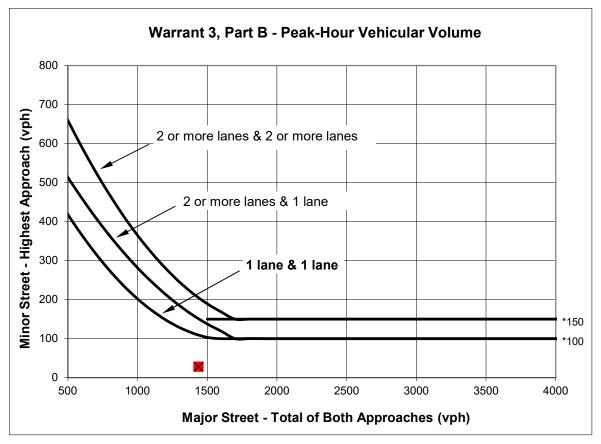
		AM Peak Hour								
			oach nes	Background + Proj						
		One	2 or More	Backg + F						
Major Street - Both Approaches	Zanker Road	Х		1206						
Minor Street - Highest Approach	Nortech Parkway	х		22						
Signal Warranted Based or	n Part B - Peak-Ho	ur Volu	imes?	NO						

^{*}Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

File: Zanker Road & Nortech Parkway Tab: Warrant 3, Part B-Graph (AM)

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).

Warrant 3, Part B - Peak-Hour Vehicular Volume

		PM Peak Hour								
			oach nes	Background + Proj						
		One	2 or More	Backg + F						
Major Street - Both Approaches	Zanker Road	Х		1437						
Minor Street - Highest Approach	Nortech Parkway	х		28						
Signal Warranted Based or	n Part B - Peak-Ho	ur Volu	imes?	No						

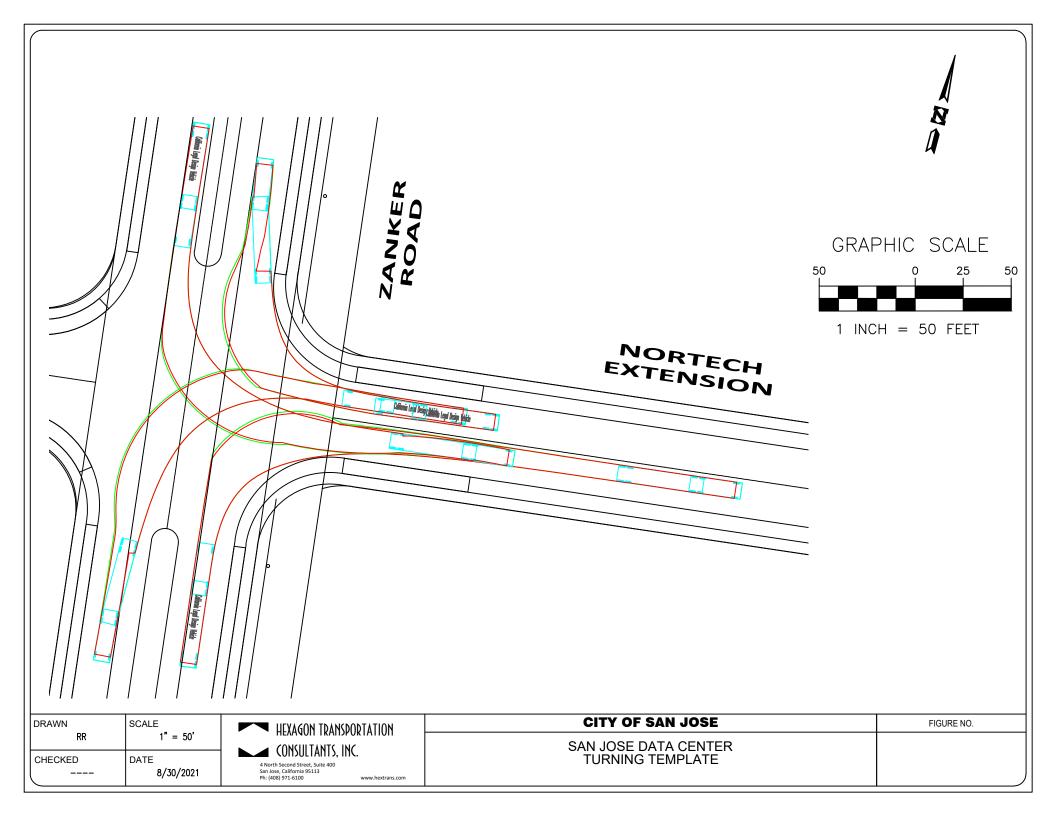
^{*}Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

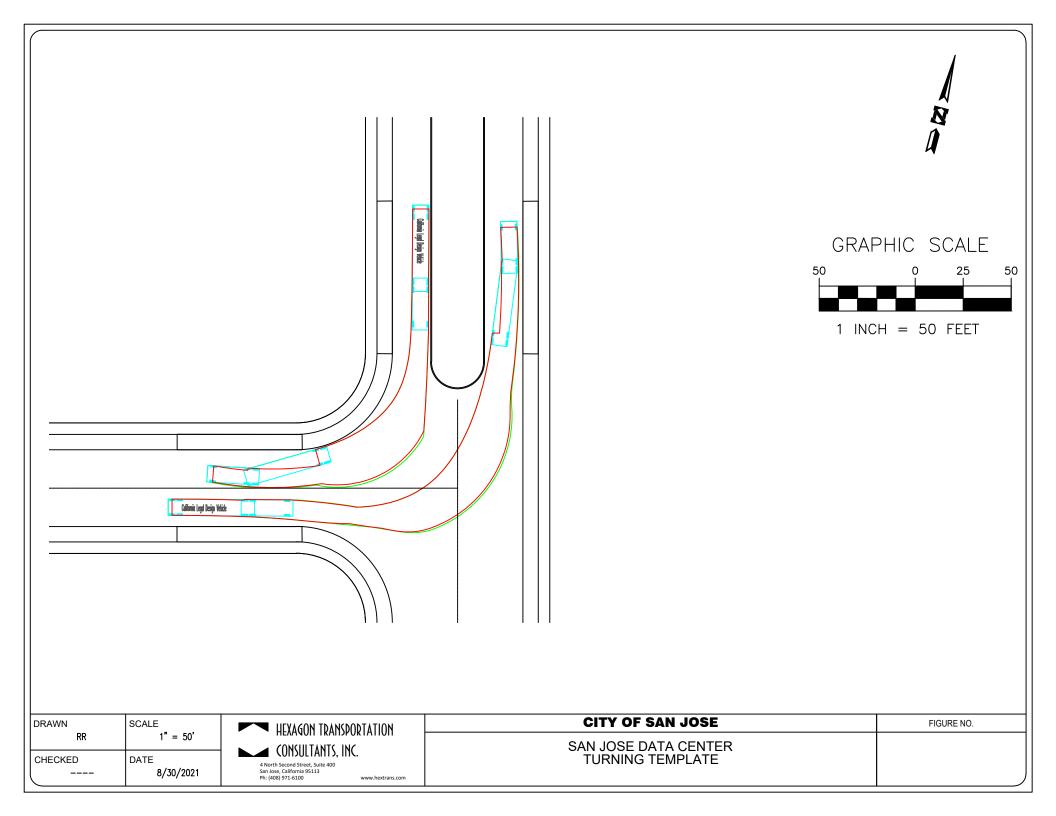
File: Zanker Road & Nortech Parkway Tab: Warrant 3, Part B-Graph (PM Up)

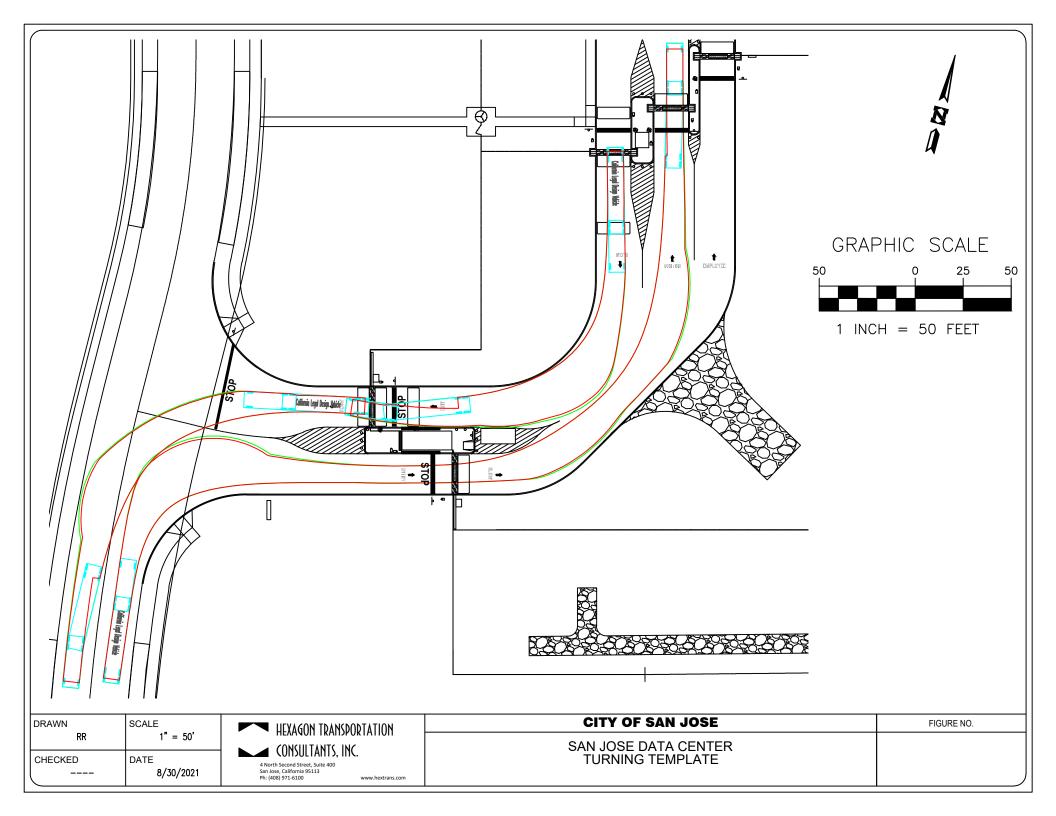
^{*} Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

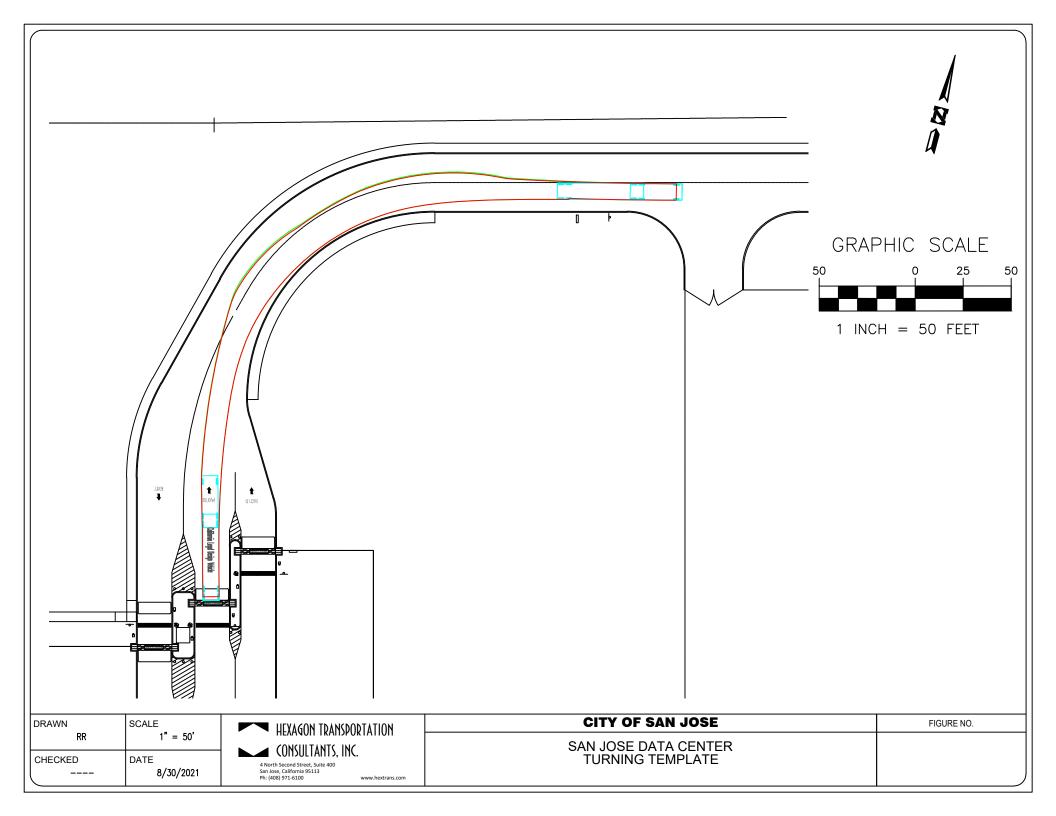
Appendix ETruck Turning Templates

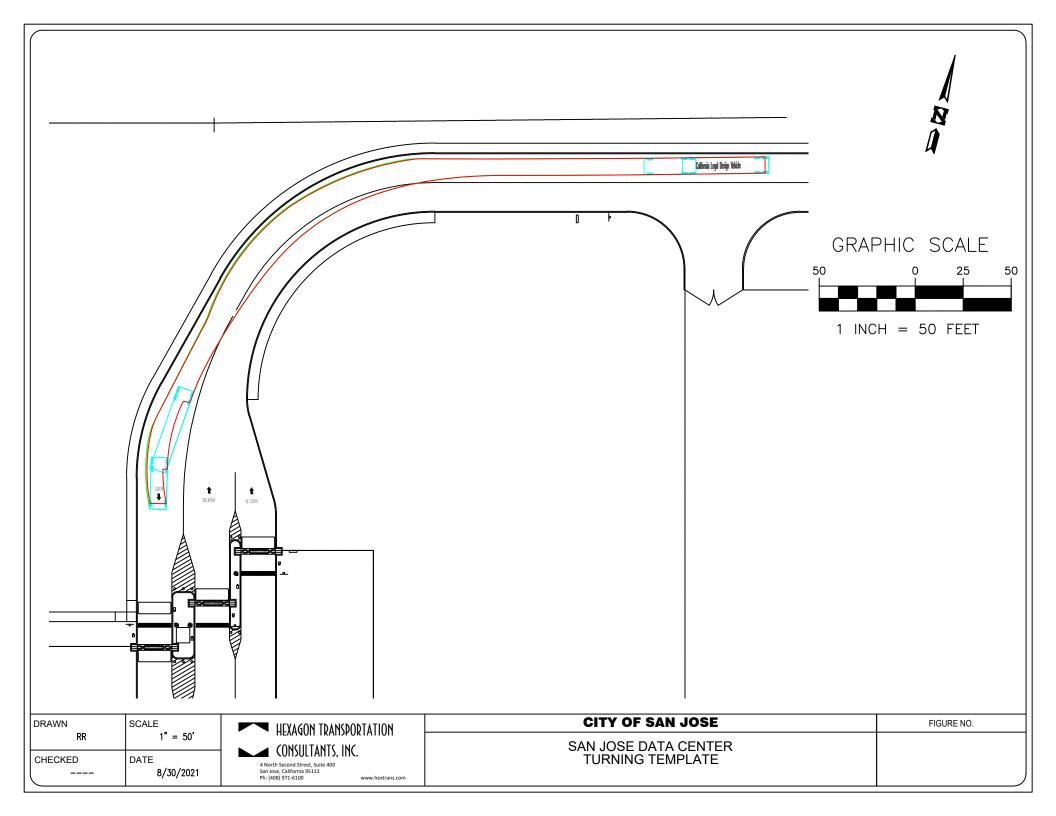


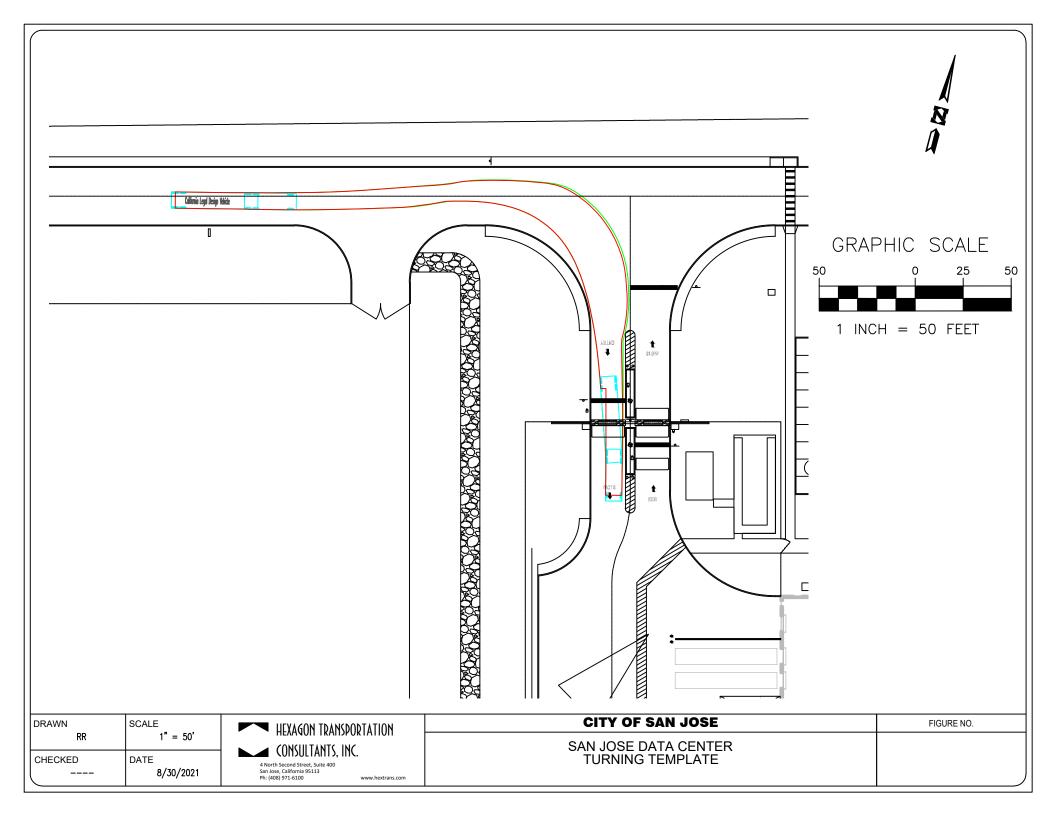


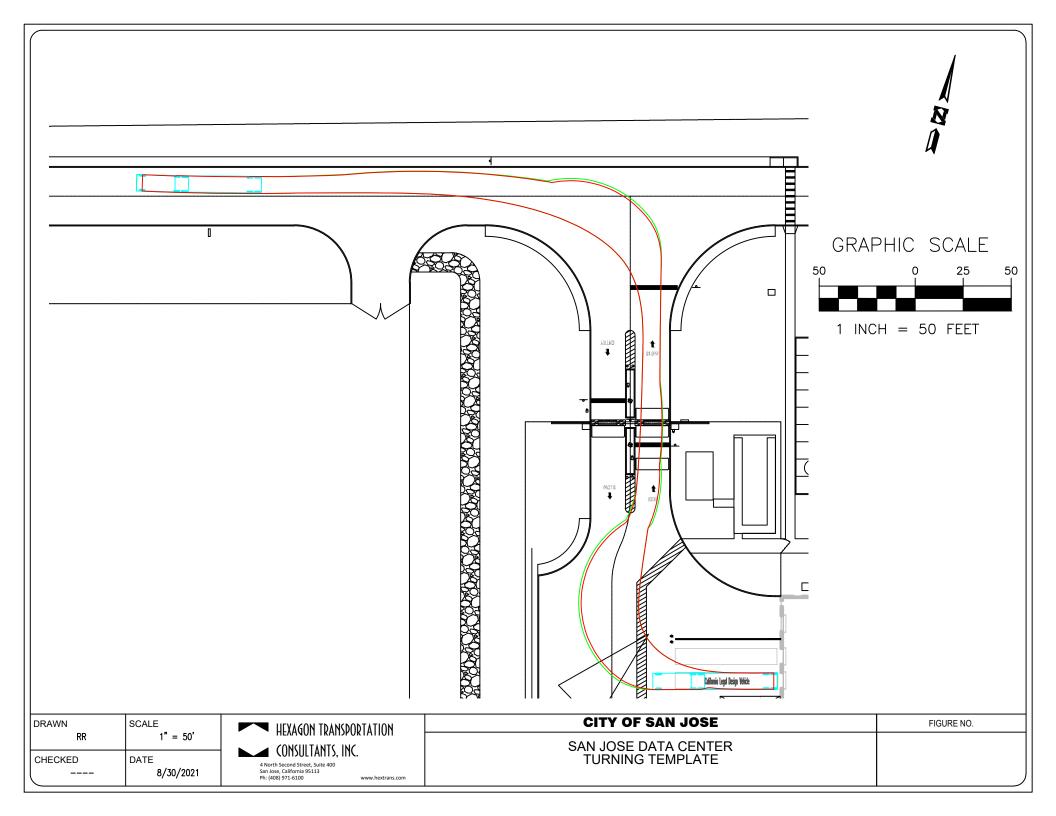


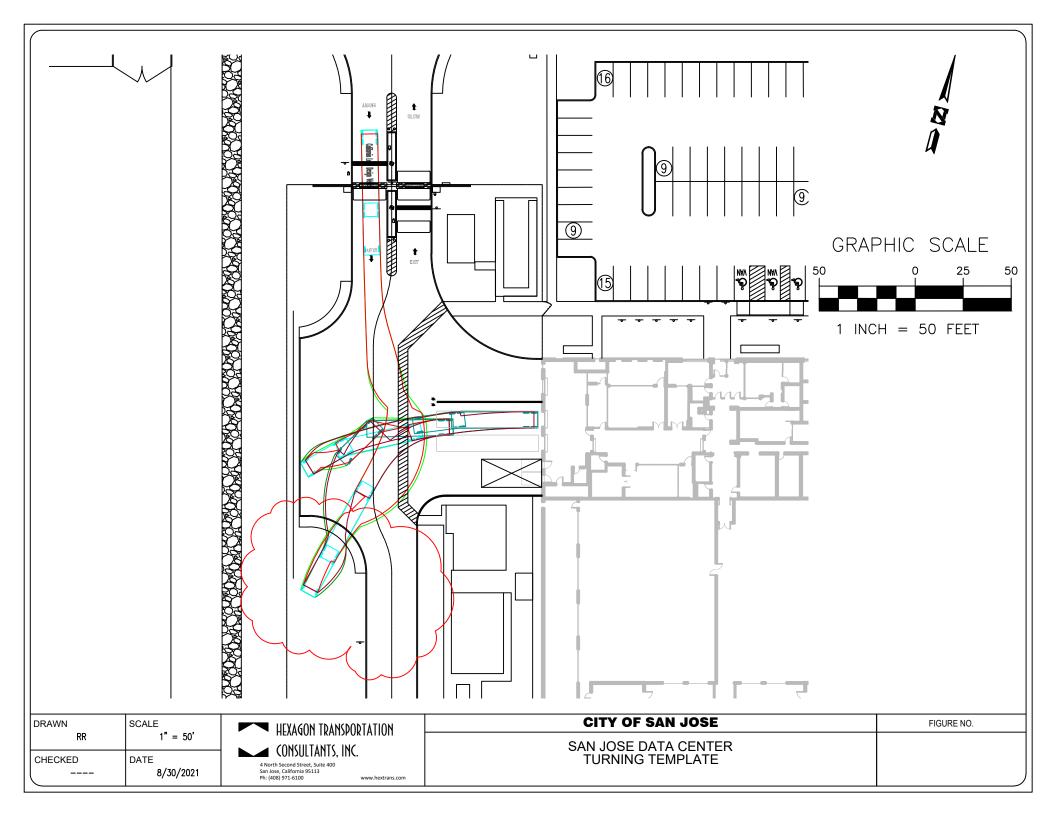


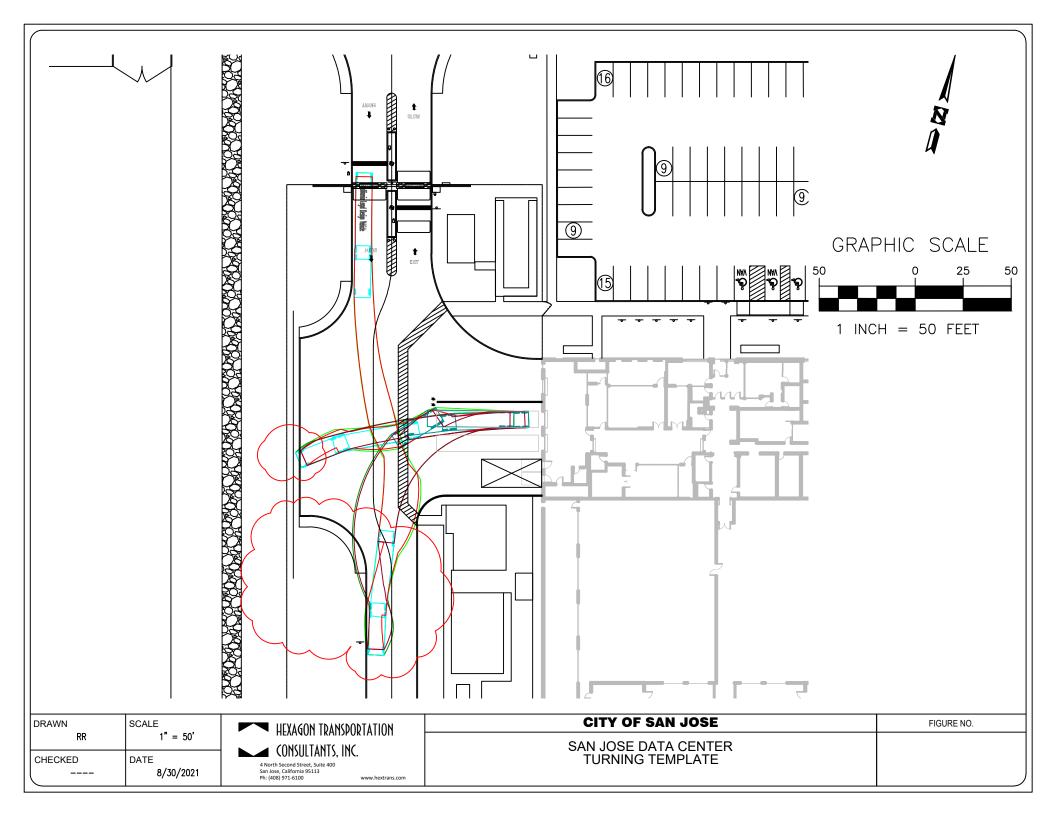


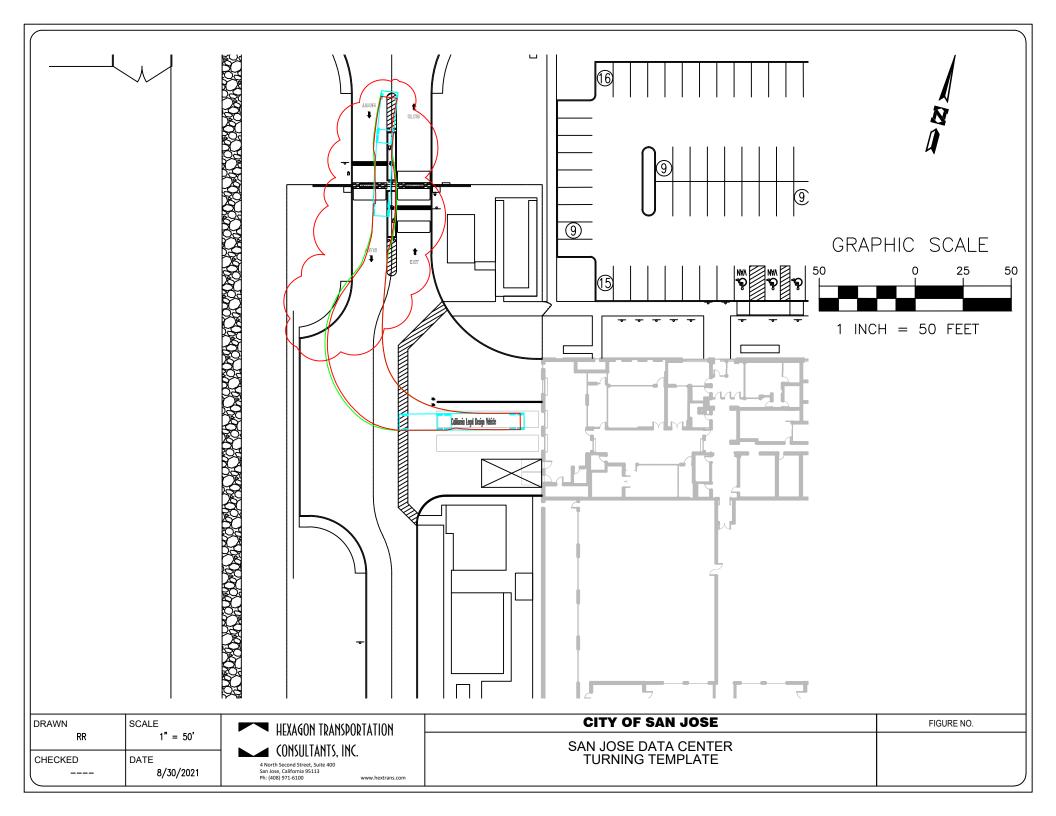


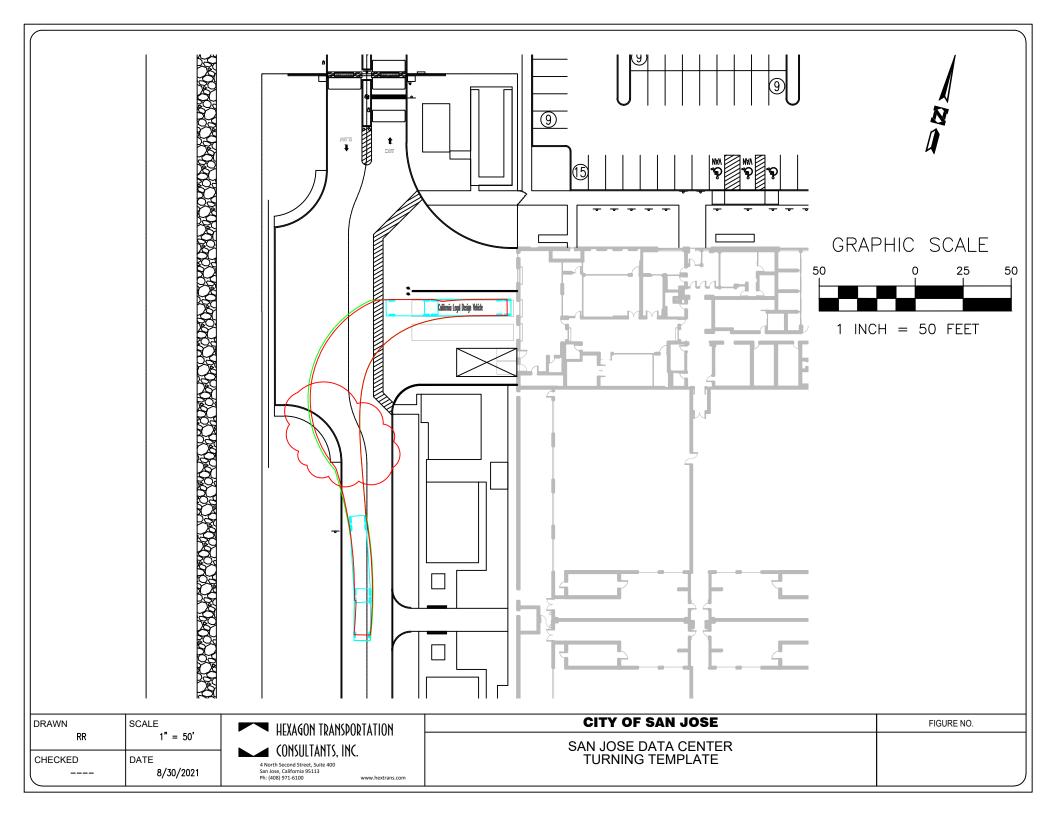


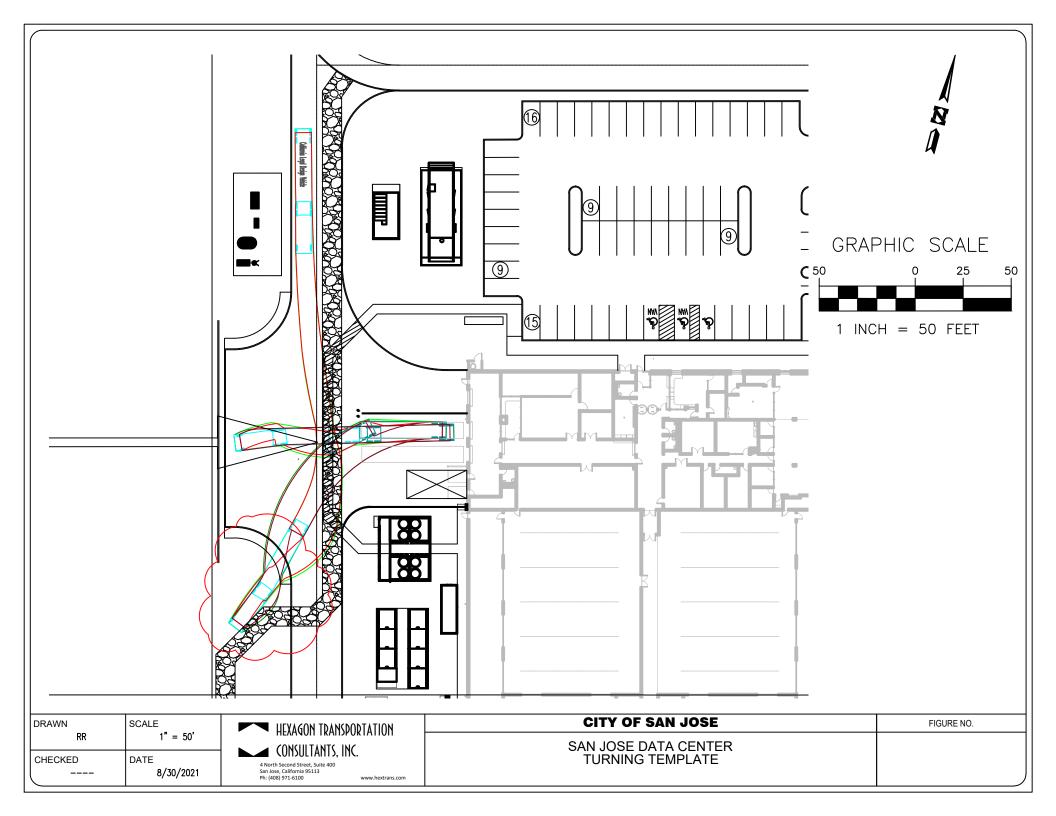


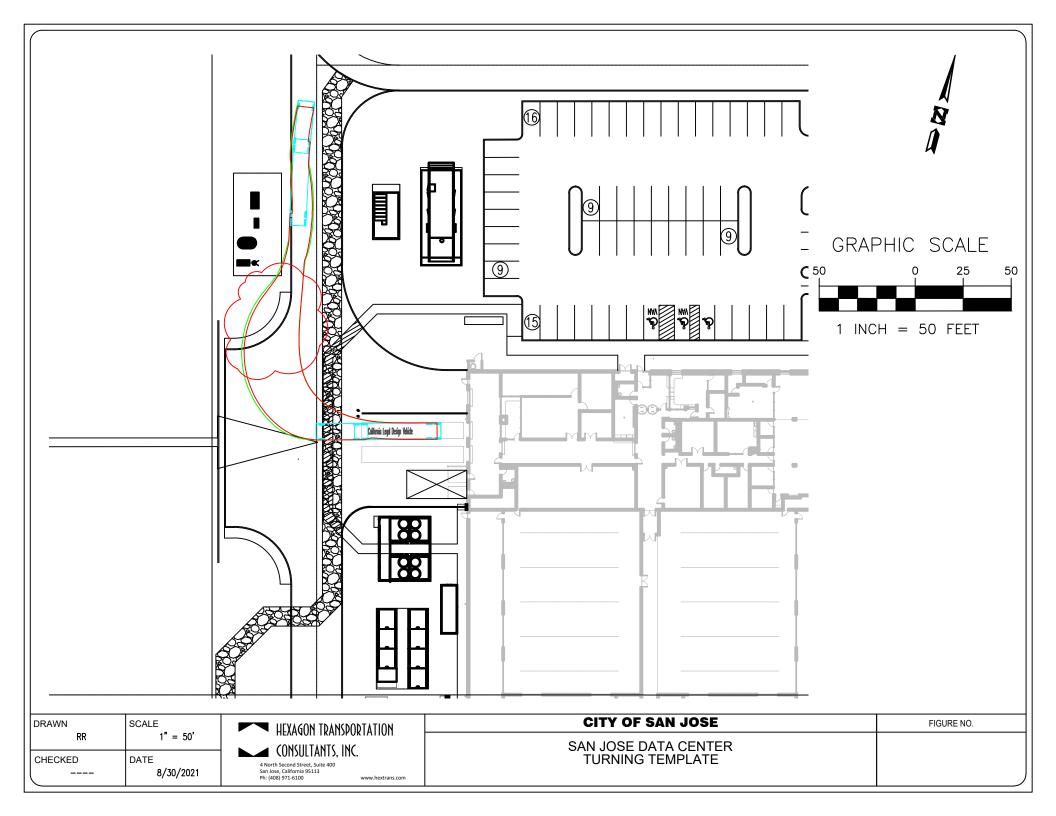


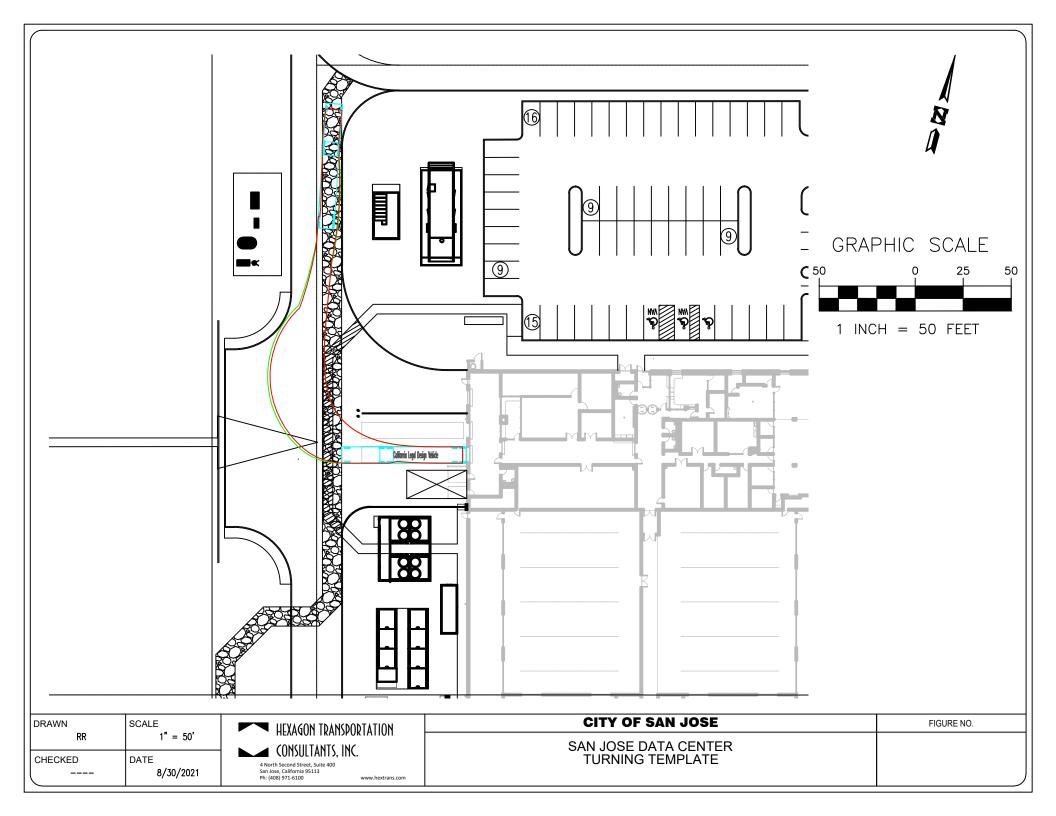


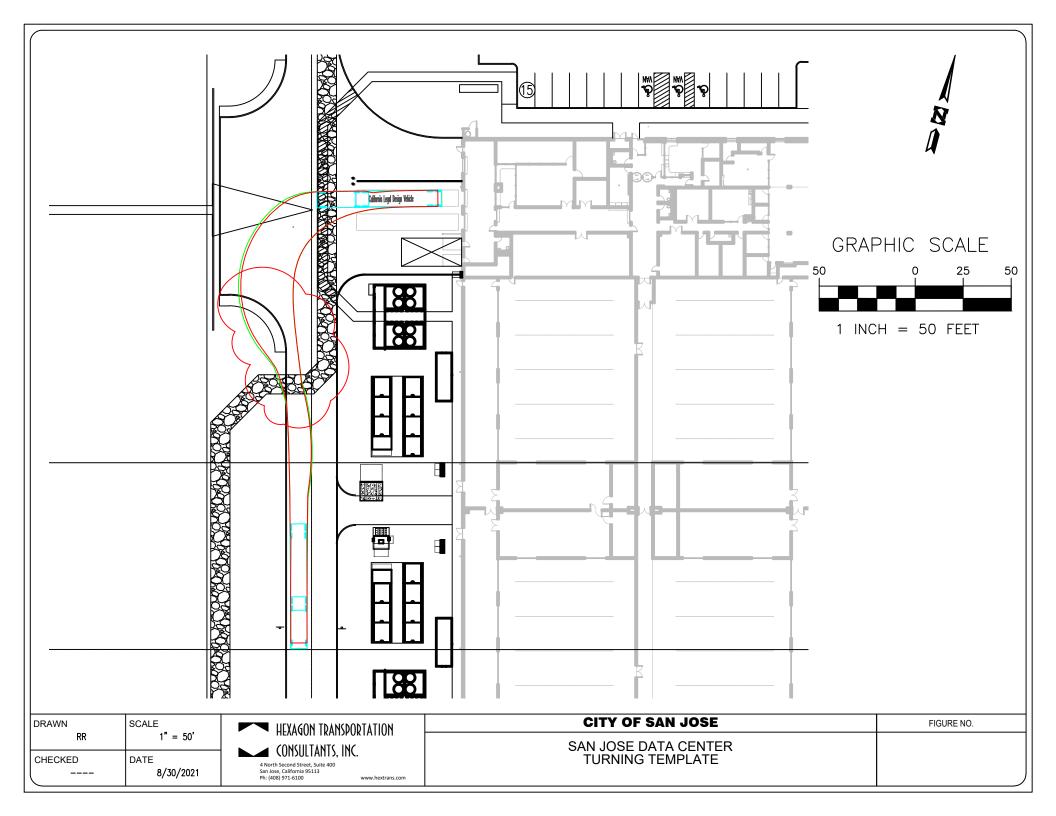


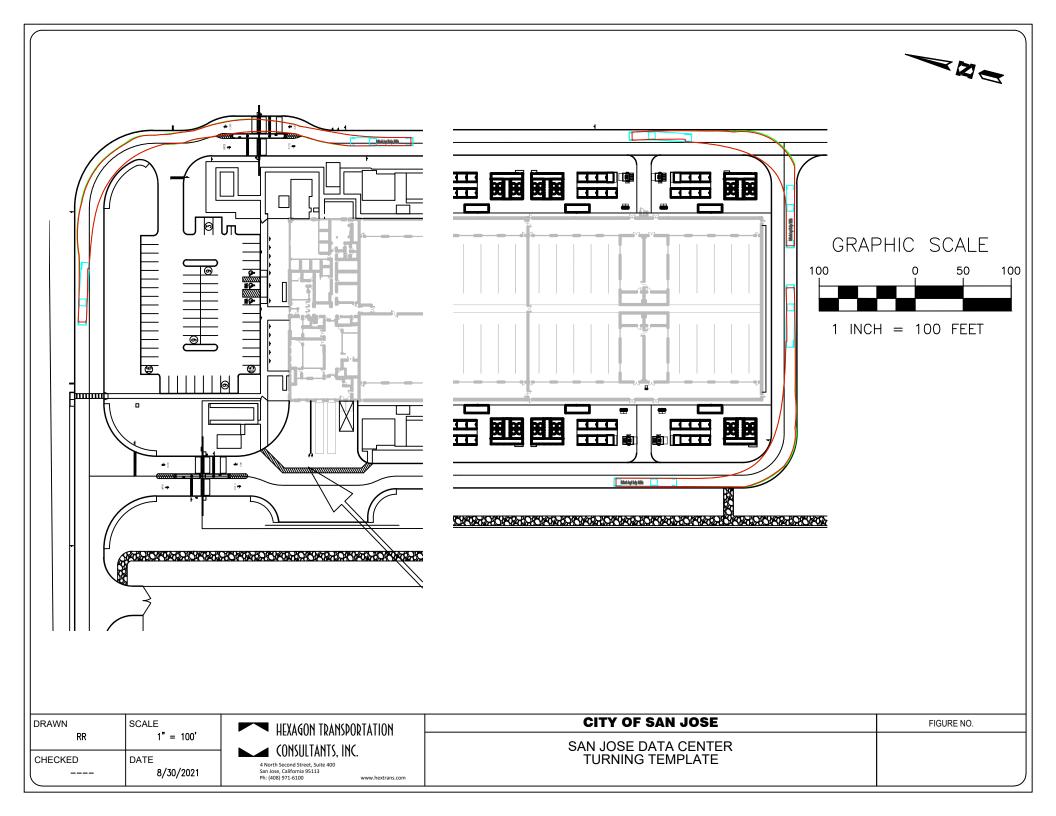






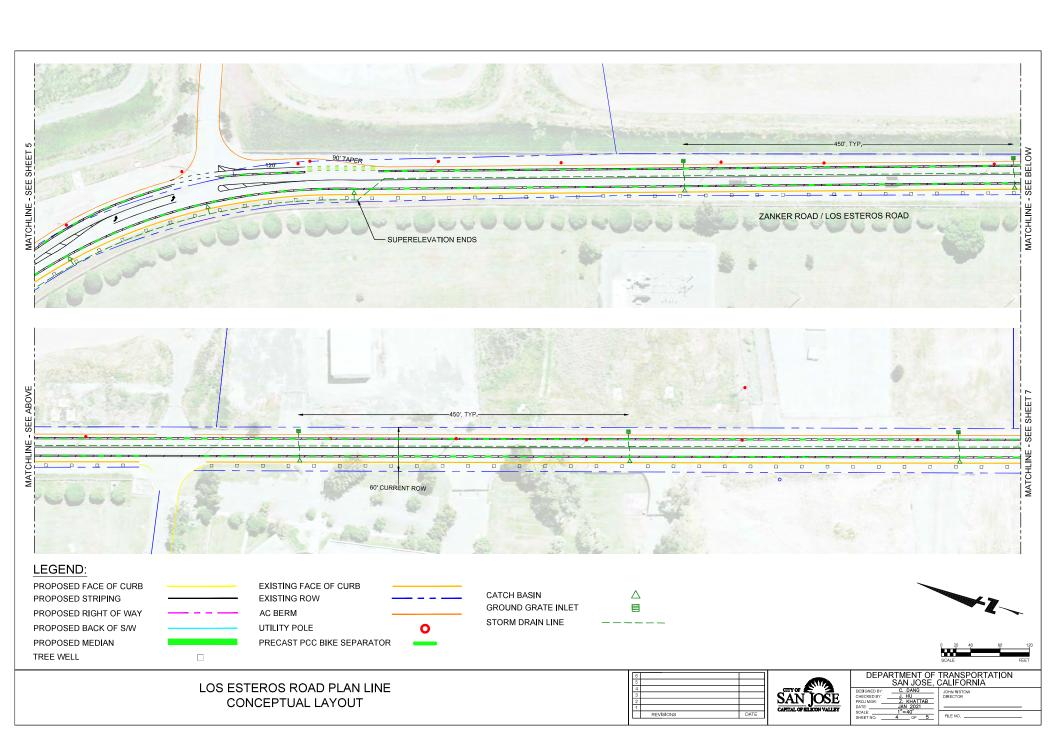


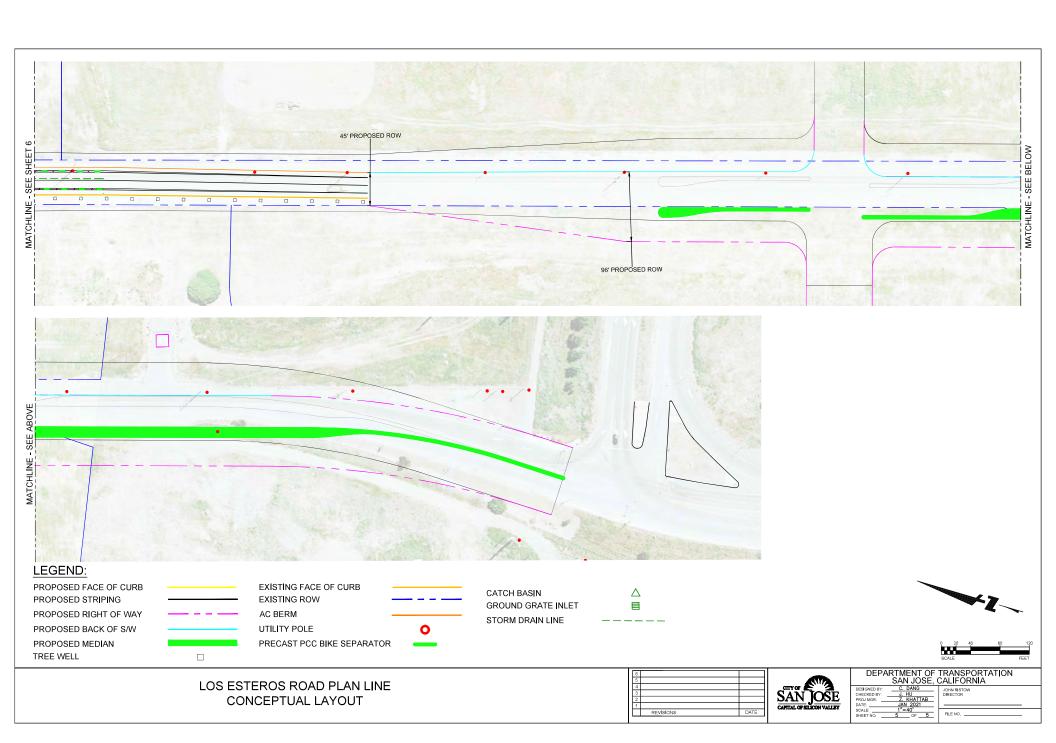




Appendix F Zanker Road Plan Line







Appendix GData Center Parking Demand Study







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 27th at 1:30 PM with 14 vehicles parked. Site 2 parking demand peaked on July 27th at 12:30 PM with 16 vehicles parked. Site 3 parking demand peaked on July 27th at 2:00 PM with 44 vehicles parked. Site 4 parking demand peaked on August 9th at 1:00 PM with 75 vehicles parked. Site 5 parking demand peaked on August 10th 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 1	42,585	14	0.329	
2	1725 Comstock St 1	39,324	16	0.407	
3	2401 Walsh Ave 1	272,000	44	0.162	
4	2045 Lafayette St ²	323,122	75	0.232	
5	2220 De La Cruz Blvd ²	365,489	84	0.230	
			Weighted Average	0.22	
			Maximum Observed	0.41	

Notes:

- 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 ¹
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.

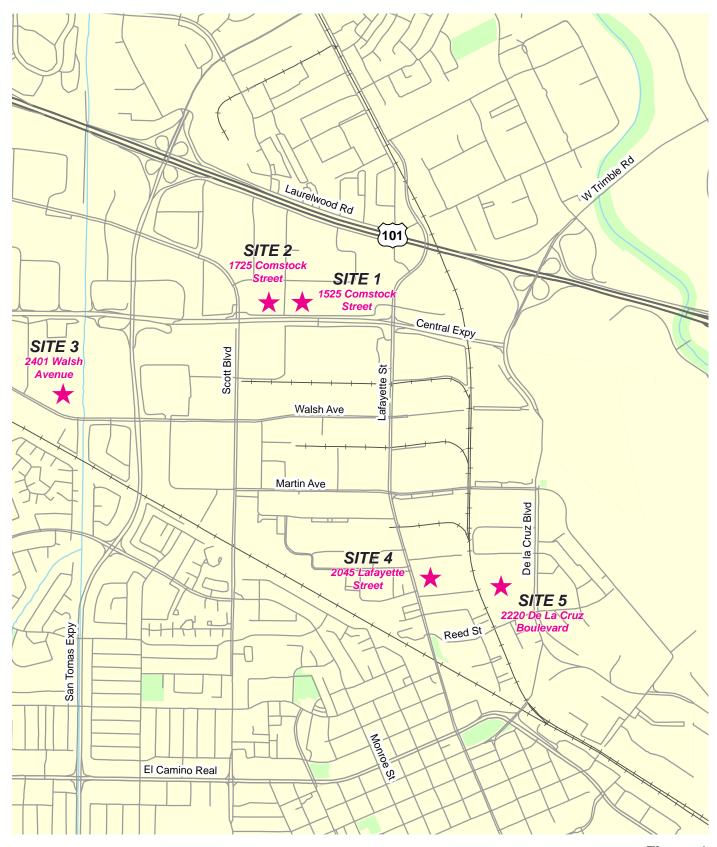


Figure 1 Count Locations







Figure 2
Site 1 - 1525 Comstock Street





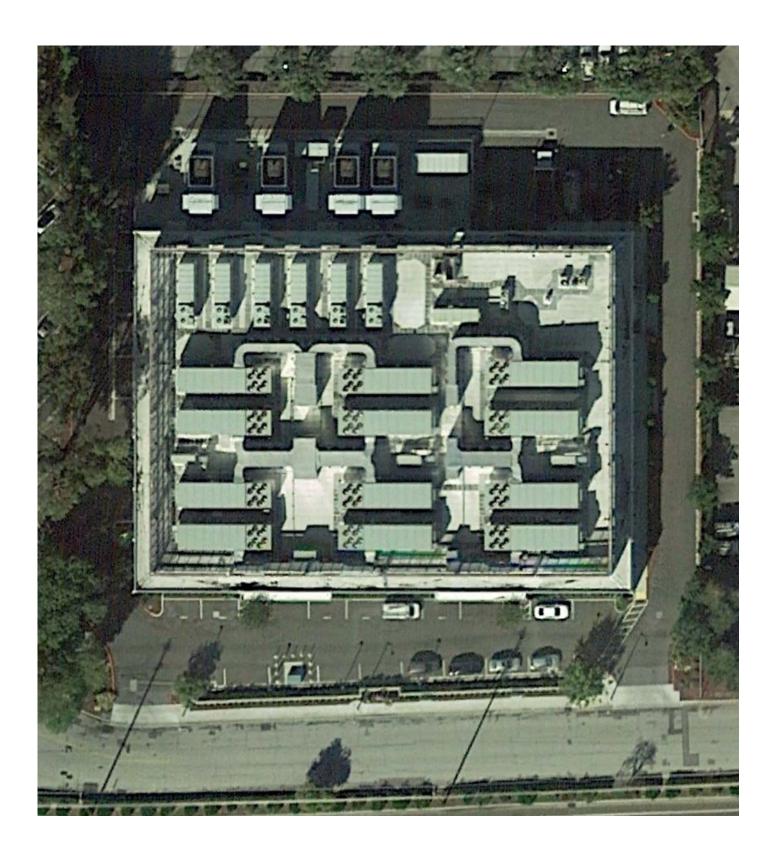


Figure 3 Site 2 - 1725 Comstock Street







Figure 4 Site 3 - 2401 Walsh Avenue



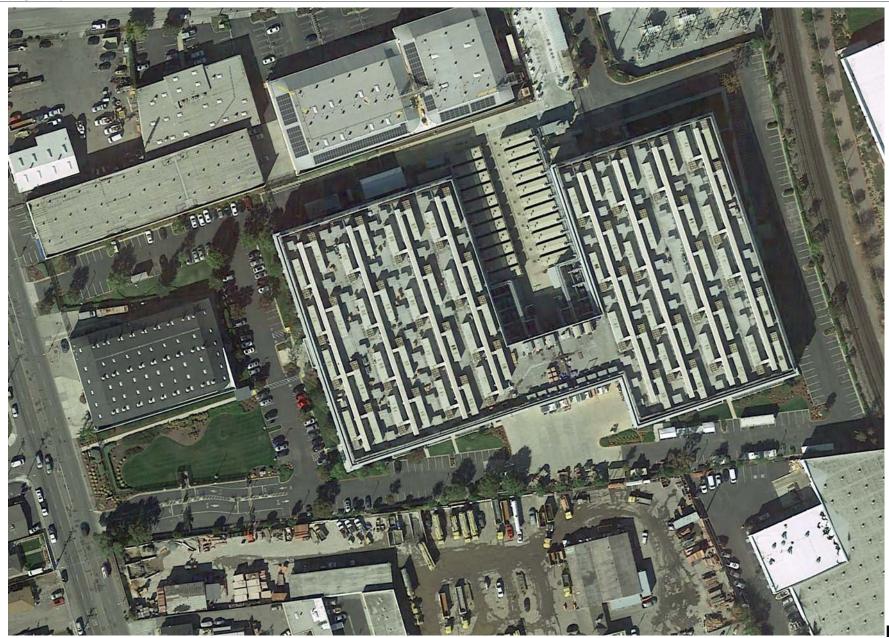


Figure 5
Site 4 - 2045 Lafayette Street





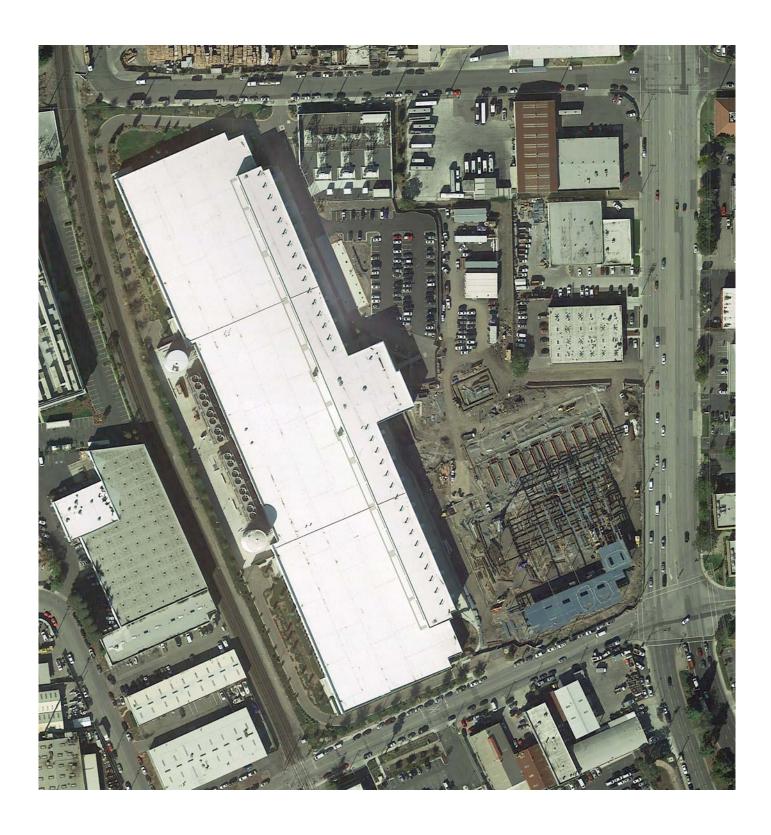


Figure 6 Site 5 - 2220 De La Cruz Boulevard





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

	1525 Comstock			1725 Comstock			2401 Walsh					
Time	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