5853 & 5863 Rue Ferrari

Transportation Analysis
3rd Submittal

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Prepared for

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

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EXECUTIVE SUMMARY

This transportation study evaluates transportation operations and site circulation conditions for the proposed 5853 Rue Ferrari project in the City of San José. The project site is in Sub-Area 4 of the Edenvale Area located between Rue Ferrari and Eden Park Place. The Project's site plan proposes to construct a warehouse up to 302,772 total square-feet (including 10,000 square-feet of office space) on the 17.38 gross acre site. The project would redevelop the existing site which currently consists of a general office buildings / office park. The proposed site would provide up to 301 car parking spaces, 108 trailer parking spaces, and 47 truck loading docks on-site, and the site will be accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place.

The potential adverse effects of the project were evaluated in accordance with the standards and methodologies set forth by the City of San José. Based on the City of San Jose's Transportation Analysis Policy (Policy 5-1) and the Transportation Analysis Handbook 2018, the transportation analysis report for the project includes a CEQA transportation analysis (TA) and a local transportation analysis (LTA). The CEQA transportation analysis comprises an evaluation of Vehicle Miles Traveled (VMT) which is defined in Chapter 1. The LTA supplements the CEQA transportation analysis by identifying transportation operational issues via an evaluation of weekday AM and PM peak-hour traffic conditions for three (3) study intersections near the project site. The LTA also includes an analysis of site access, on-site circulation, parking, vehicle queuing, and effects to transit, bicycle, and pedestrian access.

CEQA Transportation Analysis

Project Vehicle Miles Traveled (VMT) Impacts and Mitigation Measures

The project consists of industrial land use and does not meet the screening criteria for VMT analysis exemption as a small infill project of 30,000 square-feet of total gross floor area or less per City guidelines. The proposed project was evaluated in the VMT tool assuming development of 302,772 square-feet of industrial use.

The City's VMT per employee threshold for industrial land uses is 14.37. For the surrounding land use area, the existing VMT is 14.78. The proposed project is anticipated to generate a VMT per employee of 14.71. The evaluation tool estimates that the project would exceed the City's industrial VMT per employee threshold and would trigger a VMT impact.

Since the project VMT exceeds the industrial thresholds of significance, the project will need to mitigate its CEQA transportation impact by implementing a variety of City approved VMT reduction strategies. Per City direction, the applicant would implement Tier 2 multi-modal infrastructure improvements, and with these measures, the project could achieve a VMT per employee of 13.54 which is below the City threshold. Final implementation of the proposed VMT reduction strategies would need to be coordinated between the project applicant and the City.

Local Transportation Analysis

Project Trip Generation

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*.

Per the 2018 *Transportation Analysis Handbook*, trip generation reduction credits were applied to the project including location-based mode-share, potential VMT reduction strategies, and existing land uses. Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 0 additional daily trips, 32 AM, and 127 PM peak hour trips to the roadway network. Baseline vehicle trips for the proposed project (excluding trip adjustments) are anticipated to generate a gross total of 2,477 daily trips, 179 AM peak hour trips, and 415 PM peak hour vehicle trips.

Intersection Traffic Operations

Weekday AM and PM peak hour intersection turning movement volumes for the study intersections were obtained from the City of San Jose Traffic Model Database and supplemented with new turning movement counts collected at selected intersections on Tuesday, June 15, 2021. The study intersections were assessed under Existing, Background and Project scenarios. City of San José and Valley Transportation Authority Congestion Management Program intersection level of service standards and significance thresholds were used to determine adverse effects caused by the project.

It should be noted that a prior traffic study (iStar Mixed-Use Development) was completed for the EADP and identified intersection improvements that have already been completed. Based on City direction and the 2014 EADP Update, the project is not required to study any signalized intersections and their adverse effects under project conditions. For informational purposes, intersection level of service operations analysis is shown for Existing and Background Conditions. A signal warrant analysis was prepared for the Rue Ferrari / Silicon Valley and Eden Park / Silicon Valley intersections per the California Manual on Uniform Traffic Control Devices (MUTCD).

Adverse Effects and Improvements

The project is not anticipated to generate an adverse effect to the study intersections during the Project scenario.

Per City request to improve multi-modal access, the project would need to coordinate with the City Parks, Recreation, & Neighborhood Services (PRNS) division and implement the following improvement for VMT mitigation:

Install a mid-block crosswalk and connecting pathway located west of the project's southernmost driveway on Eden Park Place. Install a rectangular rapid-flashing beacon (RRFB) enhanced crosswalk across Eden Park Place. Construct an ADA compliant connection at the mid-block crosswalk with curb ramps from the project frontage to the existing Coyote Creek trail.

Vehicle Site Access and Circulation

The 5853 Rue Ferrari project provides on-site parking spaces for commercial trucks and employee staff, and the at-grade parking lot is accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place. The westmost driveways designed for truck access along Rue Ferrari and Eden Park Place are 34-feet wide. The eastmost driveways designed for passenger vehicle access along Rue Ferrari and Eden Park Place are 32-feet wide. Based on associated turning templates for the given design

vehicle, the driveway dimensions proposed on the latest site plan are recommended to provide sufficient vehicle access and circulation for entering and exiting vehicles. The proposed driveway locations optimize sight distance and spacing for the proposed site plan. Passenger vehicles, delivery vans, trucks, refuse, and emergency vehicles are able to circulate within the project site without conflict.

Pedestrian, Bicycle, and Transit Site Access

The most recent project site plan does not plan to provide transportation improvements to the existing sidewalk, bicycle, and transit facilities along the project frontages on Rue Ferrari and Eden Park Place; however, the project would coordinate with the City to implement multi-modal improvements as discussed in Section 5.5. Due to the function and operational characteristics of the proposed warehouse use, the 5853 Rue Ferrari project is not anticipated to add substantial project trips to the existing pedestrian, bicycle, or transit facilities in the area. Therefore, the project would not create an adverse effect to the existing pedestrian, bicycle, or transit facility operations.

On-Site Vehicle and Bicycle Parking

Per the City's parking standard, the project site is anticipated to provide sufficient on-site vehicle and bicycle spaces to meet the City's minimum parking requirement.

Neighborhood Interface

The project's on-site parking would satisfy the City's vehicle parking standard, and the project is not anticipated to create an adverse effect to the existing parking condition in the surrounding area. The project is not anticipated to create an adverse effect to the existing pedestrian and bicycle facilities in the surrounding area.

1 INTRODUCTION

1.1 Project Description

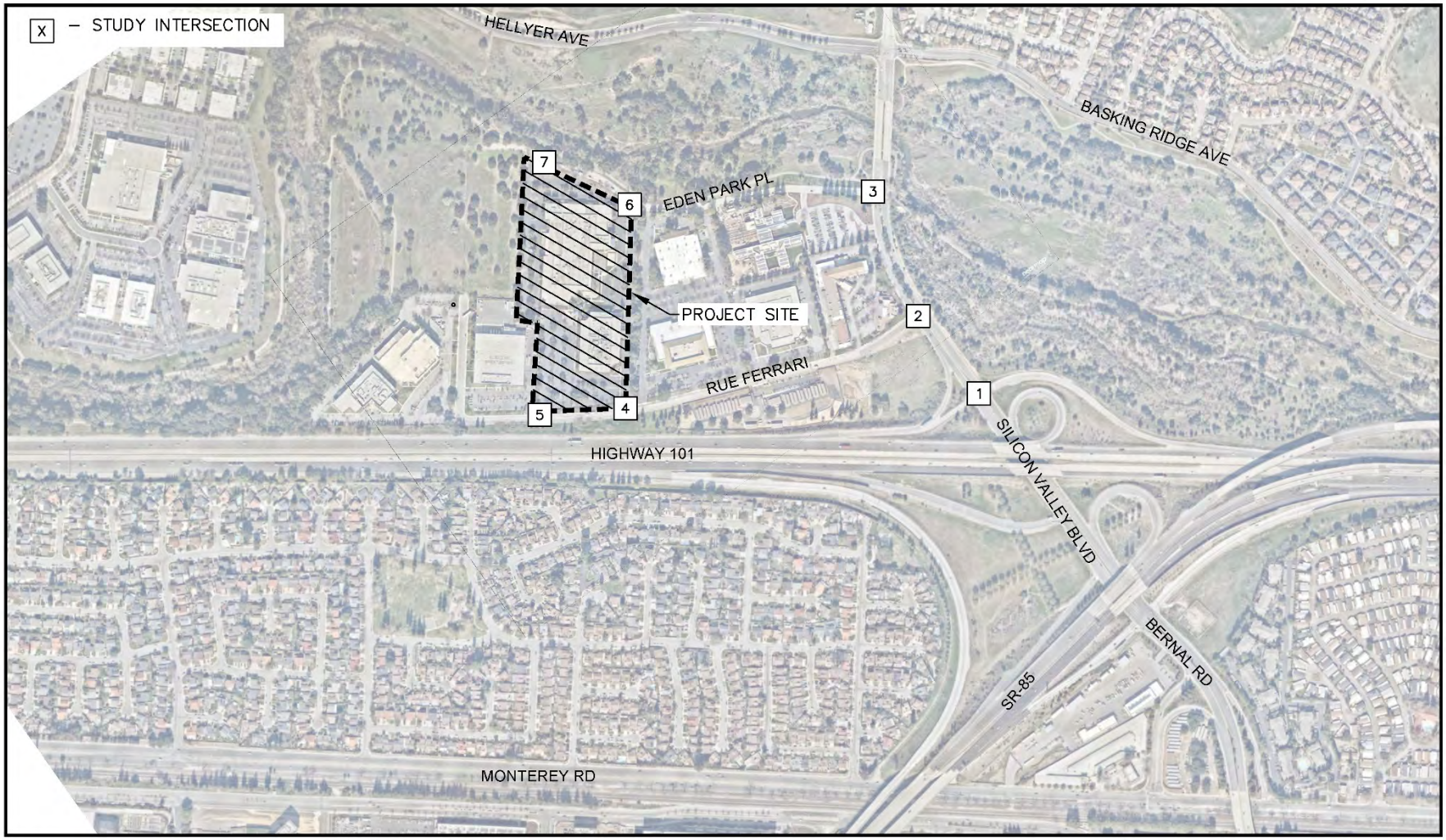
This transportation study evaluates transportation operations and site circulation conditions for the proposed 5853 Rue Ferrari project in the City of San José. The project site is in the South San Jose area located between Rue Ferrari and Eden Park Place. The Project's site plan proposes to construct a warehouse up to 302,772 total square-feet (including 10,000 square-feet of office space) on the 17.38 gross acre site. The project would redevelop the existing site which currently consists of a general office buildings / office park.

The proposed site would provide up to 301 car parking spaces, 108 trailer parking spaces, and 47 truck loading docks on-site, and the site will be accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place.

An overview map showing the project site location is shown in **Figure 1**. Kimley-Horn was retained by Duke Realty to provide a traffic operations analysis for the proposed project based on the scope of work approved by the City of San José.

Based on the recently adopted Transportation Analysis Council Policy 5-1, the project will require preparation of a comprehensive Transportation Analysis (TA) per the 2018 San Jose Transportation Analysis Handbook. This TA report evaluates several project and transportation criteria including intersection operations, project trip generation, trip distribution, site access and circulation, sight distance, vehicle queuing, parking, bicycle, pedestrian, and transit facilities, and vehicle miles traveled (VMT).

Figure 1: Project Site Map



1.2 CEQA Transportation Analysis Scope

The California Environmental Quality Act (CEQA) was enacted in 1970 to ensure environmental protection through review of discretionary actions approved by all public agencies. For the City of San Jose, a CEQA transportation analysis requires an evaluation of a project's potential impacts related to VMT and other significance criteria per CEQA and Senate Bill 743.

VMT is defined as the total miles of travel by a personal motorized vehicle a project is expected to generate in a day. VMT is calculated 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. For 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. For an office or industrial project, the project's VMT is divided by the number of employees to determine the VMT per employee. The project's VMT is then compared to the VMT thresholds of significance established based on the average area VMT. A project located in a downtown area is expected to have a lower project VMT than the average area VMT, while a project located in a suburban area is expected to have a higher project VMT than the average area VMT.

Screening Criteria

The Transportation Analysis Handbook 2018 includes screening criteria for projects that are expected to result in less-than-significant VMT impacts. Projects that meet the screening criteria do not require a CEQA transportation analysis but may be required to provide a Local Transportation Analysis (LTA).

The proposed project, which is a warehouse development, would not meet the industrial screening criteria set forth in the City's Transportation Analysis Handbook. The City of San Jose VMT Evaluation Tool was used to estimate VMT impacts for the project.

VMT Analysis Methodology

The City has developed the San Jose VMT Evaluation Tool to streamline the analysis for residential, office, and industrial projects with local traffic to determine whether a project would result in CEQA transportation impacts related to VMT. The City's Travel Demand Model can also be used to determine project VMT for non-residential or non-office projects, very large projects, or projects that can potentially shift travel patterns.

For this project, the CEQA transportation analysis was assessed using the San Jose VMT Evaluation Tool to determine the potential VMT impact from the project's description, location, land use attributes.

The project's VMT was compared to the City's existing level VMT and VMT thresholds of significance as established in Council Policy 5-1. Project VMT that exceeds the thresholds of significance will need to mitigate its CEQA transportation impact by implementing various VMT reduction strategies described below.

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.

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

City of San Jose VMT Threshold

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. **Table 1** summarizes the City VMT thresholds of significance for development projects. For residential developments, project generated VMT that exceeds the existing citywide average VMT per capita minus fifteen (15) percent will create a significant adverse impact. For office developments, project generated VMT that exceeds the existing regional average VMT per employee minus fifteen (15) percent will also create a significant adverse impact.

Figure 2 and **Figure 3** shows San Jose heat maps identifying existing level VMT per capita for residential uses and VMT per employee for office and industrial uses respectively in the city Developments in green-colored areas are estimated to have VMT levels below the City's threshold of significance while orange and pink-colored areas are estimated to have VMT levels above the threshold of significance.

Table 1: City of San Jose VMT Thresholds of Significance

Project Type	Significance Criteria	Current VMT Level	VMT Threshold
Residential Uses	Project VMT per capita exceeds existing citywide average VMT per capita minus 15 percent, or existing regional average VMT per capita minus 15 percent, whichever is lower.	11.91 VMT per Capita (Citywide Average)	10.12 VMT per Capita
General Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee minus 15 percent.	14.37 VMT per employee (Regional Average)	12.21 VMT per employee
Industrial Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee.	14.37 VMT per employee (Regional Average)	14.37 VMT per employee
Retail / Hotel / School Uses	Net increase in existing regional total VMT.	Regional Total VMT	Net Increase
Public / Quasi-Public Uses	In accordance with most appropriate type(s) as determined by Public Works Director.	Appropriate levels listed above	Appripriate 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	Appripriate 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	Appripriate 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	Appripriate thresholds listed above
Notes:			
VMT thresholds based on City of San Jose, 2018 Transportation Analysis Handbook, Table 2.			

Figure 2: VMT Per Capita Heat Map for Residential Uses

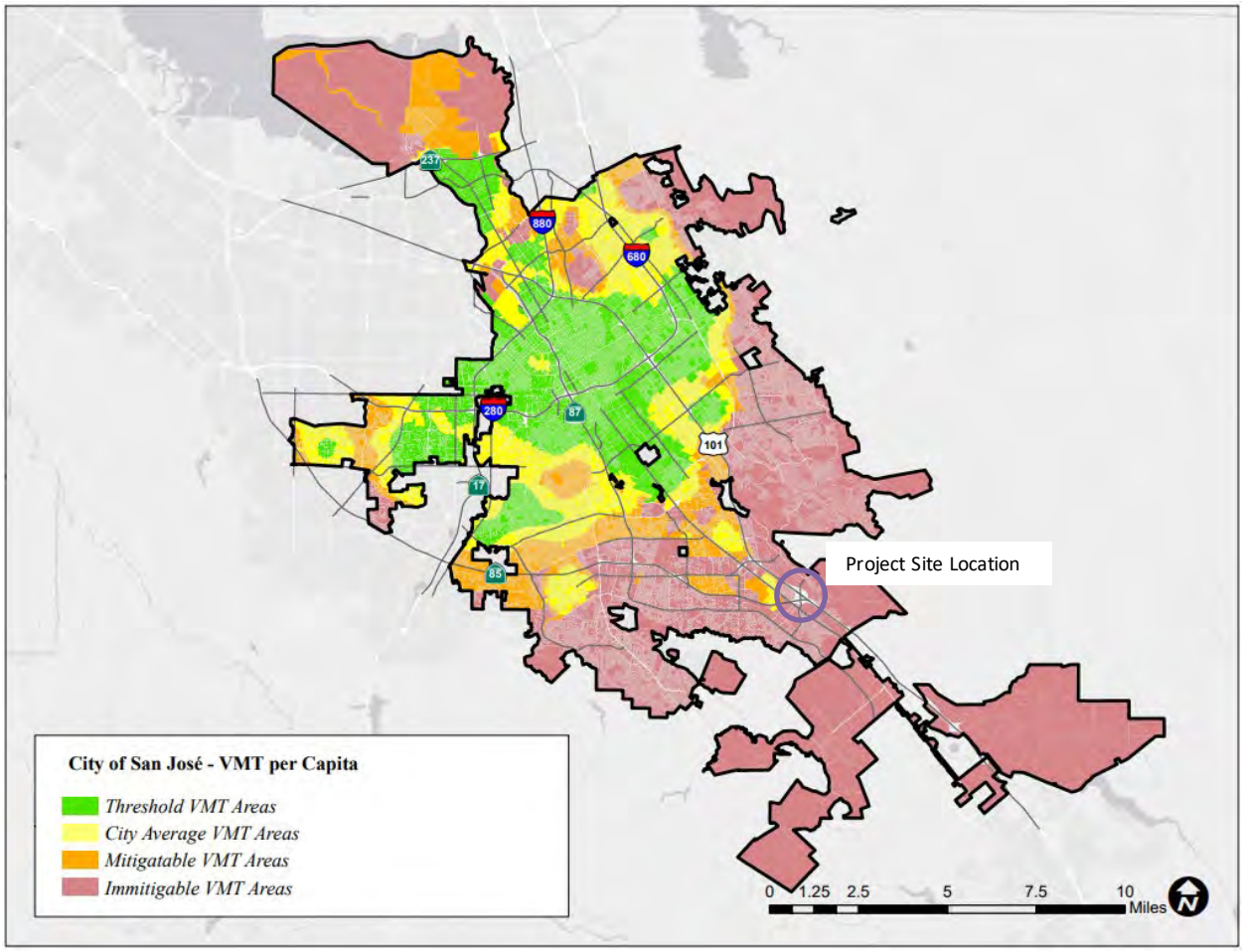
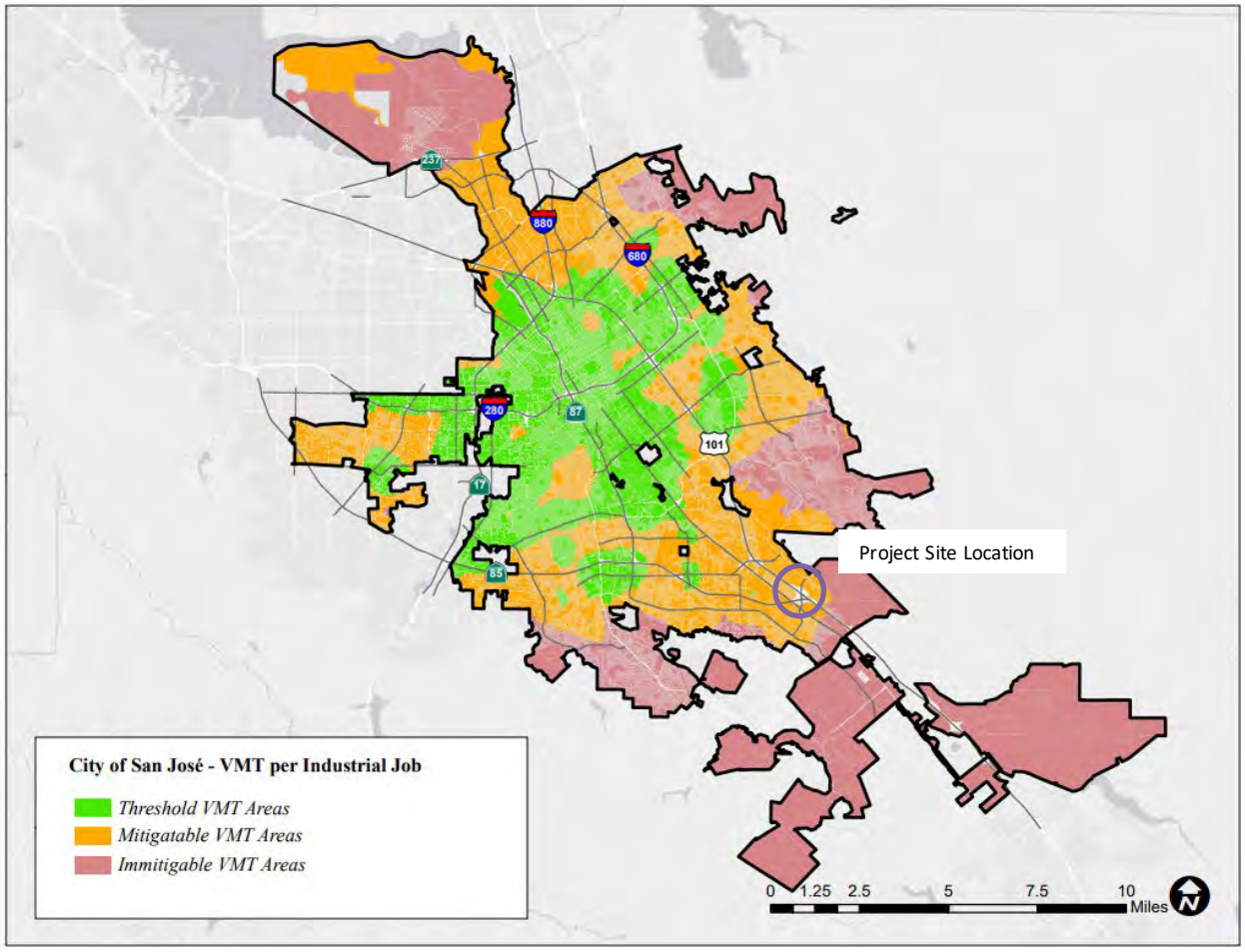


Figure 3: VMT Per Employee Heat Map for Industrial Uses



1.3 Local Transportation Analysis Scope

A Local Transportation Analysis (LTA) evaluates the effects of a development project on transportation, access, circulation, and related safety elements in the proximate area of the project. A LTA also establishes consistency with the General Plan policies and goals through the following three objectives:

1. Ensures that a local transportation system is appropriate for serving the types, characteristics, and intensity of the surrounding land uses;
2. Encourages projects to reduce personal motorized vehicle-trips and increase alternative transportation mode share;
3. Addresses issues related to operation and safety for all transportation modes, with trade-offs guided by the General Plan street typology.

For this project, the LTA was assessed per the guidelines established in the 2018 San Jose Transportation Analysis Handbook and Transportation Analysis work scope for 5853 Rue Ferrari dated June 9, 2021.

The LTA study to identify potential traffic adverse effects was evaluated per the standards and guidelines set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA) which administers the County Congestion Management Program (CMP). A project is required to conduct an intersection operations analysis if the project is expected to add ten (10) or more vehicle trips per

peak hour per lane to a signalized intersection that is located within half a mile of the project site. Study intersections for the project were selected in consultation with City staff and in accordance with the VTA's TIA Guidelines. The following three (3) intersections studied in this TA are listed below.

1. Silicon Valley Boulevard / Bernal Road / US 101 NB Ramps
2. Silicon Valley Boulevard / Rue Ferrari
3. Silicon Valley Boulevard / Eden Park Place

Study Scenarios

Traffic conditions for each study intersection were analyzed during the 7:00 – 9:00 AM and 4:00 – 6:00 PM peak hours of traffic which represent the most heavily congested traffic on a typical weekday. The study intersections were assessed under the following study scenarios.

- **Existing Conditions**: Existing 2021 AM and PM peak-hour traffic volumes, intersection geometry, and traffic control based on raw traffic data at the study intersections.

- **Background Conditions**: Peak-hour traffic volumes based on Existing conditions and adding City Approved Trip Inventory (ATI) traffic volumes from City of San Jose database to the Existing roadway geometry and traffic control. The ATI volumes represent approved but not yet constructed developments in the vicinity of the project study area.

- **Background Plus Project Conditions**: Peak-hour traffic volumes based on Background conditions and adding the net vehicle trips from the proposed 5853 Rue Ferrari project to the Background roadway geometry and traffic control. The Project scenario is compared to the Background conditions for determining project traffic adverse effects.

Intersection Level-of-Service Criteria and Thresholds

Analysis of potential adverse effects at roadway intersections is based on the concept of level-of-service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS A (best) represents minimal delay, while LOS F (worst) represents heavy delay and a facility that is operating at or near its functional capacity. LOS for this study was based on the Highway Capacity Manual (HCM) 2000 methodology with TRAFFIX software. This methodology is used by the City of San Jose for CMP-designated intersections and determining average intersection vehicle delay measured in seconds. The City of San Jose does not have any formally adopted LOS standard for unsignalized intersections; LOS would generally only be used to determine the need for modification in the type of intersection control. The standards used by the City of San Jose to measure signalized intersection operations are summarized below in **Table 2**.

Table 2: Intersection Operation Standards at Signalized Intersections

Operations Standard	Descriptions	Average Control Delay (seconds/vehicle)
A	Operations with very low delay occurring with favorable progress and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	Between 10.1 and 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	Between 20.1 and 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	Between 35.1 and 55.0
E	Operations with high delays indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	Between 55.1 and 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	Higher than 80.0

Project adverse effects are determined by comparing baseline conditions to those scenarios with the proposed Project. Adverse effects for intersections are created when traffic from the proposed Project causes the LOS to fall below the maintaining agency's LOS threshold or causes deficient intersections to deteriorate further, per the criteria indicated below.

City of San Jose LOS Threshold

The City's acceptable intersection operations standard is LOS "D" unless superseded by an Area Development Policy. An adverse effect on intersection operations occurs when the analysis demonstrates that a project would cause the operations standard at a study intersection to fall below LOS "D" with the addition of project vehicle-trips to baseline conditions.

For intersections already operating at LOS "E" or LOS "F" under the baseline conditions, an adverse effect is defined as:

- An increase in average critical delay by 4.0 seconds or more AND an increase in the critical volume-to-capacity (V/C) ratio of 0.010 or more; OR
- A decrease in average critical delay AND an increase in the critical V/C ratio of 0.010 or more.

CMP Intersection LOS Threshold

The County's operations standard for a CMP identified intersection is LOS "E". A project is anticipated to create a significant adverse effect on traffic conditions at a CMP signal if:

- LOS at the intersection degrades from and acceptable LOS "E" or better under baseline conditions to an unacceptable LOS F under baseline plus project conditions; OR
- LOS at the intersection is an unacceptable LOS "F" under baseline conditions and the addition of project trips causes 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 (0.01) or more.

Intersection Operations Analysis

It should be noted that the project is located in the Edenvale Area Development Policy (EADP) boundary. A prior traffic study (iStar Mixed-Use Development) was completed for the EADP and identified intersection improvements that have already been completed. Based on City direction and the 2014 EADP Update, the project is not required to study any signalized intersections and their adverse effects under project conditions.

1.4 Report Organization

This report includes a total of six (6) chapters as follows:

- **Chapter 2** describes existing transportation conditions including VMT of the existing land uses in the proximity of the project, the existing roadway network, transit service, bicycle and pedestrian facilities.
- **Chapter 3** describes the CEQA transportation analysis, including the project VMT impact analysis.
- **Chapters 4, 5, and 6** describe the local transportation analysis including operations of study intersections, the methods used to estimate project-generated traffic, the project's effects on the transportation system, and an analysis of other transportation issues including site access and circulation, parking, transit services, bicycle and pedestrian facilities, and neighborhood intrusion.

2 EXISTING TRANSPORTATION CONDITIONS

This chapter describes the existing conditions of the transportation system within the study area. It presents the existing land use's vehicle miles traveled (VMT) near the project and describes transportation facilities near the project site, including the roadway network, transit service, and pedestrian and bicycle facilities. The analysis of existing intersection operations is included as part of the Local Transportation Analysis (Chapters 4, 5, and 6).

2.1 Vehicle Miles Traveled

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 VMT Evaluation Tool and the project's APN, the existing VMT for industrial employment uses in the project vicinity is 14.78 per employee. The current regional average VMT for industrial employment uses is 14.37 per employee (see **Table 1**). Thus, the VMT levels of existing employment uses in the project vicinity are above the average VMT levels. Chapter 3 presents additional information on the project's VMT.

2.2 Existing Roadway Network

The following local and regional roadways provide access to the project site:

Rue Ferrari is a local connector street in the east-west direction between Enzo Drive and Silicon Valley Boulevard. Near the project site, Rue Ferrari is a two-lane road with that provides direct access to commercial and industrial businesses. On-street parking is limited along Rue Ferrari and the road has sidewalk facilities on the north side for pedestrians. The proposed 5853 Rue Ferrari project is located in between Rue Ferrari and Eden Park Place.

Eden Park Place is a local connector street in the east-west direction and runs parallel to Rue Ferrari and the Coyote Creek Recreation Trail. On-street parking is permitted along Eden Park Place and there are existing sidewalk facilities for pedestrians on the south side of the street.

Silicon Valley Boulevard / Bernal Road is a four-lane divided arterial that provides access to various commercial and industrial businesses and intersects US 101, SR 85, Monterey Road, San Ignacio Avenue, Via del Oro, and Santa Teresa Boulevard. Silicon Valley Boulevard/Bernal Road is designated as a City Connector Street. The roadway has a posted speed limit of 40 mph and has sidewalks on both sides of the street; however, continuous Class II bike lanes are not present north of San Ignacio Avenue. East of US 101, Silicon Valley Boulevard changes designation to Bernal Road.

Hellyer Avenue is a four-lane arterial that provides access to various commercial and industrial businesses between Silicon Valley Boulevard and Highway 101 in the north-south direction. West of Highway 101, Hellyer Avenue becomes a two-lane residential collector street and terminates at Senter Avenue. The roadway is designated as a City Connector Street. Near the project site, the roadway has a posted speed limit of 40 mph, has sidewalks, and provides Class II bike lanes on both sides of the street.

Monterey Road is a six-lane grand boulevard north of Blossom Hill Road and a four-lane major arterial south of Blossom Hill Road. Monterey Road extends from Market Street in downtown San Jose to Highway 101 south of the City of Gilroy. Within the project vicinity, Monterey Road runs parallel to

the Caltrain railroad tracks and provides access to the project site via interchanges at Bernal Road. The corridor does not provide on-street parking but provides a Class II bike lane and some sidewalk facilities.

State Route 85 is a is a predominantly north-south freeway that is oriented in an east-west direction in the vicinity of the project site. It extends from Mountain View to south San Jose, terminating at Highway 101. State Route 85 is a six-lane freeway with four mixed-flow lanes and two HOV lanes. SR 85 provides access to the project site via interchanges at Bernal Road.

Highway 101 is an 8-lane freeway (three mixed-flow lanes and one HOV lane in each direction) that connects with State Route 85 and travels in a north-south direction in the City of San José. Access to and from the project site is provided by ramp terminals at Bernal Road / Silicon Valley Boulevard.

2.3 Existing Pedestrian and Bicycle Facilities

Pedestrian and bicycle activity within project vicinity are active along several facilities with an established pedestrian and bicycle infrastructure. Connected sidewalks at least six feet wide are available on at least one side of all major City roadways in the study area with adequate lighting and signing. At signalized intersections, marked crosswalks, Americans with Disabilities Act (ADA) standard curb ramps, and count down pedestrian signals provide improved pedestrian visibility and safety.

The Coyote Creek trail is a Class I shared use pathway and one of the longest trail systems extending from the Bay to the City's southern boundary. The trail runs parallel to Coyote Creek and provides both pedestrian and bicycle access to the project site. At the intersection of Silicon Valley Boulevard and Eden Park Place, an undercrossing and crosswalk facilities with rapid rectangular flashing beacon (RRFB) lighting systems are present for pedestrian and bike connectivity to the Coyote Creek trail.

Bicycle facilities in the area include Hellyer Avenue, Monterey Road, and Bernal Road south of San Ignacio Avenue which consist of Class II bike lanes with buffered striping to separate the vehicle and bike travel way. Most of these corridors feature green paint markings in potential conflict areas at the signalized intersections. Bicycle parking in the area is limited to private commercial and industrial lots.

Near the project site, Rue Ferrari and Eden Park Place provides sidewalk facilities for pedestrian access but does not provide a bicycle facility for connectivity to the Coyote Creek Trail or other pathways. Overall, the existing pedestrian and bicycle facilities near the project have adequate connectivity and provide pedestrian and bicyclists with routes to the surrounding land uses.

The San Jose Better Bike Plan 2025 indicates that a variety of bicycle facilities are planned in the project study area and the following facility improvements would benefit the project.

- Silicon Valley Boulevard / Bernal Road from Heaton Moor Drive to Hellyer Avenue (Class IV protected bike lanes)

2.4 Existing Transit Facilities

Transit services in the study area include light rail, shuttles, and buses provided by the Santa Clara Valley Transportation Authority (VTA). Per the updated February 8, 2021* service schedule, the project study area is served by the following major transit routes.

- Local Bus Route 42
    - Evergreen Valley College – Santa Teresa Station
    - Local service every 30-60 minutes on weekdays and weekends
    - Nearest transit stop to project – Silicon Valley Blvd / Eden Park Pl intersection

**Note that the routes and service schedules described above are based on February 8, 2021 schedules. At the time that this report was prepared, COVID 19 had affected routes and service schedules and is not reflective of typical operations.*

Most regular bus routes operate on weekdays from early in the morning (5:00 AM to 6:00 AM) until late in the evening (10:00 PM to midnight) and on weekends from early morning (5:00 AM to 6:00 AM) until mid-evening (8:00 PM to 10:00 PM). The study area is served by bus route 42 in the VTA system which provide local and regional bus service for commuters between Evergreen College and the VTA Santa Teresa Light Rail station.

Bus stops with benches, shelters, and bus pullout amenities are not provided within ½ mile walking distance from the project site. The closest transit stops by the project are located at the Silicon Valley Blvd / Eden Park Pl intersection.

2.5 Existing Intersections

The traffic study to identify potential traffic adverse effects was evaluated per the standards and guidelines set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA) which administers the County Congestion Management Program (CMP). Study intersections for the project were selected in consultation with City staff and in accordance with the VTA's TIA Guidelines. The three (3) intersections studied in this TA are listed below.

1. Silicon Valley Boulevard / Bernal Road / US 101 NB Ramps
2. Silicon Valley Boulevard / Rue Ferrari
3. Silicon Valley Boulevard / Eden Park Place

2.6 Existing Field Observations

Field observations did not reveal any significant traffic related congestion within the project study area. During the AM and PM peak hours, some traffic queueing was observed due to the freeway ramp meters in operation at the US 101 and SR 85 on-ramp intersections; however, traffic on the freeway ramps did not impact operations at the signalized intersections along Silicon Valley Boulevard / Bernal Road.

2.8 Edenvale Area Development Policy

The project is subject to the Edenvale Area Development Policy (EADP). The EADP establishes a policy framework to guide the ongoing development of the Edenvale San José area and accomplish the following goals:

1. Manage the traffic congestion associated with near term development in the Edenvale Policy Area
2. Promote General Plan goals for economic development, particularly high technology driven industries

3. Encourage a citywide reverse commute to jobs at southerly location in San Jose
4. Provide for transit-oriented, mixed-use residential and commercial development to increase internalization of automobile trips and promote transit ridership

The EADP was adopted in June 2000 to facilitate industrial development in New Edenvale. Subsequent to its adoption, the Policy has been updated to accommodate a mix of uses including residential, commercial, and office uses and to transfer development potential/capacity from one Sub-Area to another. The 2007 update included the expansion of the Edenvale Area to include Sub-Area 5 which was not originally part of the Policy. Sub-Area 5 was added to the Edenvale Area because new development proposed in this Sub-Area would contribute to the previously identified significant and unavoidable impacts identified in the original EADP EIR.

The EADP was updated in April 2014 to address development anticipated in both New Edenvale and Old Edenvale on both sides of US Highway 101 including the IStar site and the Silver Creek Valley place. The New Edenvale development is 5.5 million square feet of additional industrial floor space from the date of the Policy's original approval. In order to allocate this square footage potential across the entire area of New Edenvale, the updated Policy includes a base maximum floor area ratio (FAR) of 0.35 for development in Sub-Area 1 and 0.40 for Sub-Areas 3 and 4.

The EADP identifies infrastructure improvements for buildout of all the properties in New Edenvale (Sub-Areas 1, 3, and 4) considered ready for development, and accounting for additional commercial and residential development in Old Edenvale (Sub-Areas 2 and 5). Per Attachment C of the EADP, the infrastructure improvements identified in Sub-Area 4 where the project is located include:

- Silicon Valley Boulevard / Eden Park Place – Funded and Completed
  - Install signal and extend existing EB left turn pocket
- Silicon Valley Boulevard / Rue Ferrari – Funded and Completed
  - Extend existing EB left turn pocket
- US 101 / Silicon Valley Boulevard – Funded and Completed
  - Install signal and add EB left turn pocket

The project is located in Sub-Area 4. Based on the Project Description and latest site plan, the project site would have a FAR of 0.4 and would be consistent with the EADP. The project is also not anticipated to contribute to additional traffic impact fees in the Policy due to the project's conformance with the EADP and City's General Plan.

3 CEQA TRANSPORTATION ANALYSIS

This chapter describes the CEQA transportation analysis, including the VMT threshold of significance, the project-level VMT impact analysis results, and the mitigation measures that are necessary to reduce a VMT impact.

3.1 Project VMT Analysis

A VMT analysis was used to evaluate the 5853 Rue Ferrari project VMT levels against the appropriate thresholds of significance established in Council Policy 5-1. Section 3.4 and Table 1 of the *Transportation Analysis Handbook* identifies screening criteria to exempt certain components of a project that are expected to result in a less-than significant VMT impact from the project description, characteristics, and/or location; However, the project's industrial component does not satisfy any screening criteria for VMT analysis exemption.

The City of San Jose VMT Evaluation Tool was used to estimate VMT impacts for the project. The VMT Evaluation Tool calculates the per-capita and per-employee VMT for the half-mile radius surrounding the project site, as calculated using the City's travel demand model and adjusted to the parcel level. For projects that would trigger a VMT impact, VMT reduction strategies such as introducing TDM or additional multimodal infrastructure can be used to mitigate the VMT impact which is estimated from research literature and case studies.

The proposed project was evaluated in the VMT tool assuming development of 302,772 square-feet of industrial use. Typically, the percentage of office in a warehouse/industrial land use is 10% to 15%. The proposed project designates approximately 5% of the total square footage as office land use. Therefore, although 10,000 square-feet of the total development is office use, the whole project is analyzed as an industrial land use for VMT impact. **Table 3** summarizes the VMT analysis.

Table 3: Project VMT Analysis

Scenario	VMT per Employee	Project VMT Impact?
City VMT Threshold	14.37	N/A
Existing Conditions	14.78	N/A
Project Conditions	14.71	Yes
Project with VMT Reduction Strategies	13.54	No

The City's VMT per employee threshold for industrial land uses is 14.37. For the surrounding land use area, the existing VMT is 14.78. The proposed project is anticipated to generate a VMT per employee of 14.71. The evaluation tool estimates that the project would exceed the City's industrial VMT per employee threshold and would trigger a VMT impact. The project will need to implement VMT reduction strategies to mitigate the VMT impact.

A summary of the project VMT outputs/results using the City's Evaluation Tool is presented in **Figure 4** and the **Appendices**.

3.2 VMT Reduction and Mitigation Measures

Projects must propose measures to reduce project VMT or mitigate a CEQA transportation impact if identified. Projects may select a combination of measures from the four VMT reduction strategies

described in Section 3.6 of the Transportation Analysis Handbook which include project characteristics, multimodal improvements, parking, and transportation demand management (TDM) programs.

Since the project VMT exceeds the industrial thresholds of significance, the project will need to mitigate its CEQA transportation impact by implementing a variety of VMT reduction strategies. As addressed in the Transportation Analysis Handbook, the project should consider the following site design measures to mitigate its VMT impact:

- Incorporate physical improvements, such as sidewalk improvements, landscaping and bicycle parking that act as incentives for pedestrian and bicycle modes of travel.
- Provide secure and conveniently located bicycle parking and storage for employees and visitors;
- Provide bicycle and pedestrian connections from the site to the regional bikeway/pedestrian trail system.
- Place assigned carpool and van pool parking spaces at the most desirable on-site locations;
- Provide showers and lockers for employees walking or bicycling to work.
- Incorporate commercial services onsite or in close proximity
- Provide an on-site TDM coordinator;
- Provide transit information kiosks;
- Make transportation available during the day and guaranteed ride home programs for emergency use by employees who commute on alternate transportation. (This service may be provided by access to company vehicles for private errands during the workday and/or combined with contractual or pre-paid use of taxicabs, shuttles, or other privately provided transportation.);
- Provide vans for van pools;
- Implementation of a carpool/vanpool program (e.g., carpool ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, and car sharing);
- Provide shuttle access to regional rail stations (e.g. Caltrain, ACE, BART);
- Provide or contract for on-site or nearby child care services;
- Offer transit use incentive programs to employees, such as on site distribution of passes and/or subsidized transit passes for a local transit system (e.g. providing VTA Eco Pass system or equivalent broad spectrum transit passes to all on-site employees);
- Implementation of parking cash out program for employees (non-driving employees receive transportation allowance equivalent to the value of subsidized parking);
- Encourage use of telecommuting and flexible work schedules;
- Require that deliveries on-site take place during non-peak travel periods.

The project applicant would be responsible for ensuring that the VMT reduction strategies are implemented. After the development is constructed and the site is occupied, the property manager for the project would assume responsibility for implementing the any ongoing VMT reduction strategies.

Based on direction from the City, implementation of several Tier 2 multi-modal infrastructure improvements can reduce the project's per employee VMT to 13.54 which is below the 14.37 industrial VMT threshold. Although implementation of every available City VMT reduction strategy may not be feasible, it should be noted that a combination of identified subset VMT reduction strategies can help the project meet the City VMT threshold.

The following describes the applicable VMT reduction strategies that the project applicant will incorporate to reduce the project's VMT and satisfy the City's VMT per employee threshold. The proposed VMT measures and results are based on inputs from the City of San Jose VMT Evaluation Tool. Final implementation of the listed VMT reduction strategies would need to be coordinated between the project applicant and the City.

3.3 Tier 2 Multi-Modal Infrastructure

Per City request to improve multi-modal access, the project would need to coordinate with the City Parks, Recreation, & Neighborhood Services (PRNS) division and implement the following improvement for VMT mitigation:

Install a mid-block crosswalk and connecting pathway located west of the project's southernmost driveway on Eden Park Place. Install a rectangular rapid-flashing beacon (RRFB) enhanced crosswalk across Eden Park Place. Construct an ADA compliant connection at the mid-block crosswalk with curb ramps from the project frontage to the existing Coyote Creek trail.

These multimodal improvements would satisfy the following VMT reduction strategies:

1. Network Connectivity / Design Improvements – This improvement would increase multimodal density to 3 intersections per square mile
2. Pedestrian Network Improvements – This improvement would provide pedestrian improvements beyond the development frontage
3. Bike Access Improvements – This improvement would provide access to the Coyote Creek trail directly across the project frontage compared to the main trailhead access at the Eden Park Pl / Silicon Valley Blvd intersection. The new trail access would reduce the project's distance to the nearest existing bicycle facility from approximately 1,600 feet to 600 feet.

A summary of the project VMT outputs with the identified VMT reduction strategies from the City's Evaluation Tool is presented in **Figure 5** and the **Appendices**. These multimodal improvements would need to be coordinated between the project applicant and the City for approval and are discussed in Section 5.5.

3.4 Cumulative Impact Analysis

Projects must also demonstrate consistency with the Envision San Jose 2040 General Plan to address cumulative impacts. If a project is determined to be consistent with the General Plan, the project will be considered part of the cumulative solution to meet the General Plan's long-range goals and it will result in a less-than-significant cumulative impact. Factors that contribute to a determination of consistency with the General Plan include a project's density, design, and conformance to the goals and policies set forth in the General Plan.

Based on the project description and intended use, the proposed 5853 Rue Ferrari development is consistent with the goals of the General Plan and the Edenvale Area Development Policy and is anticipated to result in a less-than-significant cumulative impact.

Figure 4: San Jose VMT Evaluation Tool Report (Project Conditions)

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

PROJECT:

Name:	5853 & 5863 Rue Ferrari	Tool Version:	2/29/2019
Location:	5853 & 5863 Rue Ferrari	Date:	10/7/2021
Parcel:	67805057	Parcel Type:	Suburb with Single-Family Homes

Proposed Parking Spaces Vehicles: 301 Bicycles: 30

LAND USE:

Residential:		Percent of All Residential Units	
Single Family	0 DU	Extremely Low Income (≤ 30% MFI)	0 % Affordable
Multi Family	0 DU	Very Low Income (> 30% MFI, ≤ 50% MFI)	0 % Affordable
Subtotal	0 DU	Low Income (> 50% MFI, ≤ 80% MFI)	0 % Affordable
Office:	0 KSF		
Retail:	0 KSF		
Industrial:	302.8 KSF		

VMT REDUCTION STRATEGIES

Tier 1 - Project Characteristics

Increase Residential Density	
Existing Density (DU/Residential Acres in half-mile buffer)	7
With Project Density (DU/Residential Acres in half-mile buffer)	7
Increase Development Diversity	
Existing Activity Mix Index	0.73
With Project Activity Mix Index	0.75
Integrate Affordable and Below Market Rate	
Extremely Low Income BMR units	0 %
Very Low Income BMR units	0 %
Low Income BMR units	0 %
Increase Employment Density	
Existing Density (Jobs/Commercial Acres in half-mile buffer)	28
With Project Density (Jobs/Commercial Acres in half-mile buffer)	33

Tier 2 - Multimodal Infrastructure

Tier 3 - Parking

Tier 4 - TDM Programs

EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT and per industrial worker VMT above the City's threshold.

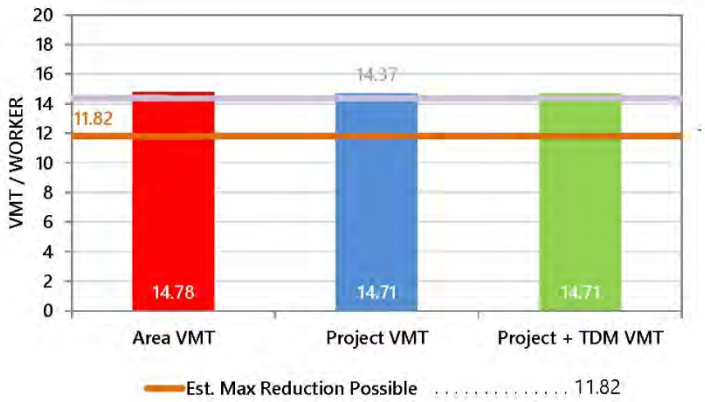


Figure 5: San Jose VMT Evaluation Tool Report (Project with VMT Reduction Strategies)

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

PROJECT:

Name: 5853 & 5863 Rue Ferrari - Mitigated
Location: 5853 & 5863 Rue Ferrari
Parcel: 67805057 Parcel Type: Suburb with Single-Family Homes
Tool Version: 2/29/2019
Date: 10/7/2021
Proposed Parking Spaces Vehicles: 301 Bicycles: 30

LAND USE:

Residential:		Percent of All Residential Units	
Single Family	0 DU	Extremely Low Income (≤ 30% MFI)	0 % Affordable
Multi Family	0 DU	Very Low Income (> 30% MFI, ≤ 50% MFI)	0 % Affordable
Subtotal	0 DU	Low Income (> 50% MFI, ≤ 80% MFI)	0 % Affordable
Office:	0 KSF		
Retail:	0 KSF		
Industrial:	302.8 KSF		

VMT REDUCTION STRATEGIES

Tier 1 - Project Characteristics

Increase Residential Density
- Existing Density (DU/Residential Acres in half-mile buffer) 7
- With Project Density (DU/Residential Acres in half-mile buffer) 7

Increase Development Diversity
- Existing Activity Mix Index 0.73
- With Project Activity Mix Index 0.75

Integrate Affordable and Below Market Rate
- Extremely Low Income BMR units ..... 0 %
- Very Low Income BMR units ..... 0 %
- Low Income BMR units ..... 0 %

Increase Employment Density
- Existing Density (Jobs/Commercial Acres in half-mile buffer) 28
- With Project Density (Jobs/Commercial Acres in half-mile buffer) 33

Tier 2 - Multimodal Infrastructure

Bike Access Improvements *(In Coordination with SJ)*
- Distance to Nearest Existing Bicycle Facility ..... 1600 feet
- Distance to Nearest Bicycle Facility With Project ..... 600 feet

Increase Network Connectivity *(In Coordination with SJ)*
- Intersection Density ..... 2 int/sqmi
- Intersection Density with Project ..... 3 int/sqmi

Pedestrian Network Improvements *(In Coordination with SJ)*
- Are pedestrian improvements provided beyond the development frontage? ..... Yes

Tier 3 - Parking

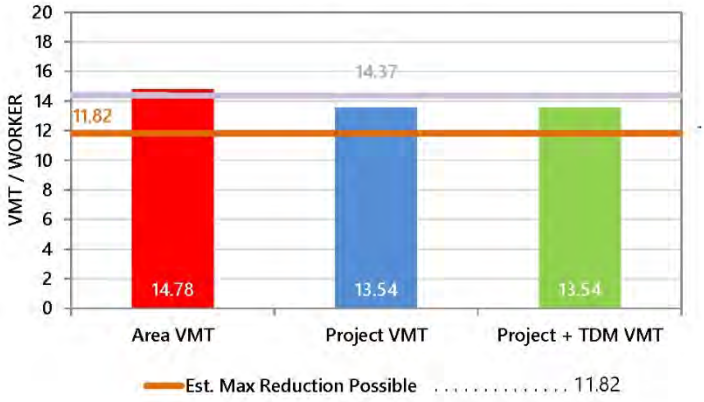
Tier 4 - TDM Programs

Page 1 of 2

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

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 LTA PROJECT DESCRIPTION

This chapter describes the local transportation analysis including the method by which project traffic is estimated through trip generation, trip distribution, and volume assignment.

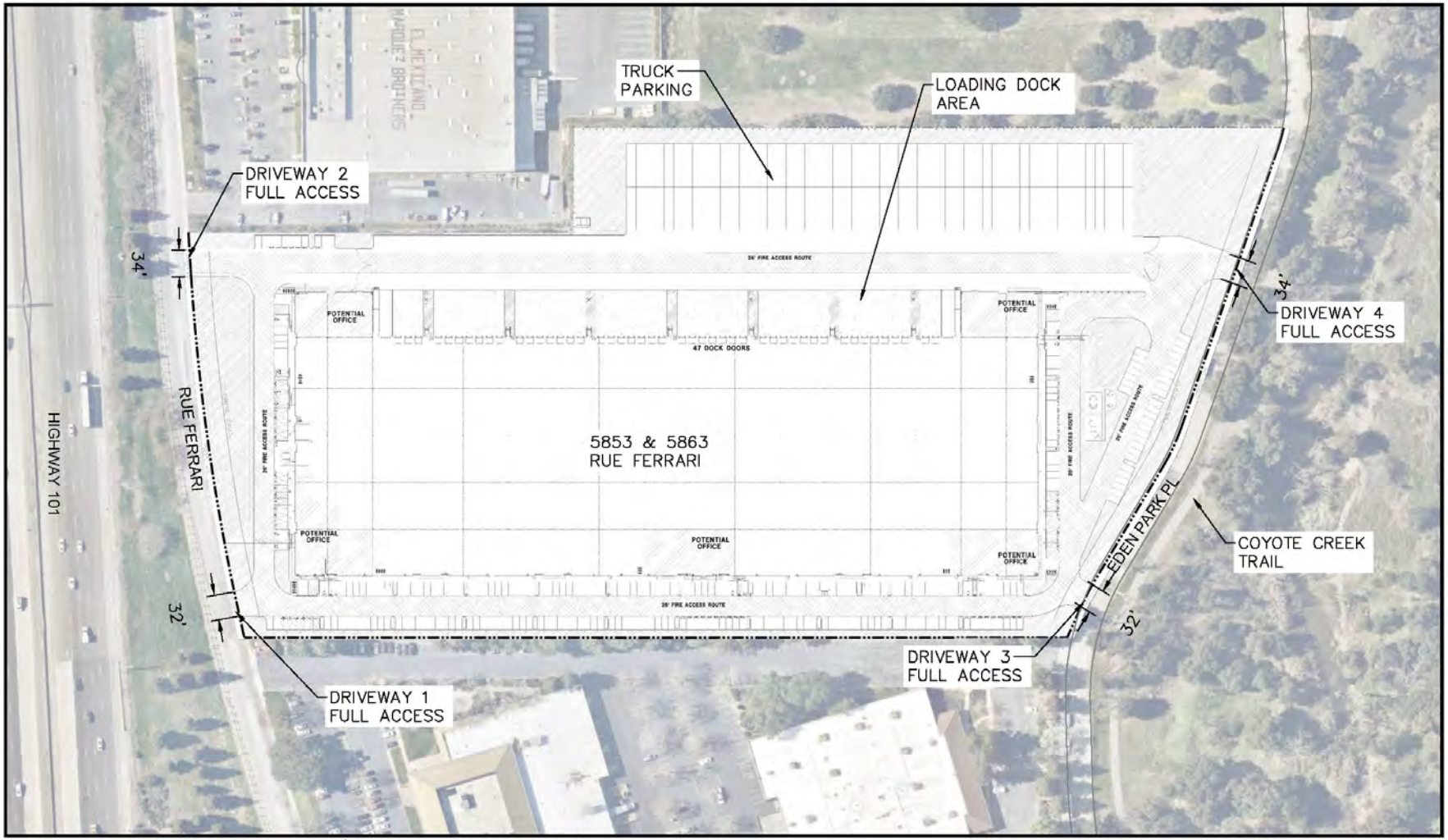
4.1 Project Site Plan

Based on the most recent May 2021 site plan provided by HPA Architecture, the proposed 5853 Rue Ferrari project proposes to construct a warehouse up to 302,772 total square-feet (including 10,000 square-feet of office space) on the 17.38 gross acre site. The project would redevelop the existing site which currently consists of a general office buildings / office park.

The proposed site would provide up to 301 car parking spaces, 108 trailer parking spaces, and 47 truck loading docks on-site, and the site will be accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place.

The project site plan is presented in **Figure 6** and the **Appendices**.

Figure 6: Project Site Plan



4.2 Project Trip Generation

Project Site Vehicle Operations

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*.

A trip is defined as a single or one-directional vehicle movement in either the origin or destination at the project site. In other words, a trip can be either "to" or "from" the site. In addition, a single customer visit to a site is counted as two trips (i.e. one to and one from the site). Daily, AM, and PM peak hour trips for the project were calculated with average trip rates.

The project description and future tenant for the industrial use is under negotiation at this time; however, the speculative project building could be a warehouse for distribution. Due to the project description and the unknown future tenants for the industrial uses, the following ITE land uses were conservatively applied to the proposed Rue Ferrari development:

1. ITE 155 High Cube Fulfillment Center Warehouse
    - Typical Function – Storage and direct distribution of e-commerce product to end users; smaller packages and quantities than for other types of HCW; often multiple mezzanine levels for product storage and picking
    - Place in Supply Chain - Typically, freight for final consumption (business-to-business and consumers)

Baseline Vehicle Trips

Baseline vehicle trips for the proposed project (excluding trip adjustments) are anticipated to generate a gross total of 2,477 daily trips, 179 AM peak hour trips, and 415 PM peak hour vehicle trips. Of the AM peak hour trips, approximately 90 trips will be inbound to the project and 89 trips will be outbound from the project. For the PM peak hour trips, approximately 208 trips are inbound while 207 trips are outbound.

Vehicle Trip Reductions

Per the per the 2018 *Transportation Analysis Handbook*, an internal capture reduction can be applied based on vehicle-trip reduction rates from the *VTA Transportation Impact Analysis Guidelines*. An internal capture reduction was not applied to the project, since it does not contain an applicable mixed land use.

A location-based mode share trip reduction was applied. This adjustment is a function of multimodal connectivity and accounts for greater mode share for projects located in urban or transit developed areas. From Table 5 and Table 6 of the *Transportation Analysis Handbook*, the project location is designated as a "Suburb with single-family housing" area with a vehicle mode share of 95 percent for industrial land uses. Therefore, an 5% mode share trip reduction was assumed to the project.

Per the *Transportation Analysis Handbook*, identified VMT reduction strategies will also encourage reductions in vehicle-trips generated by the project. For commercial and industrial projects, it is assumed that every percent reduction in per-employee VMT is equivalent to one percent reduction in peak hour vehicle trips. From the City's VMT Evaluation Tool, the existing VMT is 14.78 and project with

VMT reduction strategies identified in Section 3 would generate a VMT of 13.54. Therefore, a VMT vehicle-trip reduction of 8.4% was applied to the project.

Total gross vehicle trips for the proposed project (including trip adjustments) are to be 2,155 daily trips, 155 AM peak hour trips, and 360 PM peak hour vehicle trips. Of the AM peak hour trips, approximately 77 trips will be inbound to the project and 78 trips will be outbound from the project. For the PM peak hour trips, approximately 180 trips will be inbound, while 180 trips are outbound.

Existing Trip Credit

The project will also involve demolishing the existing 286,330 square-foot office buildings at 5853 Rue Ferrari, and the land use could be eligible for an existing use trip credit. Per City direction, the existing use trip credit for the site was estimated by multiplying the ITE 710 General Office Building rates by the percentage of occupied building space from the previous tenant. Tenant data from the past 2 years indicate that up to 100% of the existing office buildings on-site was occupied. Therefore, an existing trip credit of 2,789 daily, 332 AM peak hour trips, and 329 PM peak hour trips was applied to the project. The tenant occupancy data is attached in the **Appendices**.

Net Vehicle Project Trips

Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 0 additional daily trips, 32 AM, and 127 PM peak hour trips to the roadway network. **Table 4** provides a summary of the proposed trip generation and trip reductions/credits.

Table 4: Project Trip Generation

LAND USE / DESCRIPTION	PROJECT SIZE	TOTAL DAILY TRIPS	AM PEAK TRIPS			PM PEAK TRIPS		
			TOTAL	IN	/ OUT	TOTAL	IN	/ OUT
Trip Generation Rates (ITE)								
High-Cube Fulfillment Center Warehouse [ITE 155]	Per 1,000 Sq Ft	8.18	0.59	50%	/ 50%	1.37	50%	/ 50%
General Office Building [ITE 710]	Per 1,000 Sq Ft	9.74	1.16	86%	/ 14%	1.15	16%	/ 84%
1. Baseline Vehicle-Trips								
Rue Ferrari - Warehouse	302.772 1,000 Sq Ft	2,477	179	90	/ 89	415	208	/ 207
Baseline Project Vehicle-Trips		**2,477**	**179**	**90**	**/ 89**	**415**	**208**	**/ 207**
2. Internal Trip Adjustments								
Mixed-Use Reduction (VTA Internal Capture)		0	0	0	/ 0	0	0	/ 0
Project Vehicle-Trips After Reduction		**2,477**	**179**	**90**	**/ 89**	**415**	**208**	**/ 207**
3. Location-based Mode Share Adjustments								
Suburb with SFH Reduction (Mode Share)	-5%	(124)	(9)	(5)	/ (4)	(21)	(11)	/ (10)
Project Vehicle-Trips After Reduction		**2,353**	**170**	**85**	**/ 85**	**394**	**197**	**/ 197**
4. Project Trip Adjustments								
VMT Vehicle-Trip Reduction (Model Sketch Tool)	-8%	(198)	(15)	(8)	/ (7)	(34)	(17)	/ (17)
Project Vehicle-Trips After Reduction		**2,155**	**155**	**77**	**/ 78**	**360**	**180**	**/ 180**
5. Other Trip Adjustments								
Pass-by and Diverted Link Trips (N/A)	0%	0	0	0	/ 0	0	0	/ 0
Existing Uses (ITE 710 100% Occupied)	-286.33 1,000 Sq Ft	(2,789)	(332)	(286)	/ (46)	(329)	(53)	/ (276)
Other Trip Adjustment Subtotal		**(2,789)**	**(332)**	**(286)**	**/ (46)**	**(329)**	**(53)**	**/ (276)**
Baseline Project Vehicle-Trips		**2,477**	**179**	**90**	**/ 89**	**415**	**208**	**/ 207**
Gross Project Vehicle-Trips		**2,155**	**155**	**77**	**/ 78**	**360**	**180**	**/ 180**
Net Project Vehicle-Trips		**(634)**	**(177)**	**(209)**	**/ 32**	**31**	**127**	**/ (96)**
Net Project Vehicle-Trips (For Analysis)		**0**	**32**	**0**	**/ 32**	**127**	**127**	**/ 0**

Notes:

Land Uses assumed based on latest proposed site plan from HPA Architecture

Daily, AM, and PM trips based on average land use rates from the Institute of Traffic Engineers Trip Generation 10th Edition

A 5% Mode Share Reduction from San Jose Transportation Analysis Handbook 2018 was applied since the project is located in an "Suburb with Single Family Housing" area.

A 8.4% VMT Reduction from San Jose Transportation Analysis Handbook 2018 was applied since the project is planning to implement VMT reduction strategies. Reduction percentage obtained from City VMT Evaluation Tool.

Existing land use trip credit based on percentage of occupied use from the previous tenant. Data provided by Applicant.

4.3 Project Trip Distribution and Assignment

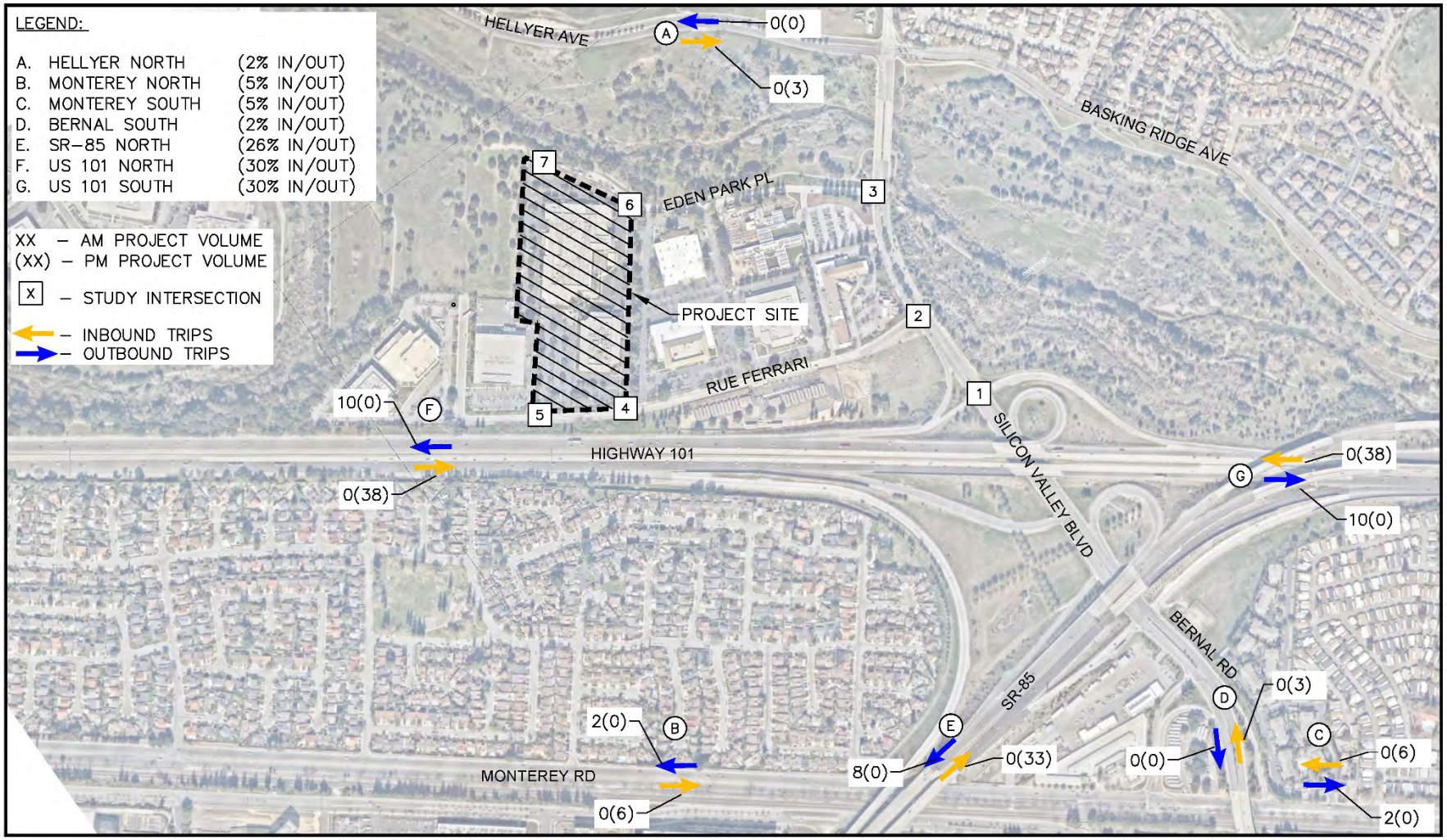
Due to the nature of the proposed development, vehicle project trips are anticipated to access the State Route 85 and US 101 regional freeways. Trip distribution and assignment assumptions for the 5853 Rue Ferrari project were based on the project driveway location, the freeway ramp location, community characteristics, and professional engineering judgement. The project trips to and from the site are anticipated to access the following regional facilities and destinations with the estimated trip distribution percentages as shown in **Table 5**.

Table 5: Project Trip Distribution

Location	Roadway Origin / Destination	Inbound Trip Distribution (%)	Outbound Trip Distribution (%)
A	Hellyer Road North	2%	2%
B	Monterey Road North	5%	5%
C	Monterey Road South	5%	5%
D	Bernal Road South	2%	2%
E	State Route 85 North	26%	26%
F	Highway 101 North	30%	30%
G	Highway 101 South	30%	30%

The net project trip assignments and distributions are presented in **Figure 7** and **Figure 8**. The gross project driveway trip assignments are presented in **Figure 9.** The trip assignment shown represents the shortest paths to and from the project site under ideal traffic conditions.

Figure 7: Project Trip Distribution



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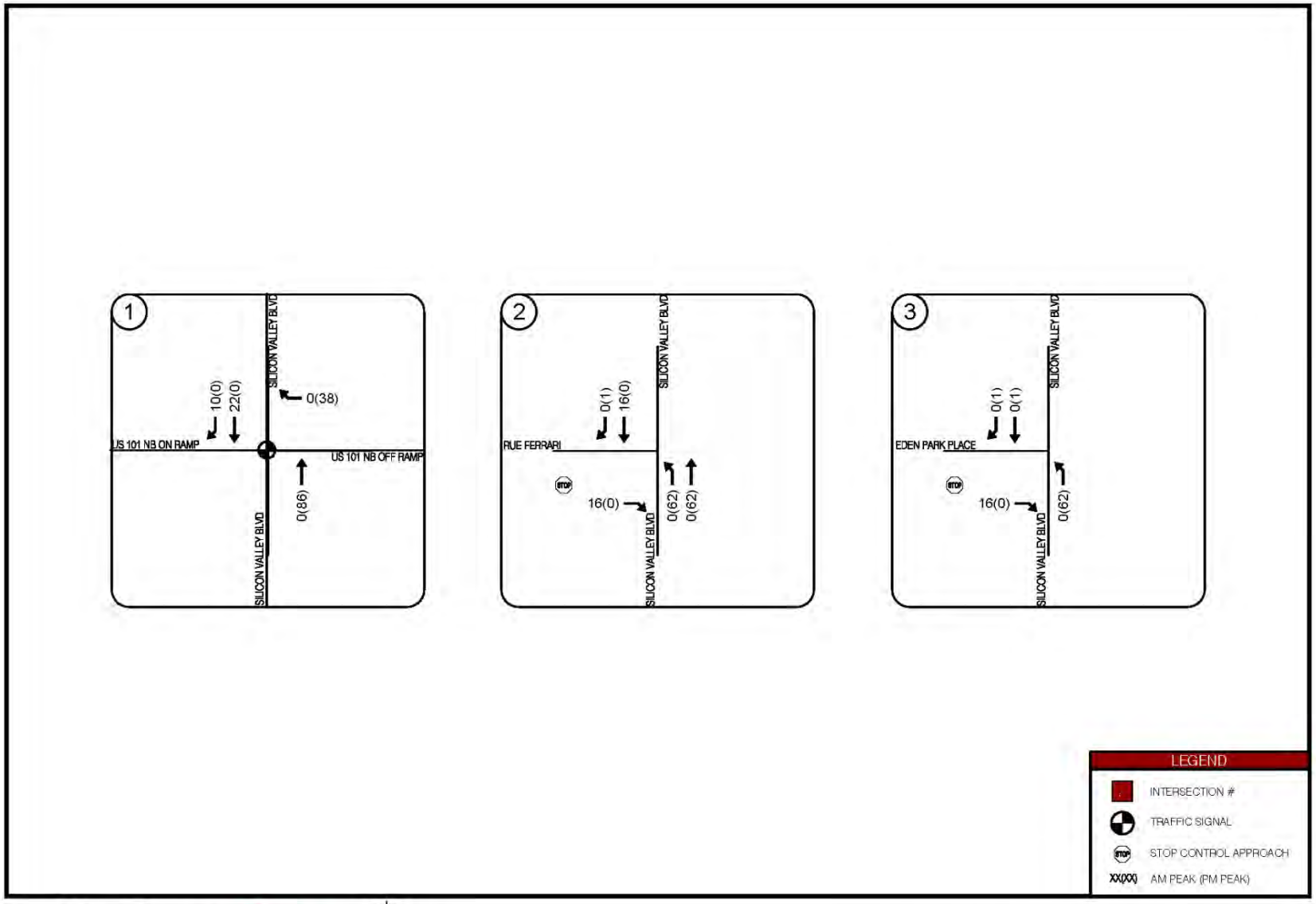
NET PROJECT TRIP DISTRIBUTION AND TRIP ASSIGNMENT

5853 & 5863 RUE FERRARI TRANSPORTATION ANALYSIS

Figure 8: Net Project Trip Assignment



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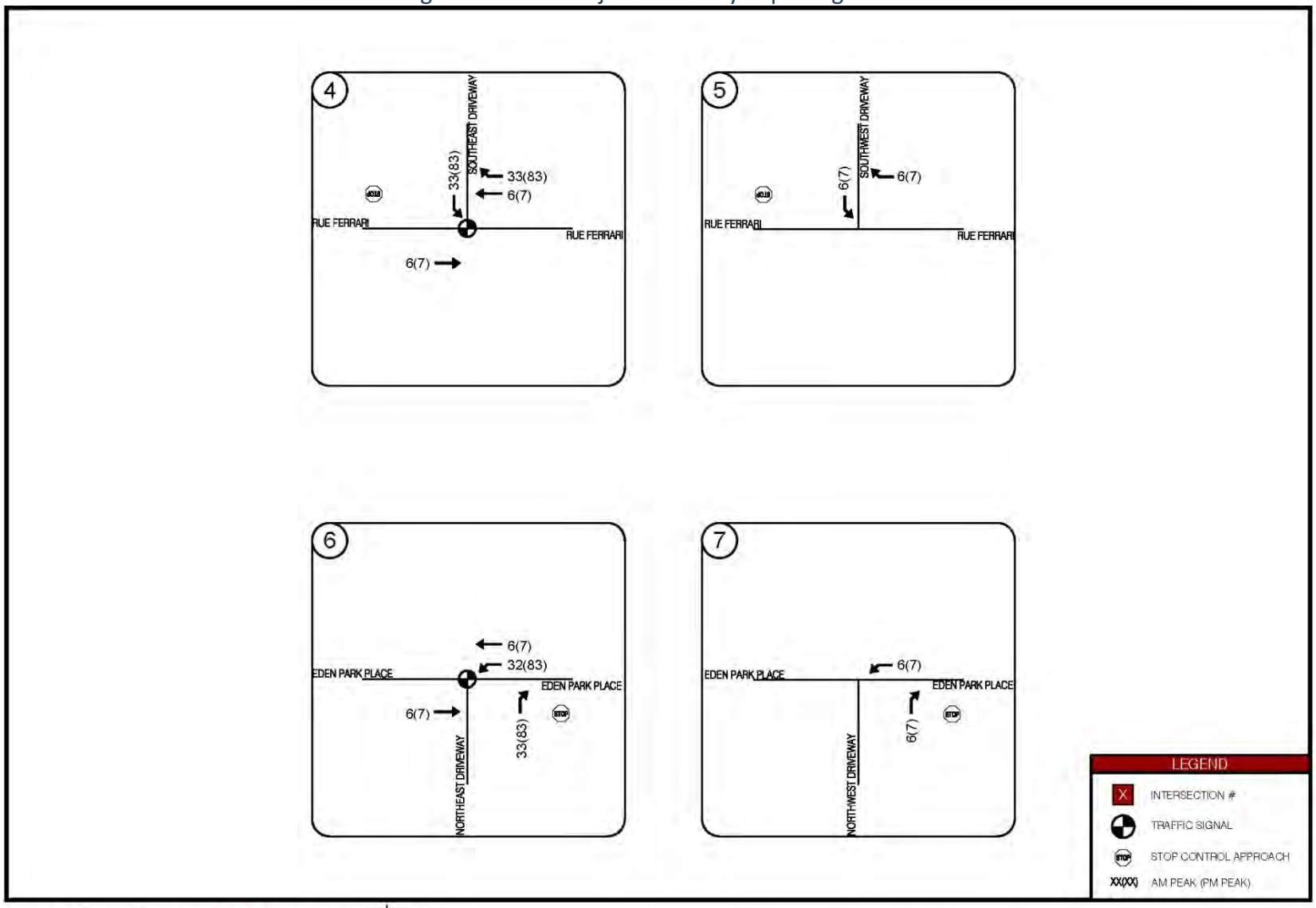
NET PROJECT PEAK HOUR VOLUMES

5853 & 5863 RUE FERRARI TRANSPORTATION ANALYSIS

Figure 9: Gross Project Driveway Trip Assignment



5 LTA INTERSECTION OPERATIONS

This chapter describes the local transportation analysis including intersection operations analysis for: existing, background, and background plus project conditions; intersection vehicle queuing analysis; and mitigation measures for any adverse effects to intersection level of service caused by the project.

It should be noted that the project is located in the Edenvale Area Development Policy (EADP) boundary. A prior traffic study (iStar Mixed-Use Development) was completed for the EADP and identified intersection improvements that have already been completed. Based on City direction and the 2014 EADP Update, the project is not required to study any signalized intersections and their adverse effects under project conditions. For informational purposes, intersection level of service operations analysis is shown for Existing and Background Conditions.

5.1 Existing Conditions Analysis:

Weekday AM and PM peak hour intersection turning movement volumes for the existing study intersections were obtained from the City of San Jose Traffic Model Database and supplemented with new turning movement counts collected at selected intersections on Tuesday, June 15, 2021. These counts include vehicles, bicycles, and pedestrians and were collected on a non-holiday week and under fair weather conditions. Peak hour volumes during each intersection's respective peak were conservatively used in this analysis, therefore, some volume imbalances were observed between study intersections. Where imbalances occurred, volumes were conservatively increased slightly above what was counted in the field. Existing intersection lane geometry and peak hour turning movement volumes are shown in **Figure 10** and **Figure 11**, respectively.

Traffic operations were evaluated at the study intersections under Existing conditions, and the results of the analysis are presented in **Table 6**. New intersection turning-movement counts and TRAFFIX output sheets are provided in the **Appendices**.

Table 6: Intersection Operations Summary for Existing Conditions

#	Intersection	LOS Criteria	Control[1]	Existing Conditions							
				AM Peak				PM Peak			
				LOS	Delay (sec)[1]	v/c Ratio	Crit. Delay (sec)	LOS	Delay (sec)[1]	v/c Ratio	Crit. Delay (sec)
1	Silicon Valley Blvd / US 101 NB Ramps	D	Signal	B	11.3	0.183	14.2	A	8.5	0.199	11.1
2	Silicon Valley Blvd / Rue Ferrari	D	SSSC[2]	B	10.2	0.164	2.1	B	10.9	0.151	1.4
3	Silicon Valley Blvd / Eden Park Pl	D	SSSC[2]	B	13.9	0.035	0.5	C	15.4	0.013	0.2

1 The delay for the worst movement is reported for SSSC intersections.
2 SSSC = Side Street Stop Control

As shown above, all study intersections currently operate at acceptable LOS during the AM and PM peak hour during Existing conditions.

Figure 10: Existing Intersection Lane Geometry

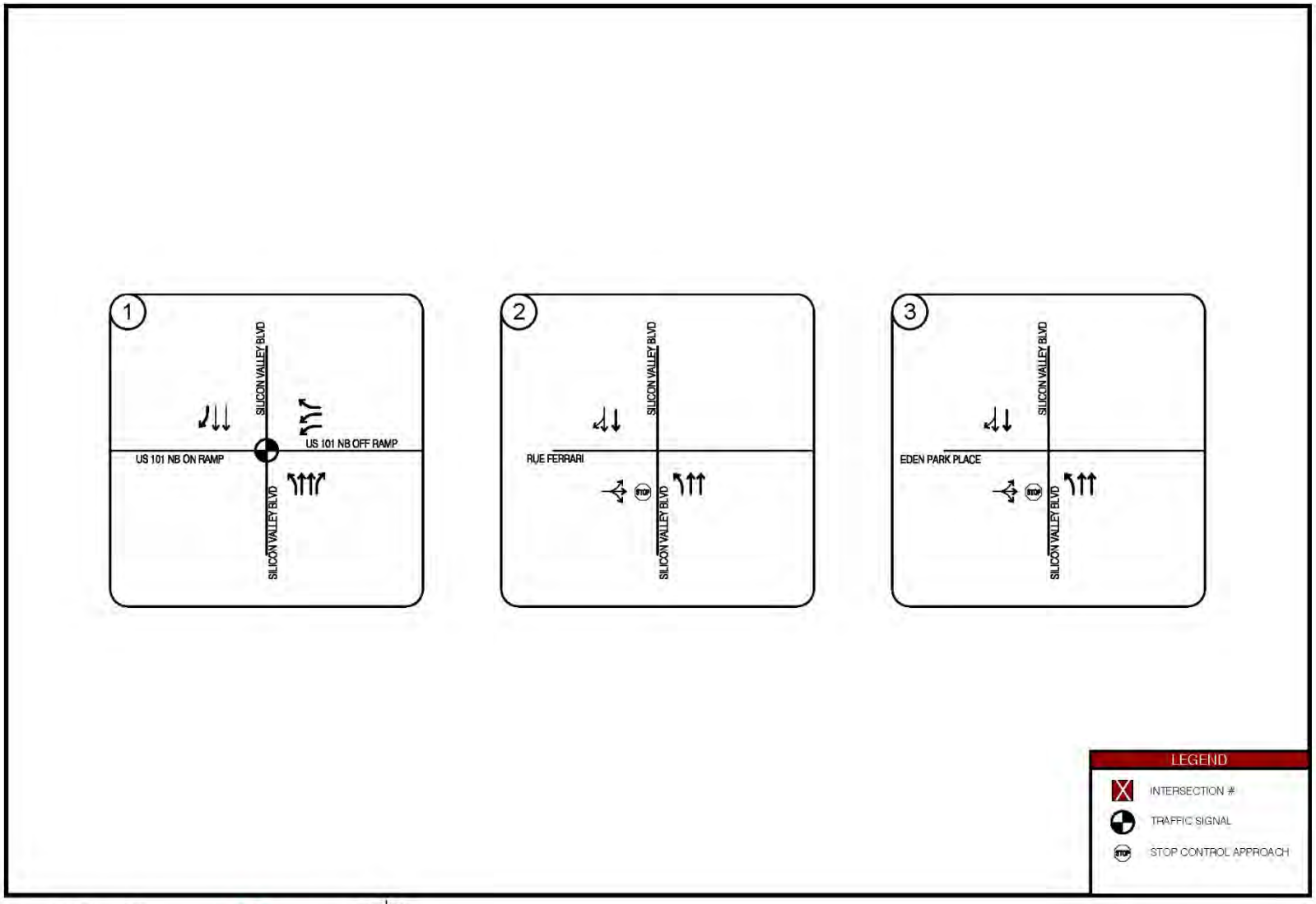
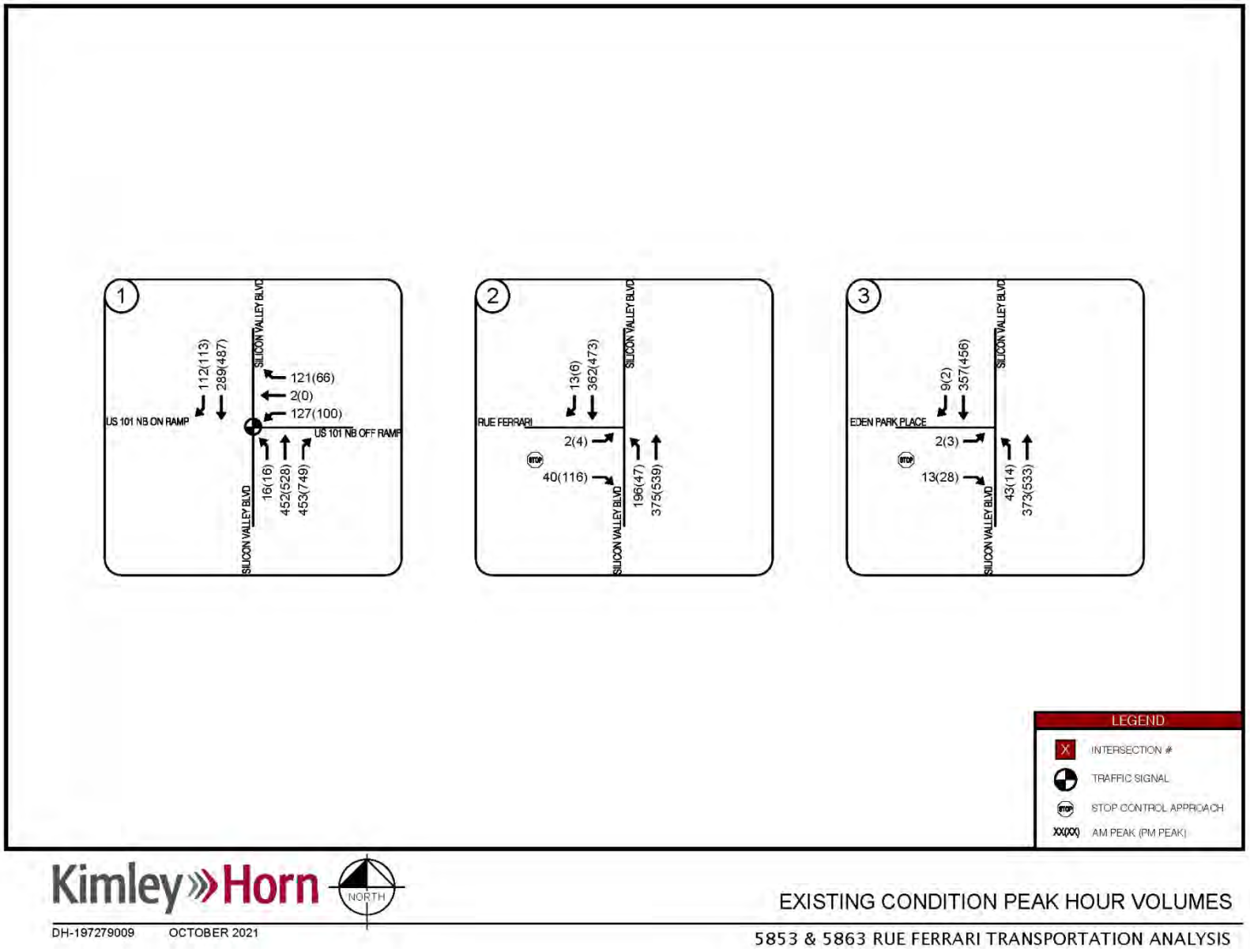


Figure 11: Existing Traffic Volumes



5.2 Background Conditions Analysis

Traffic generated from other approved projects in the EADP and the project study area were obtained from the City of San Jose Approved Trip Inventory (ATI) database attached in the **Appendices**. These ATI traffic volumes were added to the existing traffic counts to generate the Background baseline scenario and include the following local projects.

- North Coyote Valley Office/Industrial
- Edenvale Zone 1 Office/Industrial
- Edenvale Zone 2 Office Industrial
- Edenvale Zone 3 and 4 Office/Industrial
- Edenvale Area 3 and 4 Pool Office/Industrial
- North Coyote Valley Campus Industrial
- PDC04-100 R&D (3-14681) IStar R&D
- PDC12-028 Res (3-14681) IStar Mixed-Use
- PDC99-053 (3-13970) Cisco North Coyote Valley

Traffic operations for the study intersections under Background conditions are shown below in **Table 7** and **Figure 12**.

Table 7: Intersection Operations Summary for Background Conditions

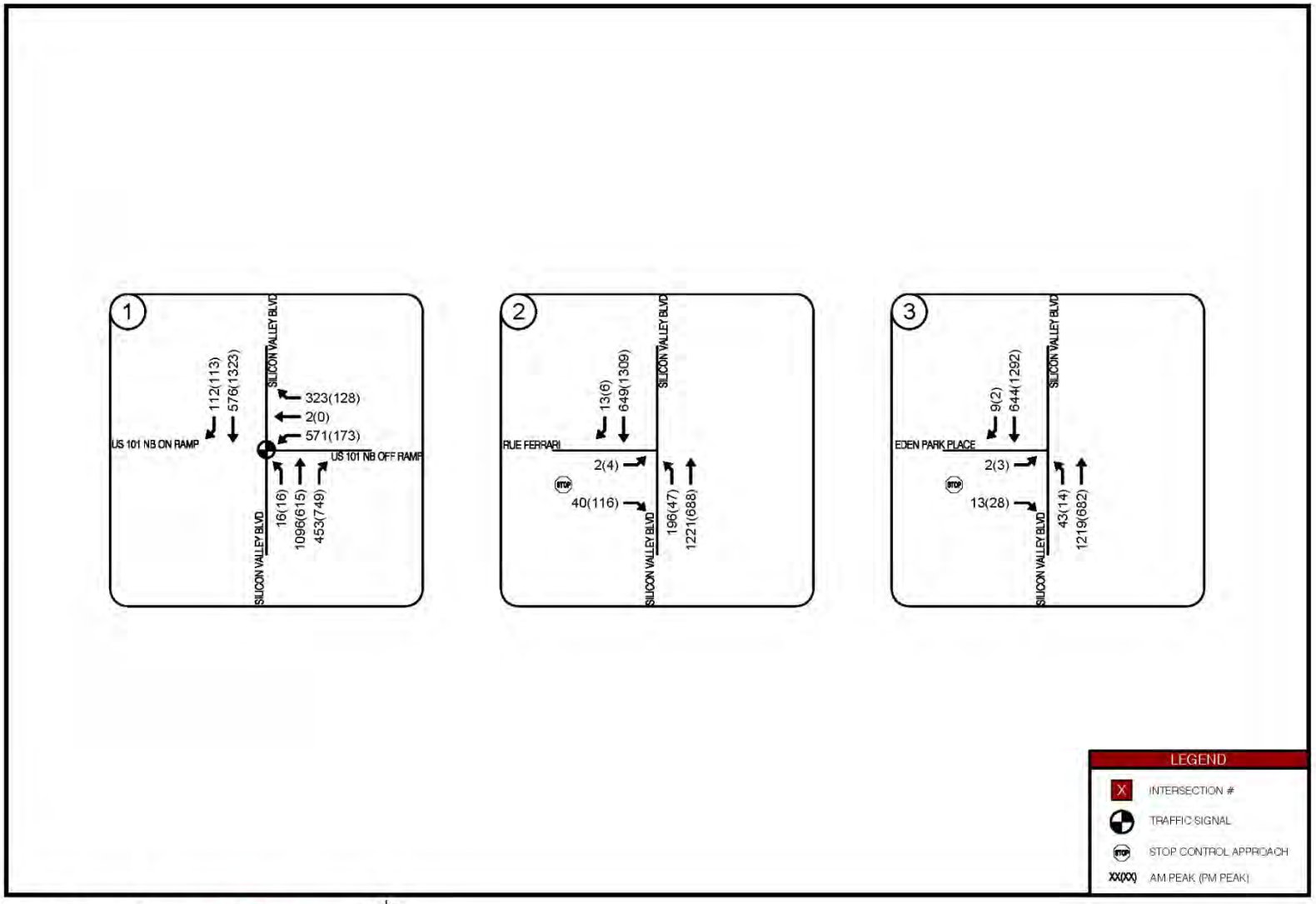
#	Intersection	LOS Criteria	Control[1]	Background Conditons							
				AM Peak				PM Peak			
				LOS	Delay (sec)[1]	v/c Ratio	Crit. Delay (sec)	LOS	Delay (sec)[1]	v/c Ratio	Crit. Delay (sec)
1	Silicon Valley Blvd / US 101 NB Ramps	D	Signal	B	14.3	0.407	16.5	B	11.1	0.485	13.0
2	Silicon Valley Blvd / Rue Ferrari	D	SSSC[2]	B	13.1	0.209	1.2	C	20.1	0.282	1.4
3	Silicon Valley Blvd / Eden Park Pl	D	SSSC[2]	D	30.8	0.045	0.2	**E**	**47.2**	**0.034**	**0.2**

1 The delay for the worst movement is reported for SSSC intersections.
2 SSSC = Side Street Stop Control

As shown above, the following study intersections are anticipated to operate at unacceptable LOS during at least one peak hour under Background conditions.

- Silicon Valley Boulevard / Eden Park Place (Intersection #3 – Unsignalized)
  - This unsignalized intersection is anticipated to operate at LOS E under Background conditions during the PM peak hour. The Eden Park Place minor street is stop controlled and would experience an approach vehicle delay greater than the City's LOS threshold.

Figure 12: Background Traffic Volumes



5.3 Project Conditions Analysis and Signal Warrant Analysis

Based on City direction and the 2014 EADP Update, the project is not required to study any signalized intersections and their adverse effects under project conditions. In lieu of a level-of-service analysis, a signal warrant study was conducted at the following minor stop-controlled intersections:

- Silicon Valley Boulevard / Rue Ferrari (3-leg intersection approach)
- Silicon Valley Boulevard / Eden Park Place (3-leg intersection approach)

MUTCD Signal Warrant Criteria

A signal warrant analysis was conducted based on Section 4C.01 of the California Manual on Uniform Traffic Control Devices (MUTCD) 2014 Edition Revision 5 standards. A detailed explanation of each signal warrant criteria is attached in the **Appendices**. It should be noted that the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. Per MUTCD, the following warrant criteria should be considered in an engineering study for a signal installation:

- Warrant 1 Eight Hour Vehicular Volume
- Warrant 2 Four Hour Vehicular Volume
- Warrant 3 Peak Hour
- Warrant 4 Pedestrian Volume
- Warrant 5 School Crossing
- Warrant 6 Coordinated Signal System
- Warrant 7 Crash Experience
- Warrant 8 Roadway Network
- Warrant 9 Intersection Near A Grade Crossing

MUTCD Signal Warrant Summary

Daily roadway approach volumes and peak hour turning movement counts (7-9 AM and 4-6 PM) at the study intersections were collected on Tuesday, June 15, 2021 by All Traffic Data Service. Collision data at the study intersections within a three-year period was also requested through the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS). The daily traffic counts, peak hour intersection volumes, and applicable SWITRS collision data at the study intersections is summarized in the **Appendices.**

The results of the signal warrant analysis at the study intersection is summarized in **Table 8** and in the **Appendices**. The analysis indicates that both the Rue Ferrari / Silicon Valley and Eden Park / Silicon Valley intersection do not meet the MUTCD signal warrant criteria.

Table 8: MUTCD Signal Warrant Summary

MUTCD Signal Warrant Criteria Result	Intersection	
	Rue Ferrari / Silicon Valley Blvd	Eden Park Pl / Silicon Valley Blvd
Warrant 1 – Eight Hour Vehicular	No	No
Warrant 2 - Four Hour Vehicular	No	No
Warrant 3 - Peak Hour	No	No
Warrant 4 - Pedestrian Volume	No	No
Warrant 5 - School Crossing	No	No
Warrant 6 - Coordinated Signal System	No	No
Warrant 7 - Crash Experience	No	No
Warrant 8 - Roadway Network	No	No
Warrant 9 - Intersection Near A Grade	No	No

5.4 Intersection Queue Analysis

For project study intersections with a left-turn storage lane, a queue analysis was evaluated for each study scenario and summarized in **Table 9** and the **Appendices**. The project is not anticipated to create an adverse effect to the intersection vehicle queues.

Table 9: Left Turn Queue Analysis

DESCRIPTION	AM PEAK HOUR						PM PEAK HOUR					
	#1 US 101 NB / SILICON VALLEY		#2 RUE FERRARI / SILICON VALLEY		#3 EDEN PARK / SILICON VALLEY		#1 US 101 NB / SILICON VALLEY		#2 RUE FERRARI / SILICON VALLEY		#3 EDEN PARK / SILICON VALLEY	
	NBL	WBL	NBL	EBL	NBL	EBL	NBL	WBL	NBL	EBL	NBL	EBL
Existing Conditions												
95% Queue (ft/ln)	24	66	80	49	36	35	26	54	34	65	32	44
Number of Turn Lanes	1	2	1	1	1	1	1	2	1	1	1	1
Storage (ft/ln)	200	320	350	300	125	300	200	320	350	300	125	300
Total Storage (ft/ln)	200	640	350	300	125	300	200	640	350	300	125	300
Sufficient Storage?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Background Conditions												
95% Queue (ft/ln)	26	185	69	52	51	39	35	62	50	96	33	48
Number of Turn Lanes	1	2	1	1	1	1	1	2	1	1	1	1
Storage (ft/ln)	200	320	350	300	125	300	200	320	350	300	125	300
Total Storage (ft/ln)	200	640	350	300	125	300	200	640	350	300	125	300
Sufficient Storage?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Background Plus Project Conditions												
95% Queue (ft/ln)	17	164	95	52	47	51	27	86	78	142	55	51
Number of Turn Lanes	1	2	1	1	1	1	1	2	1	1	1	1
Storage (ft/ln)	200	320	350	300	125	300	200	320	350	300	125	300
Total Storage (ft/ln)	200	640	350	300	125	300	200	640	350	300	125	300
Sufficient Storage?	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Project Impact?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

The 95th percentile outbound queue at the project driveways are anticipated to be up to 50-feet (2 car length) for the Project scenario during the AM and PM peak. This maximum queue would extend into proposed drive aisle. Vehicles exiting the proposed driveway would be able to access Rue Ferrari and Eden Park Place when there are sufficient gaps generated between platooning vehicles. From the trip distribution presented in Section 4, the number of gross vehicles entering and exiting the site for the PM peak hour is 180 trips which is equivalent to an inbound/outbound rate of 3 vehicles every 1-minute. The driveway vehicle queue is not expected to create an adverse effect to on-site traffic operations.

5.5 Adverse Effects and Improvements

This section discusses significant transportation project adverse effects identified under Project conditions as well as planned roadway improvements. Per City guidelines in the 2018 Transportation Analysis Handbook, proposed mitigation measures to address negative adverse effects at a study intersection should prioritize improvements related to alternative transportation modes, parking measures, and/or TDM measures with secondary improvements that increase vehicle capacity to the transportation network.

Project Intersection Adverse Effects

Based on City and CMP intersection operation threshold criteria described in Section 1, the project is not anticipated to generate an adverse effect to the study intersections during the Project scenario.

Multi-Modal Access Improvements to Coyote Creek Trail

As discussed in Section 3, the project would exceed the City's industrial VMT per employee threshold and would need to implement VMT reduction strategies to mitigate the impact. Per City request to improve multi-modal access, the project would need to coordinate with the City Parks, Recreation, & Neighborhood Services (PRNS) division and implement the following improvement for VMT mitigation:

Install a mid-block crosswalk and connecting pathway located west of the project's southernmost driveway on Eden Park Place. Install a rectangular rapid-flashing beacon (RRFB) enhanced crosswalk across Eden Park Place. Construct an ADA compliant connection at the mid-block crosswalk with curb ramps from the project frontage to the existing Coyote Creek trail.

This multi-modal improvement would need to be coordinated between the project applicant and the City for approval.

Edenvale Area Development Policy Traffic Fees

The project is located in Sub-Area 4 of the EADP. Based on the Project Description and latest site plan, the project site would have a FAR of 0.4 and would be consistent with the EADP. The project is also not anticipated to contribute to additional traffic impact fees in the Policy due to the project's conformance with the EADP and City's General Plan.

6 LTA SITE ACCESS AND CIRCULATION

This chapter describes the local transportation analysis including site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, construction operations, and neighborhood interface.

6.1 Driveway Site Access

Site access and circulation for the project is based on the latest site plan prepared by HPA Architects included in the **Appendices**. The 5853 Rue Ferrari project provides on-site parking spaces for commercial delivery trucks and employee staff. The at-grade parking lot is accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place. The westmost driveways along Rue Ferrari and Eden Park Place provides exclusive access for semi-trailer trucks for loading and deliveries.

The proposed project driveway on Rue Ferrari is situated approximately 400-feet north of the Rue Ferrari / Eden Park Place intersection while the closest Eden Park Place driveway is located approximately 350-feet east of the intersection. Per City guidance, driveways should be a minimum of 150 feet from any intersection, and the project satisfies this standard. The proposed driveway location optimizes sight distance and spacing for the proposed site plan. To improve vehicle sight distance of approaching pedestrians and bicycles on Rue Ferrari and Eden Park Place, it is recommended to provide low clearance landscaping between the back of curb on both sides of the driveway.

Per City Municipal Code 20.90.100 and Table 20-220, the minimum width of the proposed two-way drive aisle is 26-feet. The westmost driveways designed for truck access along Rue Ferrari and Eden Park Place are 34-feet wide. The eastmost driveways designed for passenger vehicle access along Rue Ferrari and Eden Park Place are 32-feet wide. Based on associated turning templates for the given design vehicle, the wider driveway dimensions proposed on the latest site plan are recommended to provide sufficient vehicle access and circulation for entering and exiting vehicles.

In addition, the standard parking spaces on-site are dimensioned 9-feet by 17-feet while the truck parking spaces are dimensioned 12-feet by 55-feet which satisfy City parking standards.

Vehicles accessing the project driveways would be allowed to make turns in and out the site when there are sufficient vehicle gaps along Rue Ferrari and Eden Park Place. From the queue analysis results summarized in Section 5, inbound vehicle queues and delays are not expected to be significant issues. For outbound vehicles, on-site vehicle queues are expected during the AM and PM peak due to a combination of inherent unpredictability of vehicle arrivals at driveways, and the random occurrence of gaps in traffic; however, these conditions are typical of driveways in industrial areas.

6.2 Passenger Vehicle and Delivery Van Access and Circulation

Vehicle maneuverability and access for the parking area was analyzed using AutoTURN software which measures design vehicle swept paths and turning through simulation and clearance checks. A passenger car design from the American Association of State Highway and Transportation Officials (AASHTO) was assessed for the internal parking area.

Analysis using the AASHTO template revealed that passenger vehicles could adequately access the driveways on Rue Ferrari and Eden Park Place, maneuver through the parking lot, and park in the stalls

without conflicting into other vehicles or stationary objects. The proposed layout provides sufficient vehicle clearance.

6.3 Heavy Vehicle Truck Access and Circulation

Delivery trucks and heavy vehicles are currently prohibited from stopping or parking along Rue Ferrari and Eden Park Place along the project frontage. All delivery activity for the project would occur on-site in the designated loading areas.

Per City Municipal Code 20.90.410, a building intended for use by a manufacturing plant, storage facility, warehouse facility, goods display facility, retail store, wholesale store, market, hotel, hospital, mortuary, laundry, dry cleaning establishment, or other use having a floor area of 10,000 square-feet or more shall provide a minimum of one (1) off-street loading space, plus one additional such loading space for each 20,000 square-feet of floor area. The project provides at least 108 truck parking spaces and 47 loading dock spaces and satisfies the City requirement.

The STAA truck based on AASHTO and the Caltrans Highway Design Manual was assumed as the maximum size delivery truck that would be allowed due to truck route and maneuverability constraints in the Edenvale San Jose area and at the project driveway. Fire apparatus and garbage trucks were also checked for site access, and these vehicle dimensions were based on NCHRP 659 – Guide for the Geometric Design of Driveways.

STAA delivery trucks would be able to maneuver on Rue Ferrari and Eden Park Place adjacent to the project site and access the western designated truck driveways to load/unload and exit the site. Access to the truck court will be controlled by automatic open/close gates. The peak hour truck volume is six (6) trucks, or one truck every 10 minutes, for each of the two western driveways. The time for each gate to open is estimated to be much less than 10 minutes and therefore, the truck queues are not expected to exceed one (1) truck length. Given the storage length between each gate and the adjacent street, no queues are anticipated to extend in the adjacent street. Due to proximity and ease of access, it is recommended for delivery trucks to use the driveway on Rue Ferrari instead of Eden Park Place. Turning templates for this delivery vehicle indicate that the proposed 34-feet wide driveway width on the westmost driveways provide sufficient vehicle access to and from the project site.

Garbage and recycling bins are anticipated to be located near the loading docks or in a designated trash enclosure within the parking lot. Waste collection vehicles would be able to enter the project driveway to pick up bins and exit the site without conflict.

In the event of an emergency, it is assumed that fire apparatus vehicles will stage in the project parking lot, along Rue Ferrari, or along Eden Park Place. Existing fire hydrants along the project frontage provides direct fire access for emergency personnel. The project driveways are 26-feet wide minimum, provide at least 10-feet high clearance, and satisfies the 20-foot horizontal and 10-foot- vertical minimum access clearances from the 2016 CA Fire Code.

Figure 13 thru **Figure 16** show site access and vehicle turn templates at the project driveway and on-site parking area for the design vehicles described above.

Figure 13: Passenger Vehicle Access

Figure 14: Delivery Truck Vehicle Access

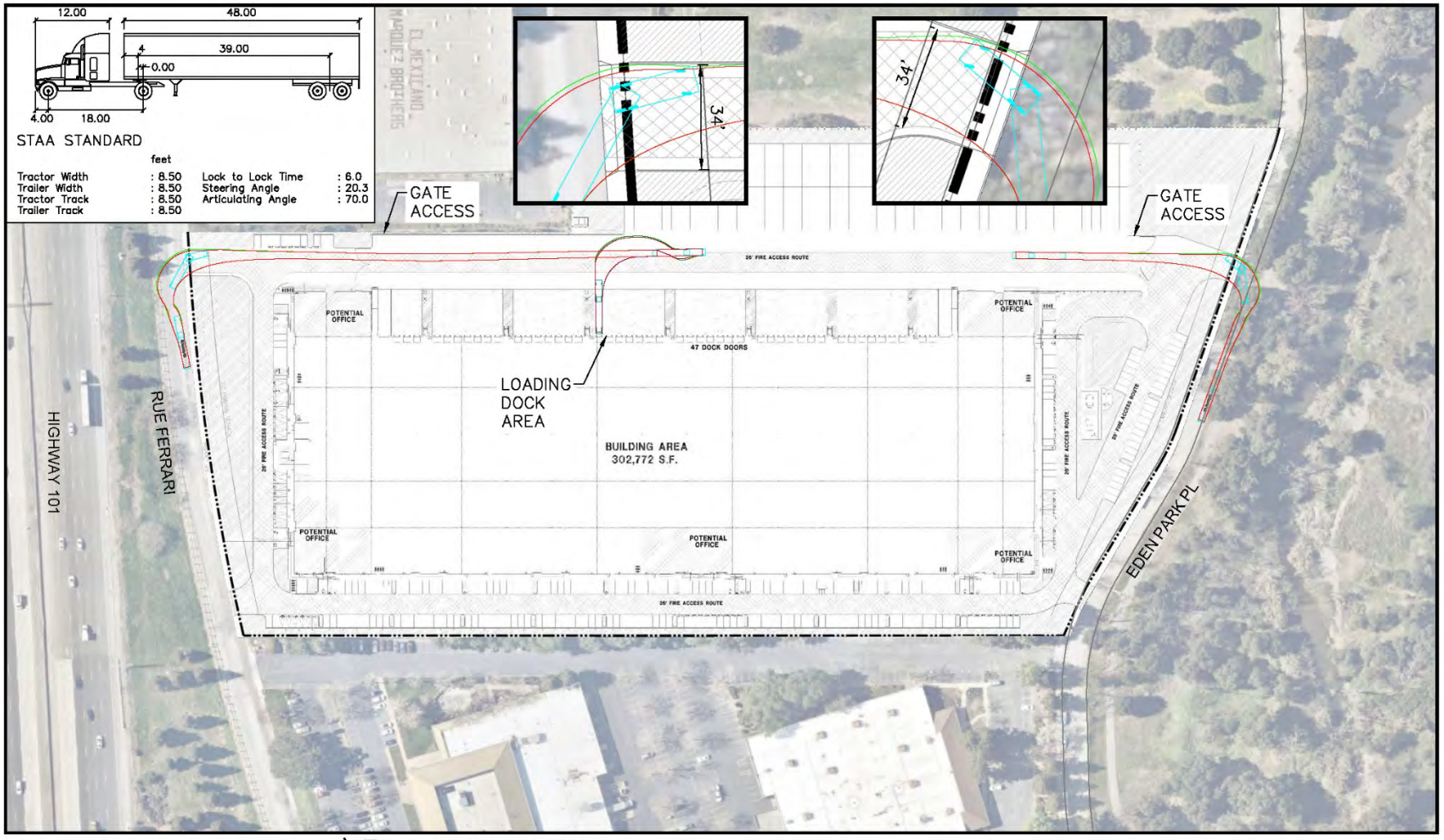


Figure 15: Garbage Truck Access

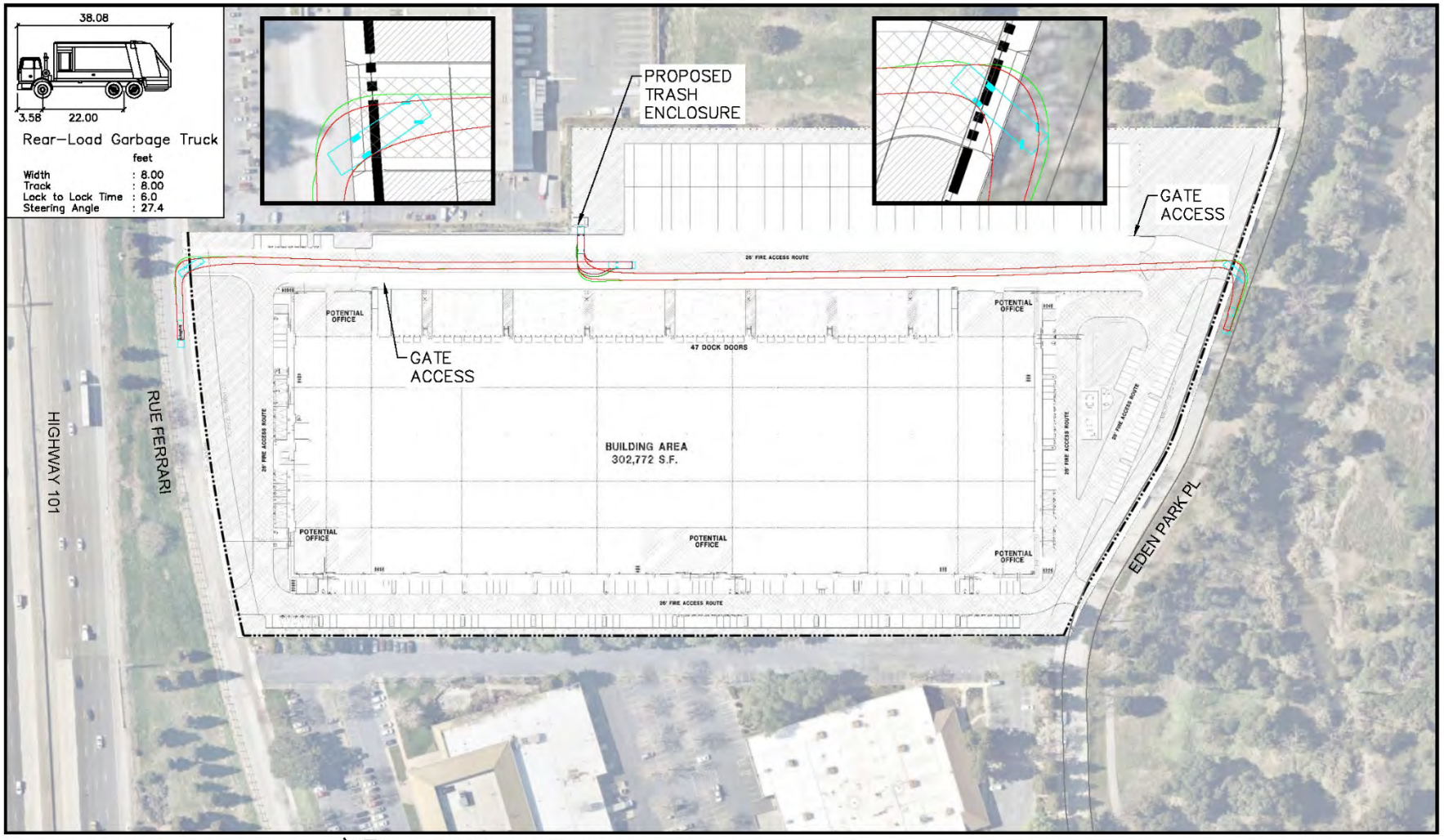
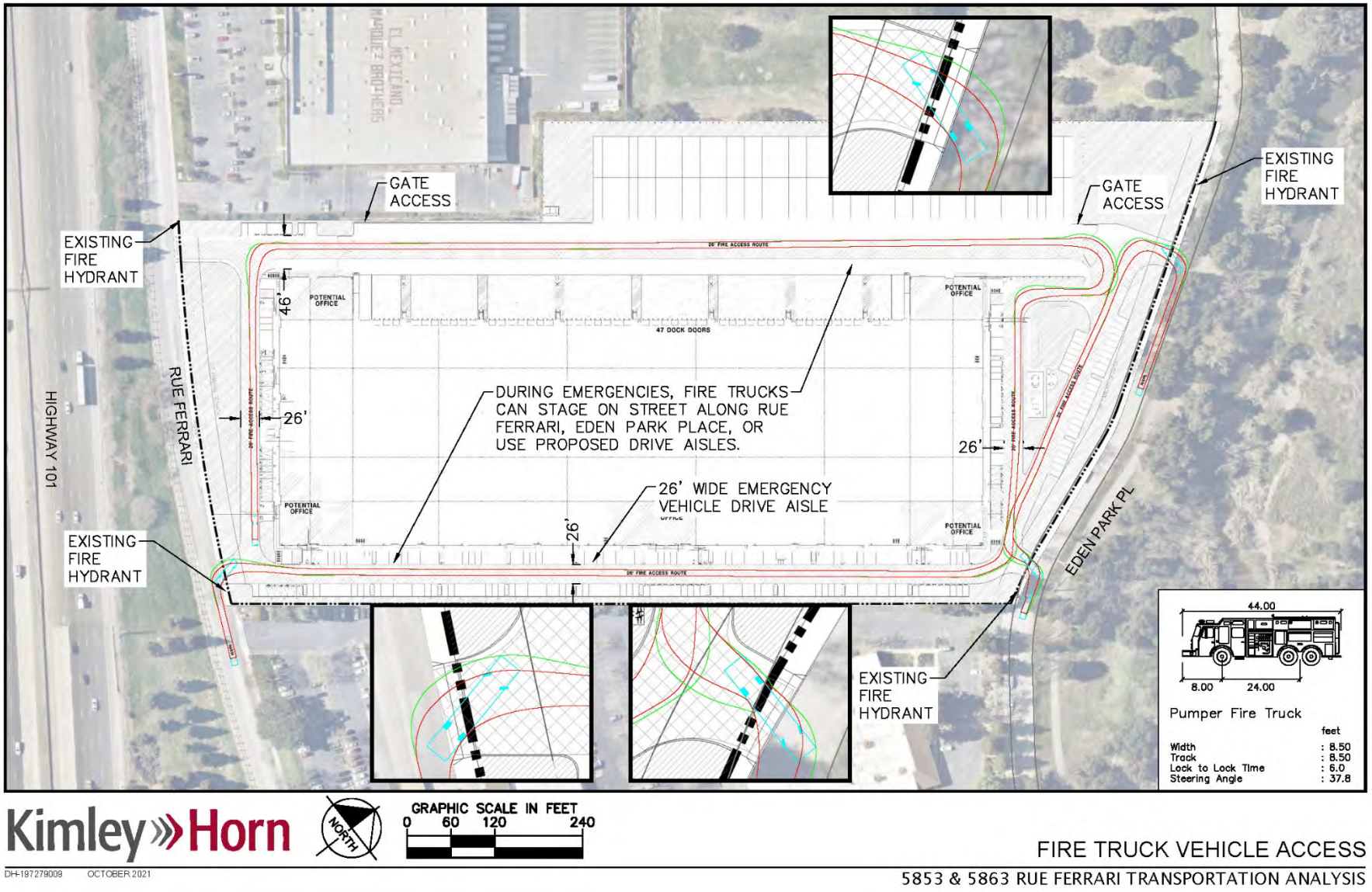


Figure 16: Fire Truck Access



6.4 Vehicle Sight Distance Analysis

A preliminary stopping sight distance and intersection sight distance analysis was conducted to determine the feasibility of the proposed project driveway location. The AASHTO methodology was used in this analysis. The sight distance needed under various assumptions of physical conditions and driver behavior is directly related to vehicle speeds and to the resultant distances traversed during perception-reaction time and braking.

Stopping sight distance is defined as the sum of reaction distance and braking distance. The reaction distance is based on the reaction time of the driver while the braking distance is dependent upon the vehicle speed and the coefficient of friction between the tires and roadway as the vehicle decelerates to a complete stop. This sight distance analysis indicates the minimum visibility that is required for an approaching vehicle to stop safely if a vehicle from the project driveway enters or exits the approaching road. The driver should also have an unobstructed view of the intersection, including any traffic-control devices, and sufficient lengths along the intersecting road to permit the driver to anticipate and avoid potential collisions.

For vehicles entering Rue Ferrari or Eden Park Place from the proposed project driveway, the AASHTO method evaluates sight distance from a vehicle exiting the driveway to a vehicle approaching from either direction. The intersection sight distance is defined along intersection approach legs and across their included corners known as departure sight triangles. These specified areas should be clear of obstructions that might block a driver's view of potentially conflicting vehicles. Intersection sight distance is measured from a point 3.5-feet above the existing grade (driver's eye) along the potential driveway to a 3.5-foot object height in the center of the approaching lane on Rue Ferrari and Eden Park Place. A vehicle setback in a stopped position from the edge of shoulder was assumed for determining intersection sight distance.

Minimum sight distance criteria for the potential driveways along Rue Ferrari and Eden Park Place was determined from the AASHTO Geometric Design of Highways and Streets 7th Edition (Green Book). For the purposes of this analysis, a design speed of 30 mph (25 mph posted speed limit) was assumed along Rue Ferrari and Eden Park Place. AASHTO standard time gap variables for passenger cars stopped on the proposed project driveways were used. Based on the existing traffic control, minimum sight distance was calculated for the following scenarios:

- Stopping Sight Distance on Rue Ferrari and Eden Park Place
- Intersection Sight Distance Case B – Stop control at the proposed project driveways
    - Case B1 – Left turn from the minor road
    - Case B2 – Right turn from the minor road

From Table 9-7 and Table 9-9 of the Green Book, the minimum stopping sight distances is 200 feet along Rue Ferrari and Eden Park Place. For Case B1 left turn, the intersection sight distance is 335 feet assuming approach grades of 3 percent or less at 45 mph. For Case B2 right turn, the intersection sight distance is 290 feet assuming approach grades of 3 percent or less at 30 mph.

A site visit was taken to measure the available sight distance and departure sight triangles at the proposed driveway locations. From a 5-foot setback from the edge of travel way, the measured available sight distance is over 400 feet in each direction on Rue Ferrari and Eden Park Place. **Table 10** summarizes the intersection and stopping sight distance at the project driveways.

Table 10: Project Driveway Sight Distance

Type	Design Speed (MPH)	Required Sight Distance (ft)	Actual Sight Distance (ft)	Sufficient Sight Distance?
SSD on Primary Road	30	200	>400	Yes
ISD Case B1 (Left Turn)	30	335	>400	Yes
ISD Case B2 (Right Turn)	30	290	>400	Yes

The proposed project driveway locations satisfy the minimum stopping sight distance required for all approaches on Rue Ferrari and Eden Park Place. Vehicles on the road will have sufficient sight distance to react and stop safely if a vehicle from the project driveway enters or exits the road. Vehicles entering Rue Ferrari and Eden Park Place from the project driveway will also have sufficient intersection sight distance to make a left or right turn onto the road per AASHTO scenarios.

Overall, the proposed project driveway location is feasible and provides sufficient sight distance for traffic conditions. To ensure that exiting vehicles can see bikes and vehicles traveling on the roadway, no parking striped with red curb should be established immediately adjacent to the project driveways. An exhibit comparing the design and measured available stopping and intersection sight distances is shown in **Figure 17** and **Figure 18**.

6.5 Bicycle, Pedestrian, and Transit Access

The most recent project site plan does not plan to provide transportation improvements to the existing sidewalk, bicycle, and transit facilities along the project frontages on Rue Ferrari and Eden Park Place; however, per the multi-modal improvements discussed in Section 3, the project would coordinate with the City to implement the following improvements:

- Install a mid-block crosswalk on Eden Park Place
- Install a rectangular rapid-flashing beacon (RRFB) at the mid-block crosswalk on Eden Park Place
- Construct an ADA compliant connection at the mid-block crosswalk with curb ramps from the project frontage to the existing Coyote Creek trail

As stated in Section 2, the existing network of sidewalks and crosswalks in the study area are relatively connected and walkable routes to nearby transit stops, retail, and other points of interest in the immediate Edenvale area. In addition, the nearest transit stops to the project site are located at the Silicon Valley / Eden Park intersection which are less than a half a mile away. As for bicycle connectivity, the Coyote Creek trail provides a Class I pathway in the northbound and southbound direction adjacent to the project site.

Due to the function and operational characteristics of the proposed warehouse use, the 5853 Rue Ferrari project is not anticipated to add substantial project trips to the existing pedestrian, bicycle, or transit facilities in the area. Therefore, the project would not create an adverse effect to the existing pedestrian, bicycle, or transit facility operations.

Figure 17: Sight Distance Analysis

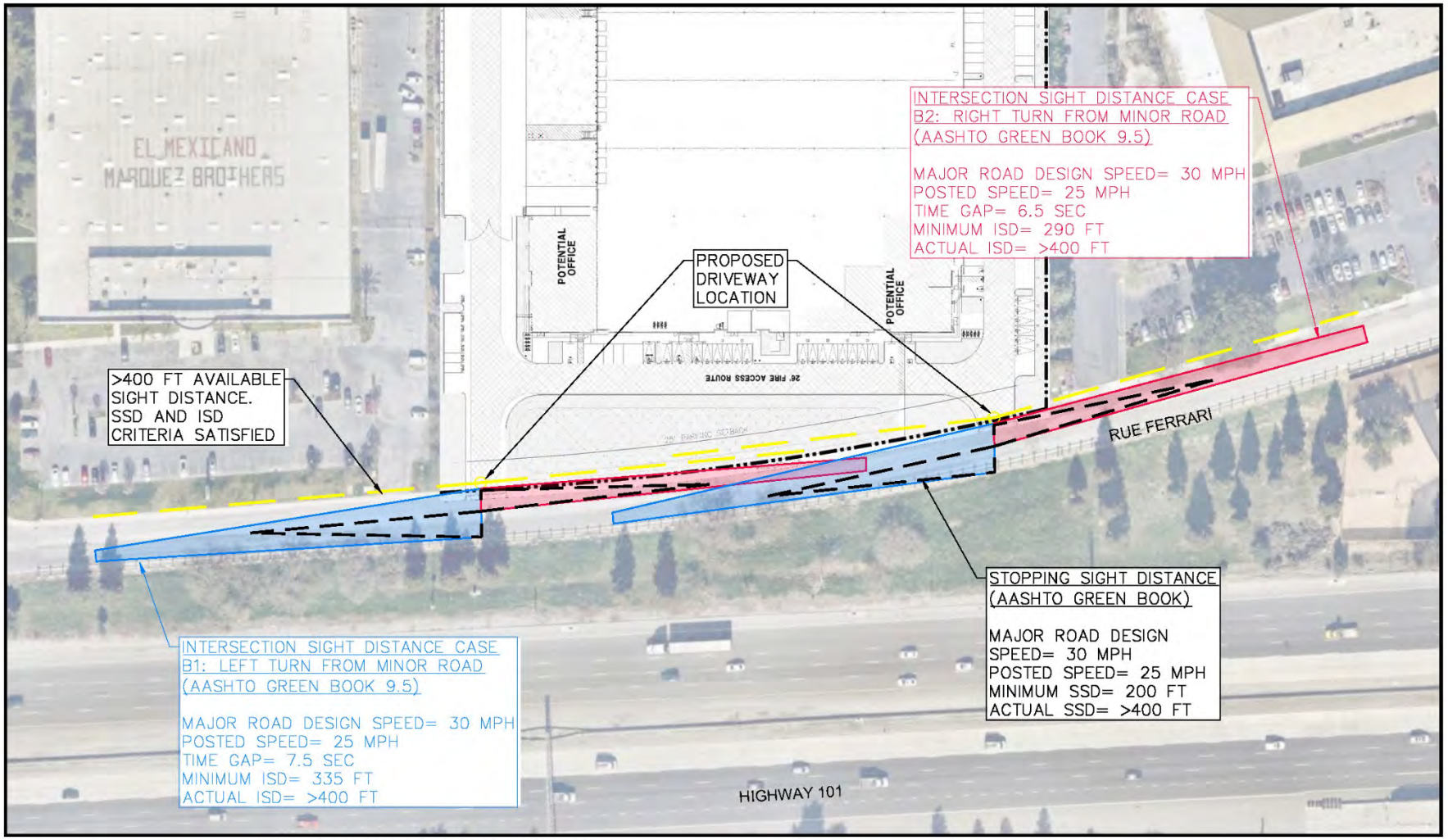
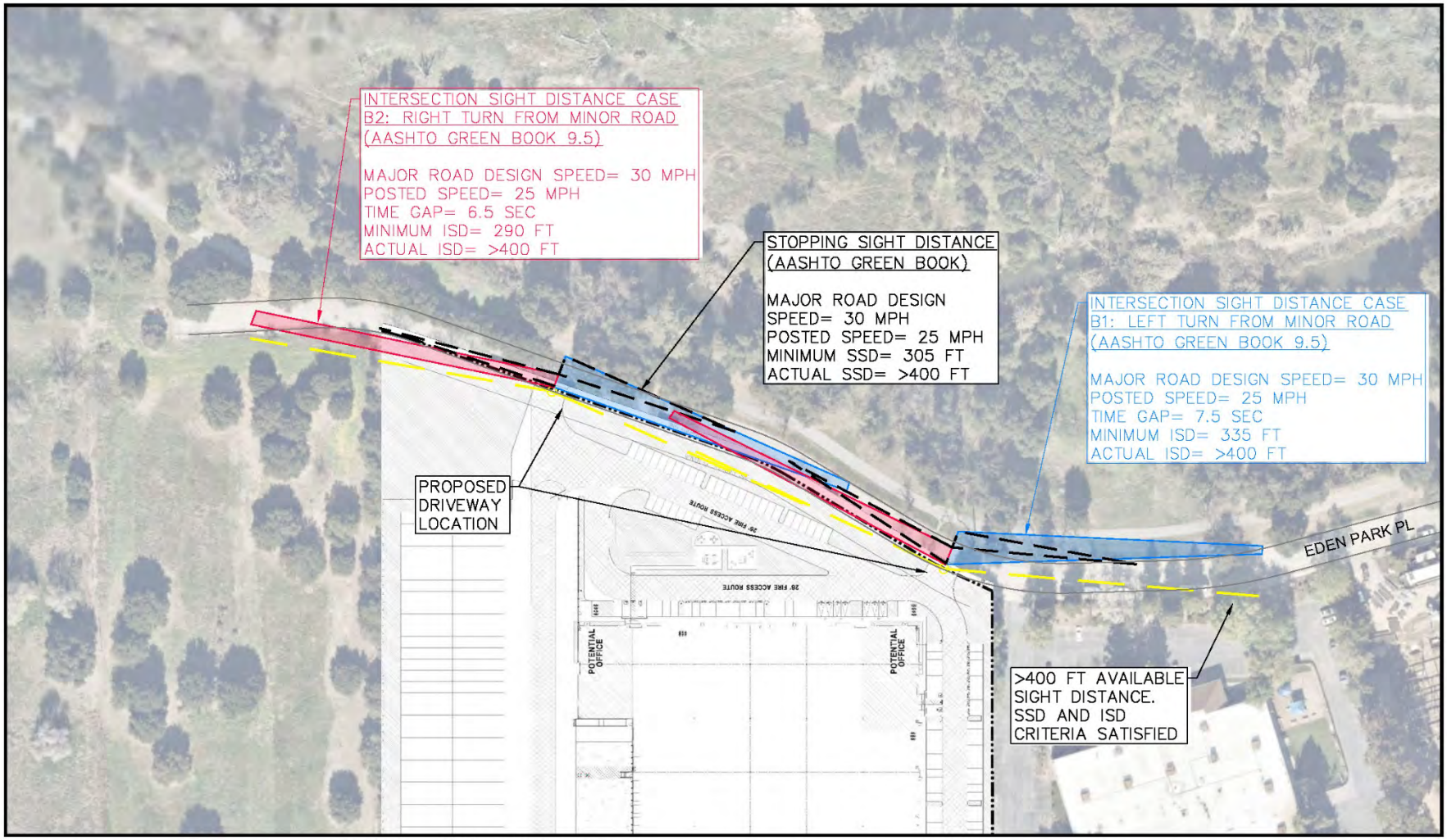


Figure 18: Sight Distance Analysis



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DH-197279009 OCTOBER 2021

SIGHT DISTANCE ANALYSIS

5853 & 5863 RUE FERRARI TRANSPORTATION ANALYSIS

6.6 Vehicle and Bicycle Parking

Per the Chapter 20.90.060, Table 20-190, and Table 20-210 of the San Jose Municipal Code, the proposed 5853 Rue Ferrari project land uses are required to provide the following minimum off-street parking:

- Offices, general business (10,000 square feet total gross floor area)
  - One (1) vehicle parking space per 250 -square feet of total gross floor area
  - One (1) bicycle parking space per 4,000-square feet of total gross floor area
- Warehouse (292,572 square feet total gross floor area)
  - Two (2) vehicle parking spaces minimum for warehouses under 5,000-square feet of total gross floor area
  - Five (5) vehicle parking spaces minimum for warehouses between 5,000 and 25,000-square feet of total gross floor area
  - One (1) vehicle parking space per 5,000-square feet of total gross floor area for warehouses greater than 25,000-square feet
  - One (1) bicycle parking space per 10 full-time employees
  - One (1) shower for warehouses between 85,000 and 425,000-square feet
  - One (1) motorcycle parking space for every 10 code-required auto parking spaces

Based on these City ratios, the project is required to provide a minimum total of 101 off-street vehicle parking spaces and 23 bicycle parking spaces for the proposed industrial warehouse use.

The project site plan proposes a total parking supply of 301 vehicle spaces to accommodate tenant employees and a total bicycle parking supply of 30 spaces (15 short term racks and 15 long term locker spaces).

The project site plan is anticipated to provide sufficient vehicle and bicycle parking per the City's off-street parking requirement. **Table 11** summarize the vehicle and bicycle parking requirements for the 5853 Rue Ferrari project.

Table 11: Project Parking Summary

GUIDELINE SOURCE	PARKING TYPE	LAND USE	PARKING STANDARD PER GUIDELINE	PROJECT SIZE	VEHICLE PARKING (# SPACES)	BICYCLE PARKING (# SPACES)
San Jose Municipal Code	Vehicle	Warehouse	2 vehicle spaces for under 5,000 SQFT 5 vehicle spaces for under 25,000 SQFT 1 vehicle space per 5,000 SQFT for over 25,000 SQFT	292,772	61	-
		Office (General Business)	1 vehicle space per 250 SQFT	10,000	40	-
	Bicycle	Warehouse	1 bicycle space per 10 full time employees	200	-	20
		Office (General Business)	1 bicycle space per 4,000 SQFT	10,000	-	3
				Total Parking Requirement	**101**	**23**
				Proposed Parking Supply	**301**	**30**
				Sufficient Parking?	**YES**	**YES**
NOTES:						
SQFT = Square Feet; GFA = Gross Floor Area;						
Proposed parking supply based on project description from applicant						
Parking requirements based on San Jose Municipal Code						

6.7 Construction Operations

During project construction, the existing curb, gutter, and sidewalk along the project frontage would be widened and replaced. A Traffic Management Plan (TMP) should be developed for construction activities at the site. Prior to construction, the contractor should place temporary signs indicating closed sidewalk facilities, install a temporary screened fence around the work area, protect existing features/utilities, and repair any damaged improvements within public right of way per City of San Jose requirements.

Pedestrians and bicyclists would potentially not be able to travel on the north side of Rue Ferrari or the south side of Eden Park Place next to the project during construction and would need to use the existing facilities on the opposite side of the street.

Vehicle access along Rue Ferrari and Eden Park Place near the project may also be restricted during construction due to its 2-lane roadway cross-section. The through lanes on Rue Ferrari and Eden Park Place could be temporary closed, and the contractor should install appropriate MUTCD traffic control devices to warn approaching vehicles of temporary lane closures and lane merges prior to the project site.

It is assumed that a temporary construction vehicle parking and stage construction area would be provided on the project site. This potential parking area would require the contractor to obtain necessary approval, right of entry, and permits with the City and property owners prior to construction.

6.8 Neighborhood Interface

The proposed project is in the existing Edenvale Sub-Area 4 in the City, which is the area roughly bounded by Highway 101, Coyote Creek, and Silicon Valley Boulevard. From recent site visits and field observations, the closest public school is the Ledesma Elementary School approximately 1 mile southeast of the project in the Basking Ridge residential neighborhood. On-street parking in the surrounding roadway network is limited. From the parking analysis, the project's on-site parking would satisfy the City's vehicle parking standard, and the project is not anticipated to create an adverse effect to the existing parking condition in the surrounding area.

Existing sidewalk and bicycle facilities are provided in the project study area via Coyote Creek trail and along the adjacent roadway network. The existing sidewalk facilities in the area are four to six feet wide, have raised concrete curbs, and have ADA compliant curb ramps. As a VMT reduction strategy, the project is planning to implement pedestrian and bicycle improvements in the area to enhance connectivity to the Coyote Creek trail; therefore, the project is not anticipated to create an adverse effect to the existing pedestrian and bicycle facilities in the surrounding area.

7 CONCLUSIONS AND RECOMMENDATIONS

Project Vehicle Miles Traveled (VMT) Impacts and Mitigation Measures

The project consists of industrial land use and does not meet the screening criteria for VMT analysis exemption as a small infill project of 30,000 square-feet of total gross floor area or less per City guidelines. The proposed project was evaluated in the VMT tool assuming development of 302,772 square-feet of industrial use.

The City's VMT per employee threshold for industrial land uses is 14.37. For the surrounding land use area, the existing VMT is 14.78. The proposed project is anticipated to generate a VMT per employee of 14.71. The evaluation tool estimates that the project would exceed the City's industrial VMT per employee threshold and would trigger a VMT impact.

Since the project VMT exceeds the industrial thresholds of significance, the project will need to mitigate its CEQA transportation impact by implementing a variety of City approved VMT reduction strategies. Per City direction, the applicant would implement Tier 2 multi-modal infrastructure improvements, and with these measures, the project could achieve a VMT per employee of 13.54 which is below the City threshold. Final implementation of the proposed VMT reduction strategies would need to be coordinated between the project applicant and the City.

Project Trip Generation

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*.

Per the 2018 *Transportation Analysis Handbook*, trip generation reduction credits were applied to the project including location-based mode-share, potential VMT reduction strategies, and existing land uses. Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 0 additional daily trips, 32 AM, and 127 PM peak hour trips to the roadway network. Baseline vehicle trips for the proposed project (excluding trip adjustments) are anticipated to generate a gross total of 2,477 daily trips, 179 AM peak hour trips, and 415 PM peak hour vehicle trips.

Intersection Traffic Operations

Weekday AM and PM peak hour intersection turning movement volumes for the study intersections were obtained from the City of San Jose Traffic Model Database and supplemented with new turning movement counts collected at selected intersections on Tuesday, June 15, 2021. The study intersections were assessed under Existing, Background and Project scenarios. City of San José and Valley Transportation Authority Congestion Management Program intersection level of service standards and significance thresholds were used to determine adverse effects caused by the project.

It should be noted that a prior traffic study (iStar Mixed-Use Development) was completed for the EADP and identified intersection improvements that have already been completed. Based on City direction and the 2014 EADP Update, the project is not required to study any signalized intersections and their adverse effects under project conditions. For informational purposes, intersection level of service operations analysis is shown for Existing and Background Conditions. A signal warrant analysis was prepared for the Rue Ferrari / Silicon Valley and Eden Park / Silicon Valley intersections per the California Manual on Uniform Traffic Control Devices (MUTCD).

Adverse Effects and Improvements

The project is not anticipated to generate an adverse effect to the study intersections during the Project scenario.

Per City request to improve multi-modal access, the project would need to coordinate with the City Parks, Recreation, & Neighborhood Services (PRNS) division and implement the following improvement for VMT mitigation:

Install a mid-block crosswalk and connecting pathway located west of the project's southernmost driveway on Eden Park Place. Install a rectangular rapid-flashing beacon (RRFB) enhanced crosswalk across Eden Park Place. Construct an ADA compliant connection at the mid-block crosswalk with curb ramps from the project frontage to the existing Coyote Creek trail.

Vehicle Site Access and Circulation

The 5853 Rue Ferrari project provides on-site parking spaces for commercial trucks and employee staff, and the at-grade parking lot is accessed by two driveways along Rue Ferrari and two driveways along Eden Park Place. The westmost driveways designed for truck access along Rue Ferrari and Eden Park Place are 34-feet wide. The eastmost driveways designed for passenger vehicle access along Rue Ferrari and Eden Park Place are 32-feet wide. Based on associated turning templates for the given design vehicle, the driveway dimensions proposed on the latest site plan are recommended to provide sufficient vehicle access and circulation for entering and exiting vehicles. The proposed driveway locations optimize sight distance and spacing for the proposed site plan. Passenger vehicles, delivery vans, trucks, refuse, and emergency vehicles are able to circulate within the project site without conflict.

Pedestrian, Bicycle, and Transit Site Access

The most recent project site plan does not plan to provide transportation improvements to the existing sidewalk, bicycle, and transit facilities along the project frontages on Rue Ferrari and Eden Park Place; however, the project would coordinate with the City to implement multi-modal improvements as discussed in Section 5.5. Due to the function and operational characteristics of the proposed warehouse use, the 5853 Rue Ferrari project is not anticipated to add substantial project trips to the existing pedestrian, bicycle, or transit facilities in the area. Therefore, the project would not create an adverse effect to the existing pedestrian, bicycle, or transit facility operations.

On-Site Vehicle and Bicycle Parking

Per the City's parking standard, the project site is anticipated to provide sufficient on-site vehicle and bicycle spaces to meet the City's minimum parking requirement.

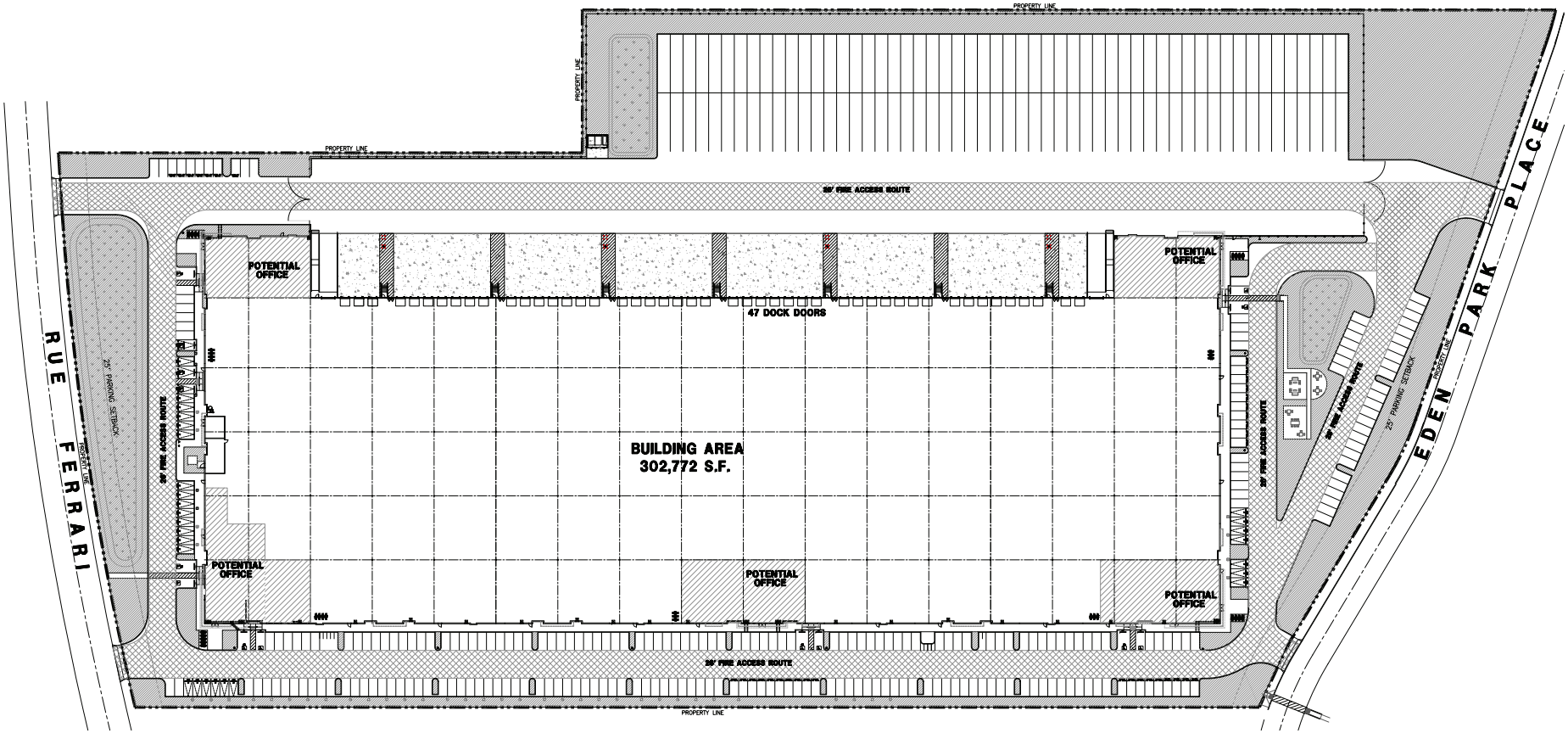
Neighborhood Interface

The project's on-site parking would satisfy the City's vehicle parking standard, and the project is not anticipated to create an adverse effect to the existing parking condition in the surrounding area. The project is not anticipated to create an adverse effect to the existing pedestrian and bicycle facilities in the surrounding area.

8 APPENDICES

Appendices A – 5853 & 5863 Rue Ferrari Site Plan
Appendices B – San Jose VMT Evaluation Tool Summary Report
Appendices C – Trip Generation Existing Credit and Occupancy
Appendices D – Intersection and Roadway Traffic Counts
Appendices E – San Jose Approved Trip Inventory
Appendices F – TRAFFIX Intersection Operations Analysis
Appendices G – MUTCD Signal Warrant Criteria
Appendices H – MUTCD Signal Warrant Worksheet
Appendices I – Vehicle Left-Turn Queuing Analysis

Appendices A – 5853 & 5863 Rue Ferrari Site Plan



OVERALL SITE PLAN scale: 1" = 40'-0" (A)

SCALE: 1" = 40'-0"

0 40' 80' 120'

PLAN NORTH TRUE NORTH

SITE PLAN KEYNOTES

1. HEAVY BROOM FINISH CONCRETE PAVEMENT. SEE "C" DRAWINGS.
2. ASPHALT CONCRETE (AC) PAVING
3. ACCESSIBLE PATH OF TRAVEL
4. DRIVEWAY APRONS TO BE CONSTRUCTED PER "C" AND "L" DRAWINGS.
5. 5'-6"X5'-6"X4" THICK CONCRETE EXTERIOR LANDING PAD TYP. AT ALL EXTERIOR MAN DOORS TO LANDSCAPED AREAS. FINISH TO BE MEDIUM BROOM FINISH SLOPE TO BE 1/4" : 12" MAX.
6. APPROXIMATE LOCATION OF TRANSFORMER. CONTRACTOR TO VERIFY WITH UTILITY COMPANY
7. CONCRETE WALKWAY, MEDIUM BROOM FINISH. SEE AD.1
8. CONCRETE RAMP WITH CONCRETE GUARD WALL. SEE "C" DRAWINGS.
9A. EXTERIOR DOWNSPOUT WITH OVERFLOW SCUPPERS. SEE AD.3
9B. INTERIOR ROOF DRAIN AND OVERFLOW SCUPPER. FOR DETAILS SEE AD.3.
9C. INTERIOR ROOF DRAIN PIPED OVERFLOW. FOR DETAILS SEE AD.3.
10. EXTERIOR STAIR. SEE 1, 2, 3, 3A, 4, 6, 16/AD.2 FOR DETAILS.
11. 12' x 14' DRIVE-IN DOOR
12. LANDSCAPE. ALL LANDSCAPE AREAS INDICATED BY SHADING
13. TRUNCATED DOMES. SEE 13/AD.1 FOR DETAILS.
14. HARDSCAPE AT ENTRANCE. SEE "L" DRAWINGS.
15. TRASH ENCLOSURE. SEE AD.7
16. ACCESSIBLE ENTRY SIGN. SEE 17/AD.1
17. 8' TALL MONTAGE COMMERCIAL, INVINCIBLE STYLE, THREE RAIL BLACK TUBE STEEL FENCE. SEE SHEET AD.7 FOR DETAILS.
18. BIKE RACK. SEE AD.6 FOR DETAILS.
19. STORM TREATMENT. SEE CIVIL DRAWINGS
20. CONC. FILLED GUARD POST 6" DIA. U.N.O. 48" H. SEE 9/AD.1 FOR DETAILS.
21. PRE-CAST CONC. WHEEL STOP. SEE 3/AD.1 FOR DETAILS.
22. ACCESSIBLE PARKING STALL SIGN. SEE 19/AD.1 FOR DETAILS.
23. ELECTRICAL ROOM. SEE A & B/A2.7
24. PUMP ROOM. SEE A & B/A2.7
25. APPROXIMATE LOCATION OF RECESSED KNOX-BOX.
26. CONCRETE DOLLY PAD. SEE SITE PLAN FOR WIDTH AND "C" DRAWINGS.
27. EXTERIOR PARKING LIGHT POLE. SEE "E" DRAWINGS AND DETAIL 6/AD.1.
28. APPROXIMATE LOCATION OF FIRE HYDRANT. SEE "C" AND "FP" DRAWINGS.
29. FUTURE ELECTRIC VEHICLE CHARGER. SEE "E" DRAWING FOR CONDUIT.
30. OUTDOOR EMPLOYEE AREA.
31. ROOF DRAINS CONNECT TO A CURB O LET AND SPILL TO GRADE, SEE 19/AD.3.

SITE PLAN GENERAL NOTES

1. THE SITE PLAN BASED ON THE SOILS REPORT PREPARED BY GEOTECHNICAL ENGINEER, DATE, PROJECT NUMBER #
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES
5. PROVIDE STRUCTURAL CALCULATION AND CONSTRUCTION ANCHORAGE DETAIL FOR TRANSFORMER PRIOR TO INSTALLATION.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C" DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 6' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MAXIMUM 12' EA. WAY W/ 1:20 MAX. SLOPE. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". FINISH TO BE A MEDIUM BROOM FINISH
11. U.N.O. PROVIDE KNOX BOXES AT ALL OFFICE ENTRANCES.
12. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
13. ON-SITE FIRE MAIN, FIRE SPRINKLER, AND SPRINKLER MONITORING SYSTEM SHALL BE SUBMITTED SEPARATELY TO THE FIRE DEPARTMENT FOR REVIEW AND PERMITTING.
14. ALL VERTICAL MOUNTING POLES OF FENCING SHALL BE CAPPED.
15. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB
16. ALL INTERIOR AND EXTERIOR WALK SURFACES TO BE NON-SLIP TYPE

SITE PLAN GENERAL NOTES

- CONCRETE PAVING. SEE "C" DRWGS. FOR THICKNESS
- STANDARD PARKING STALL (8'-0" X 17')
- CLEAN AIR/VANPOOL/EV CONDUIT STUB FOR FUTURE EV
- CLEAN AIR/ VANPOOL/EV WITHOUT CONDUIT STUB FOR FUTURE EV
- TRAILER PARKING (10' X 53')
- LANDSCAPED AREA
- NON-ACCESSIBLE PATH
- ACCESSIBLE PARKING STALL (9' X 19') + 5' W/ ACCESSIBLE AISLE SEE DETAIL 11/AD.1
- ACCESSIBLE PARKING (VAN) STALL (12'-0" X 19') + 5' W/ ACCESSIBLE AISLE
- PATH OF TRAVEL, MINIMUM WIDTH TO BE 4'. SLOPE NOT TO EXCEED 5% IN THE DIRECTION OF TRAVEL AND CROSS SLOPE NOT TO EXCEED 2%, SEE CIVIL FOR GRADING PLAN

HPA architecture

hpa, Inc.
600 grand ave, suite 302
oakland, ca
94610
tel: 949-862-2113
email: hpa@hparchs.com

Owner:

Duke REALTY

DUKE REALTY
200 SPECTRUM CENTER DRIVE
SUITE 1600
IRVINE, CA 92618

TEL: (914) 525-6970

Project:

5853 & 5863
RUE FERRARI

5853 & 5863 RUE FERRARI
SAN JOSE, CA

Consultants:

CIVIL -
STRUCTURAL -
MECHANICAL -
PLUMBING -
ELECTRICAL -
LANDSCAPE -
FIRE PROTECTION -
GEO ENGINEER -

Title: OVERALL SITE PLAN

Project Number: 20299
Drawn by: G.S.
Date: 2/04/2021
Revision:

Sheet:

A1.1

Appendices B – San Jose VMT Evaluation Tool Summary Report

CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

PROJECT:

Name: 5853 & 5863 Rue Ferrari
Location: 5853 & 5863 Rue Ferrari
Parcel: 67805057 Parcel Type: Suburb with Single-Family Homes

Tool Version: 2/29/2019
Date: 10/7/2021

Proposed Parking Spaces Vehicles: 301 Bicycles: 30

LAND USE:

Residential:		Percent of All Residential Units	
Single Family	0 DU	Extremely Low Income (≤ 30% MFI)	0 % Affordable
Multi Family	0 DU	Very Low Income (> 30% MFI, ≤ 50% MFI)	0 % Affordable
Subtotal	0 DU	Low Income (> 50% MFI, ≤ 80% MFI)	0 % Affordable
Office:	0 KSF		
Retail:	0 KSF		
Industrial:	302.8 KSF		

VMT REDUCTION STRATEGIES

Tier 1 - Project Characteristics

Increase Residential Density
- Existing Density (DU/Residential Acres in half-mile buffer) 7
- With Project Density (DU/Residential Acres in half-mile buffer) 7

Increase Development Diversity
- Existing Activity Mix Index 0.73
- With Project Activity Mix Index 0.75

Integrate Affordable and Below Market Rate
- Extremely Low Income BMR units . . . . . 0 %
- Very Low Income BMR units . . . . . 0 %
- Low Income BMR units . . . . . 0 %

Increase Employment Density
- Existing Density (Jobs/Commercial Acres in half-mile buffer) 28
- With Project Density (Jobs/Commercial Acres in half-mile buffer) 33

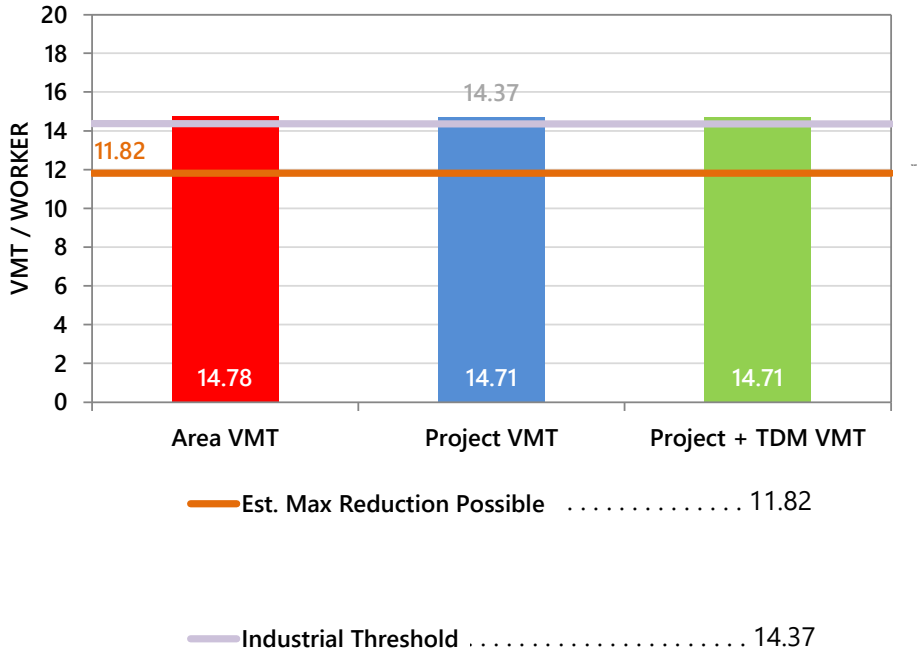
Tier 2 - Multimodal Infrastructure

Tier 3 - Parking

Tier 4 - TDM Programs

EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT and per industrial worker VMT above the City's threshold.



CITY OF SAN JOSE VEHICLE MILES TRAVELED EVALUATION TOOL SUMMARY REPORT

PROJECT:

Name: 5853 & 5863 Rue Ferrari - Mitigated
Location: 5853 & 5863 Rue Ferrari
Parcel: 67805057 Parcel Type: Suburb with Single-Family Homes

Tool Version: 2/29/2019
Date: 10/7/2021

Proposed Parking Spaces Vehicles: 301 Bicycles: 30

LAND USE:

Residential:		Percent of All Residential Units	
Single Family	0 DU	Extremely Low Income (≤ 30% MFI)	0 % Affordable
Multi Family	0 DU	Very Low Income (> 30% MFI, ≤ 50% MFI)	0 % Affordable
Subtotal	0 DU	Low Income (> 50% MFI, ≤ 80% MFI)	0 % Affordable
Office:	0 KSF		
Retail:	0 KSF		
Industrial:	302.8 KSF		

VMT REDUCTION STRATEGIES

Tier 1 - Project Characteristics

Increase Residential Density
- Existing Density (DU/Residential Acres in half-mile buffer) 7
- With Project Density (DU/Residential Acres in half-mile buffer) 7

Increase Development Diversity
- Existing Activity Mix Index 0.73
- With Project Activity Mix Index 0.75

Integrate Affordable and Below Market Rate
- Extremely Low Income BMR units . . . . . 0 %
- Very Low Income BMR units . . . . . 0 %
- Low Income BMR units . . . . . 0 %

Increase Employment Density
- Existing Density (Jobs/Commercial Acres in half-mile buffer) 28
- With Project Density (Jobs/Commercial Acres in half-mile buffer) 33

Tier 2 - Multimodal Infrastructure

Bike Access Improvements *(In Coordination with SJ)*
- Distance to Nearest Existing Bicycle Facility . . . . . 1600 feet
- Distance to Nearest Bicycle Facility With Project . . . . . 600 feet

Increase Network Connectivity *(In Coordination with SJ)*
- Intersection Density . . . . . 2 int/sqmi
- Intersection Density with Project . . . . . 3 int/sqmi

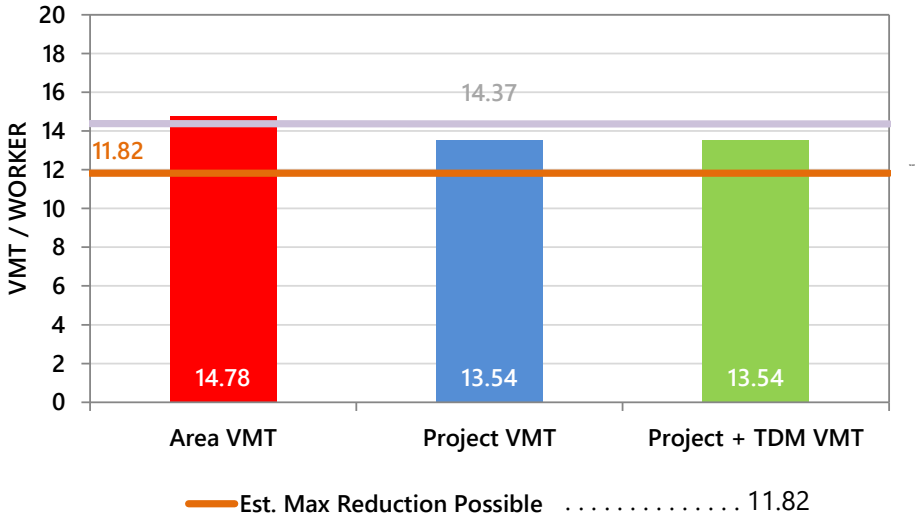
Pedestrian Network Improvements *(In Coordination with SJ)*
- Are pedestrian improvements provided beyond the development frontage? . . . . . Yes

Tier 3 - Parking

Tier 4 - TDM Programs

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.



Appendices C – Trip Generation Existing Credit and Occupancy

Rent Roll - Lease Abstract

5853 Rue Ferrari (1010891)

As of 10/31/2019

Recurring Charges Shown as Monthly Amounts

Brian Chavez 09/17/19

Tenant Code	Tenant	Leased Units	Area	BOMA	Current Rent		Current Rent / Sqft	Deposit	Rent Increases Date	Rent Increases New Amt	Other charges & concessions Amt	Other charges & concessions Code	Other charges & concessions Begin	Other charges & concessions End
1010891	**5853 Rue Ferrari**													
t0074716	Western Digital Technologies, Inc.	A-100	129,600	0	ornt	220,834.00	[redacted]	[redacted]			[redacted]		01/01/2019	12/01/2020
		B-100	73,716	0							[redacted]		01/01/2019	12/01/2020
Lease From-To: 08/01/1996 - 12/01/2020		B-150	80,364	0							[redacted]		01/01/2019	12/01/2020
		C-100	2,650	0										
			286,330.00	**0.00**										

Summary (1010891)

	Unit Count	Unit %	Total Area	Area %	Total BOMA	BOMA %	Total Base Rent	Rent Per Area	Total Deposits	Total Other Charges	Other Charges Per Area
Occupied	4	100.00%	286,330.00	100.00%	0.00	0.00%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Vacant	0	0.00%	0.00	0.00%	0.00	0.00%	[redacted]	[redacted]			
	4		286,330.00				[redacted]	[redacted]			

Rent Roll - Lease Abstract

5853 Rue Ferrari (1010891)

As of 10/01/2020 Brian Chavez 09/16/2020

Recurring Charges Shown as Monthly Amounts

Tenant Code	Tenant	Leased Units	Area	BOMA	Current Rent	Current Rent / Sqft	Deposit	Rent Increases Date	Rent Increases New Amt	Other charges & concessions Amt	Other charges & concessions Code	Other charges & concessions Begin	Other charges & concessions End
1010891	**5853 Rue Ferrari**												
t0074716	Western Digital Technologies, Inc.	A-100	129,600	0	[redacted]	[redacted]	[redacted]			[redacted]		01/01/2020	12/01/2020
		B-100	73,716	0						[redacted]		01/01/2020	12/01/2020
Lease From-To: 08/01/1996 - 12/01/2020		B-150	80,364	0						[redacted]		01/01/2020	12/01/2020
		C-100	2,650	0									
			286,330.00	**0.00**									

Summary (1010891)

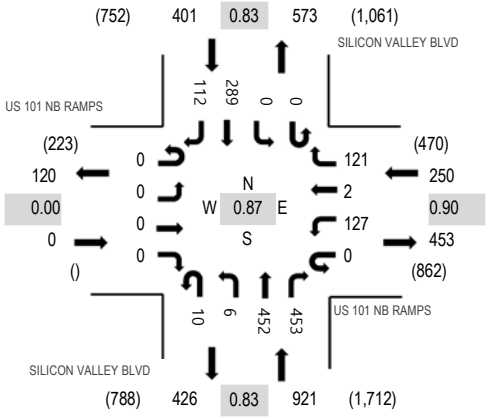
	Unit Count	Unit %	Total Area	Area %	Total BOMA	BOMA %	Total Base Rent	Rent Per Area	Total Deposits	Total Other Charges	Other Charges Per Area
Occupied	4	100.00%	286,330.00	100.00%	0.00	0.00%	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Vacant	0	0.00%	0.00	0.00%	0.00	0.00%	[redacted]	[redacted]			
	4		286,330.00				[redacted]	[redacted]			

Appendices D – Intersection and Roadway Traffic Counts

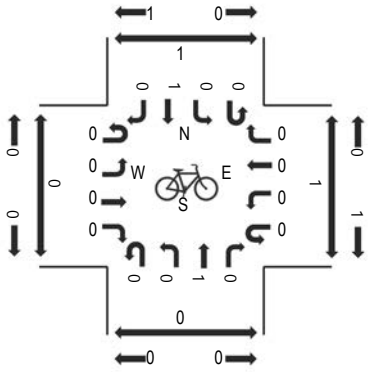
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SILICON VALLEY BLVD & US 101 NB RAMPS AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

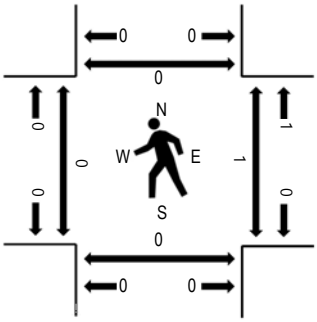
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	US 101 NB RAMPS Eastbound				US 101 NB RAMPS Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	23	0	29	2	0	52	88	0	0	41	20	255	1,371	1	0	0	0
7:15 AM	0	0	0	0	0	14	0	27	1	1	96	86	0	0	40	24	289	1,479	0	0	0	0
7:30 AM	0	0	0	0	0	26	2	29	3	1	95	112	0	0	75	32	375	1,572	0	0	0	0
7:45 AM	0	0	0	0	0	39	0	32	4	0	158	115	0	0	81	23	452	1,560	0	0	0	0
8:00 AM	0	0	0	0	0	24	0	39	1	3	100	114	0	0	55	27	363	1,563	0	0	0	0
8:15 AM	0	0	0	0	0	38	0	21	2	2	99	112	0	0	78	30	382		0	1	0	0
8:30 AM	0	0	0	0	0	32	0	32	3	3	78	115	0	0	77	23	363		0	0	0	0
8:45 AM	0	0	0	0	0	33	0	30	0	2	144	120	0	0	96	30	455		0	0	0	0

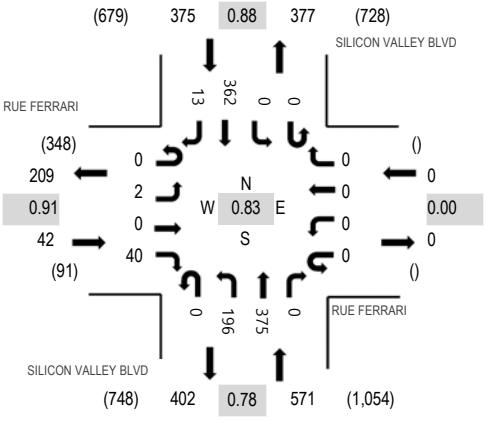
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	2	7	0	0	1	5	16
Lights	0	0	0	0	0	126	2	120	10	6	443	432	0	0	282	104	1,525
Mediums	0	0	0	0	0	0	0	1	0	0	7	14	0	0	6	3	31
Total	0	0	0	0	0	127	2	121	10	6	452	453	0	0	289	112	1,572

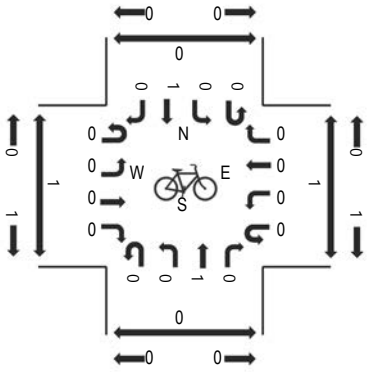
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SILICON VALLEY BLVD & RUE FERRARI AM
Date: Tuesday, June 15, 2021
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

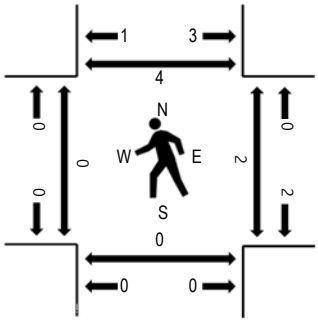
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	RUE FERRARI Eastbound				RUE FERRARI Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	12	0	0	0	0	0	25	55	0	0	0	48	1	141	857	0	0	0	0
7:15 AM	0	1	0	11	0	0	0	0	1	48	73	0	0	0	53	1	188	949	0	0	0	0
7:30 AM	0	0	0	13	0	0	0	0	0	45	78	0	0	0	93	1	230	988	0	0	0	0
7:45 AM	0	0	0	14	0	0	0	0	0	75	109	0	0	0	91	9	298	973	0	0	0	0
8:00 AM	0	1	0	5	0	0	0	0	0	46	98	0	0	0	82	1	233	967	0	1	0	1
8:15 AM	0	1	0	8	0	0	0	0	0	30	90	0	0	0	96	2	227		0	1	0	3
8:30 AM	0	0	0	9	0	0	0	0	1	24	88	0	0	0	91	2	215		0	4	0	2
8:45 AM	0	2	0	14	0	0	0	0	0	36	132	0	0	0	106	2	292		0	0	0	0

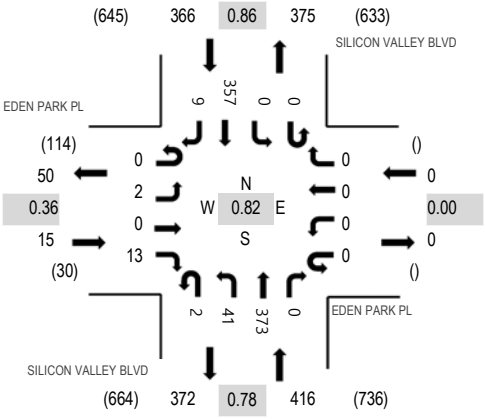
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	0	0	0	0	2	0	0	0	4	0	7
Lights	0	2	0	38	0	0	0	0	0	194	368	0	0	0	350	13	965
Mediums	0	0	0	1	0	0	0	0	0	2	5	0	0	0	8	0	16
Total	0	2	0	40	0	0	0	0	0	196	375	0	0	0	362	13	988

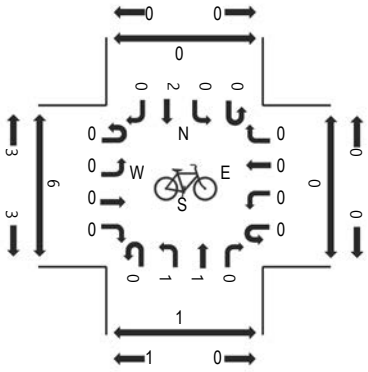
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 SILICON VALLEY BLVD & EDEN PARK PL AM
Date: Tuesday, June 15, 2021
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

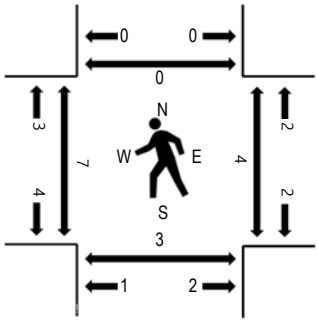
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	EDEN PARK PL Eastbound				EDEN PARK PL Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	24	33	0	0	0	46	1	104	614	0	0	0	0
7:15 AM	0	0	0	2	0	0	0	0	0	9	65	0	0	0	55	0	131	688	0	0	0	0
7:30 AM	0	0	0	11	0	0	0	0	0	13	67	0	0	0	80	0	171	749	0	0	0	0
7:45 AM	0	0	0	2	0	0	0	0	0	16	93	0	0	0	96	1	208	763	1	0	3	0
8:00 AM	0	0	0	1	0	0	0	0	0	5	94	0	0	0	77	1	178	797	3	4	1	0
8:15 AM	0	1	0	1	0	0	0	0	0	13	80	0	0	0	94	3	192		1	0	0	0
8:30 AM	0	1	0	9	0	0	0	0	1	10	79	0	0	0	85	0	185		1	0	0	0
8:45 AM	0	0	0	2	0	0	0	0	1	13	120	0	0	0	101	5	242		2	0	2	0

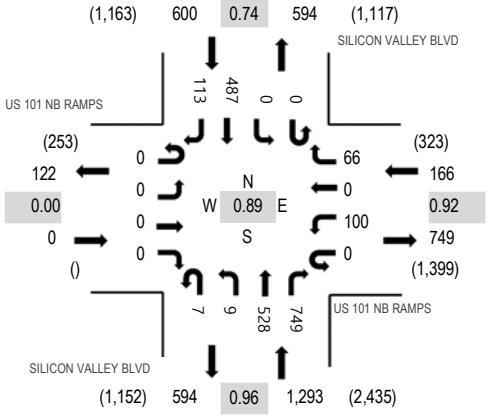
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	0	0	0	0	3	0	0	0	4	0	8
Lights	0	2	0	12	0	0	0	0	2	41	360	0	0	0	342	8	767
Mediums	0	0	0	0	0	0	0	0	0	0	10	0	0	0	11	1	22
Total	0	2	0	13	0	0	0	0	2	41	373	0	0	0	357	9	797

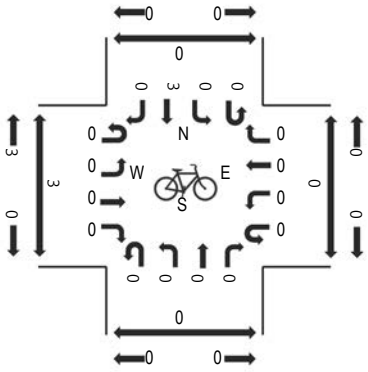
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SILICON VALLEY BLVD & US 101 NB RAMPS PM
Date: Tuesday, June 15, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

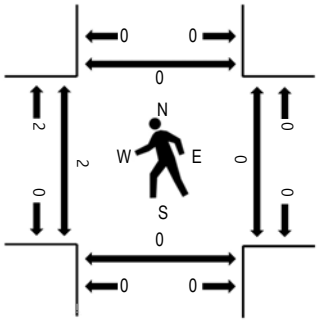
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	US 101 NB RAMPS Eastbound				US 101 NB RAMPS Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	21	0	13	3	6	105	157	0	0	120	45	470	1,868	0	0	0	0
4:15 PM	0	0	0	0	0	32	0	10	1	1	116	147	0	0	109	28	444	1,979	0	0	0	0
4:30 PM	0	0	0	0	0	24	0	16	3	1	120	173	0	0	106	32	475	2,051	0	0	0	0
4:45 PM	0	0	0	0	0	28	0	14	4	4	133	173	0	0	103	20	479	2,059	0	0	0	0
5:00 PM	0	0	0	0	0	26	0	13	1	0	124	210	0	0	152	55	581	2,053	1	0	0	0
5:15 PM	0	0	0	0	0	26	0	19	0	1	125	198	0	0	128	19	516		0	0	0	0
5:30 PM	0	0	0	0	0	20	0	20	2	4	146	168	0	0	104	19	483		1	0	0	0
5:45 PM	0	0	0	0	0	31	0	10	1	2	133	173	0	0	107	16	473		0	0	0	0

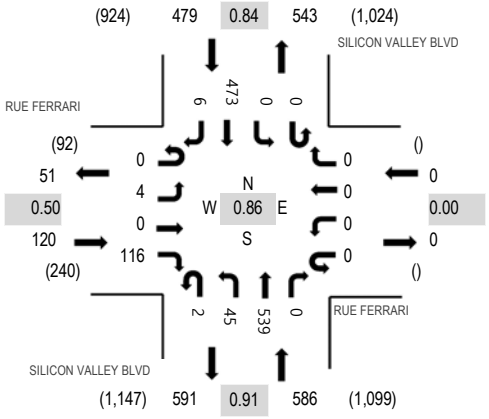
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	2	1	0	0	1	0	5
Lights	0	0	0	0	0	99	0	66	7	9	521	742	0	0	482	110	2,036
Mediums	0	0	0	0	0	0	0	0	0	0	5	6	0	0	4	3	18
Total	0	0	0	0	0	100	0	66	7	9	528	749	0	0	487	113	2,059

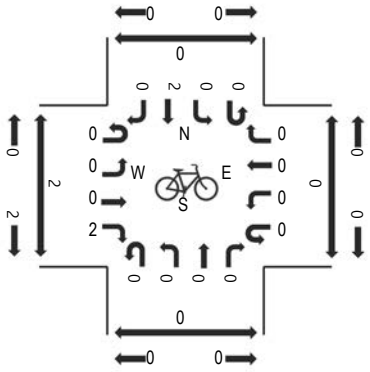
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 SILICON VALLEY BLVD & RUE FERRARI PM
Date: Tuesday, June 15, 2021
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

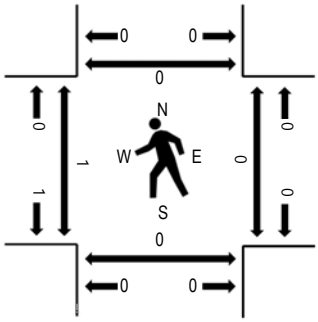
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	RUE FERRARI Eastbound				RUE FERRARI Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	0	51	0	0	0	0	0	6	109	0	1	0	119	1	288	1,078	0	0	0	0
4:15 PM	0	1	0	31	0	0	0	0	0	11	113	0	0	0	101	2	259	1,136	0	0	0	0
4:30 PM	0	1	0	21	0	0	0	0	0	7	124	0	0	0	120	1	274	1,158	1	0	0	0
4:45 PM	0	1	0	13	0	0	0	0	0	13	130	0	0	0	100	0	257	1,165	0	0	0	0
5:00 PM	0	3	0	64	0	0	0	0	0	9	125	0	0	0	143	2	346	1,185	0	0	0	0
5:15 PM	0	0	0	22	0	0	0	0	1	5	133	0	0	0	119	1	281		0	0	0	0
5:30 PM	0	1	0	15	0	0	0	0	0	18	143	0	0	0	104	0	281		1	0	0	0
5:45 PM	0	0	0	15	0	0	0	0	1	13	138	0	0	0	107	3	277		0	0	0	0

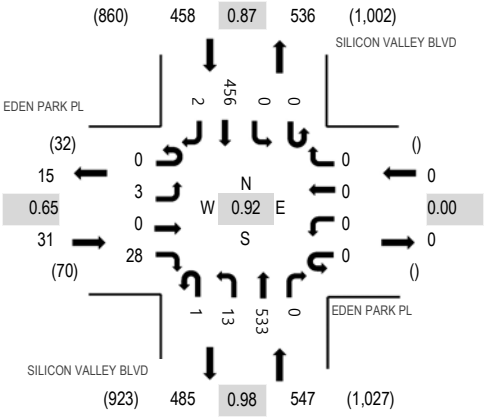
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
Lights	0	3	0	116	0	0	0	0	2	43	529	0	0	0	468	5	1,166
Mediums	0	1	0	0	0	0	0	0	0	2	9	0	0	0	3	1	16
Total	0	4	0	116	0	0	0	0	2	45	539	0	0	0	473	6	1,185

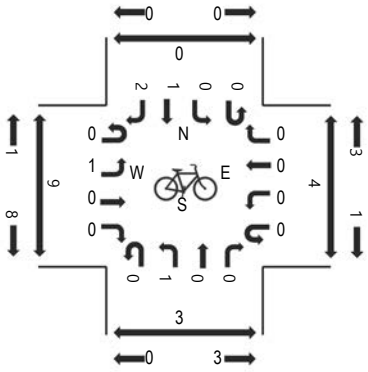
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 SILICON VALLEY BLVD & EDEN PARK PL PM
Date: Tuesday, June 15, 2021
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

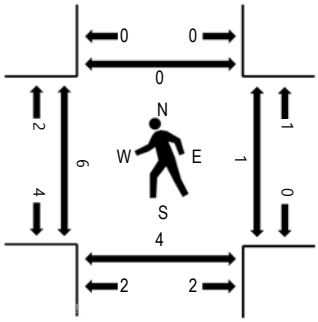
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	EDEN PARK PL Eastbound				EDEN PARK PL Westbound				SILICON VALLEY BLVD Northbound				SILICON VALLEY BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	0	9	0	0	0	0	0	4	109	0	0	0	105	0	228	921	1	0	0	0
4:15 PM	0	0	0	8	0	0	0	0	0	3	110	0	0	0	94	0	215	975	0	1	1	0
4:30 PM	0	2	0	12	0	0	0	0	1	5	118	0	0	0	105	1	244	1,016	0	0	0	0
4:45 PM	0	0	0	7	0	0	0	0	1	3	126	0	0	0	96	1	234	1,018	0	1	0	0
5:00 PM	0	0	0	18	0	0	0	0	1	4	128	0	0	0	131	0	282	1,036	0	0	0	0
5:15 PM	0	1	0	5	0	0	0	0	0	2	136	0	0	0	112	0	256		1	0	0	0
5:30 PM	0	1	0	4	0	0	0	0	0	2	137	0	0	0	101	1	246		3	0	1	0
5:45 PM	0	1	0	1	0	0	0	0	0	5	132	0	0	0	112	1	252		2	1	3	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Lights	0	3	0	28	0	0	0	0	1	13	526	0	0	0	448	2	1,021
Mediums	0	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	13
Total	0	3	0	28	0	0	0	0	1	13	533	0	0	0	456	2	1,036

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 4
Station ID:
SILICON VALLEY BLVD S.O RUE FERRARI

Start Time	15-Jun-21 Tue	NB								
12:00 AM		29								
01:00		24								
02:00		12								
03:00		15								
04:00		57								
05:00		109								
06:00		233								
07:00		499								
08:00		**536**								
09:00		429								
10:00		401								
11:00		408								
12:00 PM		499								
01:00		487								
02:00		492								
03:00		494								
04:00		523								
05:00		**602**								
06:00		485								
07:00		405								
08:00		290								
09:00		233								
10:00		149								
11:00		71								
Total		7482								
AM Peak	-	08:00	-	-	-	-	-	-	-	-
Vol.	-	536	-	-	-	-	-	-	-	-
PM Peak	-	17:00	-	-	-	-	-	-	-	-
Vol.	-	602	-	-	-	-	-	-	-	-
Grand Total		7482								
ADT		ADT 7,280		AADT 7,280						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 5
Station ID:
SILICON VALLEY BLVD N.O RUE FERRARI

Start Time	15-Jun-21 Tue	NB	SB							Total
12:00 AM		22	33							55
01:00		22	13							35
02:00		11	6							17
03:00		12	9							21
04:00		34	36							70
05:00		95	94							189
06:00		163	160							323
07:00		316	297							613
08:00		**408**	**382**							**790**
09:00		364	322							686
10:00		320	338							658
11:00		348	371							719
12:00 PM		418	338							756
01:00		372	325							697
02:00		427	348							775
03:00		433	374							807
04:00		473	445							918
05:00		**558**	**479**							**1037**
06:00		470	341							811
07:00		369	249							618
08:00		278	184							462
09:00		203	120							323
10:00		133	90							223
11:00		61	49							110
Total		6310	5403							11713
Percent		53.9%	46.1%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	408	382	-	-	-	-	-	-	790
PM Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	558	479	-	-	-	-	-	-	1037
Grand Total		6310	5403							11713
Percent		53.9%	46.1%							
ADT		ADT 11,713		AADT 11,713						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 6
Station ID:
SILICON VALLEY BLVD N.O EDEN PARK PL

Start Time	15-Jun-21 Tue	SB								
12:00 AM		24								
01:00		12								
02:00		6								
03:00		11								
04:00		30								
05:00		93								
06:00		152								
07:00		278								
08:00		372								
09:00		320								
10:00		339								
11:00		**373**								
12:00 PM		339								
01:00		328								
02:00		350								
03:00		374								
04:00		403								
05:00		**453**								
06:00		338								
07:00		253								
08:00		231								
09:00		135								
10:00		66								
11:00		41								
Total		5321								
AM Peak	-	11:00	-	-	-	-	-	-	-	-
Vol.	-	373	-	-	-	-	-	-	-	-
PM Peak	-	17:00	-	-	-	-	-	-	-	-
Vol.	-	453	-	-	-	-	-	-	-	-
Grand Total		5321								
ADT		ADT 5,255		AADT 5,255						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 7
Station ID:
EDEN PARK PL W.O SILICON VALLEY BLVD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		13	4							17
01:00		3	3							6
02:00		0	0							0
03:00		0	2							2
04:00		1	1							2
05:00		10	26							36
06:00		15	36							51
07:00		39	**97**							**136**
08:00		31	76							107
09:00		38	49							87
10:00		37	35							72
11:00		**45**	37							82
12:00 PM		40	34							74
01:00		38	24							62
02:00		72	**47**							**119**
03:00		**80**	37							117
04:00		62	21							83
05:00		53	19							72
06:00		23	17							40
07:00		22	18							40
08:00		15	13							28
09:00		19	5							24
10:00		25	26							51
11:00		45	16							61
Total		726	643							1369
Percent		53.0%	47.0%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	45	97	-	-	-	-	-	-	136
PM Peak	-	15:00	14:00	-	-	-	-	-	-	14:00
Vol.	-	80	47	-	-	-	-	-	-	119
Grand Total		726	643							1369
Percent		53.0%	47.0%							
ADT		ADT 1,358		AADT 1,358						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 8
Station ID:
RUE FERRARI W.O SILICON VALLEY BLVD

Start Time	15-Jun-21 Tue	EB	WB							Total
12:00 AM		8	8							16
01:00		6	6							12
02:00		1	3							4
03:00		5	4							9
04:00		5	24							29
05:00		29	13							42
06:00		26	71							97
07:00		56	**212**							**268**
08:00		42	142							184
09:00		86	107							193
10:00		85	97							182
11:00		**113**	77							190
12:00 PM		121	99							220
01:00		**142**	**111**							**253**
02:00		77	80							157
03:00		128	65							193
04:00		119	42							161
05:00		95	58							153
06:00		46	27							73
07:00		21	30							51
08:00		20	32							52
09:00		35	30							65
10:00		45	24							69
11:00		20	14							34
Total		1331	1376							2707
Percent		49.2%	50.8%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	113	212	-	-	-	-	-	-	268
PM Peak	-	13:00	13:00	-	-	-	-	-	-	13:00
Vol.	-	142	111	-	-	-	-	-	-	253
Grand Total		1331	1376							2707
Percent		49.2%	50.8%							
ADT		ADT 2,690		AADT 2,690						

Appendices E – San Jose Approved Trip Inventory

AM PROJECT TRIPS

06/08/2021

Intersection of : NB 101 To Silicon Valley Rp & Silicon Valley Bl

Traffix Node Number : 3860

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
COYOTE REASSIGN Office/Industrial NORTH COYOTE VALLEY COYOTE VALLEY	0	0	0	0	0	0	0	-11	0	0	-20	0
EDENVALE1 Office/Industrial EAST OF 101, NORTH OF SILVER CREEK VALLEY RD EDENVALE ZONE 1	0	0	0	0	0	0	0	20	0	0	4	0
EDENVALE2 Office/Industrial W/O 101, BOUNDED BY COTTLE RD, SANTA TERESA AND EDENVALE ZONE 2	283	0	0	0	0	0	0	12	0	0	51	0
EDENVALE3-4 Office/Industrial EAST OF 101, SOUTH OF SILVER CREEK VALLEY RD EDENVALE ZONE 3&4	0	0	171	0	0	0	0	548	0	0	176	0
EDENVALE3-4POOL Office/Industrial EAST OF 101, SOUTH OF SILVER CREEK VALLEY RD EDENVALE AREA 3-4 POOL	0	0	20	0	0	0	0	66	0	0	22	0
NORTH COYOTE Office/Industrial NORTH COYOTE VALLEY NORTH COYOTE VALLEY CAMPUS INDUSTRIAL	0	0	6	0	0	0	0	0	0	0	24	0
PDC04-100R&D (3-14681) Office/Industrial ROUTE 85/GREAT OAKS ISTAR - R&D PORTION	144	0	0	0	0	0	0	0	0	0	0	0

AM PROJECT TRIPS

06/08/2021

Intersection of : NB 101 To Silicon Valley Rp & Silicon Valley Bl

Traffix Node Number : 3860

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
PDC12-028 RES (3-14681) Residential ISTAR MIXED-USE	17	0	0	0	0	0	0	7	0	0	3	0
PDC99-053 (3-13970) LEGACY CISCO NORTH COYOTE VALLEY	0	0	5	0	0	0	0	2	0	0	27	0
TOTAL:	**444**	**0**	**202**	**0**	**0**	**0**	**0**	**644**	**0**	**0**	**287**	**0**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	287	0
SOUTH	444	0	202
WEST	0	644	0

PM PROJECT TRIPS

06/08/2021

Intersection of : NB 101 To Silicon Valley Rp & Silicon Valley Bl

Traffix Node Number : 3860

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
COYOTE REASSIGN Office/Industrial NORTH COYOTE VALLEY COYOTE VALLEY	0	0	0	0	0	0	0	-42	0	0	-2	0
EDENVALE1 Office/Industrial EAST OF 101, NORTH OF SILVER CREEK VALLEY RD EDENVALE ZONE 1	0	0	0	0	0	0	0	2	0	0	19	0
EDENVALE2 Office/Industrial W/O 101, BOUNDED BY COTTLE RD, SANTA TERESA AND EDENVALE ZONE 2	30	0	0	0	0	0	0	51	0	0	5	0
EDENVALE3-4 Office/Industrial EAST OF 101, SOUTH OF SILVER CREEK VALLEY RD EDENVALE ZONE 3&4	0	0	18	0	0	0	0	59	0	0	713	0
EDENVALE3-4POOL Office/Industrial EAST OF 101, SOUTH OF SILVER CREEK VALLEY RD EDENVALE AREA 3-4 POOL	0	0	1	0	0	0	0	7	0	0	86	0
NORTH COYOTE Office/Industrial NORTH COYOTE VALLEY NORTH COYOTE VALLEY CAMPUS INDUSTRIAL	0	0	24	0	0	0	0	0	0	0	6	0
PDC04-100R&D (3-14681) Office/Industrial ROUTE 85/GREAT OAKS ISTAR - R&D PORTION	16	0	0	0	0	0	0	0	0	0	0	0

PM PROJECT TRIPS

06/08/2021

Intersection of : NB 101 To Silicon Valley Rp & Silicon Valley Bl

Traffix Node Number : 3860

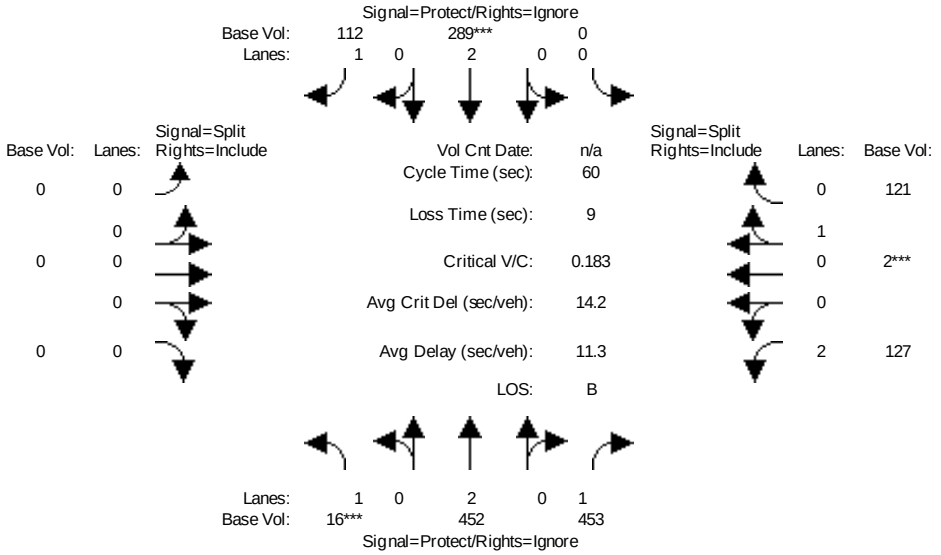
Permit No./Proposed Land Use/Description/Location	M09 NBL	M08 NBT	M07 NBR	M03 SBL	M02 SBT	M01 SBR	M12 EBL	M11 EBT	M10 EBR	M06 WBL	M05 WBT	M04 WBR
PDC12-028 RES (3-14681) Residential ISTAR MIXED-USE	27	0	0	0	0	0	0	2	0	0	6	0
PDC99-053 (3-13970) LEGACY CISCO NORTH COYOTE VALLEY	0	0	19	0	0	0	0	8	0	0	3	0
TOTAL:	**73**	**0**	**62**	**0**	**0**	**0**	**0**	**87**	**0**	**0**	**836**	**0**

	LEFT	THRU	RIGHT
NORTH	0	0	0
EAST	0	836	0
SOUTH	73	0	62
WEST	0	87	0

Appendices F – TRAFFIX Intersection Operations Analysis

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
EX_AM

Intersection #1: Silicon Valley / US 101 NB

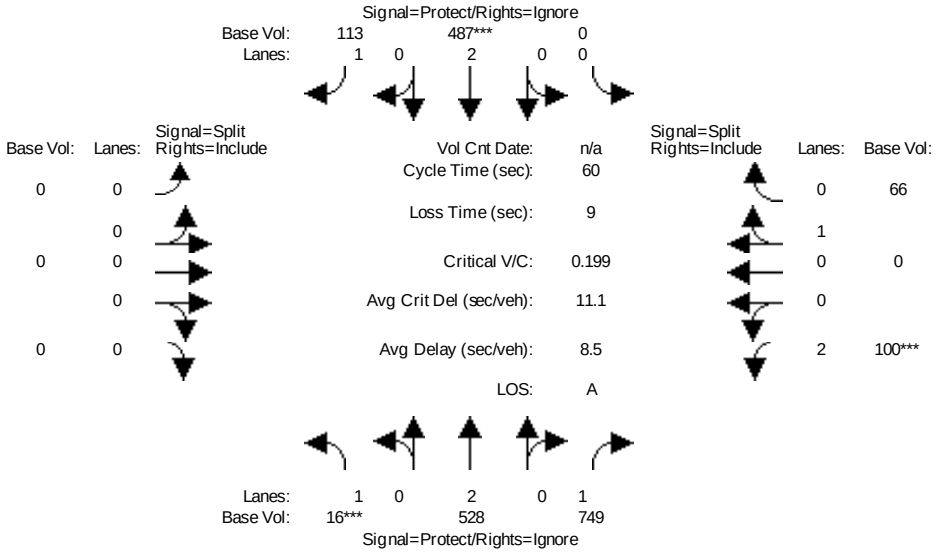


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	452	453	0	289	112	0	0	0	127	2	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	452	453	0	289	112	0	0	0	127	2	121
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	452	0	0	289	0	0	0	0	127	2	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	452	0	0	289	0	0	0	0	127	2	121
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	452	0	0	289	0	0	0	0	127	2	121
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.01	0.99
Final Sat.:	1750	3800	1750	0	3800	1750	0	0	0	3150	28	1724
Capacity Analysis Module:												
Vol/Sat:	0.01	0.12	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.04	0.07	0.07
Crit Moves:	****				****						****	
Green/Cycle:	0.17	0.52	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.33	0.33	0.33
Volume/Cap:	0.05	0.23	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.12	0.21	0.21
Uniform Del:	21.0	7.8	0.0	0.0	13.5	0.0	0.0	0.0	0.0	14.1	14.6	14.6
IncremntDel:	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	21.1	7.8	0.0	0.0	13.6	0.0	0.0	0.0	0.0	14.2	14.8	14.8
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:	21.1	7.8	0.0	0.0	13.6	0.0	0.0	0.0	0.0	14.2	14.8	14.8
LOS by Move:	C	A	A	A	B	A	A	A	A	B	B	B
HCM2k95thQ:	1	5	0	0	4	0	0	0	0	2	4	4

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

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
EX_PM

Intersection #1: Silicon Valley / US 101 NB

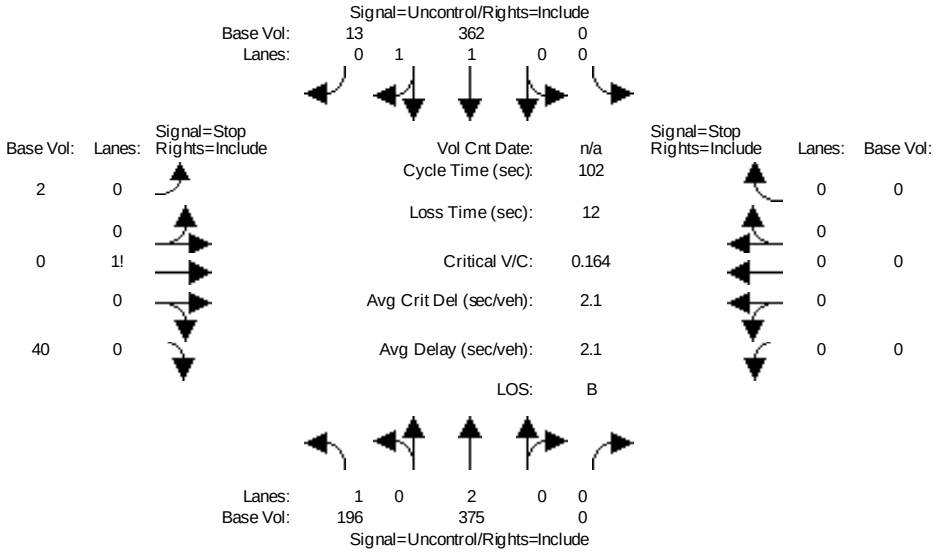


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	528	749	0	487	113	0	0	0	100	0	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	528	749	0	487	113	0	0	0	100	0	66
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	528	0	0	487	0	0	0	0	100	0	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	528	0	0	487	0	0	0	0	100	0	66
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	528	0	0	487	0	0	0	0	100	0	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	3800	1750	0	3800	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.03	0.00	0.04
Crit Moves:	****				****					****		
Green/Cycle:	0.17	0.66	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.19	0.00	0.19
Volume/Cap:	0.05	0.21	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.17	0.00	0.20
Uniform Del:	21.0	4.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0	20.3	0.0	20.5
IncremntDel:	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Delay/Veh:	21.1	4.1	0.0	0.0	8.9	0.0	0.0	0.0	0.0	20.5	0.0	20.8
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:	21.1	4.1	0.0	0.0	8.9	0.0	0.0	0.0	0.0	20.5	0.0	20.8
LOS by Move:	C	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	1	4	0	0	5	0	0	0	0	2	0	3

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

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
EX_AM

Intersection #2: Silicon Valley / Rue Ferrari



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	196	375	0	0	362	13	2	0	40	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:	196	375	0	0	362	13	2	0	40	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	196	375	0	0	362	13	2	0	40	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	196	375	0	0	362	13	2	0	40	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	375	xxxx	xxxxx	xxxx	xxxx	xxxxx	948	1136	188	xxxx	xxxx	xxxxx
Potent Cap.:	1195	xxxx	xxxxx	xxxx	xxxx	xxxxx	263	204	829	xxxx	xxxx	xxxxx
Move Cap.:	1195	xxxx	xxxxx	xxxx	xxxx	xxxxx	230	170	829	xxxx	xxxx	xxxxx
Volume/Cap:	0.16	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	737	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.2			xxxxxx		
ApproachLOS:	*			*			B			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #2 Silicon Valley / Rue Ferrari

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

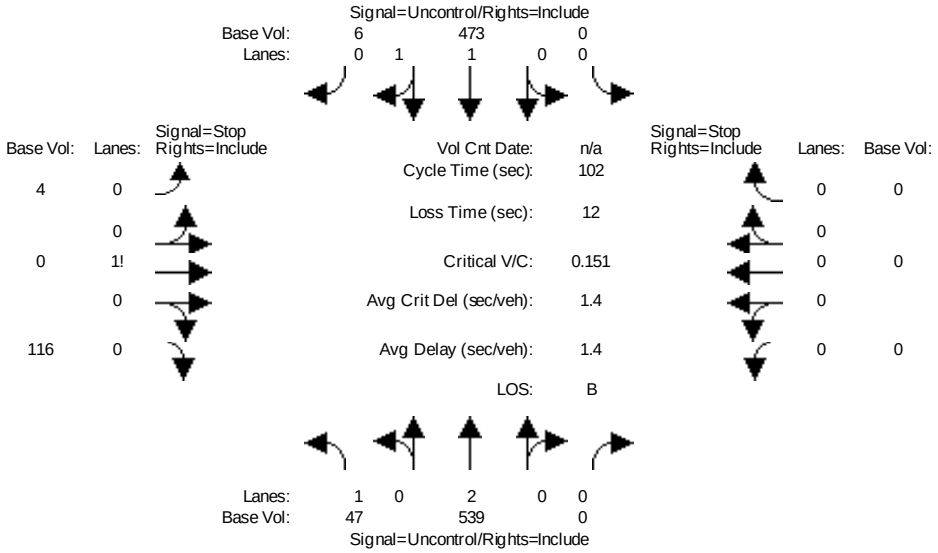
```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  196  375     0     0  362    13     2    0    40     0    0     0
ApproachDel:    xxxxxx           xxxxxx             10.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=988]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #2 Silicon Valley / Rue Ferrari
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  196  375     0     0  362    13     2    0    40     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             946
Minor Approach Volume:           42
Minor Approach Volume Threshold: 304
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
EX_PM

Intersection #2: Silicon Valley / Rue Ferrari



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	47	539	0	0	473	6	4	0	116	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:	47	539	0	0	473	6	4	0	116	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	539	0	0	473	6	4	0	116	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	47	539	0	0	473	6	4	0	116	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	479	xxxx	xxxxx	xxxx	xxxx	xxxxx	840	1109	240	xxxx	xxxx	xxxxx
Potent Cap.:	1094	xxxx	xxxxx	xxxx	xxxx	xxxxx	308	211	768	xxxx	xxxx	xxxxx
Move Cap.:	1094	xxxx	xxxxx	xxxx	xxxx	xxxxx	298	202	768	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.15	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	729	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.9			xxxxxx		
ApproachLOS:	*			*			B			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #2 Silicon Valley / Rue Ferrari

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

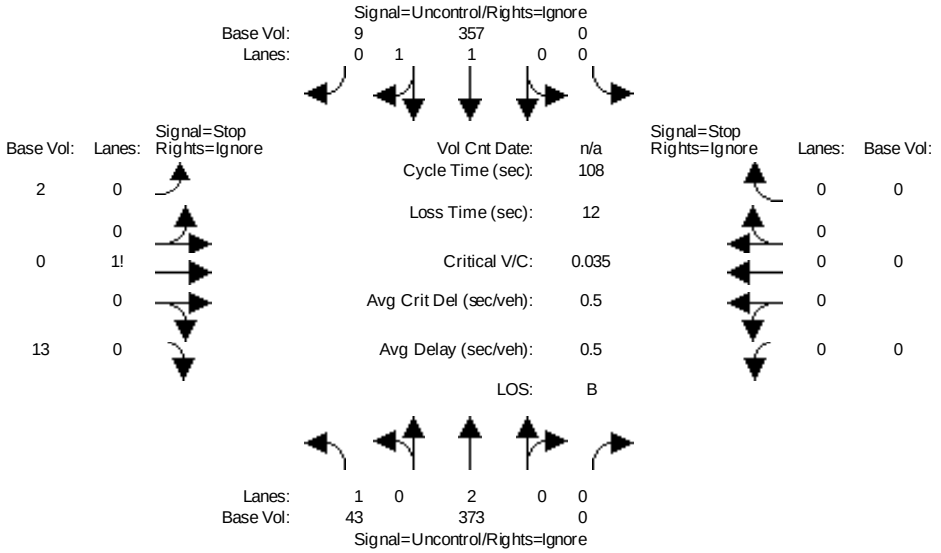
```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   47  539     0     0  473     6     4    0   116     0    0     0
ApproachDel:    xxxxxx           xxxxxx            10.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=120]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1185]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #2 Silicon Valley / Rue Ferrari
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   47  539     0     0  473     6     4    0   116     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1065
Minor Approach Volume:           120
Minor Approach Volume Threshold: 263
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
EX_AM

Intersection #3: Silicon Valley / Eden Park



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	43	373	0	0	357	9	2	0	13	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:	43	373	0	0	357	9	2	0	13	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	43	373	0	0	357	0	2	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	43	373	0	0	357	0	2	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	357	xxxx	xxxxx	xxxx	xxxx	xxxxx	630	816	179	xxxx	xxxx	xxxxx
Potent Cap.:	1213	xxxx	xxxxx	xxxx	xxxx	xxxxx	419	314	840	xxxx	xxxx	xxxxx
Move Cap.:	1213	xxxx	xxxxx	xxxx	xxxx	xxxxx	407	303	840	xxxx	xxxx	xxxxx
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	407	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			13.9			xxxxxx		
ApproachLOS:	*			*			B			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Silicon Valley / Eden Park

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

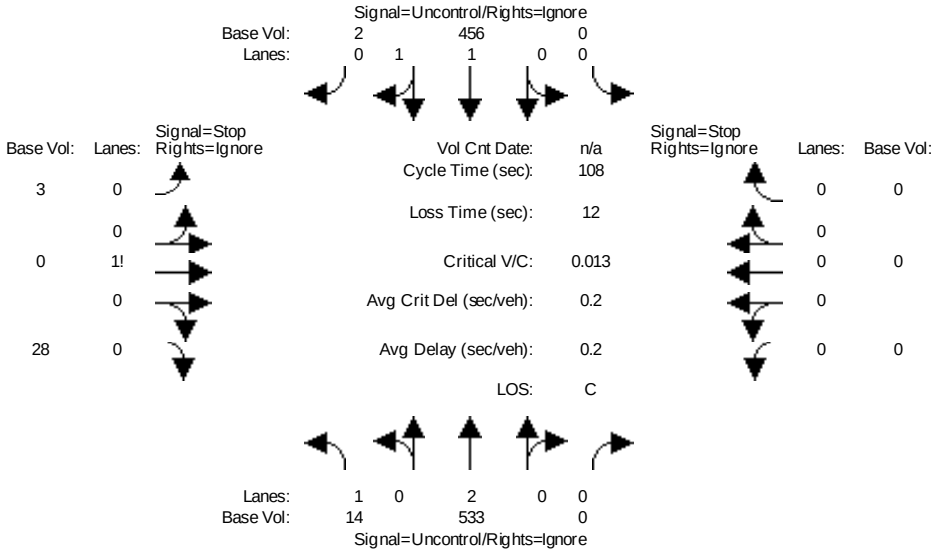
```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   43  373     0     0  357     9     2    0    13     0    0     0
ApproachDel:    xxxxxx           xxxxxx             13.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=797]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Silicon Valley / Eden Park
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   43  373     0     0  357     9     2    0    13     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             782
Minor Approach Volume:           15
Minor Approach Volume Threshold: 370
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
EX_PM

Intersection #3: Silicon Valley / Eden Park



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	14	533	0	0	456	2	3	0	28	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:	14	533	0	0	456	2	3	0	28	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	14	533	0	0	456	0	3	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	14	533	0	0	456	0	3	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	456	xxxx	xxxxx	xxxx	xxxx	xxxxx	751	1017	228	xxxx	xxxx	xxxxx
Potent Cap.:	1115	xxxx	xxxxx	xxxx	xxxx	xxxxx	351	239	781	xxxx	xxxx	xxxxx
Move Cap.:	1115	xxxx	xxxxx	xxxx	xxxx	xxxxx	348	236	781	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	348	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.4	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			15.4			xxxxxx		
ApproachLOS:	*			*			C			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Silicon Valley / Eden Park

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

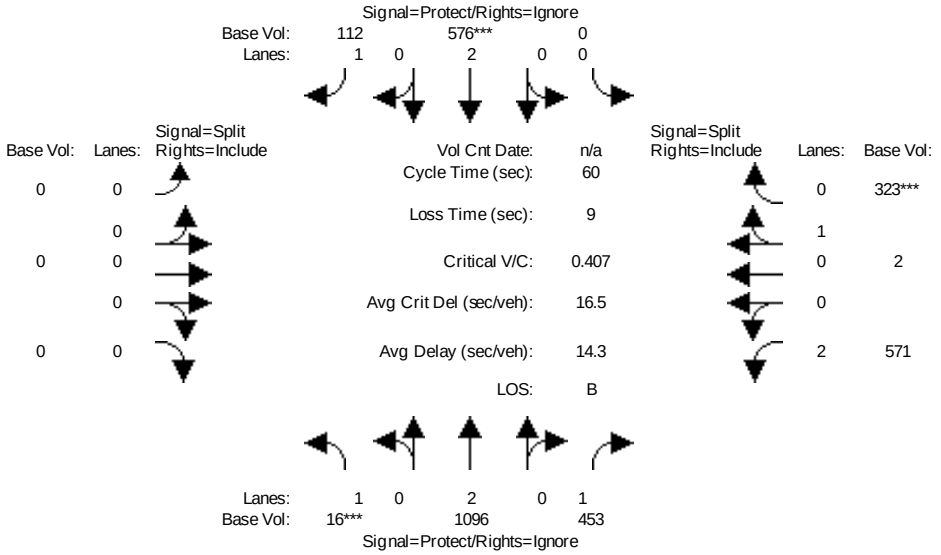
```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   14  533     0     0  456     2     3    0    28     0    0     0
ApproachDel:    xxxxxx           xxxxxx            15.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1036]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Silicon Valley / Eden Park
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   14  533     0     0  456     2     3    0    28     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1005
Minor Approach Volume:           31
Minor Approach Volume Threshold: 283
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```


Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
BG_AM

Intersection #1: Silicon Valley / US 101 NB

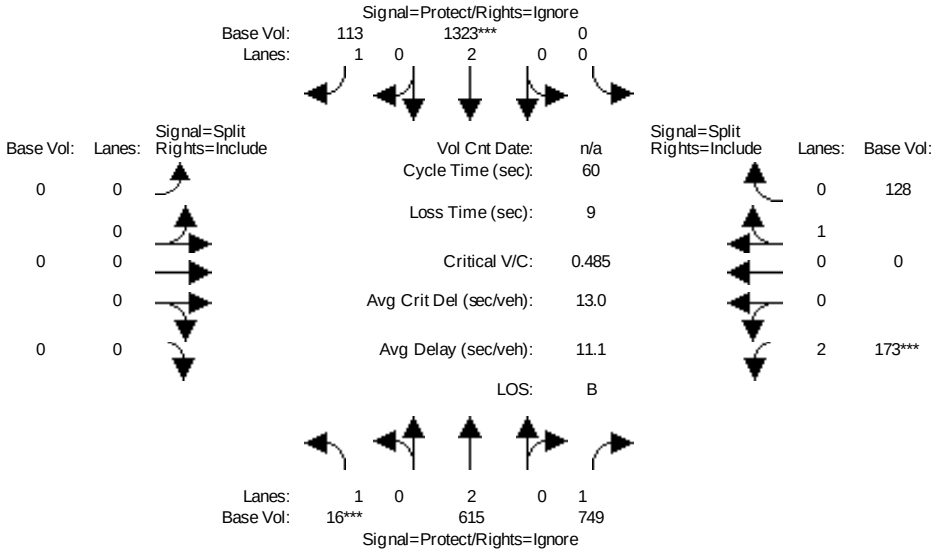


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	1096	453	0	576	112	0	0	0	571	2	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	1096	453	0	576	112	0	0	0	571	2	323
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	1096	0	0	576	0	0	0	0	571	2	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	1096	0	0	576	0	0	0	0	571	2	323
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	1096	0	0	576	0	0	0	0	571	2	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.01	0.99
Final Sat.:	1750	3800	1750	0	3800	1750	0	0	0	3150	11	1740
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.18	0.19	0.19
Crit Moves:	****				****							****
Green/Cycle:	0.17	0.47	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.38	0.38	0.38
Volume/Cap:	0.05	0.61	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.48	0.49	0.49
Uniform Del:	21.0	11.7	0.0	0.0	17.0	0.0	0.0	0.0	0.0	14.3	14.3	14.3
IncremntDel:	0.1	0.6	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.6	0.6
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00
Delay/Veh:	21.1	12.3	0.0	0.0	17.3	0.0	0.0	0.0	0.0	14.6	14.9	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	12.3	0.0	0.0	17.3	0.0	0.0	0.0	0.0	14.6	14.9	14.9
LOS by Move:	C	B	A	A	B	A	A	A	A	B	B	B
HCM2k95thQ:	1	16	0	0	10	0	0	0	0	10	11	11

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

Level Of Service Computation Report
2000 HCM Operations (Base Volume Alternative)
BG_PM

Intersection #1: Silicon Valley / US 101 NB

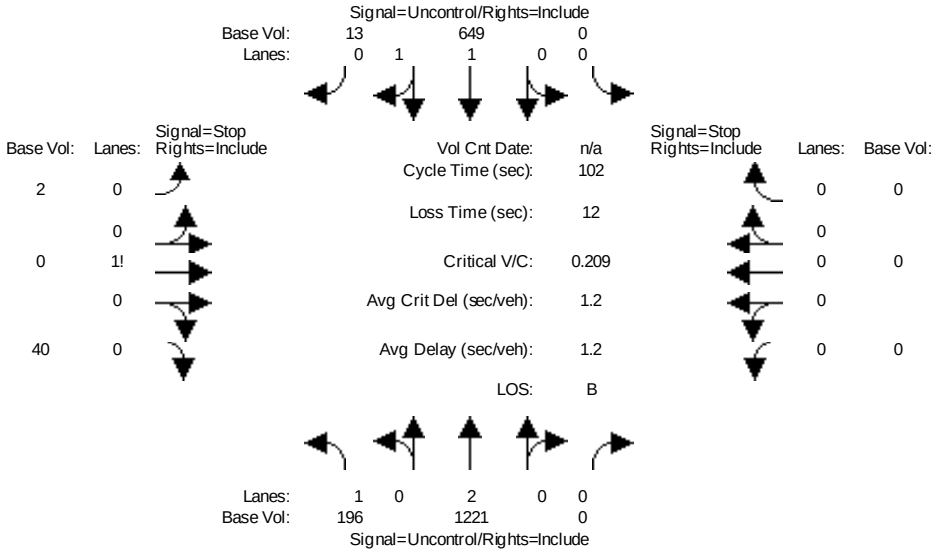


Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	615	749	0	1323	113	0	0	0	173	0	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	615	749	0	1323	113	0	0	0	173	0	128
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	615	0	0	1323	0	0	0	0	173	0	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	615	0	0	1323	0	0	0	0	173	0	128
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	615	0	0	1323	0	0	0	0	173	0	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	0.00	2.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	3800	1750	0	3800	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.16	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.05	0.00	0.07
Crit Moves:	****				****					****		
Green/Cycle:	0.17	0.68	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Volume/Cap:	0.05	0.24	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.33	0.00	0.44
Uniform Del:	21.0	3.6	0.0	0.0	10.8	0.0	0.0	0.0	0.0	22.0	0.0	22.5
IncremntDel:	0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.4	0.0	1.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Delay/Veh:	21.1	3.6	0.0	0.0	11.7	0.0	0.0	0.0	0.0	22.4	0.0	23.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	3.6	0.0	0.0	11.7	0.0	0.0	0.0	0.0	22.4	0.0	23.5
LOS by Move:	C	A	A	A	B	A	A	A	A	C	A	C
HCM2k95thQ:	1	5	0	0	19	0	0	0	0	4	0	6

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

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
BG_AM

Intersection #2: Silicon Valley / Rue Ferrari



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	196	1221	0	0	649	13	2	0	40	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:	196	1221	0	0	649	13	2	0	40	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	196	1221	0	0	649	13	2	0	40	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	196	1221	0	0	649	13	2	0	40	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	662	xxxx	xxxxx	xxxx	xxxx	xxxxx	1658	2269	331	xxxx	xxxx	xxxxx
Potent Cap.:	936	xxxx	xxxxx	xxxx	xxxx	xxxxx	90	41	671	xxxx	xxxx	xxxxx
Move Cap.:	936	xxxx	xxxxx	xxxx	xxxx	xxxxx	76	32	671	xxxx	xxxx	xxxxx
Volume/Cap:	0.21	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.06	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	488	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			13.1			xxxxxx		
ApproachLOS:	*			*			B			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #2 Silicon Valley / Rue Ferrari

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

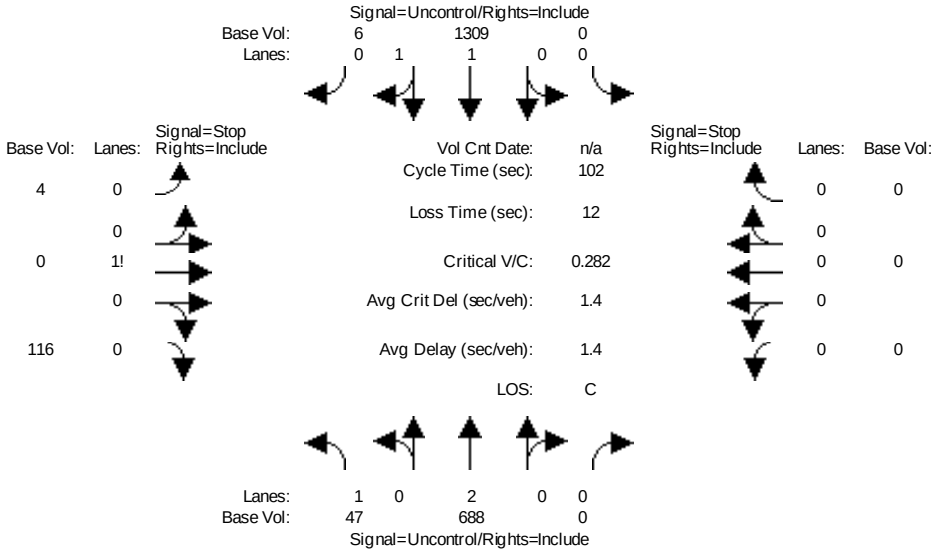
```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  196 1221     0     0  649    13     2    0    40     0    0     0
ApproachDel:    xxxxxx           xxxxxx             13.1          xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=42]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2121]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #2 Silicon Valley / Rue Ferrari
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:  196 1221     0     0  649    13     2    0    40     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:              2079
Minor Approach Volume:            42
Minor Approach Volume Threshold: 33 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
BG_PM

Intersection #2: Silicon Valley / Rue Ferrari



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Volume Module:																
Base Vol:	47	688	0	0	1309	6	4	0	116	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:	47	688	0	0	1309	6	4	0	116	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	47	688	0	0	1309	6	4	0	116	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	47	688	0	0	1309	6	4	0	116	0	0	0				
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx				
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	1315	xxxx	xxxxx	xxxx	xxxx	xxxxx	1750	2094	658	xxxx	xxxx	xxxxx				
Potent Cap.:	533	xxxx	xxxxx	xxxx	xxxx	xxxxx	79	53	412	xxxx	xxxx	xxxxx				
Move Cap.:	533	xxxx	xxxxx	xxxx	xxxx	xxxxx	73	48	412	xxxx	xxxx	xxxxx				
Volume/Cap:	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.28	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	12.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*				
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	357	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	20.1	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx			20.1			xxxxxx						
ApproachLOS:	*			*			C			*						

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

Peak Hour Delay Signal Warrant Report

****

Intersection #2 Silicon Valley / Rue Ferrari

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R

```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   47  688     0     0 1309     6     4    0   116     0    0     0
ApproachDel:    xxxxxx           xxxxxx            20.1          xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=120]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2170]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #2 Silicon Valley / Rue Ferrari
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   47  688     0     0 1309     6     4    0   116     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:              2050
Minor Approach Volume:            120
Minor Approach Volume Threshold: 38 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```
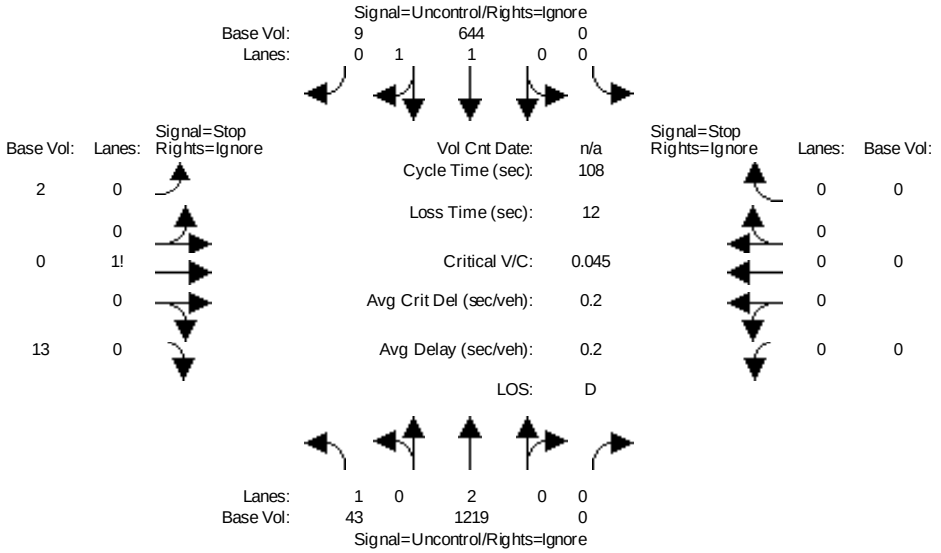

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
BG_AM

Intersection #3: Silicon Valley / Eden Park



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	43	1219	0	0	644	9	2	0	13	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:	43	1219	0	0	644	9	2	0	13	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	43	1219	0	0	644	0	2	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	43	1219	0	0	644	0	2	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	644	xxxx	xxxxx	xxxx	xxxx	xxxxx	1340	1949	322	xxxx	xxxx	xxxxx
Potent Cap.:	951	xxxx	xxxxx	xxxx	xxxx	xxxxx	147	65	680	xxxx	xxxx	xxxxx
Move Cap.:	951	xxxx	xxxxx	xxxx	xxxx	xxxxx	141	62	680	xxxx	xxxx	xxxxx
Volume/Cap:	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	141	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	30.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			30.8			xxxxxx		
ApproachLOS:	*			*			D			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Silicon Valley / Eden Park

****

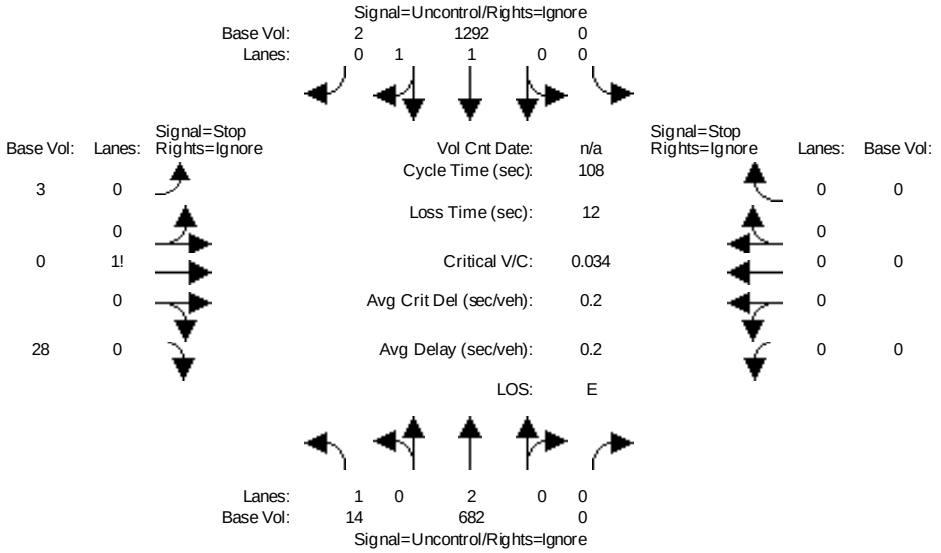
Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   43 1219     0     0  644     9     2    0    13     0    0     0
ApproachDel:    xxxxxx           xxxxxx             30.8           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1930]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Silicon Valley / Eden Park
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   43 1219     0     0  644     9     2    0    13     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1915
Minor Approach Volume:           15
Minor Approach Volume Threshold: 61 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Level Of Service Computation Report
2000 HCM Unsignalized (Base Volume Alternative)
BG_PM

Intersection #3: Silicon Valley / Eden Park



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	14	682	0	0	1292	2	3	0	28	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:	14	682	0	0	1292	2	3	0	28	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	14	682	0	0	1292	0	3	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	14	682	0	0	1292	0	3	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1292	xxxx	xxxxx	xxxx	xxxx	xxxxx	1661	2002	646	xxxx	xxxx	xxxxx
Potent Cap.:	543	xxxx	xxxxx	xxxx	xxxx	xxxxx	90	60	419	xxxx	xxxx	xxxxx
Move Cap.:	543	xxxx	xxxxx	xxxx	xxxx	xxxxx	88	59	419	xxxx	xxxx	xxxxx
Volume/Cap:	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	11.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	88	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	47.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	E	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			47.2			xxxxxx		
ApproachLOS:	*			*			E			*		

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

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Silicon Valley / Eden Park

****

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

```
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   14  682     0     0 1292     2     3    0    28     0    0     0
ApproachDel:    xxxxxx           xxxxxx            47.2           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2021]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #3 Silicon Valley / Eden Park
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  2  0  0    0  0  1  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:   14  682     0     0 1292     2     3    0    28     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:              1990
Minor Approach Volume:            31
Minor Approach Volume Threshold: 48 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Appendices G – MUTCD Signal Warrant Criteria

CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

01 **An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.**

01a **On State highways, the engineering study shall include consideration of a roundabout (yield control). If a roundabout is determined to provide a viable and practical solution, it shall be studied in lieu of, or in addition to a traffic control signal.**

Guidance:

01b *On local streets and highways, the engineering study should include consideration of a roundabout (yield control). If a roundabout is determined to provide a viable and practical solution, it should be studied in lieu of, or in addition to a traffic control signal.*

Support:

01c Refer to Caltrans' website (http://www.dot.ca.gov/hq/traffops/liaisons/ice.html) for more information on the Traffic Operations Policy Directive 13-02, Intersection Control Evaluation (ICE), and other resources for the evaluation of intersection traffic control strategies.

02 **The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:**

Warrant 1, Eight-Hour Vehicular Volume
Warrant 2, Four-Hour Vehicular Volume
Warrant 3, Peak Hour
Warrant 4, Pedestrian Volume
Warrant 5, School Crossing
Warrant 6, Coordinated Signal System
Warrant 7, Crash Experience
Warrant 8, Roadway Network
Warrant 9, Intersection Near a Grade Crossing

03 **The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

Support:

04 Sections 8C.09 and 8C.10 contain information regarding the use of traffic control signals instead of gates and/ or flashing-light signals at highway-rail grade crossings and highway-light rail transit grade crossings, respectively.

Guidance:

05 *A traffic control signal should not be installed unless one or more of the factors described in this Chapter are met.*

06 *A traffic control signal should not be installed unless an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection.*

07 *A traffic control signal should not be installed if it will seriously disrupt progressive traffic flow.*

08 *The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count when evaluating the count against the signal warrants listed in Paragraph 2.*

09 *Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. The site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left-turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The*

approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles.

10 *Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.*

11 *At a location that is under development or construction and where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. Except for locations where the engineering study uses the satisfaction of Warrant 8 to justify a signal, a traffic control signal installed under projected conditions should have an engineering study done within 1 year of putting the signal into stop-and-go operation to determine if the signal is justified. If not justified, the signal should be taken out of stop-and-go operation or removed.*

12 *For signal warrant analysis, a location with a wide median, even if the median width is greater than 30 feet, should be considered as one intersection.*

Option:

13 At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher ~~of the major-street left-turn volumes as the "minor-street" volume and the corresponding single direction of opposing traffic on the major street as the "major-street" volume~~ volume of the major-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume.

14 For signal warrants requiring conditions to be present for a certain number of hours in order to be satisfied, any four sequential 15-minute periods may be considered as 1 hour if the separate 1-hour periods used in the warrant analysis do not overlap each other and both the major-street volume and the minor-street volume are for the same specific one-hour periods.

15 For signal warrant analysis, bicyclists may be counted as either vehicles or pedestrians.

Support:

16 When performing a signal warrant analysis, bicyclists riding in the street with other vehicular traffic are usually counted as vehicles and bicyclists who are clearly using pedestrian facilities are usually counted as pedestrians.

Option:

17 Engineering study data may include the following:

A. The number of vehicles entering the intersection in each hour from each approach during 12 hours of an average day. It is desirable that the hours selected contain the greatest percentage of the 24-hour traffic volume.
B. Vehicular volumes for each traffic movement from each approach, classified by vehicle type (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-minute period of the 2 hours in the morning and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
C. Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts in Item B and during hours of highest pedestrian volume. Where young, elderly, and/or persons with physical or visual disabilities need special consideration, the pedestrians and their crossing times may be classified by general observation.
D. Information about nearby facilities and activity centers that serve the young, elderly, and/or persons with disabilities, including requests from persons with disabilities for accessible crossing improvements at the location under study. These persons might not be adequately reflected in the pedestrian volume count if the absence of a signal restrains their mobility.
E. The posted or statutory speed limit or the 85th-percentile speed on the uncontrolled approaches to the location.
F. A condition diagram showing details of the physical layout, including such features as intersection geometrics, channelization, grades, sight-distance restrictions, transit stops and routes, parking conditions,

pavement markings, roadway lighting, driveways, nearby railroad crossings, distance to nearest traffic control signals, utility poles and fixtures, and adjacent land use.

G. A collision diagram showing crash experience by type, location, direction of movement, severity, weather, time of day, date, and day of week for at least 1 year.

18 The following data, which are desirable for a more precise understanding of the operation of the intersection, may be obtained during the periods described in Item B of Paragraph 17:

A. Vehicle-hours of stopped time delay determined separately for each approach.

B. The number and distribution of acceptable gaps in vehicular traffic on the major street for entrance from the minor street.

C. The posted or statutory speed limit or the 85th-percentile speed on controlled approaches at a point near to the intersection but unaffected by the control.

D. Pedestrian delay time for at least two 30-minute peak pedestrian delay periods of an average weekday or like periods of a Saturday or Sunday.

E. Queue length on stop-controlled approaches.

Standard:

19 **Delay, congestion, approach conditions, driver confusion, future land use or other evidence of the need for right of way assignment beyond that which could be provided by stop sign shall be demonstrated.**

Support:

20 Figure 4C–101(CA) and 4C-103(CA) are examples of warrant sheets.

Guidance:

21 *Figure 4C-103(CA) should be used only for new intersections or other locations where it is not reasonable to count actual traffic volumes.*

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:

01 The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

02 The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

03 It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:

04 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Option:

05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

Guidance:

06 *The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.*

Standard:

07 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

08 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

01 The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.**

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

01 The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

Standard:

02 **This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.**

03 **The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:**

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Option:

04 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to evaluate the criteria in the second category of the Standard.

05 If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Guidance:

06 *If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal should be traffic-actuated.*

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

01 The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

02 **The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:**

A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or

B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 may be used in place of Figure 4C-5 to evaluate Criterion A in Paragraph 2, and Figure 4C-8 may be used in place of Figure 4C-7 to evaluate Criterion B in Paragraph 2.

Standard:

04 **The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

05 **If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E.**

Guidance:

06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site

accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.

C. Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.

Option:

07 The criterion for the pedestrian volume crossing the major street may be reduced as much as 50 percent if the 15th-percentile crossing speed of pedestrians is less than 3.5 feet per second.

08 A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street.

Section 4C.06 Warrant 5, School Crossing

Support:

01 The School Crossing signal warrant is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students.

Standard:

02 **The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.**

03 **Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.**

04 **The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

Guidance:

05 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.

C. Furthermore, if it is installed within a signal system, the traffic control signal should be coordinated.

Section 4C.07 Warrant 6, Coordinated Signal System

Support:

01 Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:**

A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Guidance:

03 *The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.*

Section 4C.08 Warrant 7, Crash Experience

Support:

01 The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:**

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.09 Warrant 8, Roadway Network

Support:

01 Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:**

A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

03 **A major route as used in this signal warrant shall have at least one of the following characteristics:**

A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.

B. It includes rural or suburban highways outside, entering, or traversing a city.

C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Section 4C.10 Warrant 9, Intersection Near a Grade Crossing

Support:

01 The Intersection Near a Grade Crossing signal warrant is intended for use at a location where none of the conditions described in the other eight traffic signal warrants are met, but the proximity to the intersection of a

grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic control signal.

Guidance:

02 *This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing. Among the alternatives that should be considered or tried are:*

A. Providing additional pavement that would enable vehicles to clear the track or that would provide space for an evasive maneuver, or

B. Reassigning the stop controls at the intersection to make the approach across the track a non-stopping approach.

Standard:

03 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:**

A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and

B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.

Guidance:

04 *The following considerations apply when plotting the traffic volume data on Figure 4C-9 or 4C-10:*

A. Figure 4C-9 should be used if there is only one lane approaching the intersection at the track crossing location and Figure 4C-10 should be used if there are two or more lanes approaching the intersection at the track crossing location.

B. After determining the actual distance D, the curve for the distance D that is nearest to the actual distance D should be used. For example, if the actual distance D is 95 feet, the plotted point should be compared to the curve for D = 90 feet.

C. If the rail traffic arrival times are unknown, the highest traffic volume hour of the day should be used.

Option:

05 The minor-street approach volume may be multiplied by up to three adjustment factors as provided in Paragraphs 6 through 8.

06 Because the curves are based on an average of four occurrences of rail traffic per day, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-2 for the appropriate number of occurrences of rail traffic per day.

07 Because the curves are based on typical vehicle occupancy, if at least 2% of the vehicles crossing the track are buses carrying at least 20 people, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-3 for the appropriate percentage of high-occupancy buses.

08 Because the curves are based on tractor-trailer trucks comprising 10% of the vehicles crossing the track, the vehicles per hour on the minor-street approach may be multiplied by the adjustment factor shown in Table 4C-4 for the appropriate distance and percentage of tractor-trailer trucks.

Standard:

09 **If this warrant is met and a traffic control signal at the intersection is justified by an engineering study, then:**

A. The traffic control signal shall have actuation on the minor street;

B. Preemption control shall be provided in accordance with Sections 4D.27, 8C.09, and 8C.10; and

C. The grade crossing shall have flashing-light signals (see Chapter 8C).

Guidance:

10 *If this warrant is met and a traffic control signal at the intersection is justified by an engineering study, the grade crossing should have automatic gates (see Chapter 8C).*

Section 4C.101(CA) Criterion for School Crossing Traffic Signals

01 **Standard:**

A. The signal shall be designed for full-time operation.

B. Pedestrian signal faces of the International Symbol type shall be installed at all marked crosswalks at signalized intersections along the "Suggested Route to School."

C. If an intersection is signalized under this guideline for school pedestrians, the entire intersection shall be signalized.

D. School area traffic signals shall be traffic actuated type with push buttons or other detectors for pedestrians.

Option:

02 Non-intersection school pedestrian crosswalk locations may be signalized when justified.

Appendices H – MUTCD Signal Warrant Worksheet

Rue Ferrari / Silicon Valley Signal Warrant

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 6/15/2021

DIST ____ CO ____ RTE ____ PM ____

CALC ATD DATE 6/15/2021

CHK KHA DATE 6/23/2021

Major St: Silicon Valley Blvd — Critical Approach Speed 40 mph

Minor St: Rue Ferrari — Critical Approach Speed 25 mph

☐ Speed limit or critical speed on major street traffic > 40 mph.....

or

☐ In built up area of isolated community of < 10,000 population.....

} RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									Hour
APPROACH LANES	1		2 or More										
Both Approaches Major Street	500 (400)	350 (280)	600 X (480)	420 (336)	918	837	812	840	868	968	1081	826	
Highest Approach Minor Street	150 X (120)	105 (84)	200 (160)	140 (112)	42	121	142	77	128	119	95	46	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									Hour
APPROACH LANES	1		2 or More										
Both Approaches Major Street	750 (600)	525 (420)	900 X (720)	630 (504)	918	837	812	840	868	968	1081	826	
Highest Approach Minor Street	75 X (60)	53 (42)	100 (80)	70 (56)	42	121	142	77	128	119	95	46	

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street		x	812	868	968	1081
Higher Approach - Minor Street	x		142	128	119	95

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☒
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

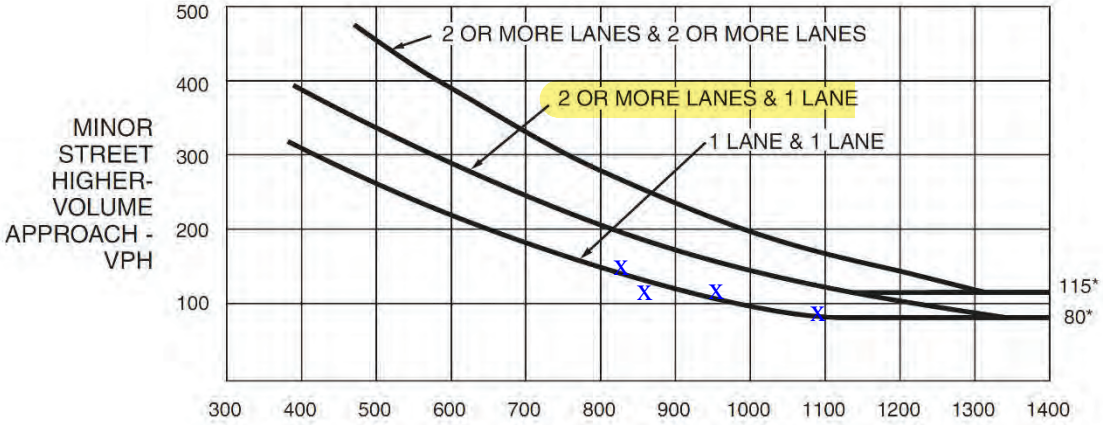
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		x	1065
Higher Approach - Minor Street	x		120

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐	No ☒
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

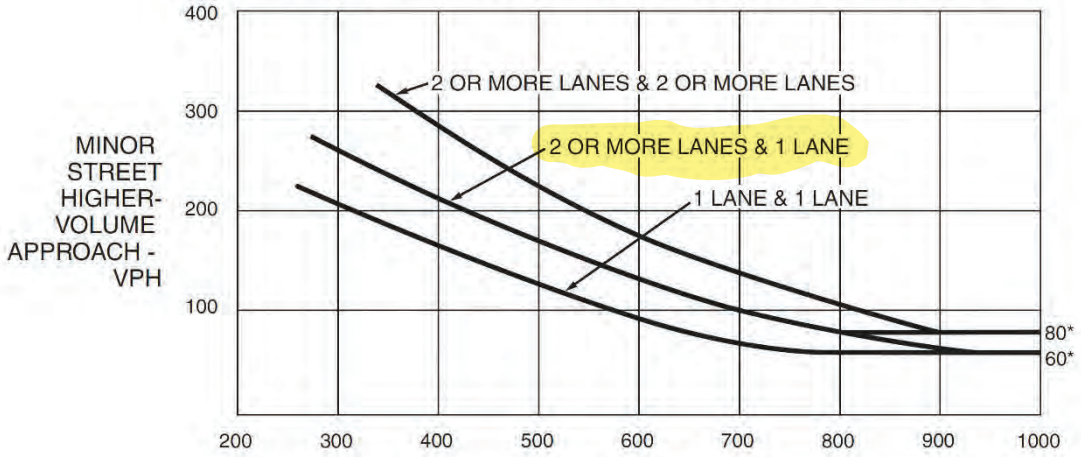
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

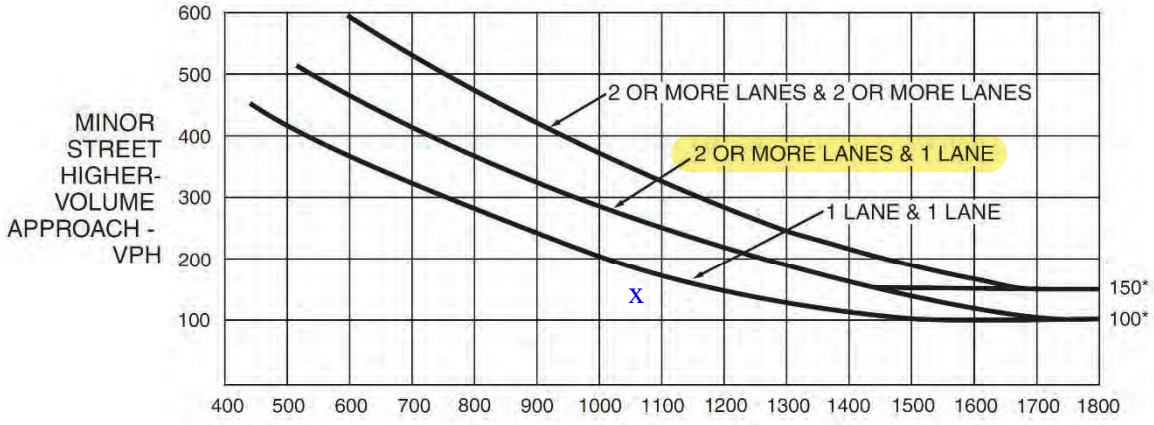
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET) N/A



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



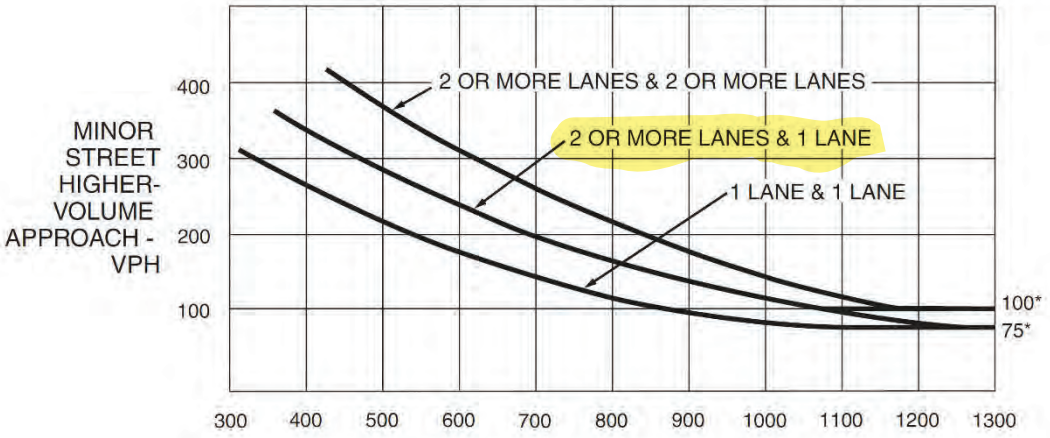
x

*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.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

N/A



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must Be Satisfied)

SATISFIED YES ☐ NO ☒

Part 1 (Parts A or B must be satisfied)

	Hours - - ->				
A.	Vehicles per hour for any 4 hours	918	751	968	1081
	Pedestrians per hour for any 4 hours	4	0	0	0

Figure 4C-5 or Figure 4C-6
SATISFIED YES ☐ NO ☒

	Hours - - ->				
B.	Vehicles per hour for any 1 hour	918	751	968	1081
	Pedestrians per hour for any 1 hour	4	0	0	0

Figure 4C-7 or Figure 4C-8
SATISFIED YES ☐ NO ☒

Part 2 **SATISFIED YES ☒ NO ☐**

AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☒ No ☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.	Yes ☒ No ☐

WARRANT 5 - School Crossing
(Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☒

Part A
Gap/Minutes and # of Children

SATISFIED YES ☐ NO ☒

		Hour
Gaps vs Minutes	Minutes Children Using Crossing	0
	Number of Adequate Gaps	99
School Age Pedestrians Crossing Street / hr		0

Gaps < Minutes YES ☐ NO ☒
AND Children > 20/hr YES ☐ NO ☒

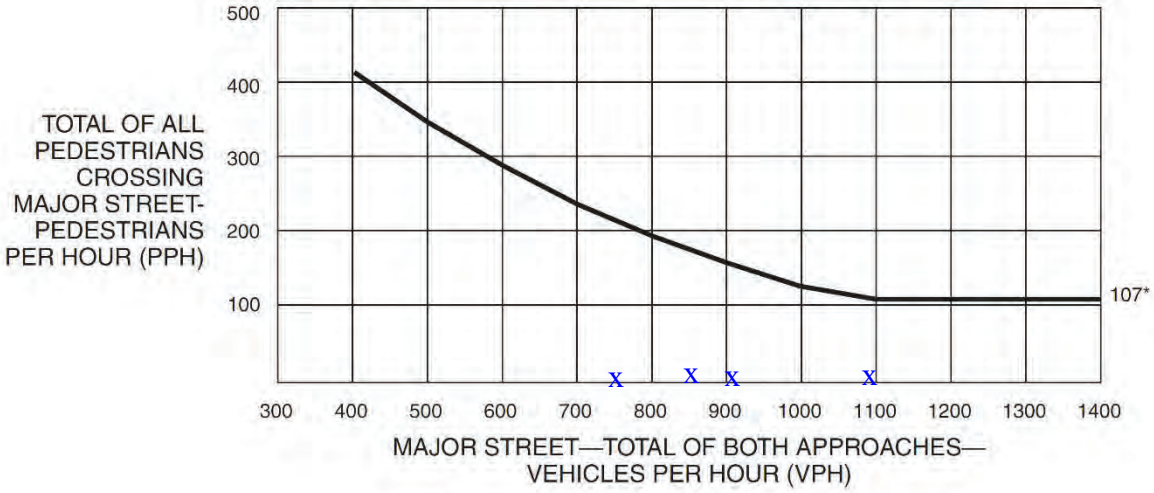
AND, Consideration has been given to less restrictive remedial measures.	Yes ☐ No ☒

Part B **SATISFIED YES ☒ NO ☐**

The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☒ No ☐
OR, The proposed signal will not restrict the progressive movement of traffic.	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

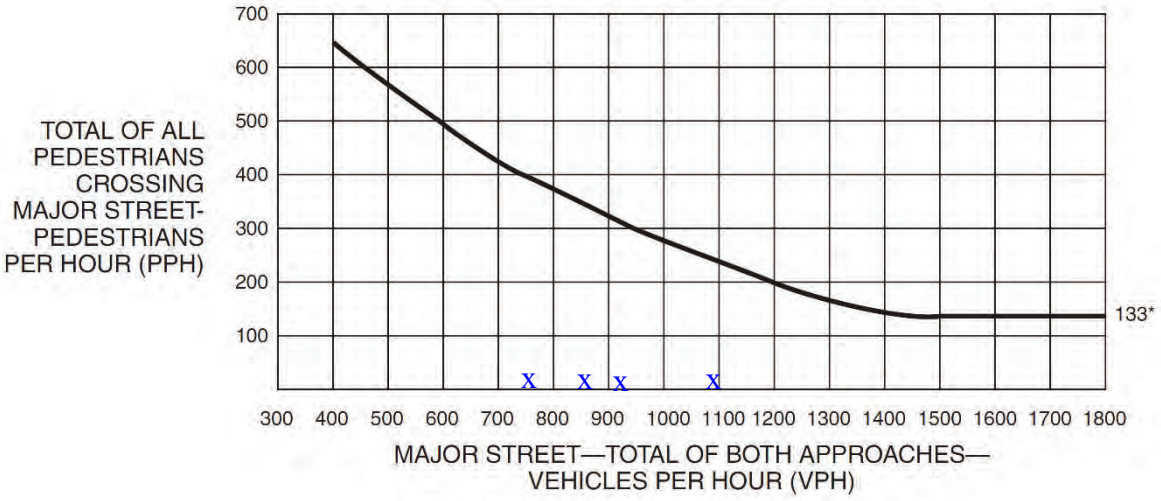


*Note: 107 pph applies as the lower threshold volume.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor) N/A

*Note: 75 pph applies as the lower threshold volume.

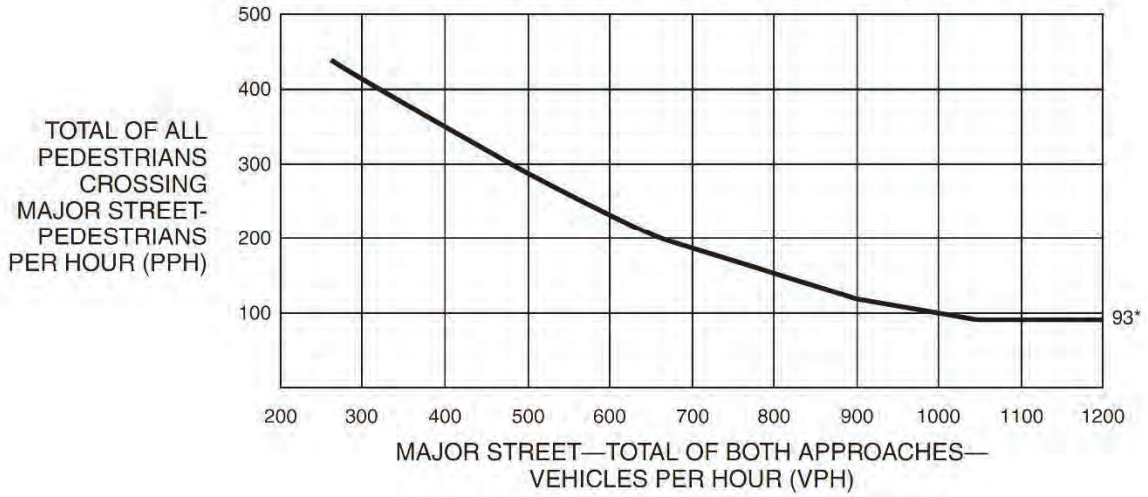
Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

N/A

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



*Note: 93 pph applies as the lower threshold volume.

Rue Ferrari / Silicon Valley Signal Warrant

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 1000 ft	N 1380 ft, S 545 ft, E N/A ft, W N/A ft	Yes ☐ No ☒
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.		Yes ☐ No ☒
OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		

WARRANT 7 - Crash Experience Warrant **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			Yes ☐ No ☒
REQUIREMENTS	Number of crashes reported within a 12 month period susceptible to correction by a traffic signal, and involving injury or damage exceeding the requirements for a reportable crash.		Yes ☐ No ☒
5 OR MORE			
REQUIREMENTS	CONDITIONS	✓	
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		Yes ☐ No ☒
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 80% of Figure 4C-5 through Figure 4C-8		

WARRANT 8 - Roadway Network **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour 1176 Veh/Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.	x	Yes ☒ No ☐
	OR During Each of Any 5 Hrs. of a Sat. or Sun _____ Veh/Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B
Hwy. System Serving as Principal Network for Through Traffic		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		
Appears as Major Route on an Official Plan	x	
Any Major Route Characteristics Met, Both Streets		Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 5 of 5)

WARRANT 9 - Intersection Near a Grade Crossing
(Both Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☒

PART A N/A A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach. Track Center Line to Limit Line _____ ft	Yes ☐ No ☒
PART B N/A **There is one minor street approach lane at the track crossing -** During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-9. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH	Yes ☐ No ☒
OR, There are two or more minor street approach lanes at the track crossing - During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-10. Major Street - Total of both approaches : _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calcualte AF) = _____ VPH	

The minor street approach volume may be multiplied by up to three following adjustment factors (AF) as described in Section 4C.10.

1- Number of Rail Traffic per Day_____ Adjustment factor from table 4C-2____

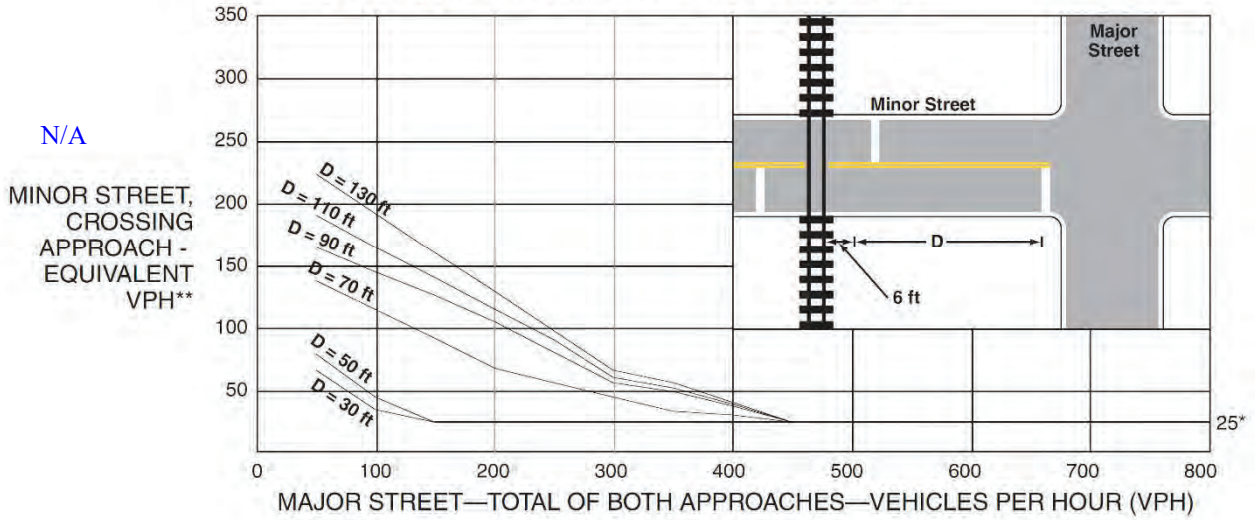
2- Percentage of High-Occupancy Buses on Minor Street Approach_____ Adjustment factor from table 4C-3____

3- Percentage of Tractor-Trailer Trucks on Minor Street Approach_____ Adjustment factor from table 4C-4____

NOTE: If no data is availale or known, then use AF = 1 (no adjustment)

Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)

N/A

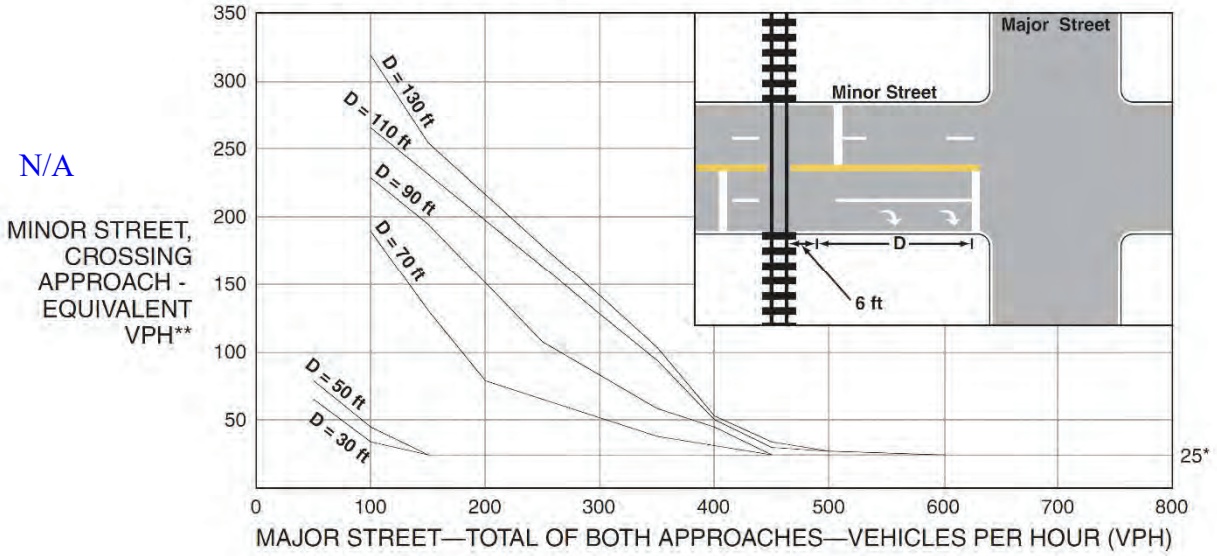


* 25 vph applies as the lower threshold volume
** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

---

Figure 4C-10. Warrant 9, Intersection Near a Grade Crossing (Two or More Approach Lanes at the Track Crossing)

N/A



* 25 vph applies as the lower threshold volume
** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

Eden Park / Silicon Valley Signal Warrant

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 6/15/2021

DIST ____ CO ____ RTE ____ PM ____

CALC ATD DATE 6/15/2021

CHK KHA DATE 6/23/2021

Major St: Silicon Valley Blvd — Critical Approach Speed 40 mph

Minor St: Eden Park Pl — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 40 mph..... ☐ or ☐ RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More										Hour
Both Approaches Major Street	500 (400)	350 (280)	600 X (480)	420 (336)	780	721	757	777	807	876	1011	808	
Highest Approach Minor Street	150 X (120)	105 (84)	200 (160)	140 (112)	31	45	40	72	80	62	53	23	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒

80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More										Hour
Both Approaches Major Street	750 (600)	525 (420)	900 X (720)	630 (504)	780	721	757	777	807	876	1011	808	
Highest Approach Minor Street	75 X (60)	53 (42)	100 (80)	70 (56)	31	45	40	72	80	62	53	23	

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Eden Park / Silicon Valley Signal Warrant

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street		x	807	876	1011	808
Higher Approach - Minor Street	x		80	62	53	23

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☒
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

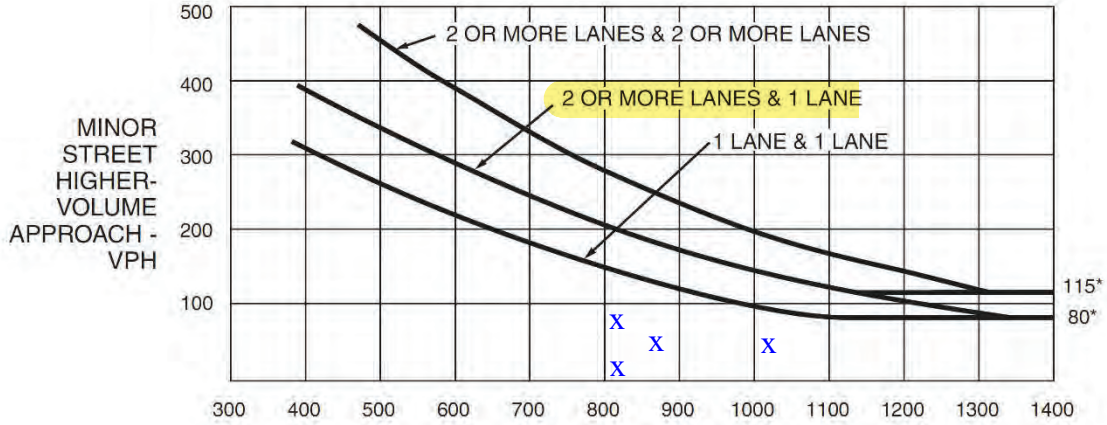
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street		x	1011
Higher Approach - Minor Street	x		53

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐	No ☒
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

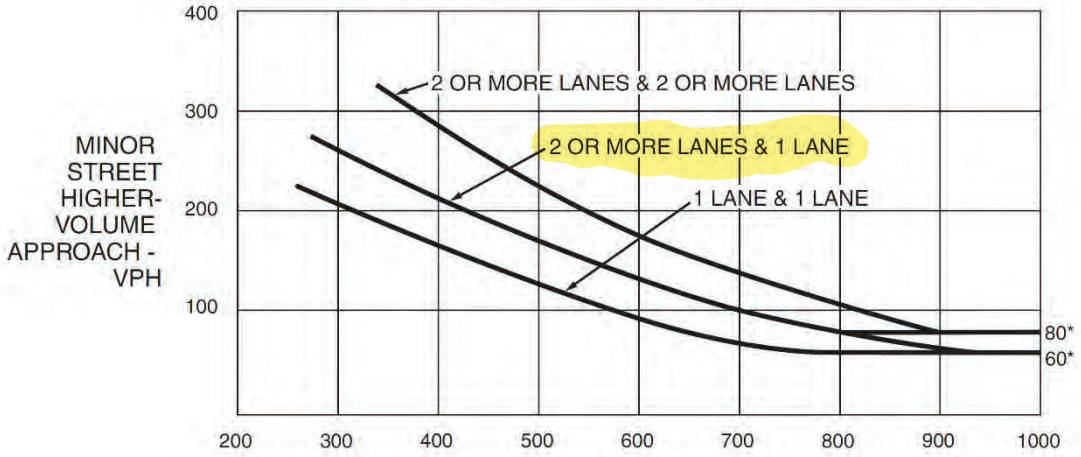
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

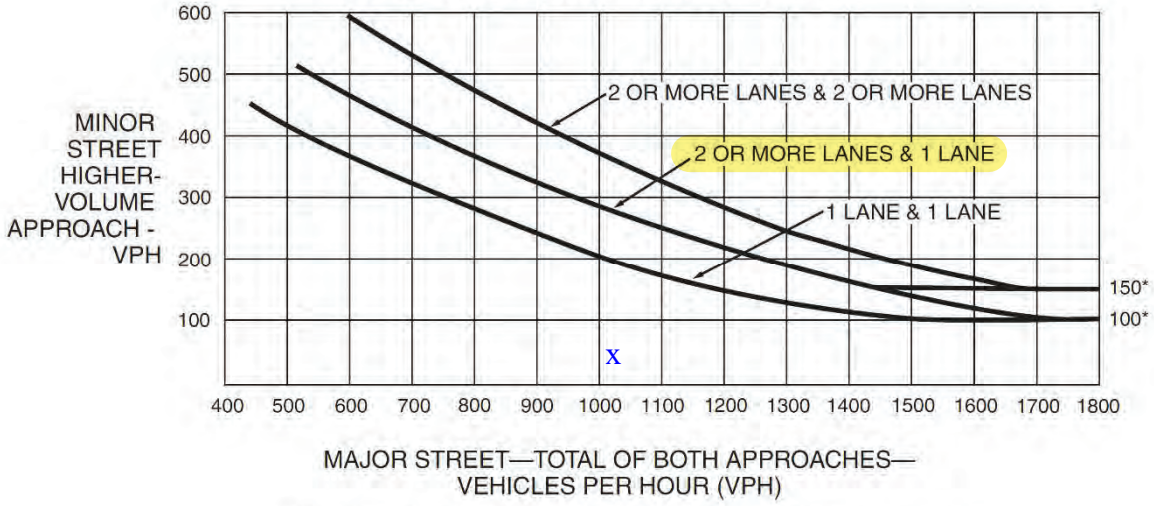
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET) N/A



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

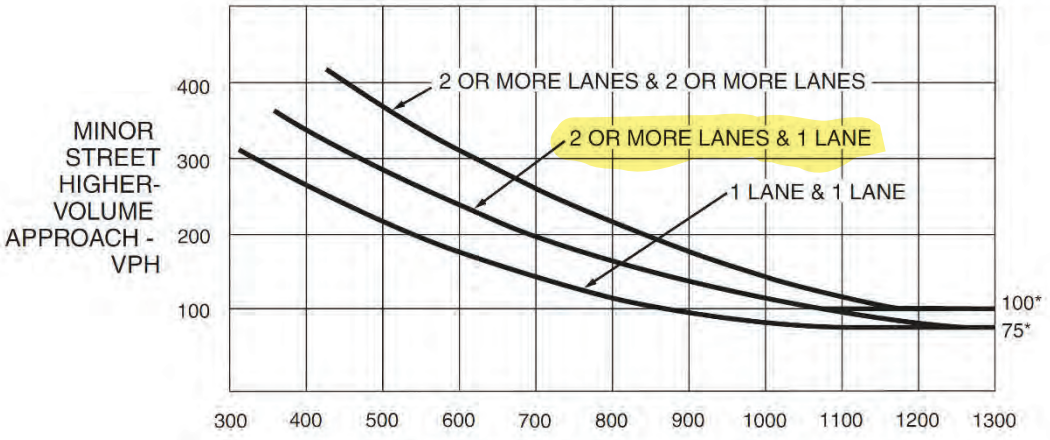
Figure 4C-3. Warrant 3, Peak Hour



*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.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET) N/A



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must Be Satisfied)

SATISFIED YES ☐ NO ☒

Part 1 (Parts A or B must be satisfied)

	Hours - - ->				
A.	Vehicles per hour for any 4 hours	780	807	876	1011
	Pedestrians per hour for any 4 hours	3	0	0	4

Figure 4C-5 or Figure 4C-6
SATISFIED YES ☐ NO ☒

	Hours - - ->				
B.	Vehicles per hour for any 1 hour	780	807	876	1011
	Pedestrians per hour for any 1 hour	3	0	0	4

Figure 4C-7 or Figure 4C-8
SATISFIED YES ☐ NO ☒

Part 2 **SATISFIED YES ☒ NO ☐**

AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☒ No ☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.	Yes ☒ No ☐

WARRANT 5 - School Crossing
(Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☒

Part A
Gap/Minutes and # of Children

SATISFIED YES ☐ NO ☒

		Hour
Gaps vs Minutes	Minutes Children Using Crossing	0
	Number of Adequate Gaps	99
School Age Pedestrians Crossing Street / hr		0

Gaps < Minutes YES ☐ NO ☒
AND Children > 20/hr YES ☐ NO ☒

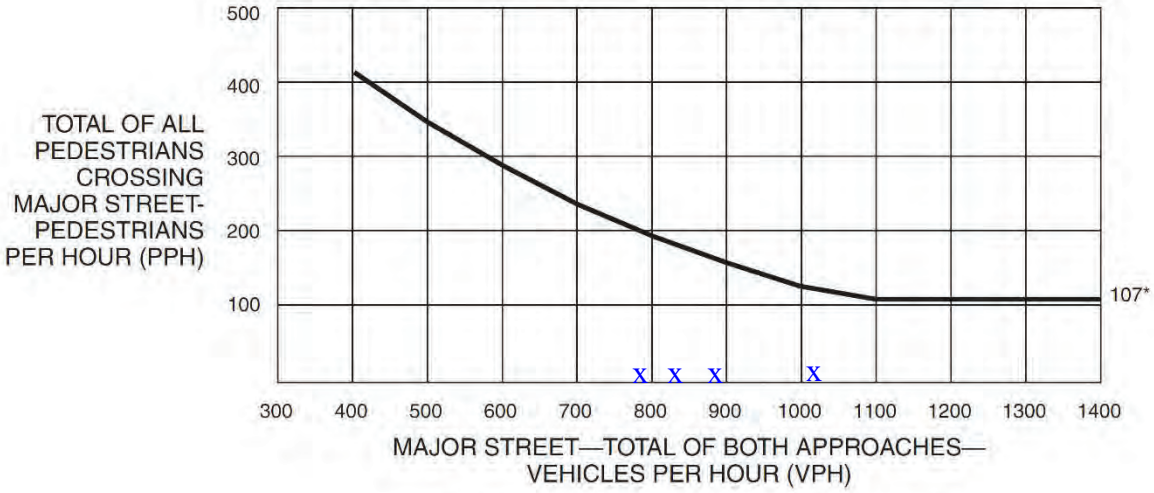
AND, Consideration has been given to less restrictive remedial measures.	Yes ☐ No ☒

Part B **SATISFIED YES ☒ NO ☐**

The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☒ No ☐
OR, The proposed signal will not restrict the progressive movement of traffic.	Yes ☒ No ☐

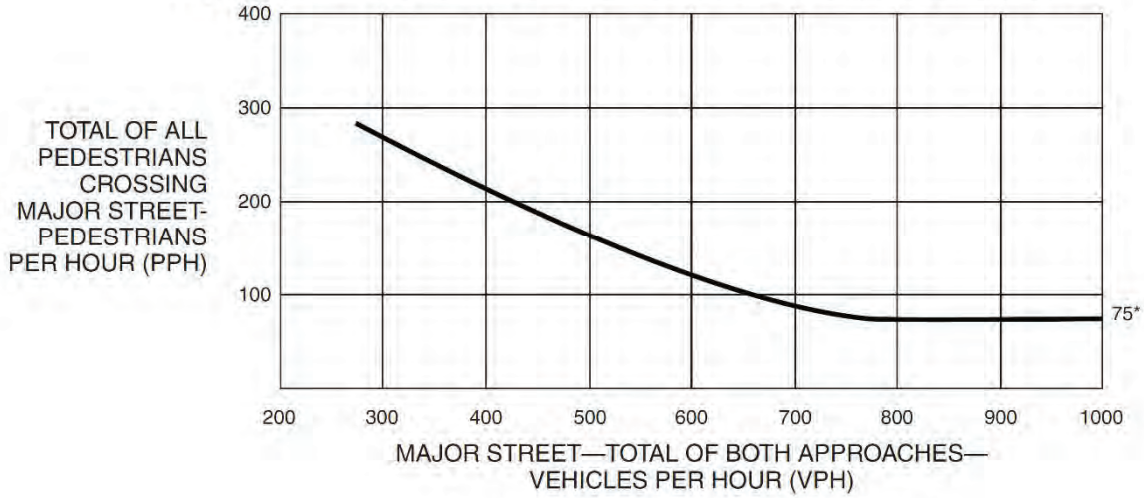
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



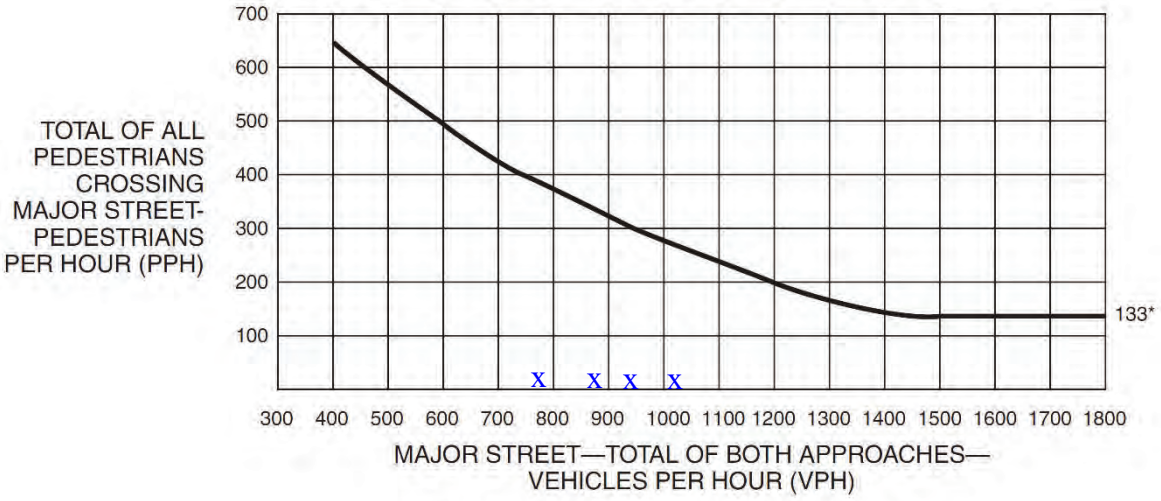
*Note: 107 pph applies as the lower threshold volume.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor) N/A



*Note: 75 pph applies as the lower threshold volume.

Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

N/A

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)

*Note: 93 pph applies as the lower threshold volume.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 1000 ft	N 500 ft, S 1180 ft, E N/A ft, W N/A ft	Yes ☐ No ☒
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.		Yes ☐ No ☒
OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		

WARRANT 7 - Crash Experience Warrant **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			Yes ☐ No ☒
REQUIREMENTS	Number of crashes reported within a 12 month period susceptible to correction by a traffic signal, and involving injury or damage exceeding the requirements for a reportable crash.		Yes ☐ No ☒
5 OR MORE			
REQUIREMENTS	CONDITIONS	✓	
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		Yes ☐ No ☒
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 80% of Figure 4C-5 through Figure 4C-8		

WARRANT 8 - Roadway Network **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour 1064 Veh/Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.	x	Yes ☒ No ☐
	OR During Each of Any 5 Hrs. of a Sat. or Sun _____ Veh/Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B
Hwy. System Serving as Principal Network for Through Traffic		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		
Appears as Major Route on an Official Plan	x	
Any Major Route Characteristics Met, Both Streets		Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 5 of 5)

WARRANT 9 - Intersection Near a Grade Crossing **SATISFIED YES ☐ NO ☒**
(Both Parts A and B Must Be Satisfied)

PART A N/A A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach. Track Center Line to Limit Line _____ ft	Yes ☐ No ☒
PART B N/A **There is one minor street approach lane at the track crossing -** During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-9. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH	Yes ☐ No ☒
OR, There are two or more minor street approach lanes at the track crossing - During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-10. Major Street - Total of both approaches : _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calcualte AF) = _____ VPH	

The minor street approach volume may be multiplied by up to three following adjustment factors (AF) as described in Section 4C.10.

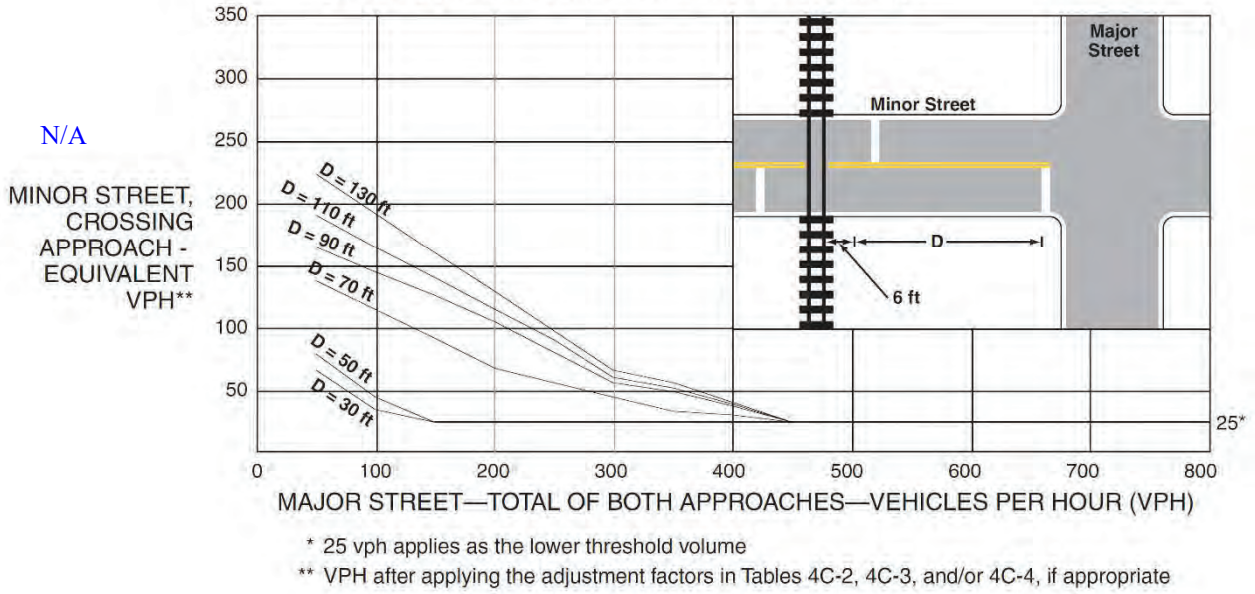
1- Number of Rail Traffic per Day_____ Adjustment factor from table 4C-2____

2- Percentage of High-Occupancy Buses on Minor Street Approach_____ Adjustment factor from table 4C-3____

3- Percentage of Tractor-Trailer Trucks on Minor Street Approach_____ Adjustment factor from table 4C-4____

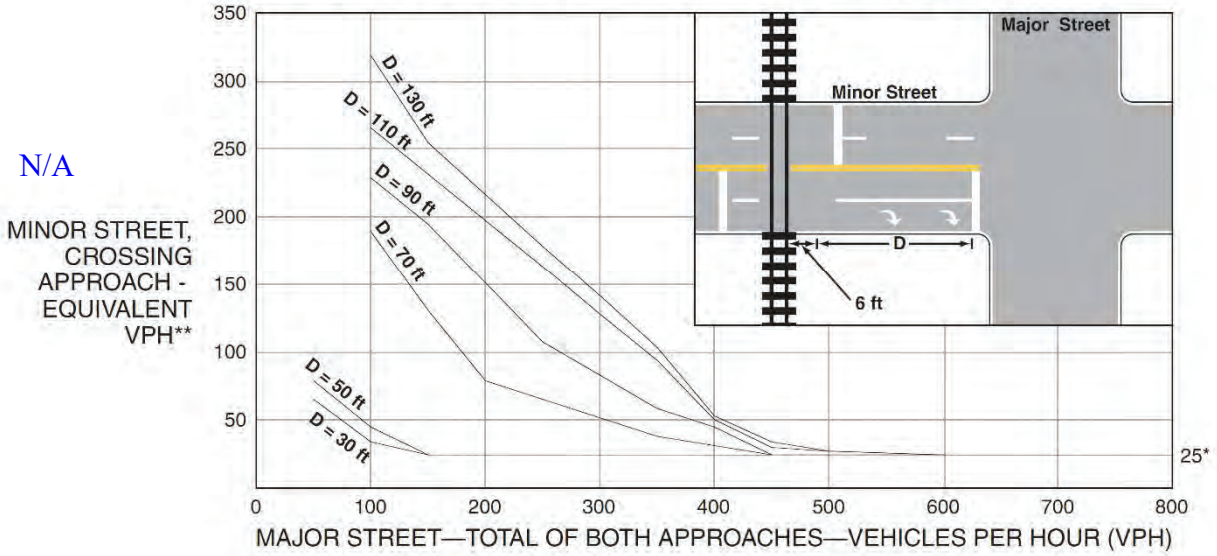
NOTE: If no data is availale or known, then use AF = 1 (no adjustment)

Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)



* 25 vph applies as the lower threshold volume
** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

Figure 4C-10. Warrant 9, Intersection Near a Grade Crossing (Two or More Approach Lanes at the Track Crossing)



* 25 vph applies as the lower threshold volume
** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

Appendices I – Vehicle Left-Turn Queuing Analysis

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	TR	L	T	T	R	T	T
Maximum Queue (ft)	92	52	72	38	110	92	112	111	95
Average Queue (ft)	35	22	40	7	58	38	6	54	54
95th Queue (ft)	66	50	62	24	98	78	43	85	84
Link Distance (ft)	2441	2441			2382	2382	2382	426	426
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			350	200					
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	53	112
Average Queue (ft)	24	41
95th Queue (ft)	49	80
Link Distance (ft)	2581	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	11	12
95th Queue (ft)	35	36
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	TR	L	T	T	R	T	T
Maximum Queue (ft)	52	72	52	41	107	94	93	146	120
Average Queue (ft)	30	20	22	8	50	57	12	82	82
95th Queue (ft)	53	54	46	26	90	87	60	123	112
Link Distance (ft)	2441	2441			2382	2382	2382	426	426
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			350	200					
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	76	32
Average Queue (ft)	43	10
95th Queue (ft)	65	34
Link Distance (ft)	2581	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	55	54
Average Queue (ft)	14	7
95th Queue (ft)	44	32
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	TR	L	T	T	R	T	T
Maximum Queue (ft)	140	202	157	39	200	185	56	159	156
Average Queue (ft)	103	121	95	8	117	118	2	76	90
95th Queue (ft)	144	185	147	26	189	172	19	113	133
Link Distance (ft)	2441	2441			2382	2382	2382	426	426
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			350	200					
Storage Blk Time (%)					0				
Queuing Penalty (veh)					0				

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	55	73	22
Average Queue (ft)	26	46	1
95th Queue (ft)	52	69	8
Link Distance (ft)	2581		649
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		350	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	56
Average Queue (ft)	15	20
95th Queue (ft)	39	51
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	71	74	101	41	114	116	406	418	225
Average Queue (ft)	31	34	36	11	64	71	245	255	87
95th Queue (ft)	60	62	68	35	100	113	365	368	267
Link Distance (ft)	2441	2441			2382	2382	426	426	
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (ft)			350	200					200
Storage Blk Time (%)								18	0
Queuing Penalty (veh)								20	0

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB	SB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	98	67	34	31
Average Queue (ft)	56	22	1	3
95th Queue (ft)	96	50	12	15
Link Distance (ft)	2581		649	649
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		350		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	53	31
Average Queue (ft)	29	10
95th Queue (ft)	48	33
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 21

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	L	TR	L	T	T	R	T	T
Maximum Queue (ft)	160	179	195	20	266	195	55	138	152
Average Queue (ft)	102	119	104	4	117	114	2	86	92
95th Queue (ft)	154	164	170	17	206	177	19	120	138
Link Distance (ft)	2441	2441			2382	2382	2382	426	426
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			350	200					
Storage Blk Time (%)					0				
Queuing Penalty (veh)					0				

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	55	123
Average Queue (ft)	32	55
95th Queue (ft)	52	95
Link Distance (ft)	2581	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		350
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	55	56
Average Queue (ft)	24	18
95th Queue (ft)	51	47
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Silicon Valley Blvd

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	TR	L	T	T	T	T	R
Maximum Queue (ft)	72	96	114	40	137	118	442	444	225
Average Queue (ft)	38	44	45	9	70	65	286	294	88
95th Queue (ft)	67	86	80	27	118	114	451	451	269
Link Distance (ft)	2441	2441			2382	2382	426	426	
Upstream Blk Time (%)							1	2	
Queuing Penalty (veh)							11	16	
Storage Bay Dist (ft)			350	200					200
Storage Blk Time (%)								29	0
Queuing Penalty (veh)								33	0

Intersection: 2: Silicon Valley Blvd & Rue Ferrari

Movement	EB	NB	SB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	160	94	107	104
Average Queue (ft)	74	49	7	10
95th Queue (ft)	142	78	42	47
Link Distance (ft)	2581		649	649
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		350		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Silicon Valley Blvd & Eden Park Pl

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	55	54
Average Queue (ft)	26	29
95th Queue (ft)	51	55
Link Distance (ft)	2575	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 60