

### 3.3 Transportation/Traffic

This section describes the existing transportation services and facilities on or near the Project site, including the roadway system, bus and rail service, bicycle facilities, and pedestrian facilities, and presents the results of the evaluation of the Project's effect on those facilities and services. The Project site location, with its five parcels and surrounding roadway system, is shown in Figure 3.3-1.

The transportation impact analysis that was prepared for the Project followed the guidelines of the City of Santa Clara (City) and the Santa Clara Valley Transportation Authority (VTA), which acts as the Congestion Management Agency (CMA) for Santa Clara County (County). Potential impacts on intersections, freeway segments, transit, and bicycle and pedestrian facilities were evaluated using the standards, methods, and significance criteria of these agencies. Mitigation measures for identified significant impacts are identified where such measures are available and feasible.

Several conditions were evaluated as part of this study. The analysis scenarios are described in Table 3.3-1. The analysis first considers the traffic impacts associated with existing conditions and Project conditions. Next, where significant impacts are projected to occur with the Project, an additional informational scenario was evaluated under existing conditions that identifies the impacts associated with Phases 1, 2, and 3.<sup>1</sup> This scenario helps to inform the public of near-term Project effects and is used to formulate and properly phase mitigation measures. In accordance with VTA protocol, an analysis of the effects of the Project, when added to the 2020 background conditions, was undertaken. Finally, the Project's incremental cumulative contribution to cumulative effects is analyzed under forecast 2040 cumulative conditions. The Project site, with its five parcels and development phasing, is shown in Figure 3.3-2.

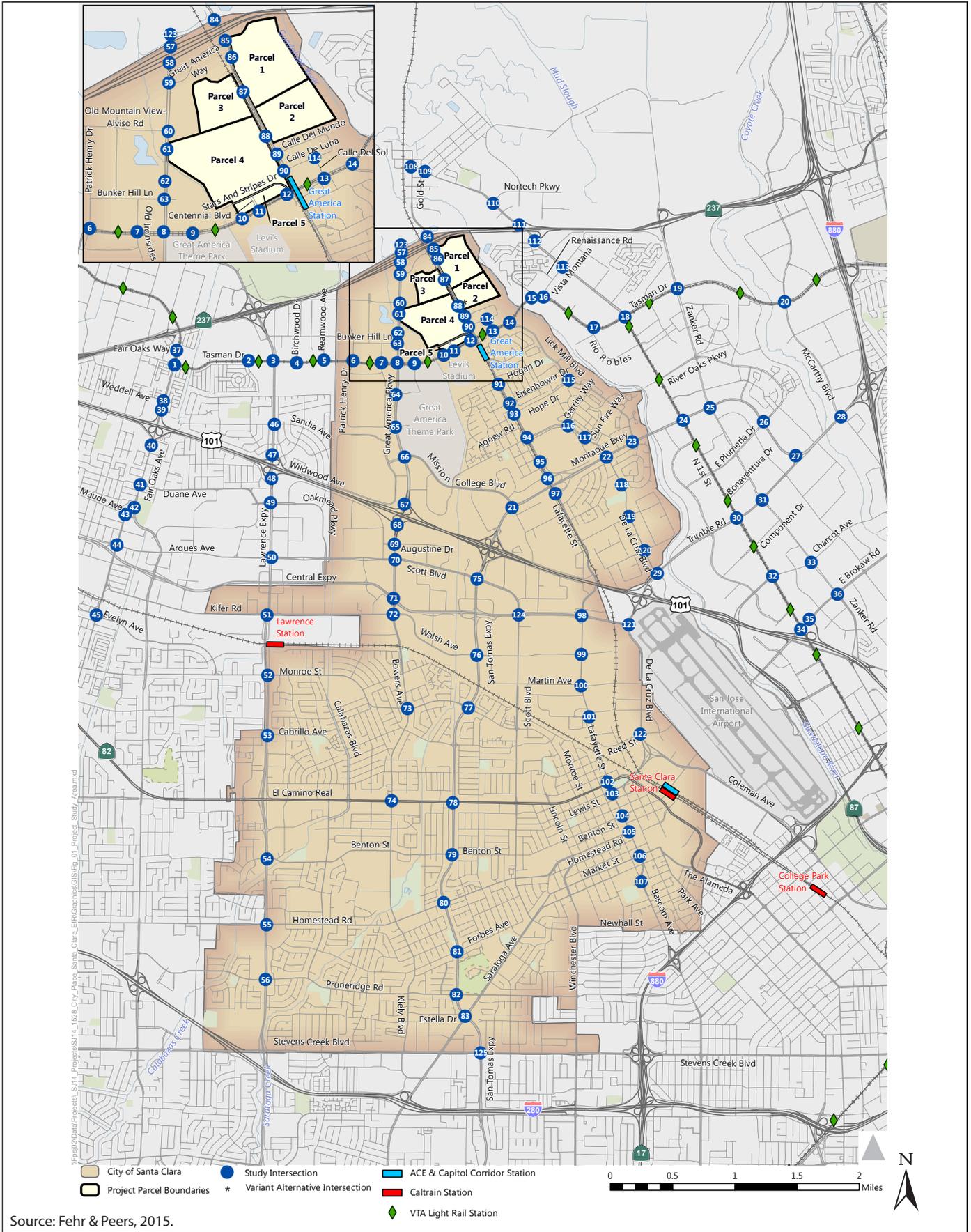
#### Regulatory Setting

This section describes the Project's relevant transportation regulatory framework, which includes federal, State, regional, and local programs as well as plans related to the Project, including the status of implementation. Some of these plans are still in-progress and not yet fully adopted.

A jurisdiction is a level of government (city, county, State, or federal) or regulatory authority (local, regional, State, or federal) that is responsible for some or all aspects of the planning, implementation, operations, and maintenance of transportation facilities and services in a defined area. The City of Santa Clara has jurisdiction over all City streets and City-operated traffic signals. The neighboring cities of San José, Sunnyvale, and Milpitas have jurisdiction over local roadways within their respective jurisdictional boundaries. The California Department of Transportation (Caltrans) has jurisdiction over State facilities, including US 101, Interstate (I) 280, State Route (SR) 82 (El Camino Real), SR 85, and SR 237. Caltrans also has jurisdiction over on- and off-ramp intersections with local streets. The County of Santa Clara has jurisdiction over streets in unincorporated areas as well as all of the County expressways (e.g., Montague Expressway, San Tomas Expressway, Lawrence Expressway, Central Expressway, etc.). Transit agencies that operate within the city limits are VTA, Caltrain, Altamont Corridor Express (ACE), and Amtrak (Capitol Corridor). Several of the regional, State, and federal agencies that are described in the following sections have jurisdiction over transportation planning and implementation of circulation improvements in the City of Santa Clara.

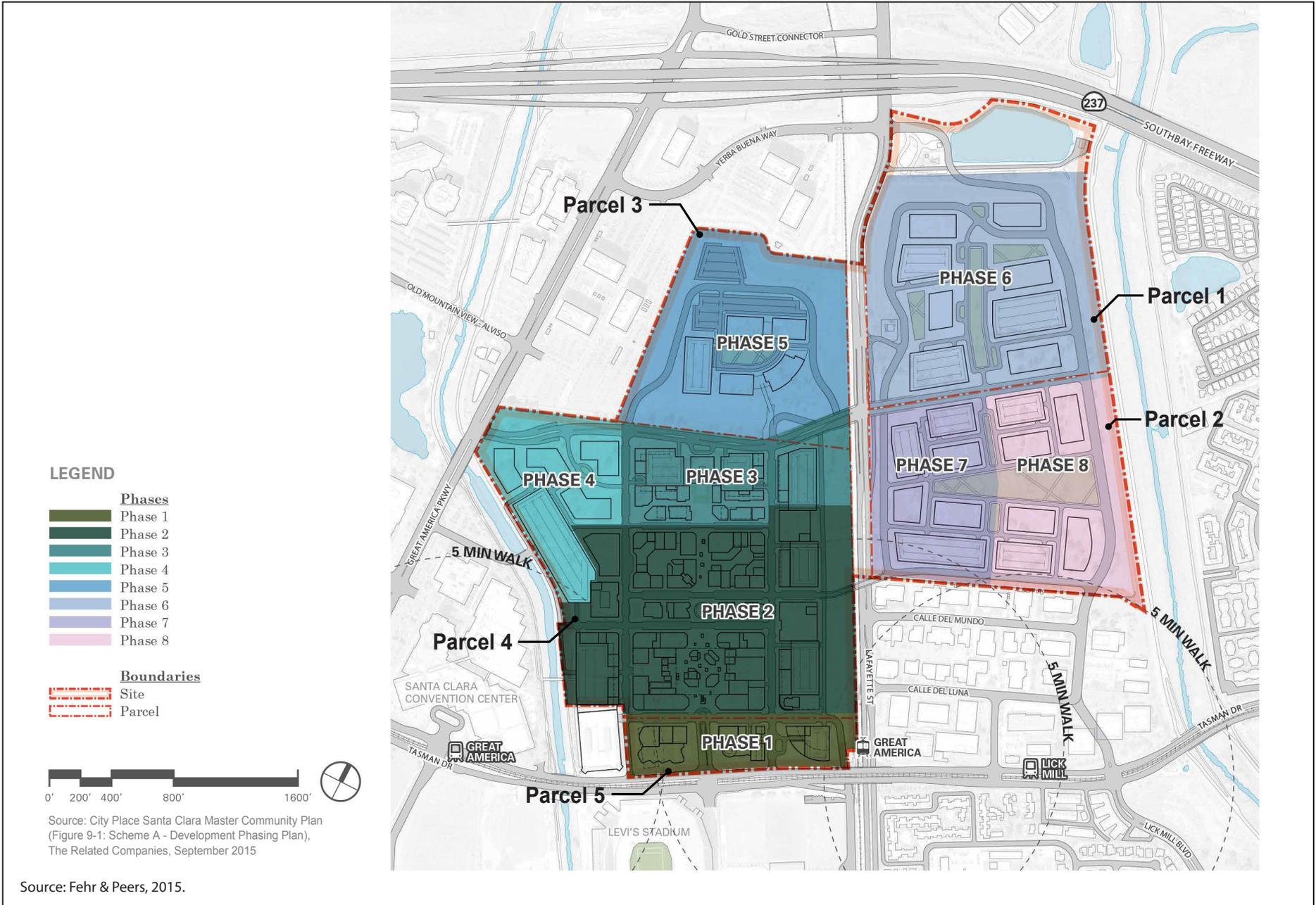
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<sup>1</sup> The Project will be constructed in multiple phases, with the first three phases comprising the City Center. Phases 1 and 2 have a fixed timeline, while the remaining phases may go in any order. However, Phase 3 is the most likely component of the Project to be constructed after Phases 1 and 2 because together they comprise the City Center.



**Figure 3.3-1**  
**Project Study Area**  
**City Place Santa Clara**





**Figure 3.3-2**  
**City Place Santa Clara Master Community Plan – Parcel Numbers and Development Phasing**  
 City Place Santa Clara



**Table 3.3-1. Analysis Scenarios**

Scenario	Description
Scenario 1: Existing Conditions	Existing volumes obtained from existing/new traffic counts, including traffic estimates and transportation improvements from projects that are under construction at the start of environmental documentation and expected to be in operation before Project opening. <sup>a</sup>
Scenario 2a: Existing with-Project Conditions	Volumes from Scenario 1 plus traffic generated by build-out of the Project and the transportation network infrastructure proposed by the Project.
Scenario 2b: Existing Conditions with Project Phases 1, 2, and 3	Locations with significant Project impacts from Scenario 2a are evaluated with traffic generated by only Phases 1, 2, and 3.
Scenario 3: Background Conditions	Background traffic volumes based on forecasts from the citywide traffic model, including Association of Bay Area Governments (ABAG) 2020 land use projections, approved development projects, and the planned and funded transportation system improvements for 2020 in the Valley Transportation Plan (VTP).
Scenario 4: Background Conditions with Project Conditions	Scenario 3 volumes plus traffic generated by build-out of the Project and the transportation network infrastructure proposed by the Project.
Scenario 5: Cumulative (2040) Conditions	The 2040 traffic volumes are based on forecasts from the citywide traffic model, including ABAG 2040 land use projections and the planned and funded transportation system improvements for 2040 in the VTP.
Scenario 6: Cumulative (2040) with-Project Conditions	Scenario 5 volumes plus traffic generated by build-out of the Project and the transportation network infrastructure proposed by the Project.

**Notes:**

<sup>a</sup>. Notice of preparation of environmental impact report circulated on July 10, 2014 (Centennial Gateway Mixed-Use Project), and July 30, 2014 (City Place Project).

Source: Fehr & Peers, 2015.

## Federal Regulations

Federal regulations are described below.

### Americans with Disabilities Act of 1990

The Americans with Disabilities Act of 1990 (ADA) (revised 2010) is a landmark civil rights law that prohibits discrimination based on disability. Titles I, II, III, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in “places of public accommodation” (businesses and non-profit agencies that serve the public) and “commercial facilities” (other businesses). The regulation includes Appendix 3.3-A to Part 36 (Standards for Accessible Design), which establishes minimum standards for ensuring accessibility for the disabled when designing and constructing a new facility or altering an existing facility, including roadways, parking lots, and sidewalks. Examples of key guidelines include detectable warnings for pedestrians when entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

## Federal Highway Administration

The Federal Highway Administration (FHWA) is a major agency of the U.S. Department of Transportation. In partnership with State and local agencies, FHWA carries out federal highway programs to meet the nation's transportation needs. FHWA administers and oversees federal highway programs to ensure that federal funds are used efficiently.

## State Regulations

State transportation agencies and plans are described in the following sections, organized by jurisdiction/agency.

### California Department of Transportation

Caltrans has authority over the State highway system, including freeways, interchanges, and arterial routes. Caltrans operates and maintains State highways in Santa Clara. The *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2001) provides information that Caltrans uses to review impacts on State highway facilities, including freeway segments. However, as the CMA, VTA is responsible for monitoring operations on Caltrans facilities within Santa Clara County. Caltrans programs and plans are described below.

### State Transportation Improvement Program

The California Transportation Commission (CTC) administers transportation programming, which is the public decision-making process that sets priorities and funds projects that have been envisioned in long-range transportation plans. The CTC commits expected revenues for transportation projects over a multi-year period. The State Transportation Improvement Program (STIP) is a multi-year capital improvement program for transportation projects both on and off the State Highway System. The STIP is funded with revenues from the State Highway Account and other funding sources. STIP programming typically occurs every 2 years. California Transportation Plan 2025

The California Transportation Plan (CTP) 2025 was adopted in 2006 and updated in 2007. The plan, which is overseen by the Caltrans, serves as a blueprint for California's transportation system, as defined by goals, policies, and strategies to meet the State's future mobility needs. The goals defined in the plan fall into three categories: social equity, prosperous economy, and quality environment. Each goal is tied to performance measures. In turn, members from regional and metropolitan planning agencies report these performance measures to Caltrans (State of California 2007). The CTP 2030 addendum (2007) updated the CTP 2025 to comply with the Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU). This federal law authorized transportation funding through 2009 and established new requirements for statewide and metropolitan transportation planning. Caltrans is presently working on an update to the CTP that would extend to 2040. The 2040 update is expected to be approved in 2015.

## **Assembly Bill 32 and Senate Bill 375**

With the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating a response to comply with AB 32. In 2008, CARB defined its 1990 baseline level of emissions. On December 11, 2008, CARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of Senate Bill (SB) 375 as the means for achieving regional transportation-related GHG targets. In 2011, CARB completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms, such as the cap-and-trade program, took effect on January 1, 2012.

SB 375 provides guidance regarding curbing emissions from cars and light trucks to help the State comply with AB 32. There are four major components to SB 375. First, SB 375 requires regional GHG emissions targets. CARB's Regional Targets Advisory Committee will guide the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, must be updated every 8 years in conjunction with the revision schedule of the housing and transportation elements of local general plans. Second, MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan for meeting the target. Third, SB 375 requires regional housing elements and transportation plans to be synchronized on 8-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within 3 years of adoption of the housing element. Finally, MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the CTC. Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models that are consistent with CTC guidelines.

The adopted RTP, per SB 375 (Plan Bay Area) is discussed below.

## **Complete Streets (AB 1358)**

AB 1358, also known as the California Complete Streets Act of 2008, requires cities and counties to include "complete street" policies in their general plans. These policies address the safe accommodation of all users, including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and the disabled. These policies can apply to new streets as well as the redesign of corridors.

## **SB 743**

With the passage of SB 743 (signed on September 27, 2013), at some future date, level of service (LOS) will no longer be used as a criterion for identifying significant impacts under the California Environmental Quality Act (CEQA). To implement SB 743, a preliminary draft of proposed revisions to the State CEQA Guidelines was circulated by the Governor's Office of Planning and Research in August 2014, with a new focus on transportation impacts related to vehicle miles traveled (VMT), induced vehicle travel, and local safety. The preliminary draft text, which was subject to extensive comments, includes the following:

- VMT is to replace vehicle LOS as the sole basis for identifying significant impacts from land use projects. VMT is the number of vehicles multiplied by the distance traveled by each vehicle.

- Induced travel due to the effects of roadway capacity expansion on VMT and GHG emissions will be evaluated. The addition of general purpose highway or arterial lanes in urban areas may indicate a significant impact due to induced travel. On the other hand, managed lanes, transit, and active-mode projects would most likely not result in significant impacts in this regard.
- Lead agencies may also consider localized effects on transportation safety.

The guideline revisions, which have not yet been formally proposed or adopted, will apply only to projects with a notice of preparation (NOP) that is issued after the guidelines are adopted. In light of the uncertainty as to the ultimate contents of the revised guidelines, the changes included within the preliminary draft of the State CEQA Guidelines are not incorporated into this analysis.

## Regional Regulations

This section describes regional transportation agencies and plans.

### Metropolitan Transportation Commission

Metropolitan Transportation Commission (MTC) is the Bay Area's regional transportation planning agency and federally designated MPO. MTC is responsible for preparing the RTP, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities. The RTP is a 20-year plan that is updated every 3 years to reflect new planning priorities and changing projections of future growth and travel demand. The long-range plan must be based on a realistic forecast of future revenues, and the transportation projects taken as a whole must help improve regional air quality. The MTC also screens requests from local agencies for State and federal grants for transportation projects to determine compatibility with the RTP.

### Plan Bay Area

Plan Bay Area is overseen by the MTC and the Association of Bay Area Governments (ABAG). It serves as the region's SCS and the 2040 RTP (preceded by Transportation 2035), integrating transportation and land use strategies to manage GHG emissions and plan for future population growth. The RTP and SCS include policies that call for shifting more travel demand to transit and accommodating growth along transit corridors in Priority Development Areas (PDAs). In July of 2013, Plan Bay Area was adopted by ABAG and the MTC. Major transit projects included in Plan Bay Area include a Bay Area Rapid Transit (BART) extension from Fremont to San José/Santa Clara, Caltrain electrification, enhanced service along Amtrak's Capitol Corridor, and improvements to local and express bus services, including bus rapid transit services along San José's Santa Clara Street/Alum Rock Corridor.

### Focusing Our Vision Program: Priority Development Areas

The Bay Area's regional agencies (i.e., ABAG, Bay Area Air Quality Management District [BAAQMD], San Francisco Bay Conservation and Development Commission, MTC) initiated the Focusing Our Vision (FOCUS) Program. The purpose of this program is to encourage growth and revitalization near transit facilities in existing communities. The program provides planning and construction funding for projects in PDAs with high transit accessibility and potential for redevelopment. The Santa Clara Caltrain/ACE/Capitol Corridor and Caltrain Lawrence Station areas, VTA light-rail stations, El Camino Real, and Stevens Creek Boulevard all have the potential to be PDAs in the City of Santa Clara, subject to a land use plan and resolution adopted by the Santa Clara City Council. A portion of the Project site is located within a potential PDA (i.e., the southern portion of the site just north of Tasman Drive).

## Bay Area Air Quality Management District

BAAQMD is the regional agency with the authority to develop and enforce regulations for the control of air pollution throughout the Bay Area. The Clean Air Plan is BAAQMD's plan for reducing the emissions of air pollutants that combine to produce ozone. BAAQMD has published guidelines for the purpose of evaluating the air quality impact of projects and plans. One criterion calls for plans, including general plans, to demonstrate reasonable efforts to implement the transportation control measures (TCMs) included in the Clean Air Plan that identify local governments as the implementing agencies.

On-road motor vehicles are the largest source of air pollution in the Bay Area. To address the impact of vehicles, the California Clean Air Act requires air districts to adopt, implement, and enforce TCMs.

## Caltrain Modernization Program and the Peninsula Corridor Electrification Project

The Caltrain Modernization Program includes electrification of the existing Caltrain corridor between San Francisco and San José; installation of a Communications-Based Overlay Signal System Positive Train Control (CBOSS PTC), which is an advanced signal system that includes federally mandated safety improvements; and the replacement of Caltrain's diesel trains with high-performance electric trains, called electric multiple units (EMUs). CBOSS PTC is scheduled to be completed in October 2015, per a federal mandate.

The Peninsula Corridor Electrification Project (PCEP) is a component of the Caltrain Modernization Program and consists of converting Caltrain from diesel to EMU trains from the San Francisco Station at 4<sup>th</sup> and King Streets to the Tamien Station in San José, including trains that travel through all three Caltrain stations in the study area. As part of this project, new electrical infrastructure will be installed between San Francisco and San José, and electrified vehicles will be procured and purchased. Caltrain currently operates five trains per peak hour per direction at a maximum speed of 79 miles per hour (mph). PCEP would increase service to up to six Caltrain trains per peak hour per direction, with operating speeds of up to 79 mph. The final environmental impact report (EIR) was certified and the project approved by the Joint Powers Board in January 2015. The project is expected to be completed and operational in 2020/2021.

## El Camino Grand Boulevard Initiative

The Grand Boulevard Initiative is a multi-jurisdictional regional planning effort that focuses on the El Camino Real corridor from San José to San Francisco. The Grand Boulevard Initiative is currently in progress. The City of Santa Clara is moving forward with projects that promote higher density housing and mixed-use development along El Camino Real, in accordance with the Grand Boulevard Initiative Guiding Principles and the Santa Clara General Plan. The El Camino Real Focus Area within the City's General Plan promotes residential densities that range from 20 to 36, with the number of dwelling units per acre between 37 and 50, along with retail services to support existing and new residents, workers, and visitors.

Some of the current development projects along the El Camino Real corridor in Santa Clara include:

- **Camino del Rey:** a senior apartment housing project,
- **Tuscany Apartments:** a residential housing project,
- **El Presidio Santa Clara:** a mixed-use commercial and affordable housing project,
- **Madison Place:** a mixed-use commercial and market-rate residential project,

- **Creekside Vista Condominiums:** a market-rate residential condominium project, and
- **El Camino Real Apartments:** a market-rate residential project.

## Santa Clara County Regulations

The City of Santa Clara is subject to regulations set by the County of Santa Clara and VTA.

### Santa Clara Valley Transportation Authority

VTA serves two roles in Santa Clara County—first, as the primary transit operator, and second, as the CMA. In its role as transit operator, VTA is responsible for development, operation, and maintenance of the bus and light-rail system within the County. VTA operates more than 70 bus lines and three light-rail lines, in addition to shuttle and paratransit service. It also provides transit service to major regional destinations and transfer centers in adjoining counties.

As the County's CMA, VTA is responsible for managing the County's blueprint to reduce congestion and improve air quality. VTA is authorized to set State and federal funding priorities for transportation improvements that affect the Santa Clara Congestion Management Plan (CMP) transportation system. Priority projects are also eligible for the RTP. The CMP roadway network in Santa Clara includes all State highways, County expressways, and some principal arterials and intersections, while the transit network includes rail service and selected bus service.

VTA requires local jurisdictions to analyze impacts of new developments, or land use policy changes, on CMP facilities if they are expected to generate 100 or more new peak-hour trips. VTA developed the Transportation Impact Analysis Guidelines (March 2009), which were adopted by all cities and the County, to provide local jurisdictions with a uniform program for evaluating the transportation impacts of land use decisions on the designated CMP system. The 2009 VTA Transportation Impact Analysis Guidelines are the basis of the transportation impact analysis for this Project. VTA updated the Transportation Impact Analysis Guidelines in 2014. The VTA Board of Directors adopted these guidelines in October of 2014. (The updated VTA guidelines had not yet been adopted by the VTA Board of Directors when the NOPs for this EIR were issued on July 10, 2014 (Centennial Gateway Mixed-Use Project), and August 1, 2014 (City Place Project), and therefore were not used in this analysis.)

As the CMA for Santa Clara County, VTA is responsible for the development of a long-range countywide transportation plan, called Valley Transportation Plan (VTP) 2040. This is an update to VTP 2035, which was adopted by the VTA Board of Directors in 2009. VTP 2040 provides programs, projects, and policies for roadways, transit, Intelligent Transportation Systems (ITS) and Systems Operations Management, bicycle and pedestrian facilities, and land use and transportation integration. VTP 2040 projects serve as VTA's recommendations for the RTP known as the Plan Bay Area. VTA 2040 was adopted by the VTA Board of Directors in September of 2014.

VTA's Short-Range Transit Plan (SRTP) is a federally mandated planning document that describes the plans, programs, and goals of VTA's transit service. It has a 10-year planning horizon and is updated annually. It focuses on the characteristics and capital needs of the existing system and on committed (funded) expansion plans. The current plan proposes to keep bus and light-rail service at existing levels, expand community bus services (neighborhood-based circulator and feeder routes that travel within a limited area), continue to contribute monetarily to Caltrain service, and replace and expand the bus vehicle fleet. Other relevant VTA plans and programs are described below.

- **Transit Sustainability Policy and Service Design Guidelines:** VTA's Transit Sustainability Policy (TSP) is a ridership-based policy that provides a framework for the efficient expenditure of transit funds. It is intended to assist the VTA Board of Directors with its decision-making process by making available the most complete information possible regarding options, costs, benefits, and trade-offs for various transit projects and service proposals prior to a selection of mode and funding decisions. The Service Design Guidelines associated with the TSP were developed to evaluate and make recommendations regarding design, implementation, and monitoring of the performance of transit services in the region (VTA 2007).
- **Bus Rapid Transit Projects (in progress):** Three bus rapid transit (BRT) projects are proposed by VTA: the Santa Clara-Alum Rock BRT Project, the El Camino Real BRT Project, and the Stevens Creek BRT Project. Of these three projects, the El Camino Real BRT Project is closest to the study area. The El Camino Real BRT Project would upgrade the current VTA 522 bus route on El Camino Real to a 17.6-mile BRT system. Transit improvements potentially include dedicated BRT lanes with either median or curbside stations. About 16 stations would be served along the corridor between the Palo Alto Transit Center and the Eastridge Transit Center in San José, including stops in the cities of San José, Santa Clara, Sunnyvale, Mountain View, Los Altos, and Palo Alto. The Draft EIR for this project was released in October 2014. If approved, it is targeted to be operational by fall 2018 (VTA 2013).
- **Complete Streets Program (ongoing):** VTA, in a collaborative effort with its member agencies and partner agencies, Caltrans, and the MTC, is in the process of developing a Complete Streets Program for Santa Clara County. The main objective of this program is to formulate a process for instituting incremental "complete street" improvements in Santa Clara County.
- **Safe Routes to Transit (in progress):** VTA is currently developing a Pedestrian Access to Transit Plan, the first countywide pedestrian plan for Santa Clara County. VTA is working with community members and stakeholders to identify projects, such as pedestrian bridge, streetscape improvement, bicycle and pedestrian path, street crossing, and sidewalk projects, that will improve the safety and comfort of those who ride VTA trains and buses. Ultimately, the plan will include a list of projects that can be funded through local, State, or federal funding. This study is in progress and anticipated to be completed in 2016.
- **Santa Clara Countywide Bicycle Plan:** The Santa Clara Countywide Bicycle Plan synthesizes other local and County plans into a comprehensive 20-year cross-County bicycle corridor network and expenditure plan. The long-range countywide transportation plan and the means by which projects compete for funding and prioritization are documented in Valley Transportation Plan (VTP) 2040. VTA adopted the Santa Clara Countywide Bicycle Plan in 2008, which includes a planned bicycle network with 16 routes of countywide or intercity significance.

## County of Santa Clara

Streets in unincorporated areas, as well as all of the County expressways, are under the auspices of the Santa Clara County Roads and Airports Department. Department staff members are responsible for maintaining and operating all of the expressways and all of the streets that are located on County property.

Santa Clara County's Expressway Plan 2040 will be the successor to the 2003 Comprehensive County Expressway Planning Study. Expressway Plan 2040 is currently in progress. The study evaluates the needs of expressways and the Santa Teresa/Hale Corridor based on city land use plans, projected 2040 traffic growth, and complete streets planning. The plan, expected to be released by January 2016, will also

identify policy changes, revise funding requirements, and detail updated implementation strategies. Expressway Plan 2040 is guided by a Policy Advisory Board (PAB), consisting of two County Supervisors, one council member per participating city, two members of VTA's Board of Directors, and two members of the County Roads Commission (County of Santa Clara 2015).

### **Airport Comprehensive Land Use Plan**

The Airport Land Use Commission (ALUC) develops Comprehensive Land Use Plans (CLUPs) to ensure orderly growth in the area surrounding each airport within the County, one of which is directly adjacent to Santa Clara. The ALUC has no jurisdiction over existing land uses; its role is to ensure that new land uses or other proposed actions are compatible with the airport environment. The CLUP provides guidance regarding compatible land uses in Santa Clara that are located near the airport. The ALUC is currently in the process of updating its CLUP. The current plan outlines development intensities, uses, building heights, safety issues, and noise constraints. The Project site is located about 3 miles north of Norman Y. Mineta San José International Airport (airport code SJC) in San José.

### **Local Regulations – City of Santa Clara**

The City of Santa Clara has adopted several plans that provide guidance for managing the City's transportation system.

### **Santa Clara General Plan Update 2010–2035**

The City of Santa Clara 2010–2035 General Plan (General Plan) was adopted in November 2010. The State requires every city and county in California to prepare a general plan. The City of Santa Clara's General Plan lays out broad goals and specific policies on land use, community design, circulation, housing, public facilities, open space, recreation, conservation, noise, seismic and safety, and historic preservation. The General Plan provides information for the community to define acceptable development. It is a guide for decision-making by the City Council, Planning Commission, City departments, and other governmental agencies on specific development applications.

The General Plan's vision is long range, looking forward 25 years into the future. It is designed as a "progressive plan" that breaks down the 25-year horizon into three planning phases, 2015, 2025, and 2035. Near the close of each of these phases, the City will engage the community to check direction and priorities as well as reaffirm the long-term vision of the General Plan. The General Plan outlines major strategies, which provide the foundation for defined goals and policies for the City. Together, these strategies, goals, and policies guide land use and transportation decisions as well as neighborhood conservation, transportation, parks, and other aspects of the City's form. All mobility and transportation goals and policies are listed in Table 3.3-2.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
<b>General Mobility and Transportation Goals</b>	
5.8.1-G1	Transportation networks that support the General Plan major strategies as well as the goals and policies for prerequisites, land use, focus areas, neighborhood compatibility, public services and environmental quality.
5.8.1-G2	Transportation networks that provide a safe, efficient, convenient, and integrated system to move people and goods.
5.8.1-G3	Transportation networks that promote a reduction in the use of personal vehicles and vehicle miles traveled.
<b>General Mobility and Transportation Policies</b>	
5.8.1-P1	Create accessible transportation network systems to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.
5.8.1-P2	Link all City transportation networks, including bicycle and pedestrian circulation, to existing and planned regional networks.
5.8.1-P3	Identify opportunities to connect people to supportive services, public amenities and transit.
5.8.1-P4	Expand transportation options and improve alternate modes that reduce greenhouse gas emissions.
5.8.1-P5	Work with local, regional, State, and private agencies, as well as employers and residents, to encourage programs and services that reduce vehicle miles traveled.
5.8.1-P6	Implement Level of Service standards that support increased transit ridership, biking and walking, in order to decrease vehicle miles traveled and reduce air pollution, energy consumption and greenhouse gas emissions.
5.8.1-P7	Explore options to apply traffic fees toward bicycle, pedestrian, transit and roadway improvements in order to implement a circulation system that optimizes travel by all modes.
5.8.1-P8	Adopt a Capital Improvement Program that includes mobility and transportation improvements consistent with the City's General Plan.
5.8.1-P10	Resolve conflicts between any plans, construction or funding for improvements and the Transportation and Mobility Diagrams or text, including those that alter the classification of a transportation facility, through a General Plan Amendment in order to evaluate the broader implications of the proposal and maintain internal consistency of the Plan.
<b>Roadway Network Goals</b>	
5.8.2-G1	A street system that supports the safe and efficient movement of people, goods and services.
5.8.2-G2	Roadway design, construction, operation and maintenance that supports the goals for "Full-Service Streets" throughout the City.
5.8.2-G3	A roadway network designed to accommodate alternate transportation modes in addition to vehicles.
5.8.2-G4	Technological advances applied to the roadway infrastructure to maximize the use of the existing roadway and support efficient traffic flow.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
<b>Roadway Network Policies</b>	
5.8.2-P1	Require that new and retrofitted roadways implement “full-service street” standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting, and signage, where feasible.
5.8.2-P2	Discourage widening of existing roadway or intersection rights-of-way without first considering operational improvements, such as traffic signal modifications, turn-pocket extensions, and Intelligent Transportation Systems.
5.8.2-P3	Encourage undergrounding of utilities and utility equipment within the public right-of-way and site these facilities to provide opportunities for street trees and adequate sidewalks.
5.8.2-P4	Facilitate the implementation of the street system based on the roadway classifications and illustrated in the Roadway Diagram in Figure 5.7-1 (Santa Clara General Plan 2010).
5.8.2-P5	Support “traffic calming” and other neighborhood traffic management techniques to enhance the quality of life within existing neighborhoods and to discourage through-traffic on local streets.
5.8.2-P6	Interconnect and coordinate traffic signals to maximize vehicle flow on the City’s roadway network to reduce the need for roadway widening.
5.8.2-P7	Concentrate through traffic on major streets and encourage traffic distribution that maximizes the efficiency of the existing roadway network.
5.8.2-P8	Minimize disruption of traffic flow resulting from truck traffic and deliveries, particularly during commute hours.
5.8.2-P9	Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.
5.8.2-P10	Support roadway improvements that add missing links or correct non-standard design features for safety.
5.8.2-P11	Implement street standards that remove barriers and increase accessibility.
5.8.2-P12	Coordinate transportation planning with emergency service providers to ensure continued emergency service operations and services.
<b>Transit Network Goals</b>	
5.8.3-G1	Transit services that are accessible to all segments of the City’s population.
5.8.3-G2	A transit network that supports a reduction in automobile dependence for residents, employees, and visitors.
5.8.3-G3	Transit options that are available to provide commuter services throughout the City.
<b>Transit Network Policies</b>	
5.8.3-P1	Support a coordinated regional transit system that circles the South Bay and the Peninsula, including existing and planned Bay Area Rapid Transit, Amtrak, Altamont [Corridor] Express, Caltrain, Valley Transportation Authority and High Speed Rail facilities.
5.8.3-P2	Support continued and upgraded Caltrain, Valley Transportation Authority, Altamont [Corridor] Express, and Capitol Corridor transit facilities and services.
5.8.3-P3	Support transit priority for designated Bus Rapid Transit, or similar transit service, through traffic signal priority, bus queue jump lanes, exclusive transit lanes and other appropriate techniques.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
5.8.3-P4	Encourage the continued efforts by other agencies to provide transit services that are accessible and meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.
5.8.3-P5	Facilitate implementation of the transit system defined in the transit network classifications and illustrated on the Transit Network Diagram in Figure 5.7-2 (Santa Clara General Plan 2010).
5.8.3-P6	Encourage additional multimodal transit centers and stops in order to provide convenient access to commuter rail, buses, shuttle, and taxi services.
5.8.3-P7	Provide transit stops at safe, efficient and convenient locations to maximize ridership, including near employment centers, higher-density residential developments and Downtown.
5.8.3-P8	Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information, and shelters.
5.8.3-P9	Require new development to incorporate reduced on-site parking and provide enhanced amenities, such as pedestrian links, benches, and lighting, in order to encourage transit use and increase access to transit services.
5.8.3-P10	Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.
5.8.3-P11	Encourage feeder services to carry commuters to transit stations, including shuttle connections from businesses, residences, and attractions to bus and rail services.
5.8.3-P12	Improve the existing public transit system and support expanded services to increase ridership.
5.8.3-P13	Advocate for frequent, direct transit service to all points in Santa Clara, particularly between residential and employment centers, as well as along the El Camino Real and Stevens Creek Boulevard corridors.
5.8.3-P14	Changes made to transit services which do not require associated infrastructure are deemed consistent with the Transit Network Diagram.
<b>Bicycle and Pedestrian Network Goals</b>	
5.8.4-G1	Bicycle and pedestrian connections that are accessible throughout the City to all segments of the population.
5.8.4-G2	A bicycle and pedestrian network that provides links from neighborhoods to public amenities and destinations.
5.8.4-G3	Walking and bicycling as alternatives to driving to reduce vehicle commute and non-commute trips and to improve community health.
<b>Bicycle and Pedestrian Network Policies</b>	
5.8.4-P1	Provide a comprehensive, integrated bicycle and pedestrian network that is accessible for all community members.
5.8.4-P2	Provide a system of bicycle and pedestrian friendly facilities that supports the use of alternative travel modes and connects to activity centers as well as residential, office, and mixed-use developments.
5.8.4-P3	Link City bicycle and pedestrian circulation to existing and planned regional networks.
5.8.4-P4	Facilitate implementation of the bicycle and pedestrian classifications as illustrated on the Bicycle and Pedestrian Network Diagram in Figure 5.7-3.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
5.8.4-P5	Design streets to include detached sidewalks with planting strips or wider and attached sidewalks with tree wells to encourage pedestrian use and safety; remove barriers and increase accessibility.
5.8.4-P6	Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities as well as with on-site and neighborhood amenities/services to promote alternate modes of transportation.
5.8.4-P7	Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.
5.8.4-P8	Require new development and public facilities to provide improvements, such as sidewalks, landscaping, and bicycling facilities, to promote bicycle and pedestrian use.
5.8.4-P9	Encourage pedestrian- and bicycle-oriented amenities, such as bicycle racks, benches, signalized mid-block crosswalks, and bus benches or enclosures.
5.8.4-P10	Encourage safe, secure, and convenient bicycle parking and end-of-trip or bicycle “stop” facilities such as showers or bicycle repair facilities near destinations for all users, including commuters, residents, shoppers, students, and other bicycle travelers.
5.8.4-P11	Provide pedestrian crossings that are well marked using measures such as audio/visual warnings, bulb-outs, and median refuges to improve safety.
5.8.4-P12	Include bicycle and pedestrian facilities when making improvements or modifications to railroad crossings, grade separations, interchanges, and freeways.
5.8.4-P13	Promote bicycle and pedestrian safety through “best practices” or design guidelines for sidewalks, bicycle facilities, landscape strips, and other buffers as well as crosswalk design and placement.
5.8.4-P14	Promote bicycling and walking through education, safety publications, and information about health and environmental benefits.
5.8.4-P15	Work with school districts to implement a “Safe Routes to Schools” program to encourage children to walk to school.
<b>Transportation Demand Management (TDM) Goals</b>	
5.8.5-G1	Transportation demand management (TDM) programs for all new development in order to decrease vehicle miles traveled.
5.8.5-G2	Transportation demand management programs that promote an increase in vehicle occupancy and a decrease in vehicle trips during commute hours.
<b>Transportation Demand Management Policies</b>	
5.8.5-P1	Require new development to include transportation demand management site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage, and recreational facilities.
5.8.5-P2	Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.
5.8.5-P3	Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
5.8.5-P4	Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont [Corridor] Express Yellow Shuttle, and Lawrence Caltrain Bowers/Walsh shuttle services.
5.8.5-P5	Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.
5.8.5-P6	Encourage transportation demand management programs that include shared bicycles and autos for part-time use by employees and residents to reduce the need for personal vehicles.
5.8.5-P7	Promote programs that reduce peak-hour trips, such as flexible work hours, telecommuting, home-based businesses, and off-site business centers, and encourage businesses to provide alternate, off-peak hours for operations.
5.8.5-P8	Encourage local events that connect employees and residents with local transit providers and ridesharing options.
5.8.5-P9	Promote transportation demand management programs that provide education, information, and coordination to connect residents and employees with alternate transportation opportunities.
<b>Parking Goals</b>	
5.8.6-G1	Parking provided for new development and along public streets that does not exceed average demands.
5.8.6-G2	A parking supply that encourages the use of alternate transportation modes.
5.8.6-G3	Flexible parking standards that address unique development types and locations within the City.
<b>Parking Policies</b>	
5.8.6-P1	Allow alternate parking standards for mixed-use development, development that meets specified transportation demand management criteria, and senior/group and affordable housing developments as well as downtown areas and areas within 0.25 mile of transit center and stops.
5.8.6-P2	Identify parking supply standards that promote economic development, neighborhood compatibility, environmental quality, and public safety while reducing dependence on the automobile.
5.8.6-P3	Encourage flexible parking standards that meet the needs of businesses and residents and avoid an oversupply to promote transit ridership, bicycling, and walking.
5.8.6-P4	Encourage shared, consolidated, and/or reduced parking in mixed-use centers and within 0.25 mile of transit centers and stops.
5.8.6-P5	Allow alternative parking techniques, such as parking lifts and automated and tandem parking, in order to reduce the land area devoted to parking.
5.8.6-P6	Provide direct access or offer clear signage to connect local streets with parking supplies.
5.8.6-P7	Encourage private property owners to share underutilized off-street parking resources with the general public.
5.8.6-P8	Prohibit on-site parking space reservations for individual tenants in commercial centers.

**Table 3.3-2. Santa Clara General Plan Mobility and Transportation Goals and Policies**

Policy Number	Policy
5.8.6-P9	Consider neighborhood parking programs, such as “permit-only” and timed parking zones, to minimize parking intrusion on residential streets.
5.8.6-P10	Support time limits for on-street parking to encourage alternate transportation modes to access destinations, such as Downtown, parks and libraries.
5.8.6-P11	Encourage development to “unbundle” parking spaces from leases and purchases to provide greater choices.
5.8.7-P12	Encourage below-grade or structured parking with active uses along street frontages.
5.8.6-P13	Restrict lighting and noise generation associated with surface and structured parking from intrusion into adjacent residential neighborhoods.
<b>Rail and Freight Goals</b>	
5.8.7-G1	The movement of goods safely and efficiently through the City.
5.8.7-G2	Neighborhoods protected from negative effects associated with rail and freight services.
<b>Rail and Freight Policies</b>	
5.8.7-P1	Accommodate truck freight movement between the freeway system and Santa Clara’s regional commercial destinations and local businesses.
5.8.7-P2	Encourage the use of freight rail to serve the City’s industrial area.
5.8.7-P3	Work with the Public Utilities Commission to upgrade at-grade rail crossing equipment.
5.8.7-P4	Support grade-separated crossings and other appropriate measures to avoid mobility conflicts and traffic disruption associated with rail traffic.
5.8.7-P5	Require new development to implement appropriate measures to reduce the negative effects, such as noise and vibration, of rail and freight services.
5.8.7-P6	Discourage through truck and freight traffic on local and collector streets, except for deliveries to destinations only accessible from those streets.
5.8.7-P7	Maintain consistency with the Federal Transportation Authority vibration standards for land uses in proximity to railroads, light rail and the future high speed rail.
Source: City of Santa Clara. 2010. <i>City of Santa Clara 2010–2035 General Plan</i> .	

## City of Santa Clara Bicycle and Pedestrian Plans

The City of Santa Clara does not currently have a standalone pedestrian plan. However, the General Plan does identify potential improvements to the pedestrian environment. In addition, the City of Santa Clara Final Bicycle Plan Update (2009) provides a bikeway planning and design tool. This plan contains the policy vision, design guidance, and specific recommendations needed to guide public and private investments in active transportation, bicycle facilities, and related programs. Near the Project site, planned bicycle improvements include bicycle lanes on Tasman Drive, from the Guadalupe River to Calabazas Creek, and bicycle lanes on Lafayette Street, between Calle De Luna (just north of Tasman Drive) and Great America Way. More detail on bicycle facilities in the study area is provided in the Existing Bicycle and Pedestrian Facilities section.

The General Plan includes nine focus areas, representing locations with opportunities for more intense development but limited impact on existing neighborhoods. Future focus areas are identified for Phases II and III of the General Plan but require conformance with applicable prerequisites, including approval of a comprehensive plan for each area, prior to development approvals. Two of the future focus areas are near the Project site, Tasman East and Great America Parkway. The future focus area policies listed below are used as a part of the pedestrian impact analysis:

- *Policy 5.4.5-P8*: Require development of public amenities, including parks and open space, in the first phase of development for all future focus areas.
- *Policy 5.4.5-P9*: Emphasize walkability and access to transit and existing roadways in future focus area comprehensive plans.
- *Policy 5.4.5-P10*: Provide access across expressways or major arterial streets so that new residential development in future focus areas has adequate access to neighborhood retail services and public facilities.

### **City of Santa Clara Emergency Operations Plan**

The City of Santa Clara Emergency Operations Plan (EOP) was adopted in March of 2012 by the Santa Clara City Council (City of Santa Clara 2012). An EOP is required for each local government in California. The guidelines for the plan are from the Federal Emergency Management Agency (FEMA) and modified by the State Office of Emergency Services (OES). The purpose of the EOP is to provide the legal framework for management of emergencies that affect the City and guidance for the conduct of businesses during an emergency. The plan consists of two parts, the Basic Plan and the Annexes. The Basic Plan is a legal document that outlines how the City fulfills its legal requirements for emergency management within its jurisdiction. The Annexes contain functional guidance for the operation of the Emergency Operations Center (EOC). The Annexes include a checklist for functions during earthquakes, floods, dam failures, or hazardous materials releases. The plan also includes operational data, such as listings of the resources, key personnel, and essential facilities needed for conducting emergency operations.

The EOC would be activated under the following conditions:

- Proclamation of a Local Emergency by a City official, as designated by local ordinance;
- Proclamation of a State of Emergency by the governor of California; or
- Automatic proclamation of a State of War, as defined by the California Emergency Services Act.

### **Neighborhood Traffic Calming Program**

The City of Santa Clara maintains a Neighborhood Traffic Calming Program (NTCP) that was established by the City in 1999 to address and resolve neighborhood traffic concerns and quality-of-life issues, including pedestrian safety, excessive cut-through traffic, speeding, parking control and prohibition, and limited site distance. The program provides a range of possible solutions to neighborhood traffic disruptions, which are organized by issue area. The NTCP aims to maintain a livable community and includes elements that support the security and safety of all residents and visitors, the sense of home and privacy, and the feeling of community identification (City of Santa Clara 1999).

### **Levi's Stadium Traffic Management Operations Plan**

The City of Santa Clara maintains two plans for managing traffic around Levi's Stadium on event days: pre-event and post-event traffic management operations plans (TMOPs). The plans focus on the area

bounded by SR 237 to the north, North 1<sup>st</sup> Street to the east, Lawrence Expressway to the west, and Mission College Boulevard/Montague Expressway to the south. More detail on game-day operations is provided in the Game-Day Analysis section.

## Study Intersections and Freeway Segments

Given the complexity and scale of the Project, VTA's travel demand model was used to determine the limits of the study area. The VTA model is a technical tool that uses roadway network and land use inputs to estimate and evaluate traffic flows within the County. The VTA model was used to conduct a "select zone" analysis, which illustrates the distribution of trips to/from the Project site to areas throughout the model network. The study intersections and freeway segments were selected by identifying locations where the Project would contribute a noticeable amount of traffic, as discussed below.

### Study Intersections

The study intersections were selected by identifying locations where the Project would contribute vehicles that would require at least 2 percent of roadway capacity. This approach is similar to that of the guidelines provided by VTA, which suggest that an intersection is evaluated if a project contributes 10 peak-hour trips per lane (see VTA's 2009 Transportation Impact Analysis Guidelines). The list was finalized in consultation with City of Santa Clara staff members. The resulting 125 study intersections are summarized in Table 3.3-3 and shown in Figure 3.3-1.

**Table 3.3-3. Study Intersections**

ID	Intersection	Jurisdiction (CMP)
1	Fair Oaks Avenue/Tasman Drive	Sunnyvale
2	Vienna Drive/Tasman Drive	Sunnyvale
3	Lawrence Expressway/Tasman Drive	Santa Clara County (CMP)
4	Birchwood Drive/Tasman Drive	Sunnyvale
5	Reamwood Avenue/Tasman Drive	Sunnyvale
6	Patrick Henry Drive/Tasman Drive	Santa Clara
7	Old Ironside Drive/Tasman Drive	Santa Clara
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)
9	Convention Center/Tasman Drive	Santa Clara
10	Future Driveway (west of Centennial Boulevard)/Tasman Drive	Santa Clara
11	Centennial Boulevard/Tasman Drive	Santa Clara
12	Future Driveway (east of Centennial Boulevard)/Tasman Drive	Santa Clara
13	Calle Del Sol/Tasman Drive	Santa Clara
14	Lick Mill Boulevard/Tasman Drive	Santa Clara
15	Renaissance Drive/Tasman Drive	San José
16	Vista Montana/Tasman Drive	San José
17	Rio Robles/Tasman Drive	San José
18	North 1 <sup>st</sup> Street/Tasman Drive	San José
19	Zanker Road/Tasman Drive	San José
20	McCarthy Boulevard/Tasman Drive	Milpitas
21	Mission College Boulevard/Montague Expressway	Santa Clara County (CMP)
22	Agnew Road – De La Cruz Boulevard/Montague Expressway	Santa Clara County (CMP)

**Table 3.3-3. Study Intersections**

ID	Intersection	Jurisdiction (CMP)
23	Lick Mill Boulevard/Montague Expressway	Santa Clara County
24	North 1 <sup>st</sup> Street/Montague Expressway	Santa Clara County (CMP)
25	Zanker Road/Montague Expressway	Santa Clara County (CMP)
26	Montague Expressway/Plumeria Drive – River Oaks Parkway	Santa Clara County
27	Trimble Road/Montague Expressway	Santa Clara County (CMP)
28	McCarthy Boulevard – O’Toole Avenue/Montague Expressway	Santa Clara County (CMP)
29	De La Cruz Boulevard/Trimble Road	San José (CMP)
30	North 1 <sup>st</sup> Street/Trimble Road	San José (CMP)
31	Zanker Road/Trimble Road	San José (CMP)
32	North 1 <sup>st</sup> Street/Charcot Avenue	San José
33	Zanker Road/Charcot Avenue	San José
34	North 1 <sup>st</sup> Street/Brokaw Road	San José (CMP)
35	US 101 Northbound (NB) Off-Ramp/Brokaw Road	San José (CMP)
36	Zanker Road/Brokaw Road	San José (CMP)
37	Fair Oaks Avenue/Fair Oaks Way	Sunnyvale
38	Fair Oaks Avenue/Weddell Drive	Sunnyvale
39	Fair Oaks Avenue/US 101 NB Ramps	Sunnyvale
40	Fair Oaks Avenue/E. Ahawane Avenue	Sunnyvale
41	Fair Oaks Avenue/Duane Avenue	Sunnyvale
42	Fair Oaks Avenue/Wolfe Road	Sunnyvale
43	Fair Oaks Avenue/Maude Avenue	Sunnyvale
44	Fair Oaks Avenue/E. Arques Avenue	Sunnyvale
45	Fair Oaks Avenue/Evelyn Avenue	Sunnyvale
46	Lawrence Expressway/Sandia Avenue	Santa Clara County
47	Lawrence Expressway/US 101 NB Ramps	Santa Clara County
48	Lawrence Expressway/US 101 Southbound (SB) Ramps	Santa Clara County
49	Lawrence Expressway/Oakmead Parkway	Santa Clara County
50	Lawrence Expressway/Arques Avenue	Santa Clara County (CMP)
51	Lawrence Expressway/Kifer Road	Santa Clara County
52	Lawrence Expressway/Reed Avenue – Monroe Street	Santa Clara County (CMP)
53	Lawrence Expressway/Cabrillo Avenue	Santa Clara County
54	Lawrence Expressway/Benton Street	Santa Clara County
55	Lawrence Expressway/Homestead Road	Santa Clara County (CMP)
56	Lawrence Expressway/Pruneridge Avenue	Santa Clara County
57	Great America Parkway/SR 237 Westbound (WB) Ramps	Santa Clara (CMP)
58	Great America Parkway/SR 237 Eastbound (EB) Ramps	Santa Clara (CMP)
59	Great America Parkway/Great America Way (Yerba Buena Way)	Santa Clara
60	Great America Parkway/Old Mountain View – Alviso Road	Santa Clara
61	Great America Parkway/Future Driveway (south of Old Mountain View – Alviso Road)	Santa Clara

**Table 3.3-3. Study Intersections**

ID	Intersection	Jurisdiction (CMP)
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	Santa Clara
63	Great America Parkway/Bunker Hill Lane	Santa Clara
64	Great America Parkway/Old Glory Lane	Santa Clara
65	Great America Parkway/Patrick Henry Drive	Santa Clara
66	Great America Parkway/Mission College Boulevard	Santa Clara (CMP)
67	Great America Parkway – Bowers Avenue/US 101 NB Ramps	Santa Clara (CMP)
68	Bowers Avenue/US 101 SB Ramps	Santa Clara (CMP)
69	Bowers Avenue/Augustine Drive	Santa Clara
70	Bowers Avenue/Scott Boulevard	Santa Clara (CMP)
71	Bowers Avenue/Central Expressway	Santa Clara County (CMP)
72	Bowers Avenue/Kifer Road – Walsh Avenue	Santa Clara
73	Bowers Avenue/Monroe Street	Santa Clara
74	Bowers Avenue/El Camino Real	Santa Clara (CMP)
75	San Tomas Expressway/Scott Boulevard	Santa Clara County (CMP)
76	San Tomas Expressway/Walsh Avenue	Santa Clara County
77	San Tomas Expressway/Monroe Street	Santa Clara County (CMP)
78	San Tomas Expressway/El Camino Real	Santa Clara County (CMP)
79	San Tomas Expressway/Benton Street	Santa Clara County
80	San Tomas Expressway/Homestead Road	Santa Clara County (CMP)
81	San Tomas Expressway/Forbes Avenue	Santa Clara County
82	San Tomas Expressway/Pruneridge Avenue	Santa Clara County
83	San Tomas Expressway/Saratoga Avenue	Santa Clara County (CMP)
84	Gold Street/Gold Street Connector	San José
85	Lafayette Street/Great America Way	Santa Clara
86	Lafayette Street/Future Driveway (south of Great America Way)	Santa Clara
87	Lafayette Street/Future Urban Interchange	Santa Clara
88	Lafayette Street/Future Driveway (north of Calle Del Mundo)	Santa Clara
89	Lafayette Street/Calle Del Mundo	Santa Clara
90	Lafayette Street/Calle De Luna	Santa Clara
91	Lafayette Street/Hogan Drive	Santa Clara
92	Lafayette Street/Eisenhower Drive	Santa Clara
93	Lafayette Street/Hope Drive	Santa Clara
94	Lafayette Street/Agnew Road	Santa Clara
95	Lafayette Street/Palm Drive	Santa Clara
96	Lafayette Street/Montague Expressway WB Ramps	Santa Clara
97	Lafayette Street/Montague Expressway EB Ramps	Santa Clara
98	Lafayette Street/Central Expressway	Santa Clara County (CMP)
99	Lafayette Street/Walsh Avenue	Santa Clara
100	Lafayette Street/Martin Avenue	Santa Clara
101	Lafayette Street/Mathew Street-Memorex Drive	Santa Clara

**Table 3.3-3. Study Intersections**

ID	Intersection	Jurisdiction (CMP)
102	Lafayette Street/El Camino Real	Santa Clara (CMP)
103	Lafayette Street/Lewis Street	Santa Clara
104	Lafayette Street/Benton Street	Santa Clara
105	Lafayette Street/Homestead Road	Santa Clara
106	Lafayette Street/Market Street	Santa Clara
107	Lafayette Street/Poplar Street	Santa Clara
108	Gold Street/Taylor Street	San José
109	Liberty Street/Taylor Street	San José
110	North 1 <sup>st</sup> Street/Nortech Parkway	San José
111	North 1 <sup>st</sup> Street/SR 237 WB Ramps	San José (CMP)
112	North 1 <sup>st</sup> Street/SR 237 EB Ramps	San José (CMP)
113	North 1 <sup>st</sup> Street/Vista Montana	San José
114	Calle Del Sol/Calle De Luna	Santa Clara
115	Lick Mill Boulevard/Hope Drive	Santa Clara
116	Agnew Road/Garrity Way	Santa Clara
117	Agnew Road/Sun Fire Way	Santa Clara
118	De La Cruz Boulevard/Greenwood Drive	Santa Clara
119	De La Cruz Boulevard/Aldo Avenue	Santa Clara
120	De La Cruz Boulevard/Laurelwood Road	Santa Clara
121	De La Cruz Boulevard/Central Expressway	Santa Clara County (CMP)
122	De La Cruz Boulevard/Reed Avenue	Santa Clara
123	Great America Parkway/Gold Street Connector	Santa Clara
124	Scott Boulevard/Central Expressway	Santa Clara County (CMP)
125	San Tomas Expressway/Stevens Creek Boulevard	Santa Clara County (CMP)

Note: Congestion Management Program (CMP) indicates the intersection is part of VTA's CMP monitoring.  
Source: Fehr & Peers, 2015.

## Freeway Segments

Freeway segments were selected, in consultation with the City of Santa Clara, by using a “select zone” analysis. The segments include those where the number of trips added by the Project would equal or exceed 1 percent of the freeway segment's capacity (see VTA's 2009 Transportation Impact Analysis Guidelines). The freeway study segments are summarized below.

- SR 237 between El Camino Real and I-880: Twelve eastbound and westbound segments over approximately 10 miles;
- US 101 between SR 92 and SR 85 (South): Forty-six northbound and southbound segments in Santa Clara County and three northbound and southbound segments in San Mateo County over approximately 36 miles;
- I-680 between I-580 and Calaveras Boulevard/SR 237: Two northbound and southbound segments in Santa Clara County and eight northbound and southbound segments in Alameda County over approximately 21 miles;

- I-880 between SR 92 and I-280: Eleven northbound and southbound segments in Santa Clara County and six northbound and southbound segments in Alameda County over approximately 22 miles; and
- SR 87 between US 101 and SR 85: Ten northbound and southbound segments in Santa Clara County over approximately 9 miles.

## Traffic and Circulation Analysis Methods

The operations of roadway facilities are described with the term “level of service,” or LOS, a qualitative description of traffic flow that considers such factors as speed, travel time, delay, and freedom to maneuver. Six levels of LOS are defined, from LOS A, the best operating conditions, to LOS F, the worst operating conditions. LOS E represents “at-capacity” operations. When traffic volumes exceed intersection capacity, stop-and-go conditions result, and operations are designated as LOS F.

### Signalized Intersection Operations

The method described in Chapter 16 of the 2000 *Highway Capacity Manual* (HCM) (Special Report 209 of the Transportation Research Board) was used to prepare the LOS calculations for study area intersections during the AM and PM peak hours. This LOS method, which is approved by the City of Santa Clara and VTA, analyzes a signalized intersection’s operation according to average control delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay is calculated using TRAFFIX analysis software and correlated to an LOS designation, as shown in Table 3.3-4 and Figure 3.3-3.

**Table 3.3-4. Signalized Intersection Level of Service Definitions**

Level of Service	Description	Average Control Delay per Vehicle (seconds)
A	Operations with very little delay; favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with little delay; good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays, resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Many vehicles stop, and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values, indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays that are unacceptable to most drivers due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Sources: VTA. 2003. *Traffic Level of Service Analysis Guidelines*. Congestion Management Program. June; and, Transportation Research Board. 2000. *Highway Capacity Manual*.



**Intersection Operation: Free Flow**

**Degree of Delay: Negligible Delays**



**Intersection Operation: Less Stable Flow**

**Degree of Delay: Long Delays**



**Intersection Operation: Stable Flow**

**Degree of Delay: Minimal Delays**



**Intersection Operation: Unstable Flow**

**Degree of Delay: Substantial Delays Can Occur**



**Intersection Operation: Stable Flow**

**Degree of Delay: Moderate Delays**



**Intersection Operation: Unpredictable Flow/Wait Through Multiple Cycles**

**Degree of Delay: Excessive Delays Can Occur**

Graphics ... 00333.14 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-3**  
**Signalized Intersection Level of Service Examples**  
 City Place Santa Clara

## Unsignalized Intersections Operations

The operations of the unsignalized intersections were evaluated using the method contained in Chapter 17 of the 2000 HCM. LOS ratings for all-way stop-controlled intersections are based on the average control delay for all movements, expressed in seconds per vehicle. At two-way or side-street controlled intersections, the average control delay is calculated for each stopped movement, not for the intersection as a whole. For approaches with a single lane, the control delay is computed as the average of all movements in that lane.

Table 3.3-5 summarizes the relationship between delay and LOS for unsignalized intersections.

**Table 3.3-5. Unsignalized Intersection LOS Definitions**

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay	≤ 10.0
B	Short traffic delay	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays, with intersection capacity exceeded	> 50.0

Sources: VTA. 2003. *Traffic Level of Service Analysis Guidelines*. Congestion Management Program. June; and, Transportation Research Board. 2000. *Highway Capacity Manual*.

The City of Santa Clara and adjacent local jurisdictions apply the signal warrant for peak-hour volume from the California Manual on Uniform Traffic Control Devices (CA MUTCD) to intersections that operate at LOS F.<sup>2</sup> This second analysis step is conducted to determine whether the installation of traffic signals should be considered. Because the impact analysis is based on peak-hour traffic volumes, only the warrant for peak-hour volume is investigated.

### Warrant 3 – Peak-Hour Vehicle Volume

This warrant (Warrant 3A and 3B) determines if minor street traffic suffers undue delay when entering or crossing a major street over a minimum of 1 hour on an average day. This is based on the left-turn volume of the major street, the higher approach volume of the minor street, and the calculated delay for vehicles on the higher volume approach of the minor street.

## Freeway Segment Operations

Freeway mainline segments in Santa Clara County are evaluated under existing and existing with-Project conditions using VTA's analysis procedure, which is based on the density of the traffic flow during the AM and PM peak hours and the methods described in the 2000 HCM. Density is expressed as passenger cars per mile per lane.

<sup>2</sup> Signal warrant analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic and compares it to a sub-set of the standard traffic signal warrants recommended in the 2012 CA MUTCD guidelines. Because the impact analysis is based on peak-hour traffic forecasts, only the peak-hour vehicle volume warrant is assessed. The City may elect to have the Project Developer conduct the monitoring activities and coordinate with the City regarding the timing of the signal installation.

The CMP density ranges for each freeway segment's LOS are shown in Table 3.3-6.

**Table 3.3-6. Freeway Segment LOS Definitions (Santa Clara County)**

Level of Service	Density (passenger cars per mile per lane)
A	≤ 11
B	11.1 to 18.0
C	18.1 to 26.0
D	26.1 to 46.0
E	46.1 to 58.0
F	> 58.0

Sources: VTA. 2003. *Traffic Level of Service Analysis Guidelines*. Congestion Management Program. June; and, Transportation Research Board. 2000. *Highway Capacity Manual*.

Future operations of freeway mainline segments in Santa Clara County are evaluated by using volume-to-capacity (V/C) ratios, with a V/C ratio greater than 1.0 indicating that vehicle demand exceeds capacity.

Freeway mainline operations in San Mateo County are evaluated by using the V/C ratio method, per City/County Association of Government (C/CAG) guidelines (see Table B-1 of the appendices of the 2013 CMP for San Mateo County). The LOS descriptions and the maximum V/C for each LOS designation are presented in Table 3.3-7.

**Table 3.3-7. Freeway Segment LOS Definitions (San Mateo County)**

Level of Service <sup>a</sup>	Description	Maximum Volume-to-Capacity Ratio
A	Free-flow operations, with average operating speeds at, or above, the speed limit. Vehicles are unimpeded in their ability to maneuver.	0.28
B	Free-flow operations, with average operating speeds at the speed limit. Ability to maneuver is slightly restricted. Minor incidents cause some local deterioration in operations.	0.46
C	Stable operations, with average operating speeds near the speed limit. Freedom to maneuver is noticeably restricted. Minor incidents cause substantial local deterioration in service.	0.67
D	Speeds begin to decline slightly with increasing flows. Freedom to maneuver is more noticeably restricted. Minor incidents create queuing.	0.85
E	Operations at capacity. Vehicle spacing causes little room to maneuver but speeds exceed 50 mph. Any disruption to the traffic stream can cause a wave of delay that propagates throughout the upstream traffic flow. Minor incidents cause serious breakdown of service, with extensive queuing. Maneuverability is extremely limited.	1.00
F	Breakdowns in vehicle flow. Volumes exceed capacity, causing bottlenecks and queue formation.	N/A

Notes:

<sup>a</sup>. Freeway mainline LOS is based on a 65 mph free-flow speed, per Table B-1 of the 2013 CMP.

Source: Transportation Research Board. 2000. *Highway Capacity Manual*.

Freeway operations for segments in Alameda County are evaluated by using V/C ratios, per Alameda County Transportation Commission (Alameda CTC) guidelines. The peak-hour volume on a segment in each direction is compared to the segment's vehicle carrying capacity; the V/C ratio is then calculated. The capacity is estimated as the number of lanes multiplied by 2,000 vehicles per hour per lane.

Table 3.3-8 summarizes the LOS and V/C thresholds for freeway segments in Alameda County.

**Table 3.3-8. Freeway Segment LOS Definitions (Alameda County)**

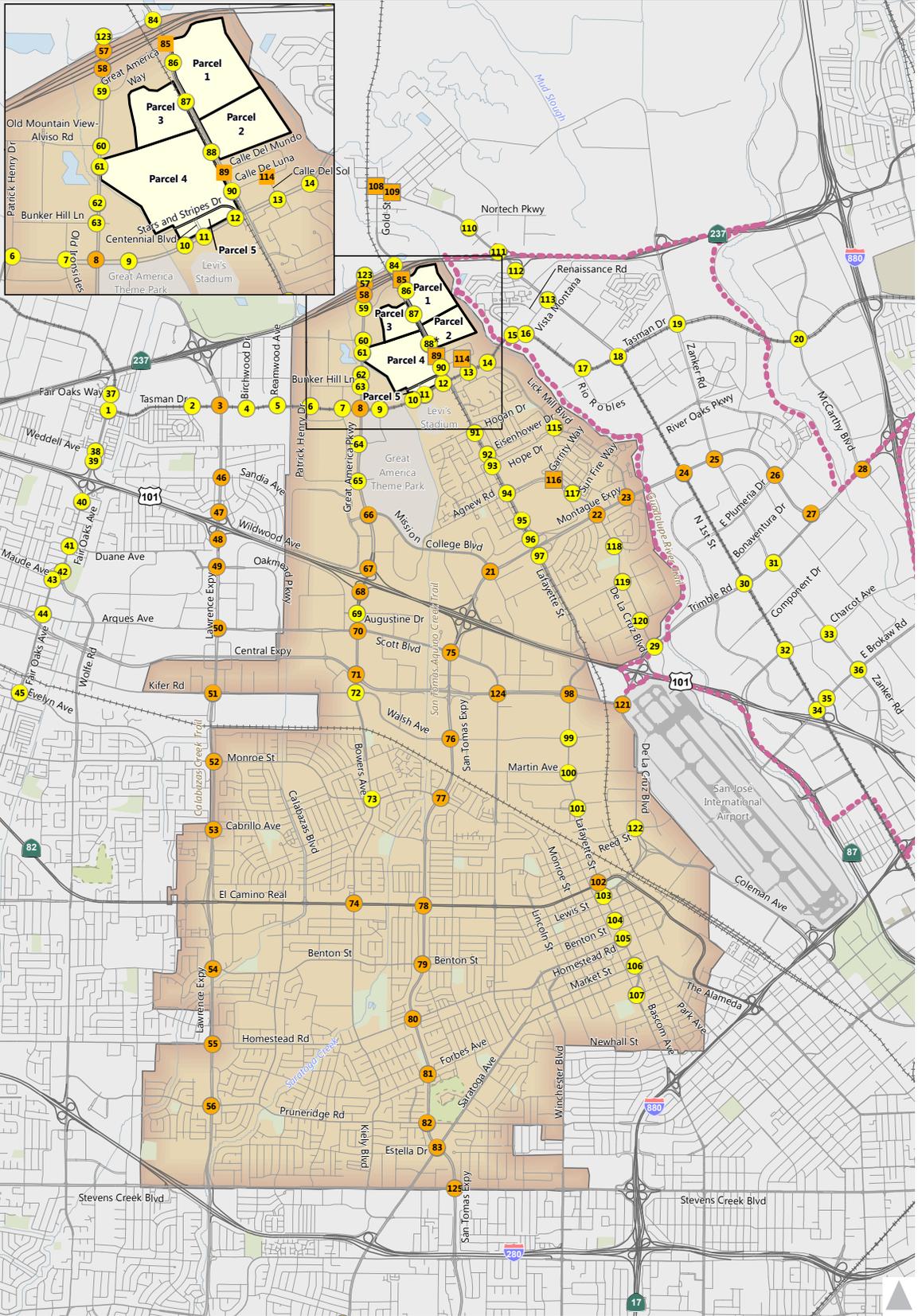
Level of Service	Average Travel Speed (mph)	Volume/Capacity Ratio	Maximum Service Flow (vehicles/hour/lane)
A	≥ 60	0.35	700
B	≥ 55	0.58	1,000
C	≥ 49	0.75	1,500
D	≥ 41	0.90	1,800
E	≥ 30	1.00	2,000
F	< 30	—	—

Sources: Alameda County Congestion Management Agency. 2009 *Congestion Management Program*. Table 5; Transportation Research Board. 1985. *Highway Capacity Manual*.

## LOS Standards

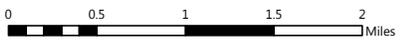
This section describes the LOS standard for each roadway facility type analyzed. The thresholds of significance that will be employed in this analysis are set forth below in the significant impact criteria section.

- Signalized Intersections:** The evaluation of signalized intersection operations and impacts is based on the appropriate jurisdiction's LOS standards (i.e., the minimum threshold for acceptable operations). In the City of Santa Clara, acceptable LOS for signalized intersections is defined as LOS D or better during the AM or PM Peak Period. Acceptable LOS for the signalized intersections included in the Santa Clara County CMP is defined as LOS of E or better. City of Santa Clara and VTA intersection LOS standards, along with those for other jurisdictions analyzed for this report, are summarized in Table 3.3-9. Figure 3.3-4 illustrates the LOS standards that were applied for each of the study intersections.
- Unsignalized Intersections:** Unsignalized study intersections are located only within the City of Santa Clara and the City of San José. Neither city has an established LOS threshold for unsignalized intersections.
- Freeway Segments:** The LOS standard for CMP freeway segments in Santa Clara County is LOS E for both mixed-flow and high-occupancy vehicle (HOV) lanes (see the 2012 Santa Clara Valley Transportation Authority Monitoring and Conformance Report). The CMP LOS standards for study areas on US 101 in San Mateo County are LOS F for segments between Embarcadero Road and Whipple Avenue and LOS E for segments between SR 92 and Whipple Avenue (see the 2013 San Mateo County Congestion Management Program). Although the Alameda County Transportation Commission Congestion Management Program (2013) does not have a specified LOS threshold for land use development projects, consistent with other EIRs, the LOS E standard was used for CMP freeway segments in Alameda County.



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- City of Santa Clara
- Project Parcel Boundaries
- Signalized Intersection
- Unsignalized Intersection
- Minimum Threshold LOS - D
- Minimum Threshold LOS - E
- North San Jose Deficiency Plan Area
- \* Variant Alternative Intersection



Source: Fehr & Peers, 2015.



**Figure 3.3-4**  
**Intersection LOS Standards**  
 City Place Santa Clara

**Table 3.3-9. Signalized Intersection LOS Standards**

Jurisdiction	Intersection LOS Standards	Citation
City of Santa Clara	LOS D for all City-controlled signalized intersections, except designated CMP and expressway intersections (LOS E threshold).	Santa Clara General Plan, pages 5 and 6, and Appendix 7 page 8.7-3 (2010)
City of Sunnyvale	LOS D for all City-controlled signalized intersections, except for CMP intersections and regionally significant roadways, which include El Camino Real and Sunnyvale – Saratoga Road. The threshold for CMP intersections and intersections along these regionally significant corridors is LOS E.	Sunnyvale General Plan, Policy LT-5.1, page 3-4 (2011)
City of San José	LOS D for all City-controlled intersections, except intersections in the downtown San José area, select intersections within special development plan areas, and intersections on the protected intersection list. For the purpose of this study, the study intersections within the boundaries of the North San José Development Area, as well as San José, use the Transportation Impact Policy 5-3 LOS D threshold, which includes San José intersections that are also designated CMP intersections.	City of San José TIA Guidelines, page 5 (2009); North San José Area Development Policy, page 16 (2012)
City of Milpitas	LOS D for all City-controlled signalized intersections, except for CMP intersections.	City of Milpitas General Plan, page 3-6 and 3-7 (2002);
Santa Clara County	LOS E for all Santa Clara County intersections.	Santa Clara County General Plan, pages F-18 and F-19 (1994)
Congestion Management Program (CMP)	LOS E for all CMP intersections, except those controlled by San José.	VTA Congestion Management Program, page 29 (2013)

Sources: Santa Clara, 2010; Sunnyvale, 2011; San José, 2009; San José, 2011; Milpitas, 2002; VTA, 2009; VTA, 2013.

### Transit Capacity Analysis Method

A transit capacity analysis was conducted for the nearby public bus and light-rail transit routes and rail passenger service to determine whether transit demand exceeds existing or future transit capacity. The analysis is based on peak-hour load factors, which are the ratio between passenger ridership (passenger load) and the seated capacity on a route per vehicle/train on the peak load segment during the peak hour. If the passenger load is greater than the seated capacity and the ratio is greater than 1.0, some passengers are assumed to be standing. Some standees are allowable on light-rail transit and some types of bus service. The capacities and peak<sup>3</sup> load factor standards for the various VTA service types, as established

<sup>3</sup> VTA also provides midday peak load factors. However, these standards were not used for this analysis because midday service operations were not evaluated (VTA, OPS PL-0059, dated November 8, 2014).

in Title VI: System-Wide Service Standards and Policies (OPS PL-0059, dated November 8, 2014), are as follows:

- Light Rail
  - Seated Capacity: 65 per car (or a total of 130, assuming each train has two cars)
  - Passengers (seated plus standees): 78 per car, 156 per two-car train
  - Load Factor Standard: 1.2
- Local and Core Bus Routes:
  - Seated Capacity: 37 passengers per vehicle
  - Passengers (seated plus standees): 44.4 passengers
  - Load Factor Standard: 1.2
- Express and Limited-Stop Routes<sup>4</sup>
  - Seated Capacity: 39 passengers per vehicle
  - Load Factor Standard: 1.0

The peak load factor is evaluated during the PM Peak Hour for bus routes, while the peak load factor for light-rail Route 902 is evaluated at the two nearest light-rail stations (i.e., Great America and Lick Mill) by direction during both the AM and PM Peak Hours. Transit capacity is also evaluated with respect to the platform waiting area at Great America Station for ACE service. The number of waiting passengers is multiplied by the platform area per passenger under “crush load” conditions and compared to the amount of waiting area on the platform. The “crush load” platform area per passenger is 3 to 5 gross square (gsf) feet per person.

## Existing Conditions

This section describes the existing condition of the roadway, bicycle and pedestrian facilities, and transit service within the study area. It also presents information regarding existing traffic volumes and operations at study intersections and along freeway segments. The discussion of existing bicycle, pedestrian, and transit facilities is confined to a smaller study area than that shown in Figures 3.3-5 to 3.3-7 to account for the shorter acceptable walking and cycling distances.

## Street System

Primary automobile access to the Project site is from US 101, SR 237, Great America Parkway, Tasman Drive, and Lafayette Street. These roadways are described below and illustrated in Figure 3.3-1.

- **US 101** is an eight-lane divided freeway that connects east San José to San Francisco along the west side of the San Francisco Bay, including communities along the peninsula. The freeway is a major commute corridor in Silicon Valley, providing access to businesses in downtown San José and technology employers, including Google, Facebook, Microsoft, Oracle, eBay/PayPal, and Intuit in the northern portion of Santa Clara County. One lane in each direction operates as an HOV lane from 5:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 7:00 p.m. Monday through Friday from the northern Santa Clara County border to south of SR 85 in south San José. HOV lanes, also known as diamond or carpool lanes, are limited to use by vehicles that are occupied by two or more

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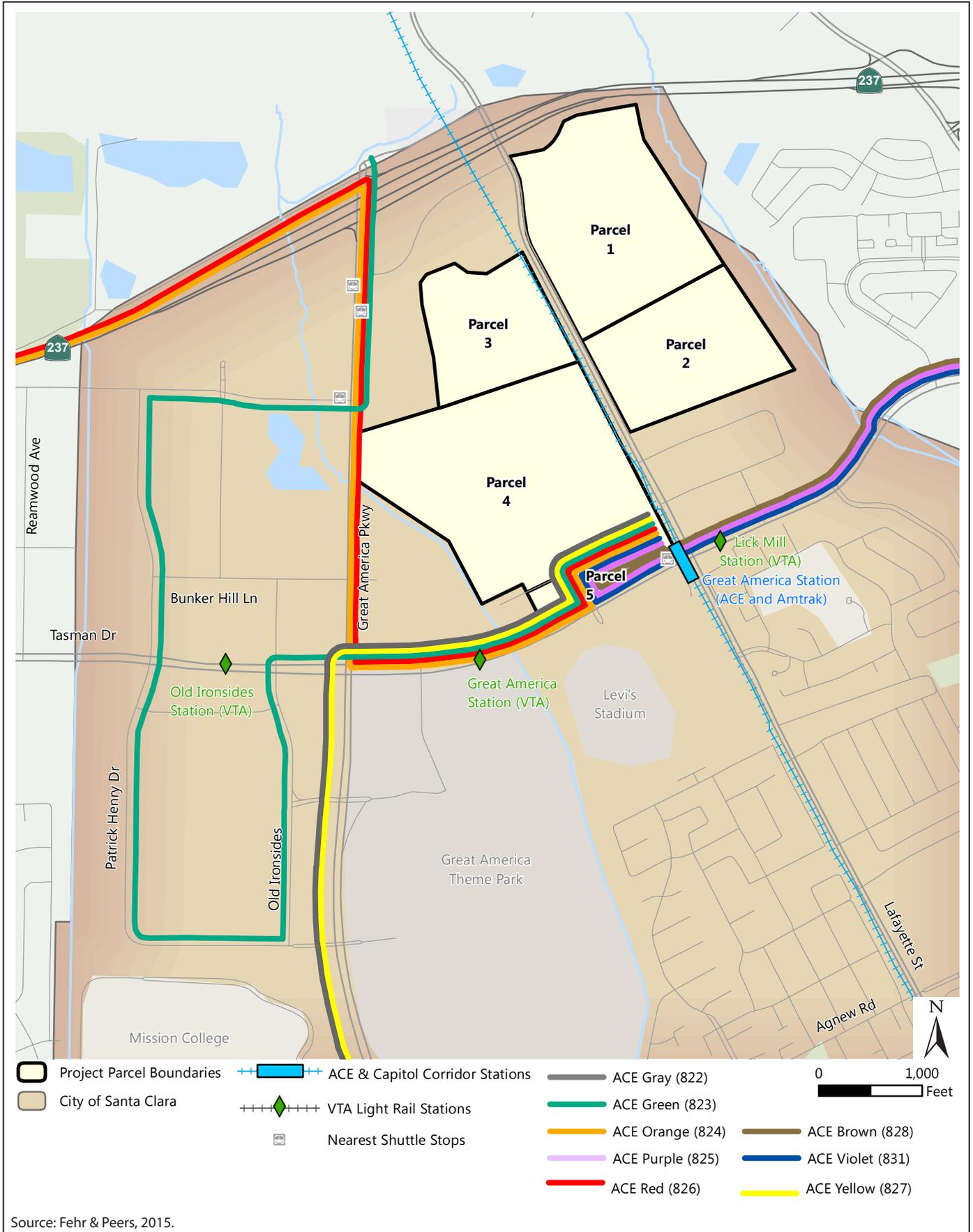
<sup>4</sup> Express and limited-stop routes are subject to a reduced load factor standard of 1.0 to determine if additional capacity should be provided (VTA, OPS PL-0059, dated November 8, 2014).



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**Figure 3.3-5**  
**Existing Transit Services in the Focused Study Area**  
 City Place Santa Clara



**Figure 3.3-6**  
**Existing Commuter Rail Shuttle Service**  
 City Place Santa Clara



Graphics ... 00333.14 (9-25-2015).tm



**Figure 3.3-7**  
**Existing Bicycle Facilities in the Focused Study Area**  
 City Place Santa Clara

persons and motorcycles. Access to the Project site from US 101 is provided from the Great America Parkway and Montague Expressway interchanges.

- **SR 237** is a six-lane divided freeway that connects the east and west sides of Silicon Valley to Mountain View, Sunnyvale, Santa Clara, North San José, and Milpitas. It provides access to employers, including Cisco, Samsung, Yahoo!, and SanDisk and region-serving retail in Milpitas. One lane in each direction operates as an HOV lane from 5:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 7:00 p.m. Monday through Friday. During the spring of 2012, the first phase of the SR 237 Express Lane Project opened to motor vehicles. This project converted the HOV lane connector ramps at the SR 237/I-880 interchange to express lanes. Carpool vehicles, motorcycles, and eligible hybrids can use this express lane without a charge, while single-occupant vehicles can use the express lane during commute hours by paying a toll.
- **Great America Parkway** is a six-lane north/south divided major arterial that extends from SR 237 to US 101, providing access to US 101, Central Expressway, and El Camino Real. South of US 101 it continues as Bowers Avenue, then narrows to two lanes in each direction south of Central Expressway and becomes Kiely Boulevard at El Camino Real. It provides primary access to the Project site from SR 237 and US 101.
- **Tasman Drive** is a six-lane east/west divided arterial with a center-running, at-grade light-rail system (i.e., the VTA light-rail Mountain View/Winchester route), which runs between I-880 on the east and Java Drive on the west. Tasman Drive narrows to two lanes in each direction west of Great America Parkway. The City of Santa Clara is currently studying a plan to add bicycle lanes to Tasman Drive between the Guadalupe River and Calabazas Creek, which may result in removing or narrowing existing vehicle lanes.
- **Lafayette Street** is a four-lane north/south arterial that connects to SR 237 immediately north of the Project site (via Gold Street) and US 101 approximately 2 miles south of the Project site. Lafayette Street, which has an undercrossing without a connection at Tasman Drive, connects directly to Great America Way (previously known as Yerba Buena Way). Union Pacific railroad tracks with Amtrak and ACE passenger service run along the west (southbound) side of the street, as do high-voltage power lines. Lafayette Street lacks sidewalks along the entire west (southbound) side and along most of the east (northbound) side north of Tasman Drive.

Other major east/west-oriented freeways and streets in the study area are described below and displayed in Figure 3.3-1.

- **I-680** is a 10-lane divided east/west freeway that runs from I-80 in Fairfield to San José, spanning across the counties of Santa Clara, Alameda, Contra Costa, and Solano. I-680 has an express lane from SR 84 to SR 237 (southbound only) from 5:00 a.m. to 8:00 p.m. Express lanes allow two or more persons to travel free of charge. Solo drivers pay a variable toll to use the carpool lane. I-680 is located east of the Project site. Access to the Project site from I-680 is provided from SR 237.
- **Central Expressway** is a four-lane expressway south of US 101 that connects San José to Mountain View. Central Expressway begins at De La Cruz Boulevard and terminates at San Antonio Road in Mountain View where it transitions into Alma Street. Central Expressway connects to Great America Parkway, which provides primary access to the Project site. There is one westbound HOV lane on Central Expressway, beginning at De La Cruz Boulevard and ending at Scott Boulevard. There is one eastbound HOV lane, beginning west of Scott Boulevard and

ending at De La Cruz Boulevard. HOV lanes on Central Expressway operate from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays only.

- **Montague Expressway** is an eight-lane divided expressway that connects to US 101 south of the Project site. (It narrows as it crosses over US 101.) Montague Expressway begins at I-680 in Milpitas and transitions into San Tomas Expressway south of US 101. There is one westbound HOV lane on Montague Expressway, beginning at O'Toole Avenue/McCarthy Boulevard and ending at the US 101 Lafayette Bridge overcrossing. The westbound HOV lane operates on weekday mornings only between 6:00 a.m. and 9:00 a.m. There is one eastbound HOV lane on Montague Expressway, beginning at Mission College Boulevard and ending at O'Toole Avenue/McCarthy Boulevard. The eastbound HOV lane operates from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays only.
- **Trimble Road** is a six-lane divided arterial that branches off from Montague Expressway near Junction Avenue and continues slightly past US 101 near SJC. South of US 101, Trimble Road transitions into De La Cruz Boulevard. Trimble Road connects to other arterials in the study area that provide access to the Project site.
- **Arques Avenue/Scott Boulevard** is a four-lane divided arterial that connects to Central Expressway near Fair Oaks Avenue in Sunnyvale (to the west). Arques Avenue transitions into Scott Boulevard at Lawrence Expressway. It then connects to Bowers Avenue/Great America Parkway, which provides direct access to the Project site, then bends southward at Central Expressway.
- **Mission College Boulevard** is a four- to five-lane arterial south of the Project site, with two westbound lanes and three eastbound lanes between Juliette Lane and Montague Expressway. It begins north of US 101 at Montague Expressway and continues to Mission College Boulevard, providing access to various employers and retail/commercial land uses in the area north of US 101. Mission College Boulevard connects to Great America Parkway, which provides direct access to the Project site.

The following east/west-oriented streets are local streets in proximity to the Project site and displayed in Figure 3.3-1.

- **Calle Del Mundo** is a two-lane local street on the southeast border of the Project site. As Calle Del Mundo loops east from Lafayette Street, it connects to Calle De Luna. Calle Del Mundo lacks sidewalks on both sides of the street. Together, these streets, Calle Del Mundo and Calle De Luna, form a short 0.5-mile loop that branches off from Lafayette Street.
- **Calle De Luna** is located immediately south of Calle Del Mundo, just off Lafayette Street and south of the Project site. Calle De Luna, which connects to Calle Del Mundo, lacks sidewalks on the south side of the street between Lafayette Street and Calle Del Mundo and on the north side of the street between Calle Del Sol and Calle Del Mundo. Both Calle De Luna and Calle Del Mundo are lined with single-level office/industrial buildings that are surrounded by surface-level parking lots.

Other north/south-oriented freeways and streets in the study area are described below and displayed in Figure 3.3-1.

- **I-880** is an eight-lane north/south freeway east of the Project site that connects San José and Oakland. The freeway runs parallel to the southeastern shore of the San Francisco Bay. There are both northbound and southbound HOV lanes on I-880. The northbound HOV lane operates between US 101 in San José and Marina Boulevard in San Leandro from 5:00 a.m. to 9:00 a.m. and

3:00 p.m. to 7:00 p.m. The southbound HOV lane operates between Marina Boulevard in San Leandro to US 101 in San José during the same hours as the northbound lane.

- **Lawrence Expressway** is an eight-lane divided expressway that connects to Central Expressway, US 101, and Tasman Drive. Lawrence Expressway runs between SR 237 and Central Expressway. As it travels southward, it transitions to Quito Road at Saratoga Avenue at the San José and Saratoga city limits. Lawrence Expressway has one southbound HOV lane, beginning south of Duane Avenue and ending at Stevens Creek Boulevard in San José. There is one northbound HOV lane, beginning north of Stevens Creek Boulevard and ending at Arques Avenue/Scott Boulevard. HOV lanes operate on Lawrence Expressway from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays only.
- **Patrick Henry Drive** is a two-way local street west of Great America Parkway. It begins at Old Mountain View-Alviso Road and curves east, terminating at Great America Parkway south of Tasman Drive.
- **San Tomas Expressway** located south of US 101, is an eight-lane divided expressway with both northbound and southbound HOV lanes. It extends from Campbell to Santa Clara. North of US 101, San Tomas Expressway transitions into Montague Expressway. The first northbound HOV lane, which begins at Budd Avenue in Campbell and ends at Central Expressway, operates on weekday mornings between 6:00 a.m. and 10:00 a.m. The second northbound HOV lane, which begins at El Camino Real and ends at the Central Expressway Bridge, operates from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays. The southbound HOV lanes follow the same extents as the northbound HOV lanes but in reverse (Central Expressway Bridge to El Camino Real and El Camino Real to Budd Avenue). The El Camino Real to Budd Avenue southbound HOV lane operates on weekday afternoons between 3:00 p.m. and 7:00 p.m.
- **Lick Mill Boulevard** is a four-lane arterial located between Tasman Drive and Montague Expressway. Lick Mill Boulevard runs through residential areas and open space (Ulistac Natural Area) on the border between Santa Clara and San José.
- **De La Cruz Boulevard** is a four-lane arterial that runs from Trimble Road to Montague Expressway, then continues south as Coleman Avenue at the De La Cruz overpass at El Camino Real. Land uses along De La Cruz Boulevard are mostly residential and light industrial.
- **North 1<sup>st</sup> Street** is a four-lane arterial with a center-running, at-grade light-rail system (i.e., the VTA Alum Rock/Santa Teresa and Mountain View/Winchester routes). North 1<sup>st</sup> Street, which connects downtown San José to North San José, is located east of the Project site. It terminates north of SR 237.
- **Zanker Road** is a four-lane arterial that runs parallel to and east of North 1<sup>st</sup> Street in San José. It begins near downtown San José at the US 101/I-880 interchange and ends north of SR 237 near the San José – Santa Clara Regional Wastewater Facility.

## Existing Truck Routes

The Santa Clara General Plan highlights the importance of the movement of trucks and freight through the City's transportation network but recognizes the need to protect neighborhoods from adverse noise and vibration impacts. Truck travel is focused along the City's arterials and discouraged on local and collector streets, except for deliveries to destinations that can be accessed only from those streets (City of Santa Clara 2010).

## Existing Transit Services

This section summarizes local and regional transit connectivity in the study area, including bus, light rail, commuter rail, and public and private shuttles. The greater San Francisco Bay Area is served by an extensive public transit network of rail, buses, and ferries. Many of these transit providers offer service in the study area, offering regional transit mobility to employees, residents, and visitors in Santa Clara. Overall, the primary mode of transportation for commute trips in the City of Santa Clara is driving alone (77.3 percent of residents). Carpooling is the second most-used mode, at about 9.8 percent. Transit is the third most-used mode, capturing about 3.6 percent.<sup>5</sup> About 3.3 percent of people walk to work and 1.2 percent bike. Transit systems that serve the study area are introduced below and described in more detail in the Roadway Improvements section.

- Santa Clara Valley Transportation Authority:** VTA provides light-rail, bus, and paratransit service to Santa Clara County, including the City of Santa Clara. VTA is governed by a 12-member Board of Directors. Light-rail trains operate at 15-, 20-, and 60-minute frequencies, depending on the time of day. VTA bus routes generally operate between 5:00 a.m. and 1:00 a.m. on weekdays and 6:00 a.m. and 12:30 a.m. on weekends.
- Caltrain:** Caltrain provides inter- and intra-county commuter rail service from San Francisco County to the north, through San Mateo County, to Santa Clara County in the southern part of the study area. The Peninsula Corridor Joint Powers Board operates Caltrain 365 days a year, with reduced schedules on weekends and major U.S. holidays. Weekday trains are a mix of Baby Bullet, Limited, and Local trains. None of the stations in the study area offer Baby Bullet, or Limited service. The nearest Baby Bullet station is San José Diridon. The Lawrence Caltrain station (137 San Zeno Way, Sunnyvale) and the Santa Clara Caltrain station (1001 Railroad Avenue, Santa Clara) are closest to the Project site, while the San José Diridon station (65 Cahill Street) is located just outside the study area, closer to downtown San José. In addition, Caltrain serves the College Park station, located at 780 Stockton Avenue, in San José twice daily to coincide with the school schedule at Bellarmine College Preparatory.
- Altamont Corridor Express:** ACE provides passenger rail service across the Altamont Corridor, extending from San José to Stockton. ACE trains connect to Caltrain at the Santa Clara and San José Diridon stations. The full ACE line comprises 10 stations. The San Joaquin Regional Rail Commission (SJRRC) is owner and operator of ACE. The hours of operation for westbound trains are 4:20 a.m. to 9:17 a.m. on weekdays. Eastbound trains operate between 3:35 p.m. and 8:50 p.m. on weekdays. Trains depart approximately every hour during service hours (Altamont Corridor Express 2013). The nearest ACE station to the study area is Santa Clara/Great America Station (5099 Stars and Stripes Drive, Santa Clara).

There is approximately 12,200 gsf of passenger waiting area<sup>6</sup> on the platform at Santa Clara/Great America Station. In the afternoon, the number of waiting passengers, based on field observations, is 375 to 400. The existing waiting area per passenger is 30 feet. Under the existing passenger load, the platform waiting area is approximately 16 percent full.

- Capitol Corridor:** The Capitol Corridor is an Amtrak service that provides intercity passenger rail service to Sacramento, Oakland, and San José, with Amtrak Thruway bus connections to nearby

<sup>5</sup> Commute mode choice, also known as commute mode share, refers to the mode of transportation that a commuter uses to travel to work, such as driving alone, biking, carpooling, or taking transit. The dataset includes metropolitan, regional, county, city, and census tract tables by place of residence and by place of employment. The dataset comes from Bay Area Census (1960 to 2000) and the U.S. Census Bureau's American Community Survey (2009 to 2013).

<sup>6</sup> Wait area is 12,200 gsf (540 feet by 20 feet plus 140 feet by 10 feet.)

cities. Capitol Corridor trains operate between 4:30 a.m. and 11:30 p.m. Trains depart about every 1 to 2 hours on weekdays. The Capitol Corridor is managed by the Capitol Corridor Joint Powers Authority (CCJPA), a partnership of six local transit agencies in the eight-county service area. BART provides daily management support to the CCJPA, and trains are operated by Amtrak. The nearest Capitol Corridor stations to the study area are Santa Clara/Great America Station and Santa Clara Station, which is shared with Caltrain (1001 Railroad Avenue, Santa Clara). Capitol Corridor also stops at San José Diridon Station.

## Local Transit Network Connectivity

Transit services within 0.5 mile of the Project site are detailed in Table 3.3-10 and displayed in Figure 3.3-5. The Project site is within walking distance (i.e., approximately 2,500 feet, as measured from the center of Parcel 4 to the nearest light-rail station platform) of one light-rail line (Mountain View/Winchester line) and two bus lines (Lines 140 and 330) at the Great America VTA light-rail station, located on the east side of the Tasman Drive and Great America Parkway intersection. Transit service at this station provides access to the Santa Clara Convention Center, Great America Amusement Park, Levi's Stadium, and area hotels. Four VTA bus lines are located approximately 0.5 mile from the Project site, near the Old Ironsides VTA light-rail station located west of the Tasman Drive and Great America Parkway intersection.

City Place Santa Clara is served by commuter rail service to San José, Stockton, and Sacramento from Great America Amtrak Station (Lafayette Street, just north of Tasman Drive). The walking distance is approximately 1,500 feet from the center of Parcel 4. Capitol Corridor commuter rail provides service to Sacramento (via the East Bay) and San José, running approximately once per hour throughout the day during the work week. ACE runs four trains that connect to San José in the morning and Stockton (via the East Bay) in the evening during the work week. Eight shuttle routes connect the commuter rail station to major employers in Silicon Valley during commute hours. These shuttle services are displayed in Figure 3.3-6.

VTA peak load factor data indicate that excess seating capacity exists on all seven bus lines that serve the City Place site as well as light-rail Route 902. The peak load factor for bus and commuter rail routes is displayed in Table 3.3-10. The peak load factor for light-rail Route 902 is displayed in Table 3.3-11 by station platform and direction. Peak load is a useful measurement of ridership during peak hours compared with carrying capacity. The peak load factor is the ratio between ridership (passenger load) and the seated capacity of a route per vehicle/train during the peak period. A peak load factor greater than the seated capacity (i.e., ratio greater than 1.0) will result in some passengers standing in the transit vehicle.

VTA has no specific plans to increase bus and light-rail service in the City Place area during commute hours but does have a standard policy of improving frequency and extending operating hours when operating funds become available. To accommodate game-day ridership for Levi's Stadium, VTA has planned several improvements to transit service, described in the Game-Day Analysis section. Both Capitol Corridor and ACE have service improvements planned that would increase train frequency. ACE is currently studying a proposal to increase service by six to 10 round trips per day. Capitol Corridor plans to double existing service to 15 round trips per day by 2020. Caltrain is in the process of electrifying the system between San Francisco and San José, including Lawrence Station and Santa Clara Station. This will increase the frequency of daily trains at both stations by 2020. According to the prototypical 2020 Caltrain schedule in the Peninsula Corridor Electrification Project EIR, the number of daily trains at Lawrence Station would increase from 56 to 66 and from 58 to 66 at Santa Clara Station (Joint Powers Board 2014).

**Table 3.3-10. Existing Transit Service in Focused Study Area**

Route	From	To	Weekdays		Weekends		Weekday Peak-Hour Peak Load Factor <sup>c</sup>	
			Operating Hours <sup>a</sup>	Headway (minutes) <sup>b</sup>		Operating Hours		Headway (minutes)
		Peak		Midday				
<b>Express VTA Bus Routes</b>								
121	Gilroy Transit Center	Moffett Park	5:30 a.m. to 9:00 a.m. 3:15 p.m. to 6:30 p.m.	30	No service	No service	N/A	0.53
140	Fremont BART	Montague Expressway	5:30 a.m. to 9:00 a.m. 3:15 p.m. to 6:30 p.m.	45	No service	No service	N/A	0.62
<b>Limited Stop VTA Routes</b>								
321	Great Mall	Lockheed Martin/Moffett Industrial Park	8:10 a.m. to 8:45 a.m. 5:50 p.m. to 6:30 p.m.	One run per day	No service	No service	N/A	0.11
330	Almaden Expressway	Tasman Drive	6:45 a.m. to 9:25 a.m. 4:15 p.m. to 7:25 p.m.	30	No service	No service	N/A	0.39
<b>Local VTA Bus Routes</b>								
55	De Anza College	Great America Parkway	5:30 a.m. to 11:30 p.m.	15-30	30	8:00 a.m. to 9:00 p.m.	30-60	0.57
57	West Valley College	Great America Parkway	6:15 a.m. to 11:00 p.m.	30	30	8:00 a.m. to 8:00 p.m.	60	0.34
60	Winchester Transit Center	Great America Parkway	5:35 a.m. to 11:00 p.m.	20	30	7:00 a.m. to 10:40 p.m.	30-60	0.33
<b>Commuter Rail</b>								
Caltrain	San Francisco	Gilroy	4:30 a.m. to 12:01 a.m. (northbound) 4:55 a.m. to 1:32 a.m. (southbound)	30	60	7:00 a.m. to 12:08 p.m.	60	1.2 (AM SB/ PM NB) 1.4 (AM NB/ PM SB) <sup>e</sup>

**Table 3.3-10. Existing Transit Service in Focused Study Area**

Route	From	To	Weekdays		Weekends		Weekday Peak-Hour Peak Load Factor <sup>c</sup>	
			Operating Hours <sup>a</sup>	Headway (minutes) <sup>b</sup>	Operating Hours	Headway (minutes)		
Altamont Corridor Express (ACE)	Stockton	San José	6:15 a.m. to 9:00 a.m. 3:45 p.m. to 6:45 p.m.	60	N/A	6:15 a.m. to 9:00 a.m. 3:45 p.m. to 6:45 p.m.	60	0.36
Capitol Corridor	Sacramento	San José	7:00 a.m. to 8:00 p.m.	60	120	8:00 a.m. to 9:30 p.m.	120	0.40
<b>Shuttles<sup>c</sup></b>								
ACE Gray (822) <sup>f</sup>	Great America Station	South Sunnyvale (Kifer Rd./ Uranium in the AM)	6:15 a.m. to 10:00 a.m. 3:15 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.85
ACE Yellow (827)	Great America Station	South Santa Clara (Scott Bl./ Octavius Dr.)	6:15 a.m. to 9:45 a.m. 3:15 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.87
ACE Red (826)	Great America Station	North Sunnyvale	6:15 a.m. to 9:45 a.m. 3:00 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.79
ACE Green (823)	Great America Station	North Santa Clara	6:15 a.m. to 9:30 a.m. 3:20 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.41
ACE Violet (831)	Great America Station	West Milpitas	6:15 a.m. to 10:00 a.m. 3:15 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.51
ACE Purple (825)	Great America Station	West Milpitas	6:15 a.m. to 10:00 a.m. 3:15 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.46
ACE Orange (824)	Great America Station	Mountain View/Palo Alto	6:15 a.m. to 10:00 a.m. 3:00 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.36
ACE Brown (828)	Great America Station	VTA Light Rail (North 1 <sup>st</sup> St.)	6:15 a.m. to 9:30 a.m. 3:20 p.m. to 6:45 p.m.	60-75	N/A	No weekend service		0.54

**Table 3.3-10. Existing Transit Service in Focused Study Area**

Route	From	To	Weekdays			Weekends		Weekday Peak-Hour Peak Load Factor <sup>c</sup>
			Operating Hours <sup>a</sup>	Headway (minutes) <sup>b</sup>		Operating Hours	Headway (minutes)	
	Peak	Midday						
Notes:								
a. Operating hours rounded to the nearest 5 minutes.								
b. Headways are defined as the time between transit vehicles on the same route (e.g., time between two ACE Purple Line shuttles stopping at Great America Station).								
c. The peak load factor is a ratio between ridership (passenger load) and the seated capacity of a route per vehicle/train on the peak load segment during the peak hour. See footnote below regarding capacity on the current Caltrain system (Bombardier and Gallery cars), which includes standees in addition to seated passengers.								
d. Data for VTA routes provided by VTA (January 2014).								
e. Results are from the Peninsula Corridor Electrification Project Final EIR, Appendix D and Chapter 3.1.4, 2014. Caltrain’s load factor standard of 1.0 includes all available seats as well as adequate standing room for standing passengers, as defined by the <i>Transit Capacity and Quality of Service Manual</i> (second edition, 2003), which is 5.4 gsf per standing passenger.								
f. Ridership data for ACE shuttles provided by ACE (2014). Average capacity per shuttle is 39 seated passengers.								
Source: VTA, January 2014; ACE, February 2015; Peninsula Corridors Joint Powers Board, 2014; SamTrans, 2015; Capitol Corridor, 2015.								

**Table 3.3-11. Peak Load Factors for Light Rail (Route 902)**

Station	Direction	Weekdays					Weekends	
		Operating Hours	Peak Headway (minutes)	Midday Headway (minutes)	AM Peak Load Factor <sup>a</sup>	PM Peak Load Factor <sup>a</sup>	Operating Hours	Headway (minutes)
Great America	Northbound	5:15 a.m. to 11:30 p.m.	15	30	0.62	0.40	6:15 a.m. to 11:15 p.m.	30
Great America	Southbound				0.29	0.67		
Lick Mill	Northbound				0.68	0.40		
Lick Mill	Southbound				0.32	0.63		

Notes:

a. Load data on Route 902 during the month of September 2014 provided by VTA (June 2015).

## Public and Private Shuttle Connections

In addition to traditional bus and rail transit service, public and private shuttles operate in the study area to increase mobility between transit stations and destinations in the area. Recently, there has been substantial growth in shuttle operations in the San Francisco Bay Area, especially private employer-provided regional shuttles that offer direct service to employment sites, either from residential neighborhood stops or transit stations. Major employers that offer such services include a number of technology companies. Employers provide shuttles for a range of purposes (e.g., to improve employee retention, fill transit service gaps, reduce commute times, demonstrate environmental stewardship, discourage driving and on-site parking).

Shuttles in the study area include a range of transportation services that are both publically and privately provided by transit agencies and employers. Shuttle vehicles range from mini-vans to full-sized motor coaches (San Francisco County Transportation Authority 2011). Most public shuttles operate fixed routes between Caltrain and ACE stations and employment sites and other destinations, including SJC.

Currently, approximately 11 to 25 public and private shuttles operate from the Santa Clara Caltrain station, including the Airport Flyer (VTA Route 10) to SJC. ACE operates eight shuttle routes from Great America Station, as summarized in Table 3.3-10 and Figure 3.3-6.

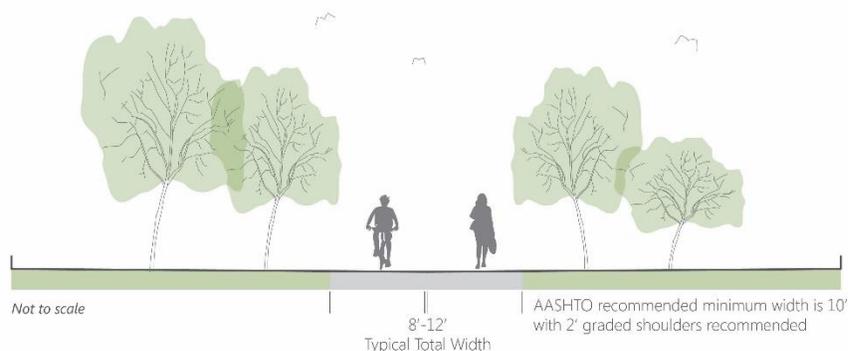
## Existing Bicycle and Pedestrian Facilities

This section summarizes the quality of the bicycle and pedestrian environment in the vicinity of the Project site with respect to safety, accessibility, and urban design, with a particular emphasis on access to transit stations in the study area. Overall, walking is a popular mode of access for VTA light-rail, ACE/Capitol Corridor, and Caltrain stations.

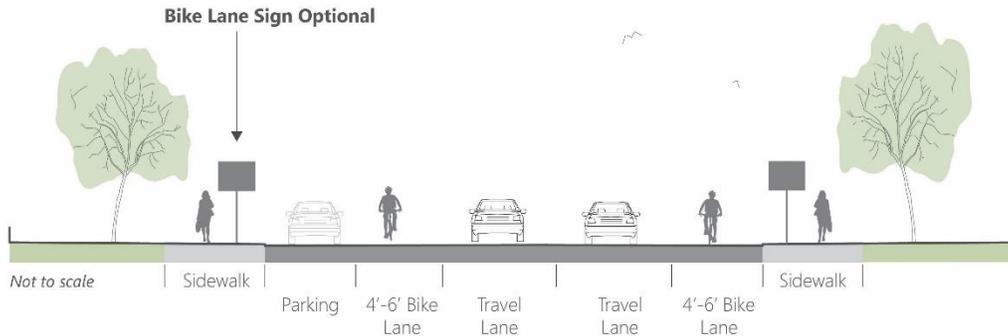
### Existing Bicycle Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by Caltrans, the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design), and other design documents. For local reference, the City of Santa Clara Final Bicycle Plan Update (2009) provides a bikeway planning and design tool. Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III), as described below.

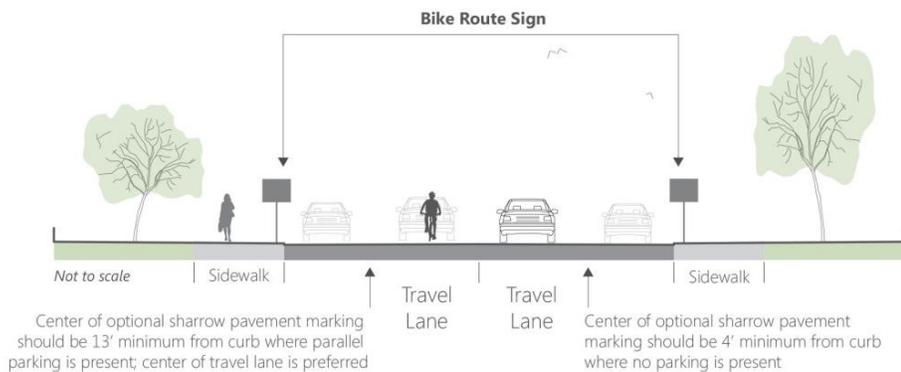
- ***Class I Bikeway (Bicycle Path)*** provides a completely separate right-of-way; designated for exclusive use by bicycles and pedestrians, with vehicle and pedestrian cross-flow minimized.



- ***Class II Bikeway (Bicycle Lane)*** provides a restricted right-of-way; designated for use by bicycles, with a striped lane on the street or highway. Bicycle lanes are generally 4 to 6 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.



- ***Class III Bikeway (Bicycle Route)*** provides a right-of-way; designated by signs or pavement markings (sharrows) for shared use with pedestrians or motor vehicles. Sharrows are a type of pavement marking (bike and arrow stencil) that guides cyclists to the best place to ride on the road while avoiding car doors and reminds drivers to share the road with cyclists.



Existing bicycle facilities in the study area are displayed in Figure 3.3-7. North/south bicycle connectivity to the Project site is good, and off-street bicycle trails along the Guadalupe River and San Tomas Aquino Creek provide access to central San José and Santa Clara. Great America Parkway has on-street bicycle lanes that extend from SR 237, past US 101, until immediately terminating south of Central Expressway. Lafayette Street has on-street bicycle lanes between Agnew Road and Calle De Luna north of Tasman Drive, but no bicycle facilities are present along the Project site frontage on Lafayette Street.

East/west access for bicycles is limited. On-street lanes are present on Tasman Drive east of Lick Mill Boulevard, but they do not connect to the Project site. Off-street trails along SR 237 connect bicyclists to business districts in northern Sunnyvale and along North 1<sup>st</sup> Street in San José. These trails also provide access to the San Francisco Bay Trail, which is used primarily by recreational rather than commuter cyclists. To the west of the site, on-street lanes along Old Mountain View-Alviso Road provide access from residential neighborhoods in northern Sunnyvale.

## Planned Bicycle Improvements

The City of Santa Clara and Santa Clara County have identified several bicycle infrastructure improvements near the Project site, as listed below by bicycle facility class.

- City of Santa Clara Bicycle Plan (2008)
  - Tasman Drive (Class II) – Lawrence Expressway to Lick Mill Boulevard
  - Lick Mill Boulevard (Class II/III) – Tasman Drive to Montague Expressway
  - Lafayette Street north of Tasman Drive (Class II) – Great America Way (Yerba Buena Way) to Calle Del Sol and Agnew Road to Central Expressway
  - Lawrence Expressway crossing over/under SR 237
  - Lawrence Expressway crossing over/under Tasman Drive
- Santa Clara Countywide Bicycle Plan (2010)
  - Great America/Bowers/Kiely/Saratoga Corridor – Great America Parkway, Bowers Avenue, Kiely Boulevard
  - Tasman/Alum Rock Light Rail Corridor – Ellis Street, Moffett Park Drive, Elko Drive, Tasman Drive, Great Mall Parkway, Capitol Avenue
  - Calabazas Creek/Winchester Corridor – Calabazas Creek, Mission College Boulevard, Montague Expressway, Scott Boulevard, Monroe Street, Winchester Boulevard

## Pedestrian Facilities

The pedestrian environment was evaluated at rail stations that serve the Project site directly and along roadways between the rail stations and other nearby destinations (e.g., Levi's Stadium and the Santa Clara Convention Center) that connect to the Project site.

### Pedestrian Access on Connecting Roadways

Pedestrian connectivity immediately surrounding the Project site is provided by a mostly complete network of sidewalks and crosswalks. Sidewalks are present along the north and south sides of Tasman Drive between Great America Parkway and the Guadalupe River Trail. Sidewalks also exist along both sides of Great America Parkway and Great America Way (Yerba Buena Way). Sidewalk gaps exist along the north side of Tasman Drive between Centennial Boulevard and Calle Del Sol, Lafayette Street, Calle De Luna, and Calle Del Mundo. Sidewalks gaps and missing crosswalks at intersections are depicted in Figure 3.3-8. Also shown is the unpaved portion of the Guadalupe River Trail adjacent to the Project.

## Existing Intersection Operations

Existing conditions are defined as 2014 conditions plus traffic generated by projects that are under construction in Santa Clara and adjacent jurisdictions at the start of environmental documentation (Notice of preparation of environmental impact report circulated on July 10, 2014 (Centennial Gateway Mixed-Use Project), and July 30, 2014 (City Place Project)).

## Existing Intersection Volumes

Intersection counts were obtained from recent transportation impact analyses (TIAs) conducted between 2012 and 2014. Weekday morning (7:00 a.m. to 10:00 a.m.) and evening (4:00 p.m. to 7:00 p.m.) peak-



**Figure 3.3-8**  
**Existing Pedestrian Facilities Gap Analysis Along Parcel Boundaries**  
 City Place Santa Clara

period intersection turning movement counts were conducted at intersections without available counts in January 2015, on fair-weather mid-week days when area schools were in session. A summary of count data can be found in Appendix 3.3-A.

The cities of Santa Clara, Sunnyvale, Cupertino, and San José provided lists of projects that were under construction (see Appendix 3.3-B). The location of each project in Santa Clara is depicted in Figure 3.3-9.

Vehicle trip generation estimates for projects that were under construction were obtained from their respective traffic reports or estimated using rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (ninth edition). The vehicle trips were then assigned to the roadway network according to the relative locations of complementary land uses as well as existing and estimated future travel patterns to represent existing conditions (Scenario 1), as shown in Appendix 3.3-C.

### Existing Lane Geometries

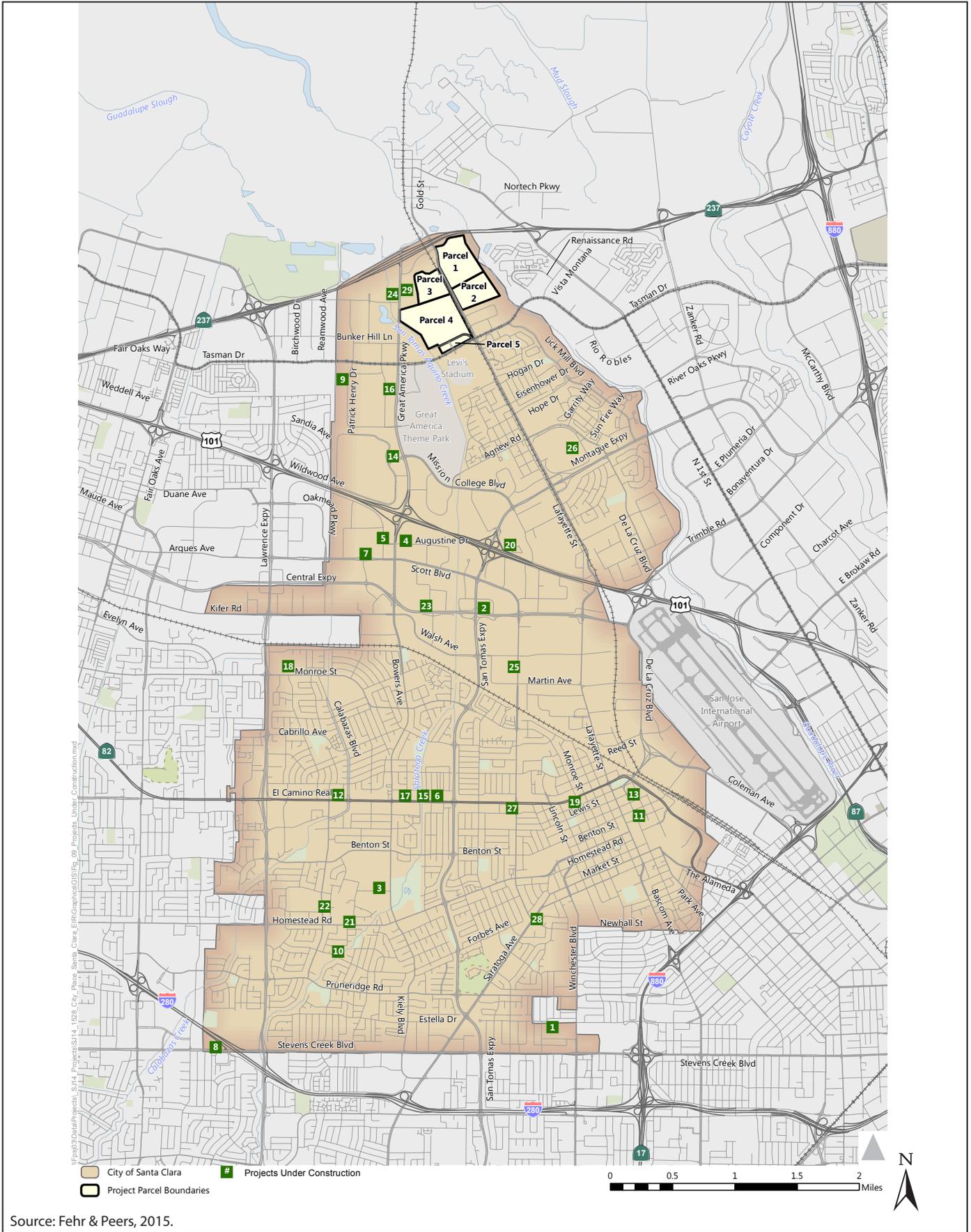
Existing lane configurations and signal controls were obtained through field observations. The existing lane configurations and traffic controls are presented in Appendix 3.3-C. Existing intersection geometries were modified to include the project-level roadway improvements and project-required mitigation measures that were identified for each project that was under construction, as summarized in Appendix 3.3-D.

### Existing Signalized Intersection Analysis

Existing intersection lane configurations, signal timings, and peak-hour turning movement volumes were used to calculate the LOS for key intersections during the AM and PM Peak Hours under existing conditions. The results of the LOS analysis for signalized intersections, using the TRAFFIX software program, under existing conditions (and conditions with just the counted volumes) are presented in Table 3.3-12.

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
1	Fair Oaks Avenue/ Tasman Drive	SV	11/15/12	AM	25.7	C	28.0	C
			11/15/12	PM	34.3	C	35.0	C
2	Vienna Drive/ Tasman Drive	SV	01/15/15	AM	14.4	B	14.1	B
			01/15/15	PM	13.3	B	12.9	B
3	Lawrence Expressway/ Tasman Drive	SCC (CMP)	08/21/14	AM	39.8	D	41.0	D
			09/06/12	PM	55.8	E	57.7	E
4	Birchwood Drive/ Tasman Drive	SV	01/15/15	AM	14.4	B	13.5	B
			01/28/15	PM	10.6	B	10.5	B
5	Reamwood Avenue/ Tasman Drive	SV	08/21/14	AM	7.5	A	7.5	A
			08/21/14	PM	9.8	A	9.2	A
6	Patrick Henry Drive/ Tasman Drive	SC	09/02/14	AM	10.9	B	12.1	B
			08/28/14	PM	12.6	B	13.2	B
7	Old Ironside Drive/ Tasman Drive	SC	09/02/14	AM	14.4	B	13.2	B
			08/28/14	PM	12.6	B	12.7	B
8	Great America Parkway/ Tasman Drive	SC (CMP)	03/11/14	AM	25.6	C	26.0	C
			03/11/14	PM	29.2	C	31.5	C



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**Figure 3.3-9**  
**Projects Under Construction in Santa Clara**  
 City Place Santa Clara

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
9	Convention Center/ Tasman Drive	SC	08/14/14 08/14/14	AM	16.2	B	16.2	B
				PM	18.5	B	20.2	C
10	Future Driveway west of Centennial Boulevard/ Tasman Drive	SC		Future Signalized Intersection				
11	Centennial Boulevard/ Tasman Drive	SC	03/11/14 03/11/14	AM	19.8	B	19.8	B
				PM	19.6	B	19.8	B
12	Future Driveway (east of Centennial Boulevard)/ Tasman Drive	SC		Future Signalized Intersection				
13	Calle Del Sol/ Tasman Drive	SC	08/12/14 08/12/14	AM	11.4	B	10.6	B
				PM	17.6	B	17.5	B
14	Lick Mill Boulevard/ Tasman Drive	SC	03/11/14 03/11/14	AM	22.4	C	22.1	C
				PM	21.5	C	24.4	C
15	Renaissance Drive/ Tasman Drive	SJ <sup>h</sup>	08/21/14 08/21/14	AM	23.5	C	22.7	C
				PM	10.3	B	11.4	B
16	Vista Montana/ Tasman Drive	SJ <sup>h</sup>	08/21/14 08/21/14	AM	26.2	C	26.1	C
				PM	22.2	C	23.8	C
17	Rio Robles/ Tasman Drive	SJ <sup>h</sup>	08/21/14 08/21/14	AM	24.3	C	24.2	C
				PM	27.5	C	46.4	D
18	North 1 <sup>st</sup> Street/ Tasman Drive	SJ <sup>h</sup>	11/19/13 11/19/13	AM	33.5	C	38.0	D
				PM	38.0	D	42.0	D
19	Zanker Road/ Tasman Drive	SJ <sup>h</sup>	11/19/13 11/19/13	AM	36.4	D	37.8	D
				PM	37.7	D	41.4	D
20	McCarthy Boulevard/ Tasman Drive	MP	01/07/15 01/07/15	AM	34.0	C	34.2	C
				PM	33.0	C	31.8	C
21	Mission College Boulevard/ Montague Expressway	SCC (CMP)	08/19/14 09/05/12	AM	58.0	E	79.5	E
				PM	61.7	E	76.1	E
22	Agnew Road – De La Cruz Boulevard/ Montague Expressway	SCC (CMP)	02/28/12 09/05/12	AM	46.6	D	51.9	D
				PM	57.8	E	79.0	E
23	Lick Mill Boulevard/ Montague Expressway	SCC	08/19/14 08/19/14	AM	21.2	C	21.4	C
				PM	22.0	C	22.0	C
24	North 1 <sup>st</sup> Street/ Montague Expressway	SCC (CMP) <sup>h</sup>	09/18/12 09/05/12	AM	54.2	D	67.2	E
				PM	69.0	E	<b>88.9</b>	<b>F</b>
25	Zanker Road/ Montague Expressway	SCC (CMP) <sup>h</sup>	11/19/13 09/05/12	AM	40.8	D	58.4	E
				PM	65.4	E	<b>81.8</b>	<b>F</b>
26	Montague Expressway/ Plumeria Drive – River Oaks Parkway	SCC <sup>h</sup>	01/22/15 01/22/15	AM	40.6	D	<b>89.7</b>	<b>F</b>
				PM	41.5	D	<b>170.5</b>	<b>F</b>

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
27	Trimble Road/ Montague Expressway	SCC (CMP) <sup>h</sup>	01/21/15 01/21/15	AM	49.4	D	47.7	D
				PM	50.9	D	72.7	E
28	McCarthy Boulevard – O'Toole Avenue/ Montague Expressway	SCC (CMP) <sup>h</sup>	02/03/15 02/03/15	AM	37.1	D	48.2	D
				PM	62.2	E	63.8	E
29	De La Cruz Boulevard/ Trimble Road	SJ (CMP) <sup>h</sup>	01/08/15 01/08/15	AM	29.4	C	28.9	C
				PM	32.0	C	31.1	C
30	North 1 <sup>st</sup> Street/ Trimble Road	SJ (CMP) <sup>h</sup>	01/07/15 01/07/15	AM	40.2	D	45.0	D
				PM	40.8	D	43.8	D
31	Zanker Road/ Trimble Road	SJ (CMP) <sup>h</sup>	01/07/15 01/07/15	AM	38.3	D	38.2	D
				PM	38.4	D	38.5	D
32	North 1 <sup>st</sup> Street/ Charcot Avenue	SJ <sup>h</sup>	01/07/15 01/07/15	AM	26.9	C	26.2	C
				PM	26.1	C	23.6	C
33	Zanker Road/ Charcot Avenue	SJ <sup>h</sup>	01/07/15 01/07/15	AM	22.0	C	22.0	C
				PM	23.9	C	23.9	C
34	North 1 <sup>st</sup> Street/ Brokaw Road	SJ (CMP) <sup>h</sup>	01/07/15 01/07/15	AM	37.2	D	47.4	D
				PM	43.3	D	<b>58.9</b>	<b>E</b>
35	US 101 NB Off- Ramp/Brokaw Road	SJ (CMP) <sup>h</sup>	01/07/15 01/07/15	AM	26.7	C	44.2	D
				PM	18.8	B	22.9	C
36	Zanker Road/ Brokaw Road	SJ (CMP) <sup>h</sup>	01/07/15 01/07/15	AM	36.7	D	36.7	D
				PM	43.1	D	43.1	D
37	Fair Oaks Avenue/ Fair Oaks Way	SV	11/18/14 11/18/14	AM	15.2	B	14.9	B
				PM	17.7	B	20.4	C
38	Fair Oaks Avenue/ Weddell Drive	SV	11/15/12 11/15/12	AM	12.6	B	18.4	B
				PM	14.8	B	17.2	B
39	Fair Oaks Avenue/ US 101 NB Ramps	SV	10/15/14 10/15/14	AM	15.7	B	16.1	B
				PM	21.3	C	22.1	C
40	Fair Oaks Avenue/ E. Ahawanee Avenue	SV	11/05/12 11/05/12	AM	17.3	B	17.2	B
				PM	11.7	B	11.6	B
41	Fair Oaks Avenue/ Duane Avenue	SV	11/05/12 11/05/12	AM	27.3	C	27.3	C
				PM	30.2	C	30.1	C
42	Fair Oaks Avenue/ Wolfe Road	SV	02/12/13 02/12/13	AM	11.6	B	11.6	B
				PM	11.9	B	12.1	B
43	Fair Oaks Avenue/ Maude Avenue	SV	03/14/13 03/14/13	AM	29.3	C	28.8	C
				PM	27.3	C	27.3	C
44	Fair Oaks Avenue/ E. Arques Avenue	SV	03/14/13 03/14/13	AM	28.0	C	27.8	C
				PM	29.5	C	29.7	C
45	Fair Oaks Avenue/ Evelyn Avenue	SV	01/15/15 01/15/15	AM	27.8	C	27.8	C
				PM	26.0	C	26.0	C
46	Lawrence Expressway/ Sandia Avenue	SCC	08/21/14 08/21/14	AM	50.5	D	50.9	D
				PM	57.9	E	58.4	E

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
47	Lawrence Expressway/ US 101 NB Ramps	SCC	09/03/14	AM	23.1	C	23.1	C
			08/21/14	PM	22.3	C	22.6	C
48	Lawrence Expressway/ US 101 SB Ramps	SCC	08/21/14	AM	26.1	C	33.8	C
			08/21/14	PM	<b>87.1</b>	<b>F</b>	<b>90.8</b>	<b>F</b>
49	Lawrence Expressway/ Oakmead Parkway	SCC	08/27/13	AM	46.4	D	46.9	D
			08/27/13	PM	51.5	D	52.1	D
50	Lawrence Expressway/ Arques Avenue	SCC (CMP)	08/27/13	AM	38.3	D	41.2	D
			09/06/12	PM	61.4	E	66.9	E
51	Lawrence Expressway/ Kifer Road	SCC	08/27/13	AM	27.4	C	27.7	C
			08/27/13	PM	48.6	D	50.5	D
52	Lawrence Expressway/ Reed Avenue – Monroe Streets	SCC (CMP)	08/27/13	AM	79.7	E	<b>98.2</b>	<b>F</b>
			09/06/12	PM	62.1	E	76.2	E
53	Lawrence Expressway/ Cabrillo Avenue	SCC	10/02/13	AM	38.4	D	44.0	D
			10/02/13	PM	38.5	D	47.1	D
54	Lawrence Expressway/ Benton Street	SCC	03/05/13	AM	71.2	E	<b>80.6</b>	<b>F</b>
			03/05/13	PM	44.9	D	47.3	D
55	Lawrence Expressway/ Homestead Road	SCC (CMP)	08/27/13	AM	63.1	E	73.5	E
			09/06/12	PM	51.8	D	56.7	E
56	Lawrence Expressway/ Pruneridge Avenue	SCC	01/27/15	AM	55.6	E	62.5	E
			01/27/15	PM	45.4	D	48.5	D
57	Great America Parkway/SR 237 WB Ramps	SC (CMP)	03/11/14	AM	17.5	B	20.9	C
			03/11/14	PM	17.5	B	18.9	B
58	Great America Parkway/SR 237 EB Ramps	SC (CMP)	03/11/14	AM	12.3	B	10.9	B
			03/11/14	PM	10.4	B	8.6	A
59	Great America Parkway/Great America Way (Yerba Buena Way)	SC	03/11/14	AM	20.7	C	27.0	C
			03/11/14	PM	22.9	C	31.4	C
60	Great America Parkway/Old Mountain View – Alviso Road	SC	03/11/14	AM	18.9	B	19.2	B
			03/11/14	PM	26.6	C	26.6	C
61	Great America Parkway/Future Driveway (South of Old Mountain View – Alviso Road)	SC			Future Signalized Intersection			
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	SC			Future Signalized Intersection			

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
63	Great America Parkway/Bunker Hill Lane	SC	03/11/14	AM	13.0	B	12.9	B
			03/11/14	PM	15.5	B	15.6	B
64	Great America Parkway/Old Glory Lane	SC	08/19/14	AM	17.2	B	20.1	C
			08/19/14	PM	17.7	B	24.4	C
65	Great America Parkway/Patrick Henry Drive	SC	08/19/14	AM	20.3	C	19.7	B
			08/19/14	PM	24.8	C	25.2	C
66	Great America Parkway/Mission College Boulevard <sup>g</sup>	SC (CMP)	08/20/14	AM	39.4	D	37.7	D
			09/05/12	PM	55.9	E	44.4	D
67	Great America Parkway – Bowers Avenue/US 101 NB Ramps	SC (CMP)	08/19/14	AM	9.7	A	18.7	B
			09/13/12	PM	9.9	A	12.6	B
68	Bowers Avenue/US 101 SB Ramps	SC (CMP)	08/19/14	AM	22.4	C	23.7	C
			09/13/12	PM	8.0	A	8.3	A
69	Bowers Avenue/Augustine Drive <sup>g</sup>	SC	08/19/14	AM	23.0	C	31.5	C
			08/19/14	PM	25.3	C	44.6	D
70	Bowers Avenue/Scott Boulevard <sup>g</sup>	SC (CMP)	08/19/14	AM	29.9	C	31.6	C
			11/12/12	PM	31.6	C	35.1	D
71	Bowers Avenue/Central Expressway	SCC (CMP)	08/20/14	AM	47.4	D	49.9	D
			09/06/12	PM	46.5	D	64.6	E
72	Bowers Avenue/Kifer Road – Walsh Avenue	SC	08/20/14	AM	21.1	C	20.5	C
			08/20/14	PM	25.3	C	25.4	C
73	Bowers Avenue/Monroe Street	SC	01/08/14	AM	30.8	C	33.2	C
			01/08/14	PM	32.6	C	38.8	D
74	Bowers Avenue/El Camino Real	Caltrans (CMP)	01/20/15	AM	28.7	C	30.4	C
			01/20/15	PM	32.3	C	35.5	D
75	San Tomas Expressway/Scott Boulevard	SCC (CMP)	02/28/12	AM	38.9	D	58.4	E
			09/06/12	PM	50.1	D	66.2	E
76	San Tomas Expressway/Walsh Avenue	SCC	02/28/12	AM	40.4	D	60.2	E
			02/28/12	PM	42.5	D	48.0	D
77	San Tomas Expressway/Monroe Street	SCC (CMP)	02/05/15	AM	71.2	E	<b>103.7</b>	<b>F</b>
			02/05/15	PM	47.2	D	55.2	E
78	San Tomas Expressway/El Camino Real <sup>g</sup>	SCC (CMP)	02/05/15	AM	64.1	E	71.9	E
			02/05/15	PM	62.6	E	57.3	E
79	San Tomas Expressway/Benton Street <sup>g</sup>	SCC	02/05/15	AM	78.7	E	41.9	D
			02/05/15	PM	47.6	D	37.8	D
80	San Tomas Expressway/Homestead Road <sup>g</sup>	SCC (CMP)	01/21/15	AM	72.6	E	53.0	D
			01/21/15	PM	<b>84.5</b>	<b>F</b>	57.9	E

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
81	San Tomas Expressway/ Forbes Avenue	SCC	01/20/15	AM	22.1	C	26.4	C
			01/20/15	PM	20.2	C	24.3	C
82	San Tomas Expressway/ Pruneridge Avenue	SCC	01/06/15	AM	57.3	E	69.1	E
			01/06/15	PM	46.4	D	50.8	D
83	San Tomas Expressway/ Saratoga Avenue	SCC (CMP)	01/08/15	AM	63.0	E	73.7	E
			01/08/15	PM	50.8	D	55.4	E
84	Gold Street/Gold Street Connector	SJ <sup>h</sup>	01/08/15	AM	22.6	C	22.7	C
			01/08/15	PM	21.5	C	21.7	C
86	Lafayette Street/ Future Driveway (South of Great America Way)	SC	Future Signalized Intersection					
87	Lafayette Street/ Future Urban Interchange	SC	Future Signalized Intersection					
90	Lafayette Street/ Calle De Luna	SC	08/12/14	AM	14.8	B	15.5	B
			08/12/14	PM	18.8	B	19.2	B
91	Lafayette Street/ Hogan Drive	SC	08/12/14	AM	10.3	B	9.8	A
			08/12/14	PM	10.8	B	10.5	B
92	Lafayette Street/ Eisenhower Drive	SC	08/12/14	AM	10.7	B	10.4	B
			08/12/14	PM	8.2	A	8.1	A
93	Lafayette Street/ Hope Drive	SC	08/12/14	AM	21.0	C	20.5	C
			08/12/14	PM	13.9	B	13.7	B
94	Lafayette Street/ Agnew Road	SC	08/12/14	AM	38.2	D	38.7	D
			08/12/14	PM	40.2	D	41.0	D
95	Lafayette Street/ Palm Drive	SC	08/12/14	AM	7.4	A	7.2	A
			08/12/14	PM	15.0	B	14.3	B
96	Lafayette Street/ Montague Expressway WB Ramps	SC	08/12/14	AM	32.4	C	34.1	C
			08/12/14	PM	24.8	C	26.1	C
97	Lafayette Street/ Montague Expressway EB Ramps	SC	08/12/14	AM	15.1	B	14.0	B
			08/12/14	PM	12.5	B	13.0	B
98	Lafayette Street/ Central Expressway	SCC (CMP)	08/19/14	AM	55.2	E	60.5	E
			09/05/12	PM	61.2	E	63.5	E
99	Lafayette Street/ Walsh Avenue	SC	08/19/14	AM	12.4	B	12.7	B
			08/19/14	PM	18.6	B	19.2	B
100	Lafayette Street/ Martin Avenue	SC	01/06/15	AM	19.7	B	20.0	B
			01/06/15	PM	19.4	B	19.6	B
101	Lafayette Street/ Mathew Street – Memorex Drive	SC	01/06/15	AM	9.5	A	9.7	A
			01/06/15	PM	10.0	A	10.1	B

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
102	Lafayette Street/ El Camino Real	SC (CMP)	01/06/15	AM	41.1	D	41.7	D
			01/06/15	PM	38.9	D	39.6	D
103	Lafayette Street/ Lewis Street	SC	01/06/15	AM	9.6	A	9.5	A
			01/06/15	PM	35.1	D	37.2	D
104	Lafayette Street/ Benton Street	SC	01/06/15	AM	18.4	B	18.4	B
			01/06/15	PM	16.9	B	17.1	B
105	Lafayette Street/ Homestead Road	SC	01/06/15	AM	10.3	B	10.2	B
			01/06/15	PM	11.0	B	10.9	B
106	Lafayette Street/ Market Street	SC	01/06/15	AM	34.2	C	34.3	C
			01/06/15	PM	27.9	C	28.3	C
107	Lafayette Street/ Poplar Street	SC	01/06/15	AM	13.9	B	13.8	B
			01/06/15	PM	10.2	B	10.1	B
110	North 1 <sup>st</sup> Street/ Nortech Parkway	SJ <sup>h</sup>	01/08/15	AM	13.9	B	13.9	B
			01/08/15	PM	20.1	C	20.1	C
111	North 1 <sup>st</sup> Street/ SR 237 WB Ramps	SJ (CMP) <sup>h</sup>	10/09/12	AM	15.6	B	15.6	B
			09/13/12	PM	19.3	B	20.2	C
112	North 1 <sup>st</sup> Street/ SR 237 EB Ramps	SJ (CMP) <sup>h</sup>	10/09/12	AM	23.9	C	24.8	C
			09/13/12	PM	20.9	C	21.3	C
113	North 1 <sup>st</sup> Street/ Vista Montana	SJ <sup>h</sup>	11/19/13	AM	30.4	C	30.8	C
			11/19/13	PM	36.4	D	36.1	D
115	Lick Mill Boulevard/ Hope Drive	SC	01/08/15	AM	26.6	C	26.6	C
			01/08/15	PM	23.6	C	23.6	C
117	Agnew Road/ Sun Fire Way	SC	01/08/15	AM	10.7	B	10.4	B
			01/08/15	PM	17.6	B	17.4	B
118	De La Cruz Boulevard/ Greenwood Drive	SC	01/08/15	AM	9.5	A	9.3	A
			01/08/15	PM	8.3	A	8.2	A
119	De La Cruz Boulevard/Aldo Avenue	SC	01/08/15	AM	16.5	B	16.5	B
			01/08/15	PM	16.0	B	16.0	B
120	De La Cruz Boulevard/ Laurelwood Road	SC	01/08/15	AM	15.7	B	15.9	B
			01/08/15	PM	16.7	B	16.7	B
121	De La Cruz Boulevard/Central Expressway	SCC (CMP)	08/21/14	AM	<b>93.7</b>	<b>F</b>	<b>115.7</b>	<b>F</b>
			09/05/12	PM	46.5	D	43.7	D
122	De La Cruz Boulevard/Reed Avenue	SC	01/15/15	AM	11.7	B	12.2	B
			01/15/15	PM	13.6	B	14.3	B
123	Great America Parkway/Gold Street Connector	SC	04/09/15	AM	11.8	B	11.8	B
			04/09/15	PM	13.1	B	13.1	B
124	Scott Boulevard/ Central Expressway	SCC (CMP)	09/10/13	AM	46.8	D	45.9	D
			09/26/13	PM	66.7	E	71.7	E

**Table 3.3-12. Existing Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
125	San Tomas	SCC	09/10/13	AM	64.8	E	63.5	E
	Expressway/Stevens Creek Boulevard	(CMP)	09/10/13	PM	66.6	E	59.9	E

**Notes:**

## a. Intersection jurisdiction:

SC = City of Santa Clara

SV = Sunnyvale

SJ = San José

MP = Milpitas

SCC = Santa Clara County

CMP = Congestion Management Program intersection (VTA)

## b. AM = morning peak hour, PM = evening peak hour.

## c. "Counted Volumes" presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts.

## d. "Existing" presents the delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts with project trips from projects that are currently under construction (see Appendix 3.3-B and Appendix 3.3-D).

e. Whole intersection weighted average control delay, expressed in seconds per vehicle and calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.f. LOS calculated using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

## g. Geometry has been modified to include improvements from projects that are under construction, as outlined in Appendix 3.3-D.

## h. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.

**Bold** text indicates unacceptable operations, according to the jurisdiction's LOS standard.

Source: Fehr &amp; Peers, 2015.

## Existing Unsignalized Intersection Analysis

The results of the LOS analysis for unsignalized intersections, also using the TRAFFIX software program, are presented in Table 3.3-13. LOS results are visually depicted in Figure 3.3-10. Appendix 3.3-E contains the corresponding LOS calculation sheets. The results of the LOS calculations indicate that the majority of study intersections operate at an acceptable LOS under existing conditions.

**Table 3.3-13. Existing Unsignalized Intersection LOS**

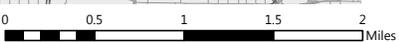
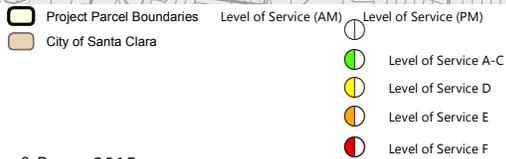
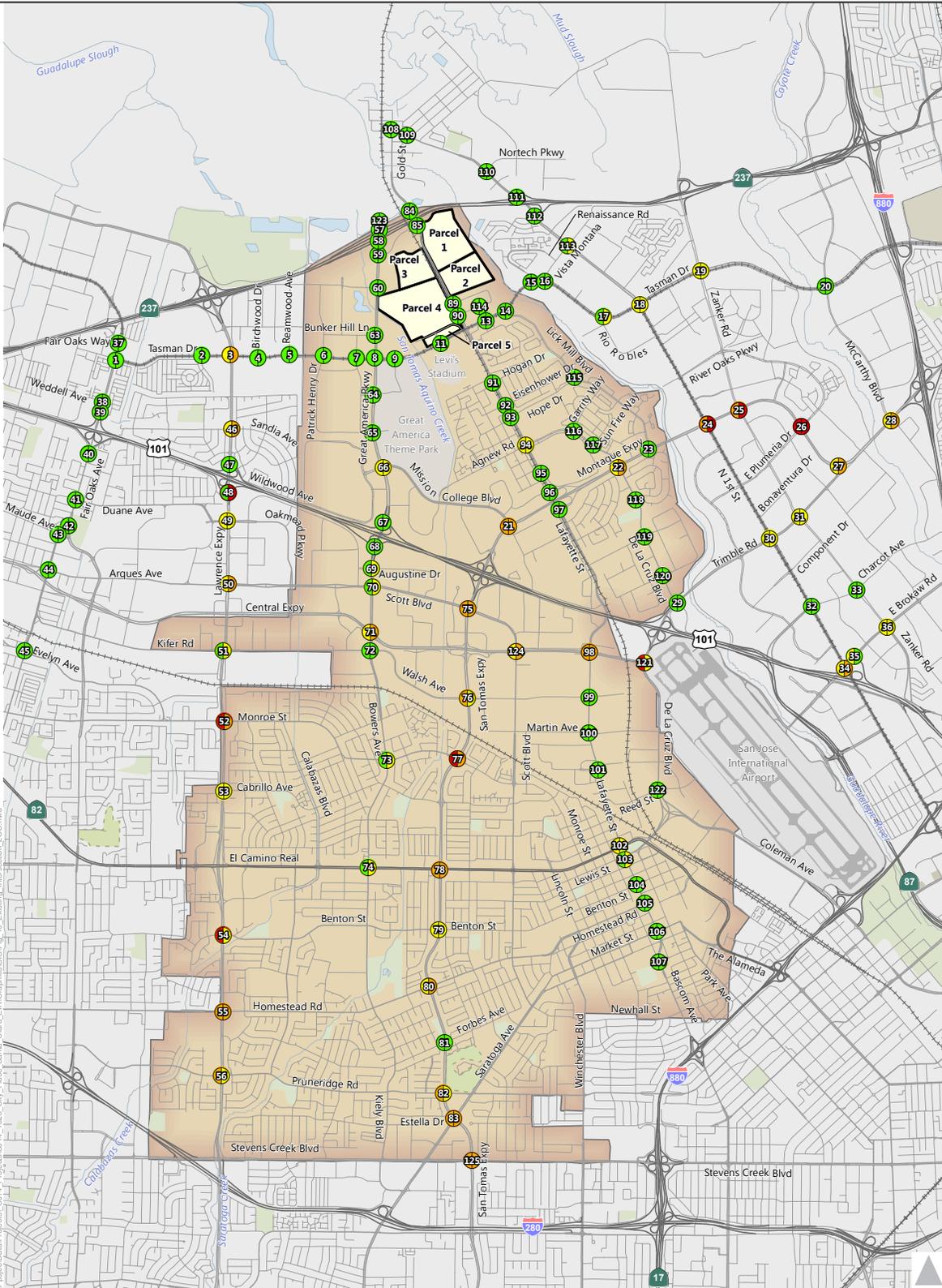
ID	Intersection	Jurisdiction	Control <sup>a</sup>	Count Date	Peak Hour <sup>b</sup>	Counted Volume <sup>c</sup>		Existing <sup>d</sup>	
						Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>
85	Lafayette Street/ Great America Way	SC	SSSC	04/10/14	AM	9.6	A	9.7	A
				04/10/14	PM	21.1	C	21.4	C
89	Lafayette Street/ Calle Del Mundo	SC	SSSC	01/06/15	AM	14.1	B	14.2	B
				01/06/15	PM	12.7	B	12.9	B
108	Gold Street/ Taylor Street	SJ	AWSC	01/08/15	AM	8.4	A	8.4	A
				01/08/15	PM	8.8	A	8.8	A
109	Liberty Street/ Taylor Street	SJ	AWSC	01/08/15	AM	8.3	A	8.3	A
				01/08/15	PM	9.7	A	9.7	A
114	Calle Del Sol/ Calle De Luna	SC	SSSC	08/12/14	AM	13.8	B	14.1	B
				08/12/14	PM	21.3	C	19.8	C
116	Agnew Road/ Garrity Way	SC	SSSC	01/08/15	AM	12.9	B	13.1	B
				01/08/15	PM	14.0	B	14.2	B

**Notes:**

- SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection.
- AM = morning peak hour, PM = evening peak hour.
- “Existing” (counts) presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts collected during the count date.
- “Existing” presents the delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts with project trips from projects that are currently under construction.
- Whole intersection weighted average control delay, expressed in seconds per vehicle and calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for all-way stop-controlled intersections. For side-street stop-controlled intersections, values reported are the worst approach.
- LOS calculated conducted using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

**Bold** text indicates unacceptable operations, according to the jurisdiction’s LOS standard.

Source: Fehr & Peers, 2015.



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Source: Fehr & Peers, 2015.



**Figure 3.3-10**  
**Existing Intersection Level of Service Results**  
 City Place Santa Clara

## Existing Freeway Segment Analysis

Existing freeway volumes and segment operations were obtained from the VTA Monitoring and Conformance Report (VTA 2012), San Mateo County Congestion Management Program (C/CAG 2013), and the Alameda CTC LOS Monitoring Study (Alameda CTC 2014). Most freeway segments that provide access to City Place currently operate at LOS F, which represents over-capacity conditions with stop-and-go traffic. Figure 3.3-11 displays AM Peak Hour LOS for mixed-flow lanes by direction. Figure 3.3-12 displays this information for the PM Peak Hour. Figure 3.3-13 and Figure 3.3-14 display LOS for the HOV lanes by direction for the AM/PM Peak Hours, respectively.

## Forecast Methods and Estimates

The VTA travel demand model was used to develop traffic forecasts for streets and highways in the greater Santa Clara County area. This section describes the VTA travel demand model and forecast methods for intersections and freeways, Project traffic, public transit ridership, and vehicle miles traveled.

### Forecast Model

At present, the VTA travel demand model is the best tool available for developing long-range traffic forecasts for streets and highways throughout the City of Santa Clara and the greater Santa Clara County area. This model is routinely used for regional transportation planning and land use development projects. The VTA model was fully updated in 2010, and a limited update was done in 2013 to incorporate more recent estimates of existing and future land uses and account for the effects of the Great Recession.

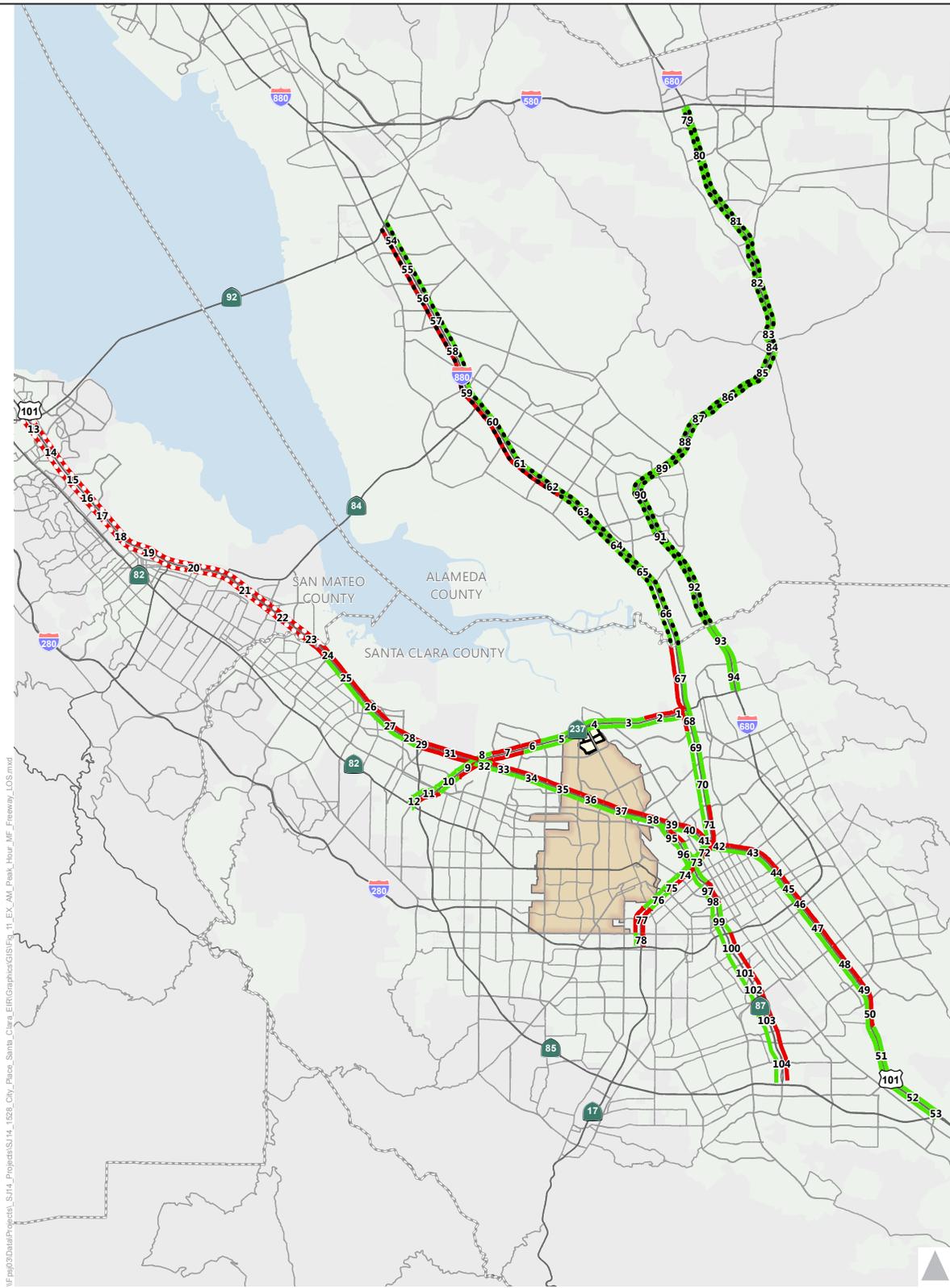
Before using a model to develop traffic forecasts, it is important to first establish that the model is reasonably well validated to current conditions. Fehr & Peers completed a review of the travel model inputs (such as base- and future-year land use inputs and roadway network assumptions) and made a series of adjustments, with the goal of improving the validation of the base-year model, with particular focus on the daily and AM and PM Peak Periods within the study area. The technical memorandum entitled City Place Santa Clara – Travel Demand Model Validation (Fehr & Peers 2015) summarizes the refinements and validation results (see Appendix 3.3-F). Refinements to the VTA travel demand model included changes to land use and roadway network inputs and updates to the VTA travel model script to improve the validation of the daily (24-hour), AM Peak 4-hour Period, PM Peak 4-hour Period, midday and midnight off-peak periods, and AM and PM Peak 1-hour Periods.

### Land Use Changes

Future land use data are instrumental in forecasting future daily and peak-hour traffic demand. Fehr & Peers reviewed and refined the model's existing conditions land use data to reflect current conditions citywide. Adjustments to the land use data for background conditions and cumulative conditions were also made to be consistent with the approved and pending project lists. A review of the land uses in North San José and north Sunnyvale was also completed for background and cumulative conditions. For all other areas outside Santa Clara, North San José, and north Sunnyvale, Fehr & Peers used future-year land use data from the VTA model, which incorporates 2013 ABAG projections.

### Transportation System Changes

Development of future roadway networks under background and cumulative conditions was based on the planned and funded improvements identified in the financially constrained roadway improvement



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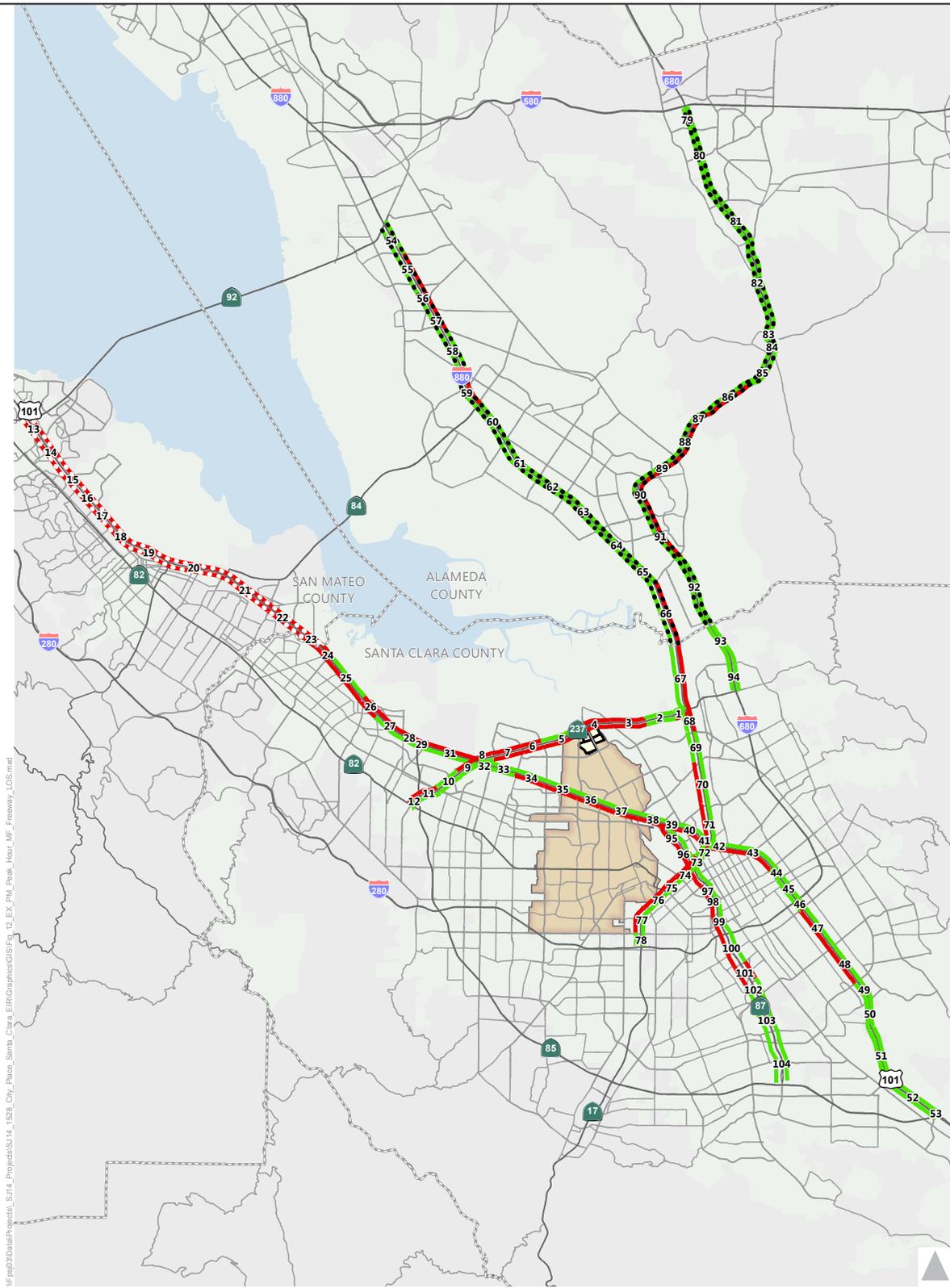
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|--|--|--|
| <span style="color: green;">—</span> Santa Clara County below capacity   | # Study Segment Number   | <span style="color: green;">←</span> NB/WB LOS |
| <span style="color: red;">—</span> Santa Clara County above capacity     | <span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> City of Santa Clara       | <span style="color: red;">←</span> SB/EB LOS   |
| <span style="color: green;">- - -</span> San Mateo County below capacity | <span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Project Parcel Boundaries |  |
| <span style="color: red;">- - -</span> San Mateo County above capacity   | <span style="border-bottom: 1px dashed black; display: inline-block; width: 10px;"></span> County Boundary                 |  |
| <span style="color: green;">· · ·</span> Alameda County below capacity   |  |  |
| <span style="color: red;">· · ·</span> Alameda County above capacity     |  |  |

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Source: Fehr & Peers, 2015.



**Figure 3.3-11**  
**Existing AM Peak Hour Directional Mixed-Flow Freeway Segment Results**  
 City Place Santa Clara



- Santa Clara County below capacity
- Santa Clara County above capacity
- San Mateo County below capacity
- San Mateo County above capacity
- Alameda County below capacity
- Alameda County above capacity

- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary

- ← NB/WB LOS
- ← SB/EB LOS



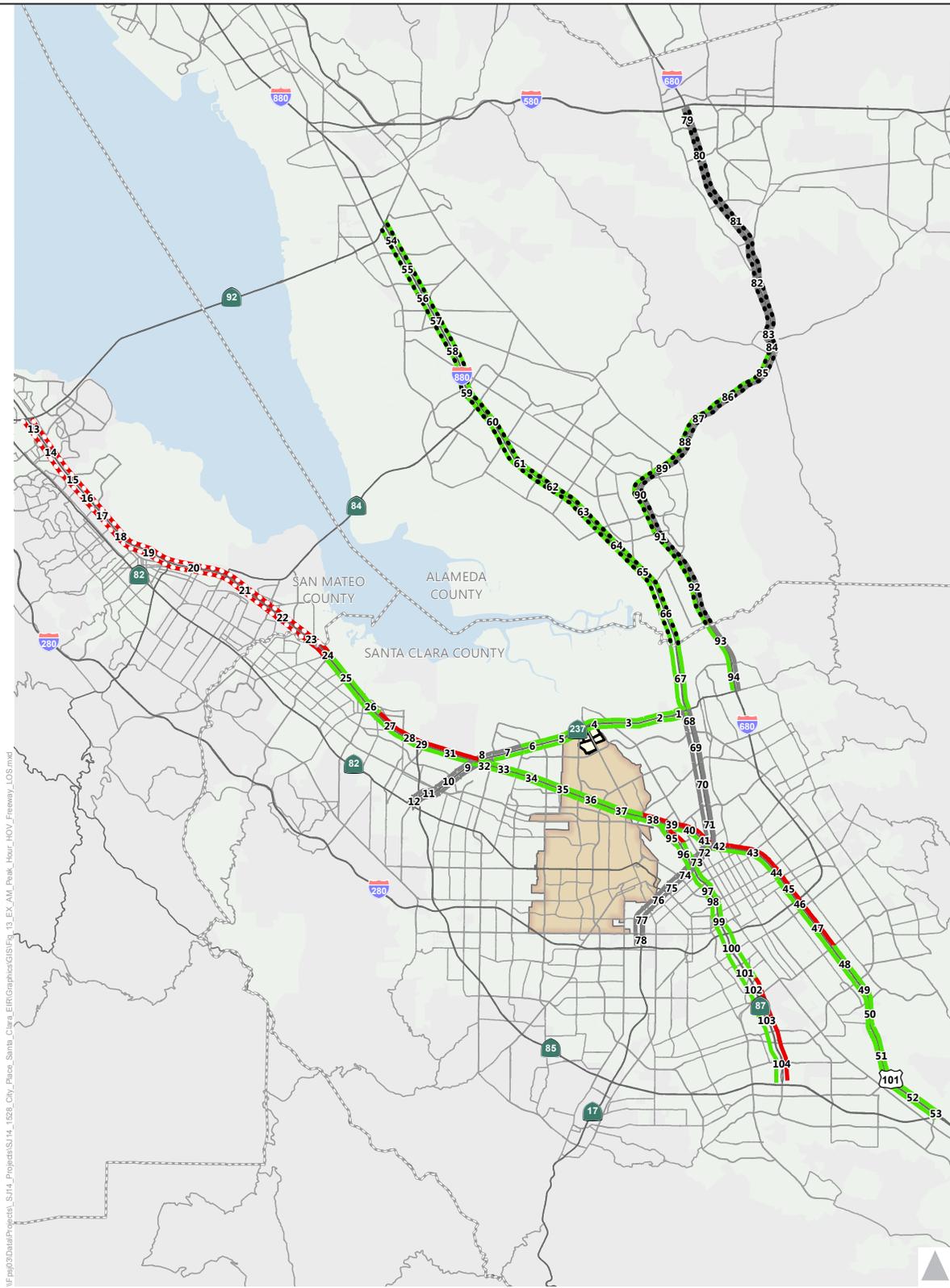
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Source: Fehr & Peers, 2015.



**Figure 3.3-12**  
**Existing PM Peak Hour Directional Mixed-Flow Freeway Segment Results**  
 City Place Santa Clara



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- Santa Clara County below capacity
- Santa Clara County above capacity
- San Mateo County below capacity
- San Mateo County above capacity
- Alameda County below capacity
- Alameda County above capacity

- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary
- HOV Unavailable

- ← NB/WB LOS
- ← SB/EB LOS

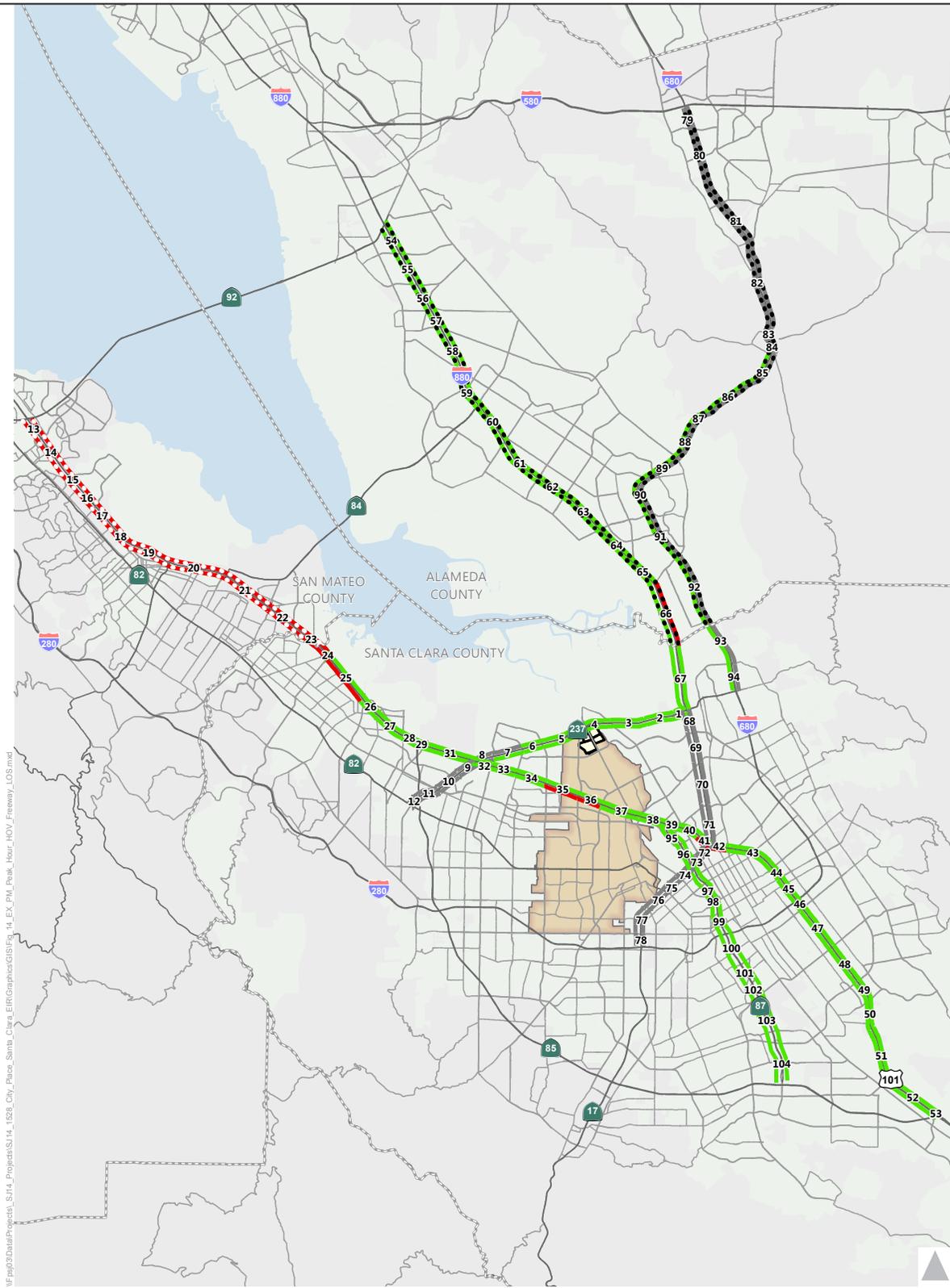


Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-13**  
**Existing AM Peak Hour Directional HOV Freeway Segment Results**  
 City Place Santa Clara



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|---|--|--|
| <span style="color: green;">—</span> Santa Clara County below capacity                                | # Study Segment Number   | <span style="color: green;">←</span> NB/WB LOS |
| <span style="color: red;">—</span> Santa Clara County above capacity                                  | <span style="background-color: #f4a460; border: 1px solid black; padding: 2px;"> </span> City of Santa Clara | <span style="color: red;">←</span> SB/EB LOS   |
| <span style="color: green; border-bottom: 1px dashed green;">—</span> San Mateo County below capacity | <span style="border: 1px solid black; padding: 2px;"> </span> Project Parcel Boundaries                      |  |
| <span style="color: red; border-bottom: 1px dashed red;">—</span> San Mateo County above capacity     | <span style="border: 1px solid gray; padding: 2px;"> </span> County Boundary                                 |  |
| <span style="color: green; border-bottom: 1px dashed green;">—</span> Alameda County below capacity   | <span style="border: 1px solid gray; padding: 2px;"> </span> HOV Unavailable                                 |  |
| <span style="color: red; border-bottom: 1px dashed red;">—</span> Alameda County above capacity       |  |  |



Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-14**  
**Existing PM Peak Hour Directional HOV Freeway Segment Results**  
 City Place Santa Clara

project list from the Valley Transportation Plan (VTP) 2040 published by VTA (October 2014) and the City of Santa Clara 2010–2035 General Plan. Funded regional roadway improvements within the study area are summarized in Table D-1 of Appendix 3.3-D.

## Intersection Forecasts

Intersection forecasts were developed from guidelines published in National Cooperative Highway Research Program (NCHRP) Report 255<sup>7</sup> for converting raw model results into forecast volumes. This method, known as the *difference forecast method*, relies on existing counts and the difference between the model's baseline and future volumes. It normalizes model projections according to the accuracy of model validation and existing roadway conditions.

The travel demand model was used to assign vehicle trips to the roadway network and prepare the intersection forecasts for each analysis scenario, both without and with the Project (Scenarios 2a, 2b, 3, 4, 5, and 6). The assignment of Project traffic considered 1) regional land use destinations outside of the Project site and 2) ease and convenience of access to nearby freeways and local streets. Specifically, vehicle traffic to and from the Project site would use the following regional or local streets:

- To/From the West: On SR 237, Old Mountain View – Alviso Road, or Tasman Drive west of Great America Parkway;
- To/From the South: On Great America Parkway, Lick Mill Boulevard, or Lafayette Street south of Tasman Drive; and
- To/From the East: On SR 237 east of Great America Parkway or on Tasman Drive east of Lick Mill Boulevard.

The Project's traffic assignments were then refined, based on the parking location and driveway configurations at the destination/parcel within the Project site. This last step is important to support detailed roadway and site access design decisions along the Project's frontage and the site's internal streets.

## Background Conditions

This section presents the results of LOS calculations under background conditions without the Project. Background without-Project conditions are defined as the conditions that are presumed to exist in 2020 without completion and occupancy of the proposed development. Traffic volumes for background without-Project conditions are based on forecasts from the travel demand model, including ABAG 2020 land use projections, and traffic generated by approved development projects. Planned and funded transportation system improvements for 2020 in the VTP are included.

## Background Signalized Intersection Analysis

LOS calculations were made to evaluate intersection operations under background conditions. The intersection volumes are shown in Appendix 3.3-C, and results of the LOS analysis are summarized in Table 3.3-14. The corresponding LOS calculation sheets are included in Appendix 3.3-E.

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<sup>7</sup> National Cooperative Highway Research Program. 1982. *Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design*. Washington, D.C.: National Academy Press.

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
1	Fair Oaks Avenue/Tasman Drive	Sunnyvale	AM	30.0	C
			PM	37.3	D
2	Vienna Drive/Tasman Drive	Sunnyvale	AM	14.5	B
			PM	12.7	B
3	Lawrence Expressway/Tasman Drive	Santa Clara County (CMP)	AM	70.6	E
			PM	<b>81.9</b>	<b>F</b>
4	Birchwood Drive/Tasman Drive	Sunnyvale	AM	11.0	B
			PM	11.8	B
5	Reamwood Avenue/Tasman Drive	Sunnyvale	AM	7.8	A
			PM	10.0	A
6	Patrick Henry Drive/Tasman Drive	Santa Clara	AM	15.8	B
			PM	17.7	B
7	Old Ironside Drive/Tasman Drive	Santa Clara	AM	17.5	B
			PM	17.2	B
8	Great America Parkway/Tasman Drive <sup>f</sup>	Santa Clara (CMP)	AM	34.7	C
			PM	51.8	D
9	Convention Center/Tasman Drive <sup>f</sup>	Santa Clara	AM	17.3	B
			PM	21.9	C
10	Future Driveway (west of Centennial Boulevard)/ Tasman Drive <sup>f</sup>	Santa Clara	AM PM	Future Signalized Intersection	
11	Centennial Boulevard/ Tasman Drive <sup>f</sup>	Santa Clara	AM	20.4	C
			PM	24.1	C
12	Future Driveway (east of Centennial Boulevard)/ Tasman Drive <sup>f</sup>	Santa Clara	AM PM	Future Signalized Intersection	
13	Calle Del Sol/Tasman Drive <sup>f</sup>	Santa Clara	AM	13.2	B
			PM	19.0	B
14	Lick Mill Boulevard/Tasman Drive	Santa Clara	AM	23.1	C
			PM	32.3	C
15	Renaissance Drive/Tasman Drive	San José <sup>g</sup>	AM	20.4	C
			PM	11.5	B
16	Vista Montana/Tasman Drive	San José <sup>g</sup>	AM	24.2	C
			PM	24.4	C
17	Rio Robles/Tasman Drive	San José <sup>g</sup>	AM	26.3	C
			PM	54.2	D
18	North 1 <sup>st</sup> Street/Tasman Drive	San José <sup>g</sup>	AM	45.3	D
			PM	45.3	D
19	Zanker Road/Tasman Drive	San José <sup>g</sup>	AM	38.7	D
			PM	44.3	D
20	McCarthy Boulevard/Tasman Drive	Milpitas	AM	35.0	C
			PM	38.1	D
21	Mission College Boulevard/ Montague Expressway	Santa Clara County (CMP)	AM	<b>158.1</b>	<b>F</b>
			PM	<b>109.4</b>	<b>F</b>

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
22	Agnew Road – De La Cruz Boulevard/Montague Expressway	Santa Clara	AM	<b>90.9</b>	<b>F</b>
		County (CMP)	PM	<b>121.5</b>	<b>F</b>
23	Lick Mill Boulevard/Montague Expressway	Santa Clara	AM	20.3	C
		County	PM	24.9	C
24	North 1 <sup>st</sup> Street/Montague Expressway	Santa Clara	AM	77.7	E
		County (CMP) <sup>g</sup>	PM	<b>125.8</b>	<b>F</b>
25	Zanker Road/Montague Expressway <sup>f</sup>	Santa Clara	AM	48.8	D
		County (CMP) <sup>g</sup>	PM	<b>100.1</b>	<b>F</b>
26	Montague Expressway/ Plumeria Drive – River Oaks Parkway	Santa Clara	AM	<b>92.4</b>	<b>F</b>
		County <sup>g</sup>	PM	<b>157.7</b>	<b>F</b>
27	Trimble Road/Montague Expressway	Santa Clara	AM	48.3	D
		County (CMP) <sup>g</sup>	PM	<b>90.0</b>	<b>F</b>
28	McCarthy Boulevard – O'Toole Avenue/Montague Expressway	Santa Clara	AM	48.1	D
		County (CMP) <sup>g</sup>	PM	67.6	E
29	De La Cruz Boulevard/ Trimble Road	San José	AM	30.8	C
		(CMP) <sup>g</sup>	PM	41.4	D
30	North 1 <sup>st</sup> Street/Trimble Road	San José	AM	52.8	D
		(CMP) <sup>g</sup>	PM	48.5	D
31	Zanker Road/Trimble Road <sup>f</sup>	San José	AM	38.4	D
		(CMP) <sup>g</sup>	PM	37.3	D
32	North 1 <sup>st</sup> Street/Charcot Avenue	San José <sup>g</sup>	AM	27.5	C
			PM	27.5	C
33	Zanker Road/Charcot Avenue <sup>f</sup>	San José <sup>g</sup>	AM	23.1	C
			PM	26.0	C
34	North 1 <sup>st</sup> Street/Brokaw Road	San José	AM	<b>69.1</b>	<b>E</b>
		(CMP) <sup>g</sup>	PM	<b>77.8</b>	<b>E</b>
35	US 101 NB Off-Ramp/Brokaw Road	San José	AM	36.5	D
		(CMP) <sup>g</sup>	PM	22.6	C
36	Zanker Road/Brokaw Road <sup>f</sup>	San José	AM	34.9	C
		(CMP) <sup>g</sup>	PM	50.2	D
37	Fair Oaks Avenue/Fair Oaks Way	Sunnyvale	AM	17.4	B
			PM	26.7	C
38	Fair Oaks Avenue/Weddell Drive	Sunnyvale	AM	20.5	C
			PM	18.8	B
39	Fair Oaks Avenue/US 101 NB Ramps	Sunnyvale	AM	21.6	C
			PM	32.5	C
40	Fair Oaks Avenue/ E. Ahawane Avenue	Sunnyvale	AM	17.4	B
			PM	12.3	B
41	Fair Oaks Avenue/Duane Avenue	Sunnyvale	AM	28.2	C
			PM	32.4	C

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
42	Fair Oaks Avenue/Wolfe Road	Sunnyvale	AM	11.6	B
			PM	12.5	B
43	Fair Oaks Avenue/Maude Avenue	Sunnyvale	AM	29.1	C
			PM	31.0	C
44	Fair Oaks Avenue/E. Arques Avenue	Sunnyvale	AM	29.5	C
			PM	34.0	C
45	Fair Oaks Avenue/Evelyn Avenue	Sunnyvale	AM	28.2	C
			PM	27.2	C
46	Lawrence Expressway/Sandia Avenue	Santa Clara County	AM	51.6	D
			PM	63.0	E
47	Lawrence Expressway/US 101 NB Ramps	Santa Clara County	AM	23.2	C
			PM	23.8	C
48	Lawrence Expressway/US 101 SB Ramps	Santa Clara County	AM	33.9	C
			PM	<b>82.3</b>	<b>F</b>
49	Lawrence Expressway/Oakmead Parkway	Santa Clara County	AM	49.3	D
			PM	57.5	E
50	Lawrence Expressway/Arques Avenue	Santa Clara County (CMP)	AM	44.2	D
			PM	<b>97.1</b>	<b>F</b>
51	Lawrence Expressway/Kifer Road	Santa Clara County	AM	29.7	C
			PM	67.5	E
52	Lawrence Expressway/Reed Avenue-Monroe Street <sup>f</sup>	Santa Clara County (CMP)	AM	<b>107.8</b>	<b>F</b>
			PM	<b>112.9</b>	<b>F</b>
53	Lawrence Expressway/Cabrillo Avenue	Santa Clara County	AM	62.4	E
			PM	<b>83.9</b>	<b>F</b>
54	Lawrence Expressway/Benton Street	Santa Clara County	AM	<b>113.2</b>	<b>F</b>
			PM	74.2	E
55	Lawrence Expressway/Homestead Road	Santa Clara County (CMP)	AM	<b>92.1</b>	<b>F</b>
			PM	<b>99.0</b>	<b>F</b>
56	Lawrence Expressway/Pruneridge Avenue	Santa Clara County	AM	72.7	E
			PM	<b>81.1</b>	<b>F</b>
57	Great America Parkway/SR 237 WB Ramps	Santa Clara (CMP)	AM	26.5	C
			PM	19.5	B
58	Great America Parkway/SR 237 EB Ramps	Santa Clara (CMP)	AM	11.9	B
			PM	10.9	B
59	Great America Parkway/Yerba Buena (Great America) Way	Santa Clara	AM	29.3	C
			PM	34.7	C
60	Great America Parkway/Old Mountain View - Alviso Road	Santa Clara	AM	20.6	C
			PM	37.2	D
61	Great America Parkway/Future Driveway (south of Old Mountain View - Alviso Road)	Santa Clara	AM	Future Signalized Intersection	
			PM		
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	Santa Clara	AM	Future Signalized Intersection	
			PM		

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
63	Great America Parkway/Bunker Hill Lane	Santa Clara	AM	13.2	B
			PM	15.7	B
64	Great America Parkway/Old Glory Lane	Santa Clara	AM	<b>76.0</b>	<b>E</b>
			PM	<b>70.4</b>	<b>E</b>
65	Great America Parkway/Patrick Henry Drive	Santa Clara	AM	25.4	C
			PM	<b>73.9</b>	<b>E</b>
66	Great America Parkway/Mission College Boulevard <sup>f</sup>	Santa Clara (CMP)	AM	47.0	D
			PM	51.9	D
67	Great America Parkway – Bowers Avenue/US 101 NB Ramps	Santa Clara (CMP)	AM	18.5	B
			PM	13.9	B
68	Bowers Avenue/US 101 SB Ramps	Santa Clara (CMP)	AM	25.5	C
			PM	8.7	A
69	Bowers Avenue/Augustine Drive <sup>f</sup>	Santa Clara	AM	34.6	C
			PM	<b>68.3</b>	<b>E</b>
70	Bowers Avenue/Scott Boulevard <sup>f</sup>	Santa Clara (CMP)	AM	32.7	C
			PM	39.4	D
71	Bowers Avenue/Central Expressway	Santa Clara County (CMP)	AM	<b>80.3</b>	<b>F</b>
			PM	<b>117.1</b>	<b>F</b>
72	Bowers Avenue/Kifer Road-Walsh Avenue	Santa Clara	AM	22.2	C
			PM	32.3	C
73	Bowers Avenue/Monroe Street	Santa Clara	AM	35.9	D
			PM	48.6	D
74	Bowers Avenue/El Camino Real <sup>f</sup>	Santa Clara (CMP)	AM	35.3	D
			PM	58.8	E
75	San Tomas Expressway/Scott Boulevard	Santa Clara County (CMP)	AM	<b>99.6</b>	<b>F</b>
			PM	79.7	E
76	San Tomas Expressway/Walsh Avenue	Santa Clara County	AM	<b>101.9</b>	<b>F</b>
			PM	68.4	E
77	San Tomas Expressway/Monroe Street	Santa Clara County (CMP)	AM	<b>158.1</b>	<b>F</b>
			PM	69.4	E
78	San Tomas Expressway/El Camino Real <sup>f</sup>	Santa Clara County (CMP)	AM	<b>142.0</b>	<b>F</b>
			PM	<b>92.8</b>	<b>F</b>
79	San Tomas Expressway/Benton Street <sup>f</sup>	Santa Clara County	AM	77.0	E
			PM	55.9	E
80	San Tomas Expressway/Homestead Road <sup>f</sup>	Santa Clara County (CMP)	AM	69.1	E
			PM	74.6	E
81	San Tomas Expressway/Forbes Avenue	Santa Clara County	AM	64.8	E
			PM	43.2	D
82	San Tomas Expressway/Pruneridge Avenue	Santa Clara County	AM	<b>128.3</b>	<b>F</b>
			PM	<b>81.5</b>	<b>F</b>
83	San Tomas Expressway/Saratoga Avenue	Santa Clara County (CMP)	AM	<b>132.3</b>	<b>F</b>
			PM	75.3	E
84	Gold Street/Gold Street Connector	San José	AM	23.3	C
			PM	21.7	C

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
86	Lafayette Street/Future Driveway (south of Great America Way)	Santa Clara	AM PM	Future Signalized Intersection	
87	Lafayette Street/Future Urban Interchange	Santa Clara	AM PM	Future Signalized Intersection	
90	Lafayette Street/Calle De Luna	Santa Clara	AM PM	16.4 19.6	B B
91	Lafayette Street/Hogan Drive	Santa Clara	AM PM	10.6 10.6	B B
92	Lafayette Street/Eisenhower Drive	Santa Clara	AM PM	10.5 7.8	B A
93	Lafayette Street/Hope Drive	Santa Clara	AM PM	20.1 14.3	C B
94	Lafayette Street/Agnew Road	Santa Clara	AM PM	38.1 41.5	D D
95	Lafayette Street/Palm Drive	Santa Clara	AM PM	7.5 14.5	A B
96	Lafayette Street/Montague Expressway WB Ramps	Santa Clara	AM PM	37.7 35.7	D D
97	Lafayette Street/Montague Expressway EB Ramps	Santa Clara	AM PM	13.8 12.3	B B
98	Lafayette Street/Central Expressway	Santa Clara County (CMP)	AM PM	<b>118.5</b> <b>90.9</b>	<b>F</b> <b>F</b>
99	Lafayette Street/Walsh Avenue	Santa Clara	AM PM	13.2 20.5	B C
100	Lafayette Street/Martin Avenue	Santa Clara	AM PM	21.7 24.8	C C
101	Lafayette Street/Mathew Street – Memorex Drive	Santa Clara	AM PM	12.3 12.0	B B
102	Lafayette Street/El Camino Real <sup>f</sup>	Santa Clara (CMP)	AM PM	53.4 45.9	D D
103	Lafayette Street/Lewis Street	Santa Clara	AM PM	8.7 <b>73.8</b>	A <b>E</b>
104	Lafayette Street/Benton Street	Santa Clara	AM PM	17.9 16.7	B B
105	Lafayette Street/Homestead Road	Santa Clara	AM PM	10.4 10.4	B B
106	Lafayette Street/Market Street	Santa Clara	AM PM	36.7 31.4	D C
107	Lafayette Street/Poplar Street	Santa Clara	AM PM	13.7 10.3	B B
110	North 1 <sup>st</sup> Street/Nortech Parkway	San José	AM PM	13.1 19.6	B B
111	North 1 <sup>st</sup> Street/SR 237 WB	San José (CMP) <sup>g</sup>	AM PM	15.6 21.4	B C

**Table 3.3-14. Background Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>	
				Delay <sup>d</sup>	LOS <sup>e</sup>
112	North 1 <sup>st</sup> Street/SR 237 EB Ramps	San José (CMP) <sup>g</sup>	AM	29.2	C
			PM	27.4	C
113	North 1 <sup>st</sup> Street/Vista Montana	San José <sup>g</sup>	AM	29.7	C
			PM	36.9	D
115	Lick Mill Boulevard/Hope Drive	Santa Clara	AM	26.8	C
			PM	23.2	C
117	Agnew Road/Sun Fire Way	Santa Clara	AM	10.6	B
			PM	17.5	B
118	De La Cruz Boulevard/ Greenwood Drive	Santa Clara	AM	8.4	A
			PM	7.4	A
119	De La Cruz Boulevard/Aldo Avenue	Santa Clara	AM	16.4	B
			PM	17.4	B
120	De La Cruz Boulevard/ Laurelwood Road	Santa Clara	AM	27.7	C
			PM	21.0	C
121	De La Cruz Boulevard/Central Expressway	Santa Clara County (CMP)	AM	<b>&gt; 180</b>	<b>F</b>
			PM	<b>97.8</b>	<b>F</b>
122	De La Cruz Boulevard/Reed Avenue	Santa Clara	AM	16.8	B
			PM	35.6	D
123	Great America Parkway/Gold Street Connector	Santa Clara	AM	11.9	B
			PM	13.6	B
124	Scott Boulevard/Central Expressway	Santa Clara County (CMP)	AM	55.2	E
			PM	<b>150.1</b>	<b>F</b>
125	San Tomas Expressway/ Stevens Creek Boulevard	Santa Clara County (CMP)	AM	<b>118.7</b>	<b>F</b>
			PM	65.4	E

**Notes:**

- a. CMP = Congestion Management Program intersection (VTA).
- b. AM = morning peak hour, PM = evening peak hour
- c. "Background" presents the delay and LOS for intersections, using 2020 geometry and traffic volumes estimated by the VTA travel demand model.
- d. Whole intersection weighted average control delay, expressed in seconds per vehicle and calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- e. LOS calculated using the TRAFFIX analysis software packages, which applies the methods described in the 2000 *Highway Capacity Manual*.
- f. Geometry has been modified to include the improvements for projects under construction and planned projects under background conditions, as outlined in Appendix 3.3-D.
- g. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.

**Bold** text indicates unacceptable operations, according to the jurisdiction's LOS standard.

Source: Fehr & Peers, June 2015.

## Background Unsignalized Intersection Analysis

The LOS results for the unsignalized intersections under background conditions are presented in Table 3.3-15. Peak-hour signal warrant was evaluated for unsignalized intersections that operate at LOS F. The results are presented in Appendix 3.3-G.

**Table 3.3-15. Background Unsignalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Unsig. Type <sup>b</sup>	Peak Hour <sup>c</sup>	Background <sup>d</sup>	
					Delay <sup>e</sup>	LOS <sup>f</sup>
85	Lafayette Street/Great America Way*	Santa Clara	SSSC	AM	11.1	B
				PM	27.0	D
89	Lafayette Street/Calle Del Mundo	Santa Clara	SSSC	AM	20.5	C
				PM	13.9	B
108	Gold Street/Taylor Street	San José	AWSC	AM	9.2	A
				PM	9.3	A
109	Liberty Street/Taylor Street	San José	AWSC	AM	8.9	A
				PM	10.6	B
114	Calle Del Sol/Calle De Luna	Santa Clara	SSSC	AM	15.6	C
				PM	23.2	C
116	Agnew Road/Garrity Way	Santa Clara	SSSC	AM	13.5	B
				PM	14.8	B

**Notes:**

- a. CMP = Congestion Management Program intersection (VTA).
- b. SSSC = side-street stop-controlled intersection, AWSC = all-way stop-controlled intersection
- c. AM = morning peak hour, PM = evening peak hour.
- d. "Background" presents the delay and LOS for intersections, using 2020 geometry and traffic volumes estimated by the VTA travel demand model.
- e. Whole intersection weighted average control delay, expressed in seconds per vehicle and calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for all-way stop-controlled intersections. For side-street stop-controlled intersections, values reported are the worst approach.
- f. LOS calculated using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

**Bold text** indicates unacceptable operations, according to the jurisdiction's LOS standard.

Source: Fehr & Peers, June 2015.

## Background Freeway Segment Analysis

The results of the freeway segment analysis for background conditions are presented in Table H-4 in Appendix 3.3-H. The mixed-flow and HOV lanes that exceed the LOS standards during the AM and PM Peak Hours under background conditions are presented in Appendix 3.3-H.

## Impacts and Mitigation Measures

### Significant Impact Criteria

The determination of significance for Project impacts is based on the applicable policies, regulations, goals, and guidelines from the City of Santa Clara and the surrounding jurisdictions of Sunnyvale, San José, Milpitas, Santa Clara County, San Mateo County, and Alameda County. The detailed impact criteria presented below focuses on those elements of the CEQA checklist that pertain to roadway system operations and their effects on users, including drivers, bicyclists, pedestrians, transit passengers, and first responders in emergency access vehicles.

### Signalized Intersections

The signalized intersection LOS impacts for each jurisdiction within the study area are detailed below.

#### City of Santa Clara

Significant impacts at signalized City of Santa Clara intersections would occur when the addition of project traffic would cause one of the following:

- Intersection operations degrade from an acceptable level (LOD D or better) to an unacceptable level (LOS E or F), or
- Unacceptable operations are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or
- Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

The City of Santa Clara has established a minimum acceptable operation level of service of LOS D for local streets and LOS E for CMP designated facilities (City of Santa Clara 2010).

#### City of Sunnyvale

Significant impacts at signalized City of Sunnyvale intersections would occur when the addition of project traffic would cause one of the following:

- Intersection operations (except those on designated regionally significant roads) degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or LOS F), or
- Operations for regionally significant designated intersections deteriorate from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or
- Unacceptable operations are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or
- Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

The City of Sunnyvale uses a, LOS D standard for local street intersections and a, LOS E standard for regionally significant roadways (also CMP facilities), including Caribbean Drive, Mathilda Avenue, Sunnyvale/Saratoga Road, El Camino Real, Central Expressway, Lawrence Expressway, and CMP facilities that are under the Sunnyvale General Plan, consolidated in July 2011 (City of Sunnyvale 2011).

### **City of San José**

Significant impacts at signalized City of San José study intersections would occur when the addition of project traffic would cause one of the following:

- Intersection operations degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or
- Unacceptable operations (LOS E or F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or
- Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

The City of San José's minimum threshold for acceptable signalized intersection operations is LOS D, unless governed by an Area Development Policy or protected intersection designation. Several San José intersections are within the boundaries of the North San José Development Area (see Figure 3.3-1). For the purpose of this analysis, LOS D is used as the minimum threshold for all signalized study intersections in San José, including Santa Clara County and CMP intersections in the North San José Development Area (City of San José 2009).

### **City of Milpitas**

Significant impacts at signalized City of Milpitas intersections would occur when the addition of project traffic would cause one of the following:

- Intersection operations degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or
- Unacceptable operations (LOS E or F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or
- Unacceptable operations (LOS E or F) are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

The City of Milpitas has established a minimum acceptable operating level of LOS D for intersections that are excluded from the CMP (City of Milpitas 2002).

### **Santa Clara County and Congestion Management Program**

The LOS standard for Santa Clara County (2013 VTA Congestion Management Program) expressway and CMP intersections is LOS E. Traffic impacts at these intersections would occur when the addition of traffic associated with a project would cause one of the following:

- Intersection operations degrade from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or

- Unacceptable operations (LOS F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or
- Unacceptable operations (LOS F) are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.

### **Mitigation of Impacts**

A project's contribution to a significant impact on signalized intersections is considered mitigated when the mitigation measure causes the intersection to operate at an acceptable level, delays are lower than they would be under no-project conditions, or less than a 4-second increase occurs at intersections that operate at unacceptable levels.<sup>8</sup>

### **Unsignalized Intersections**

Unsignalized study locations are located only within the City of Santa Clara and the City of San José. Neither the City of Santa Clara nor the City of San José has officially adopted significance criteria for unsignalized intersections. According to previous studies, significant impacts occur when the addition of project traffic causes the average intersection delay for all-way stop-controlled intersections or the worst movement/approach for side-street stop-controlled intersections to degrade to LOS F and the intersection satisfies the peak-hour signal warrant from CA MUTCD. A significant impact is considered mitigated when the installation of traffic signals causes the intersection to operate at an acceptable level.

### **Freeway Segments**

The study area includes freeway segments within Santa Clara County, San Mateo County, and Alameda County. The impact criteria from each jurisdiction are outlined below.

#### **Santa Clara County**

Traffic impacts on CMP freeway segments would occur when the addition of project traffic would cause:

- Freeway segment operations to degrade from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or
- Traffic to increase by more than 1 percent of the capacity of a segment that operates at LOS F.

#### **San Mateo County**

Traffic impacts on freeway segments in San Mateo County would occur when:

- The addition of project traffic causes the freeway segment to operate at an LOS that violates the LOS standard adopted in the current CMP, or
- When the cumulative analysis indicates that the combination of the project and future cumulative traffic demand will cause the freeway segment to operate at an LOS that violates the standard adopted in the current CMP and the project increases traffic demand on that freeway segment by

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<sup>8</sup> Mitigation measures for intersections with significant impacts located outside of Santa Clara would require approval from the local jurisdiction(s); therefore, the City cannot guarantee implementation of any improvements. This would be considered a potentially significant impact.

an amount equal to 1 percent or more of the segment capacity or causes the freeway segment V/C ratio to increase by 1 percent.

- The LOS standards for the C/CAG freeway study segments on US 101 are LOS F (between Embarcadero Road and Whipple Avenue) and LOS E (between SR 92 and Whipple Avenue).

### **Alameda County**

Traffic impacts on CMP freeway segments in Alameda County would occur when the addition of project traffic would cause:

- A freeway segment with an LOS E standard to, either individually or cumulatively, operate at LOS F, or
- The V/C ratio to increase by 0.03 or more for a freeway segment that would operate at LOS F without the project.

### **Mitigation of Impacts**

Significant impacts on freeway segments are considered mitigated when the mitigation measure causes the segment to operate at an acceptable level, the density or V/C ratio is lower than it would be under no-project conditions, less than a 1 percent increase in freeway segment capacity occurs along segments in Santa Clara and San Mateo Counties, or less than a 0.03 increase in V/C ratio occurs along freeway segments in Alameda County.

### **Transit Services**

Significant impacts on transit service would occur if a project or any part of a project were to:

- Create demand for public transit services above the capacity that is provided or planned for by:
  - exceeding established peak-hour peak load factor standards, or
  - exceeding passenger rail platform waiting areas, or
- Disrupt existing transit services or facilities,<sup>9</sup> or
- Conflict with an existing or planned transit facility, or
- Conflict with transit policies adopted by the City of Santa Clara for facilities within the City of Santa Clara portion of the study area.

VTA's peak-hour peak load factor standards are 1.2 for light-rail transit and local and core bus routes and 1.0 for express and limited bus routes.

Significant impacts on transit services are considered mitigated when the mitigation measure adds transit capacity such that the peak-load factor standard is met, the platform area increases to more than 5 gsf per waiting passenger, existing or planned transit service is re-instituted, or existing or planned transit service is accommodated in an equitable manner.

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<sup>9</sup> This includes disruptions caused by proposed driveways on transit streets, impacts on transit stops/shelters, and impacts on transit operations from traffic improvements proposed or resulting from a project.

## Bicycle and Pedestrian Facilities

The City of Santa Clara General Plan (2010) includes policies to ensure that bicycle and pedestrian facilities are safe and effective for City residents. Using the General Plan as a guide, significant impacts on these facilities would occur if the Project or an element of the Project would:

- Create a hazardous condition that currently does not exist for bicyclists and pedestrians or otherwise interfere with bicycle and pedestrian accessibility to the site and adjoining areas, or
- Conflict with an existing or planned bicycle or pedestrian facility, or
- Conflict with policies related to bicycle and pedestrian activity adopted by the City of Santa Clara for facilities within the City of Santa Clara portion of the study area.

Significant impacts on bicycle and facilities are considered mitigated when the mitigation measure ameliorates the hazard, provides adequate site and area accessibility, or accommodates an existing or planned facility in an equitable manner.

## Safety

The safety of persons who travel by automobile and bicycle or on foot is of paramount importance to the discussion of on-site circulation. The safety of a project hinges on the design of its infrastructure, on-site circulation facilities, and the environment on and surrounding the site. These facilities include roadways, driveways, parking garages, sidewalks, crosswalks, bicycle lanes, and bicycle parking areas. Access to and from these facilities should be safe and secure for users.

The Project would have a significant safety impact if site access and on-site circulation facilities were not designed to City of Santa Clara standards and standard engineering practices were not followed, thereby resulting in a hazardous condition for motorists, bicyclists, and/or pedestrians.

Significant safety impacts are considered mitigated when the mitigation measure results in adherence to City of Santa Clara standards and standard engineering practices.

## Emergency Access

Ease of access and travel time are critical for first responders when traveling in emergency vehicles. Obstructions in the roadway, detours, and congestion delay are among the factors that can affect emergency response time. The City of Santa Clara General Plan (2010) contains policies that pertain to maintaining standards for emergency response times. Using the City of Santa Clara General Plan as a guide, significant impacts would occur if the Project or an element of the Project would:

- Conflict with an existing or planned emergency response facility or route, or
- Increase emergency response time beyond the threshold of an average of 3 minutes.

Significant emergency access impacts are considered mitigated when the mitigation measure resolves a conflict with an existing or planned emergency response facility or route or results in adherence to the City of Santa Clara response time threshold of 3 minutes.

## Parking

A significant parking impact would occur if the Project or any element of the Project would:

- Result in parking demand that would exceed the parking supply included in the Project description and either require the construction of additional parking facilities or cause vehicles to travel off-site for parking, thereby causing excessive vehicular circulation.

## Existing and Background with-Project Conditions

### Project Traffic Estimates

A project of this magnitude can alter travel patterns near the site and result in slightly different traffic volumes and patterns under future conditions compared with existing conditions because of changes in regional demographics, socio-economic characteristics, and travel costs. After coordination with lead agency personnel, it was decided to first determine the development scheme with the highest vehicle trip generation and then apply the travel demand model for that scheme to develop Project traffic assignments to the surrounding roadways. To accomplish this, a two-step process was conducted:

1. *Initial Trip Generation Estimation:* Vehicle trip generation estimates were developed for each development scheme based on local trip generation surveys for the office uses, ITE rates for other uses, the MXD+ (mixed-use development trip generation) tool to estimate trip internalization, and transit reductions. The scheme with the highest trip generation resulting from this step (Scheme B) was then input into the travel demand model for the second step.
2. *Application of VTA Model:* Scheme B land use data were added to the VTA model. Its trip generation estimates were compared to those developed in Step 1. The results were used to capture the local effects of the Project on the roadway system and assign Project traffic.

Further explanation is provided in the technical memorandum titled *City Place Santa Clara – Trip Generation Estimates* (Fehr & Peers 2015) (see Appendix 3.3-J).

The results indicate that the Project is expected to generate approximately 140,730 daily vehicle trips, 10,020 AM Peak-Hour vehicle trips (8,010 inbound and 2,010 outbound), and 12,310 PM Peak-Hour vehicle trips (4,140 inbound and 8,170 outbound). Table 3.3-16 shows the trip generation estimates by parcel.

**Table 3.3-16. Vehicle Trip Generation Estimates (Scheme B)**

Parcel	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1	13,100	1,230	150	1,380	260	1,070	1,330
Parcel 2	30,440	2,040	330	2,370	840	2,130	2,970
Parcel 3	7,880	740	90	830	160	640	800
Parcel 4 (Phases 2 and 3)	61,520	2,300	1,040	3,340	2,090	2,680	4,770
Parcel 4 (Phase 4)	11,650	1,090	140	1,230	240	950	1,190
Parcel 5	16,140	610	260	870	550	700	1,250
<b>Total</b>	<b>140,730</b>	<b>8,010</b>	<b>2,010</b>	<b>10,020</b>	<b>4,140</b>	<b>8,170</b>	<b>12,310</b>

Source: Fehr & Peers, September 2015.

## Project Transit Ridership Estimates

As noted previously, the southern portion of the Project site is within 0.5 mile (walking distance) of rail transit stations (VTA light-rail Great America and Lick Mill Stations and ACE and Capitol Corridor/Amtrak Great America Station). The site is also served by public bus and public shuttle routes. The Project would generate approximately 8,320 daily public transit riders, including 530 during the AM Peak Hour and 820 during the PM Peak Hour. Further explanation is provided in the technical memorandum titled *City Place Santa Clara – Trip Generation Estimates* (Fehr & Peers 2015) (see Appendix 3.3-J).

## Project Roadway Infrastructure

The Project includes a substantial amount of new roadway infrastructure to facilitate vehicle circulation to and from the Project site, as shown in Figure 3.3-15. New access intersections would be constructed on Great America Parkway, Tasman Drive, and Lafayette Street, plus Lick Mill Boulevard would be extended into the site. A major component of the site access system is an urban interchange on Lafayette Street and a new major east/west roadway, City Place Parkway. Detailed design of the new roadways and access intersections has not yet been completed. Therefore, the preliminary intersection lane configurations included in the intersection LOS calculations were based on the on-site analysis.

**Impact TRA-1: Signalized (Off-Site) Intersections. The Project would add traffic to certain signalized intersections, causing them to operate at unacceptable levels of service or worsen unacceptable levels of service under existing with-Project or background with-Project conditions. (SU)**

## Existing with-Project Signalized Intersection Analysis

LOS calculations were conducted to evaluate signalized intersection operations under existing with-Project conditions. The intersection volumes are shown in Appendix 3.3-C, and results of the LOS analysis are summarized in Table 3.3-17. The corresponding LOS calculation sheets are included in Appendix 3.3-E. The results are graphically shown in Figure 3.3-16.

The results for existing conditions are included in Table 3.3-17 for comparison purposes, along with the projected increases in critical delay and critical V/C ratios. Critical delay represents the delay associated with the critical movements of the intersection, or the movements that require the most “green time” and have the greatest effect on overall intersection operations. Project impacts are identified by comparing existing and existing with-Project conditions. The identification of significant impacts is based on the impact criteria stated earlier, which includes changes in LOS from an acceptable to an unacceptable level or changes in critical delay and critical V/C ratio for intersections that operate unacceptably.<sup>10</sup> The Project would have a significant impact on 35 signalized intersections under existing with-Project conditions (see Table K-1 of Appendix 3.3-K for affected intersections and mitigation measures). Impacts and mitigation measures for combined existing with-Project and background with-Project conditions are discussed later in the section.

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<sup>10</sup> At times, intersections may show a reduction in average delay with the addition of Project traffic, which is counter-intuitive. However, the average delay values in the Table are weighted averages. Weighted average delays will be reduced when traffic is added to a movement that has little delay under existing conditions. Conversely, relatively small increases to movements with high delays can substantially increase the weighted average delay.

**LEGEND**

**Vehicular Circulation**

- Major Arterial
- Minor Arterial (Existing)
- Minor Arterial (Proposed)
- Collector Street (Existing)
- Collector Street (Proposed)
- Local Street (Proposed)

- Potential Connection
- Urban Interchange
- Full Intersection
- Right in Right out Intersection

**Transit**

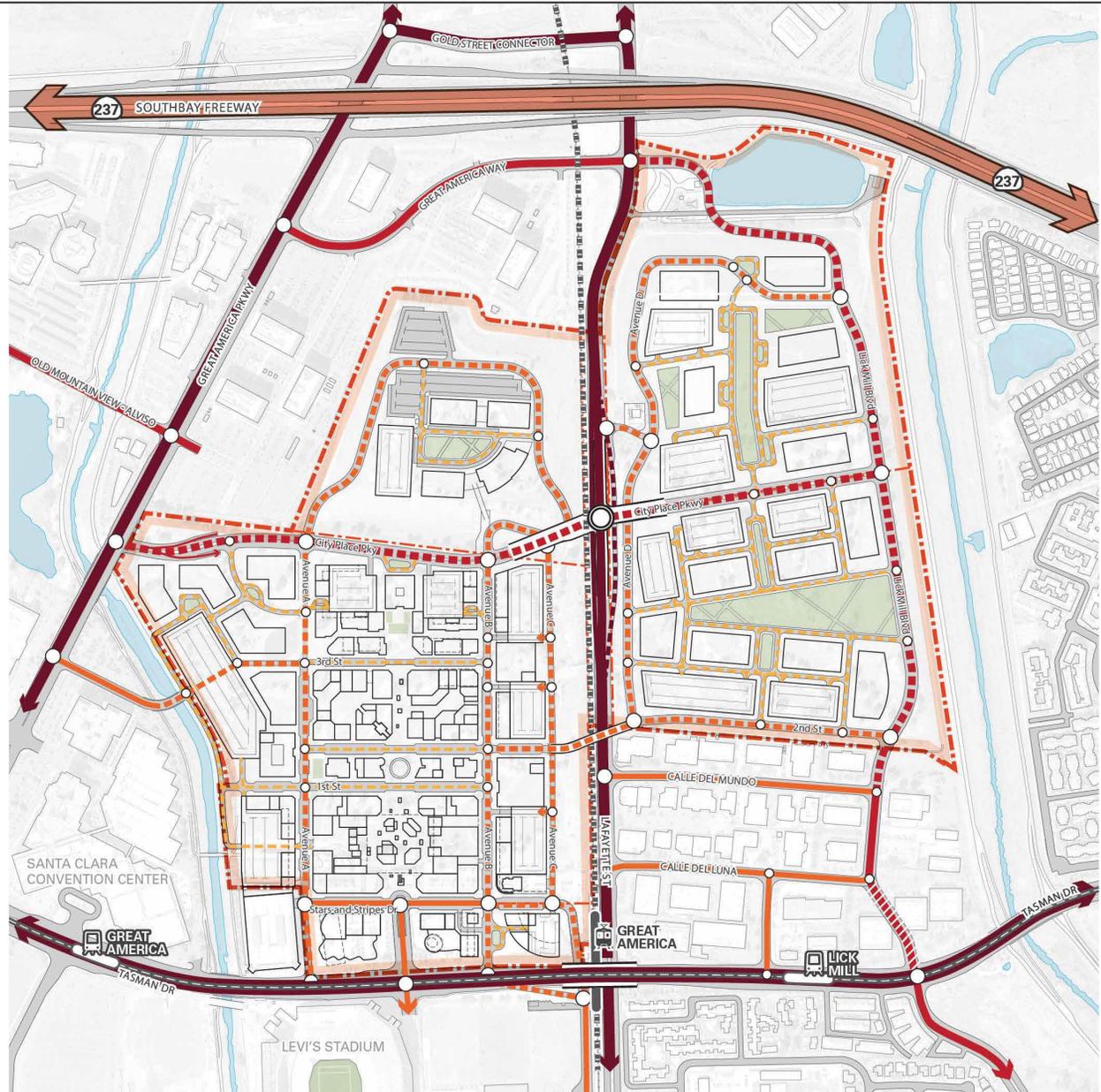
- VTA Light Rail
- Capitol Corridor/  
Altamont Commuter Express

**Boundaries**

- Site
- Parcel

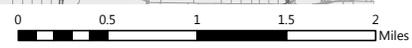
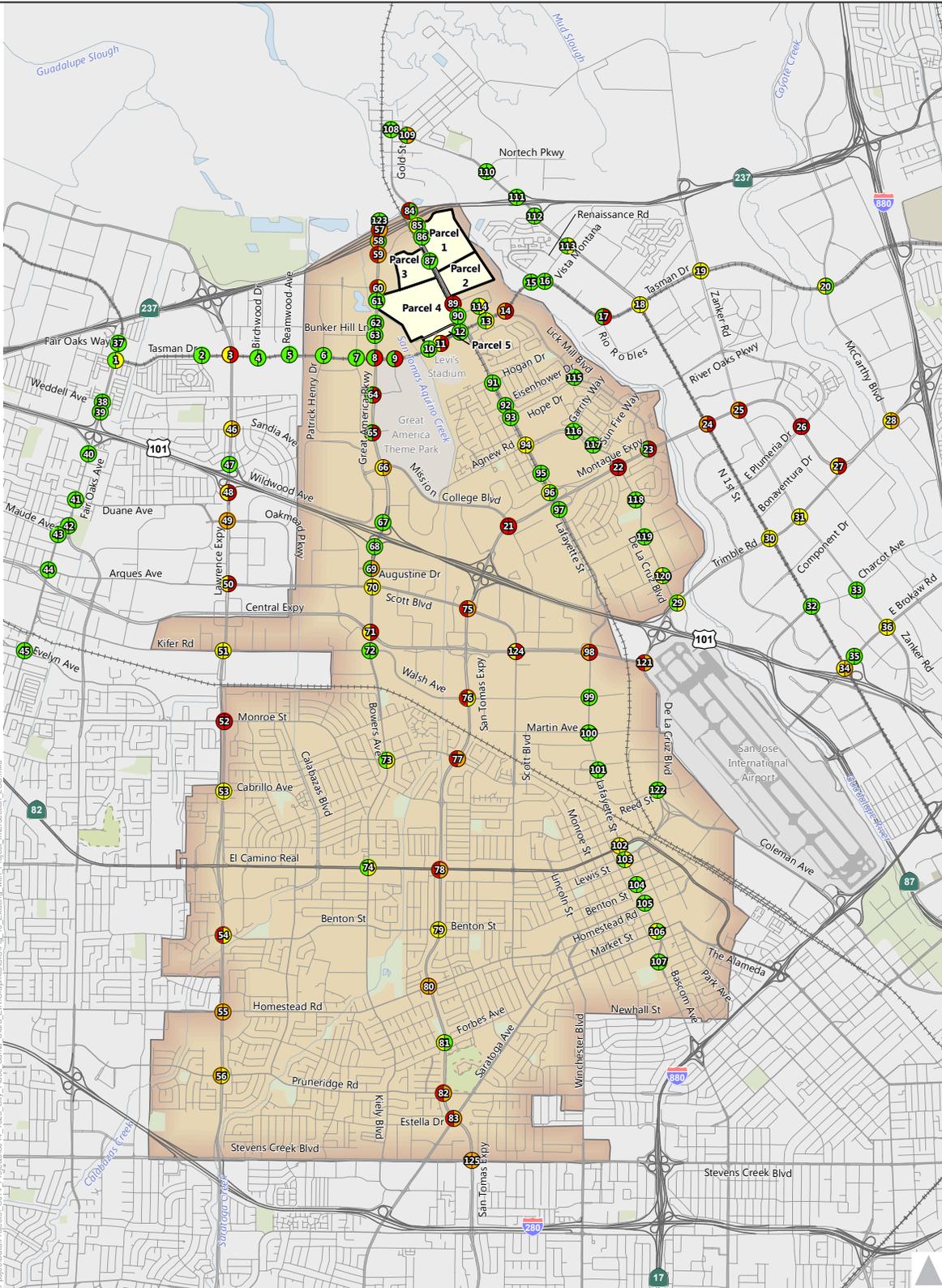


Source: City Place Santa Clara Master Community Plan  
(Figure 3.7: Street Network), The Related Companies,  
May 2015



Source: Fehr & Peers, 2015.

**Figure 3.3-15**  
**City Place Santa Clara Master Community Plan – Street Network**  
City Place Santa Clara



Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-16**  
**Existing with Project Intersection Level of Service Results**  
 City Place Santa Clara

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
1	Fair Oaks Avenue/Tasman Drive	Sunnyvale	AM	25.7	C	28.0	C	27.7	C	0.018	0.5
			PM	34.3	C	35.0	C	35.7	D	0.050	1.5
2	Vienna Drive/Tasman Drive	Sunnyvale	AM	14.4	B	14.1	B	14.6	B	0.025	0.2
			PM	13.3	B	12.9	B	13.0	B	0.035	0.3
3	Lawrence Expressway/Tasman Drive	Santa Clara County (CMP)	AM	39.8	D	41.0	D	46.2	D	0.153	7.7
			PM	55.8	E	57.7	E	<b>94.6</b>	<b>F</b>	<b>0.174</b>	<b>59.6</b>
4	Birchwood Drive/Tasman Drive	Sunnyvale	AM	14.4	B	13.5	B	12.2	B	0.092	-0.4
			PM	10.6	B	10.5	B	13.0	B	0.205	3.8
5	Reamwood Avenue/Tasman Drive	Sunnyvale	AM	7.5	A	7.5	A	8.0	A	0.104	0.6
			PM	9.8	A	9.2	A	11.8	B	0.241	4.5
6	Patrick Henry Drive/Tasman Drive	Santa Clara	AM	10.9	B	12.1	B	15.5	B	0.116	0.0
			PM	12.6	B	13.2	B	21.4	C	0.230	5.9
7	Old Ironside Drive/Tasman Drive	Santa Clara	AM	14.4	B	13.2	B	11.8	B	0.106	-1.5
			PM	12.6	B	12.7	B	13.3	B	0.292	4.0
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)	AM	25.6	C	26.0	C	34.1	C	0.334	11.8
			PM	29.2	C	31.5	C	<b>171.2</b>	<b>F</b>	<b>0.688</b>	<b>226.6</b>
9	Convention Center/Tasman Drive	Santa Clara	AM	16.2	B	16.2	B	18.2	B	0.169	3.0
			PM	18.5	B	20.2	C	<b>157.3</b>	<b>F</b>	<b>0.225</b>	<b>140.3</b>
10	Future Driveway (west of Centennial Boulevard)/ Tasman Drive	Santa Clara	AM	Future Signalized Intersection				4.2	A	N/A	N/A
			PM					15.0	B	N/A	N/A
11	Centennial Boulevard/Tasman Drive	Santa Clara	AM	19.8	B	19.8	B	52.9	D	0.484	47.9
			PM	19.6	B	19.8	B	<b>134.7</b>	<b>F</b>	<b>0.779</b>	<b>180.9</b>
12	Future Driveway (east of Centennial Boulevard)/Tasman Drive	Santa Clara	AM	Future Signalized Intersection				3.4	A	N/A	N/A
			PM					18.7	B	N/A	N/A

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
13	Calle Del Sol/Tasman Drive	Santa Clara	AM	11.4	B	10.6	B	12.0	B	0.243	3.1
			PM	17.6	B	17.5	B	38.2	D	0.419	35.4
14	Lick Mill Boulevard/Tasman Drive	Santa Clara	AM	22.4	C	22.1	C	<b>57.7</b>	<b>E</b>	<b>0.513</b>	<b>65.3</b>
			PM	21.5	C	24.4	C	<b>&gt;180</b>	<b>F</b>	<b>0.850</b>	<b>245.6</b>
15	Renaissance Drive/Tasman Drive	San José <sup>j</sup>	AM	23.5	C	22.7	C	19.4	B	0.195	-2.5
			PM	10.3	B	11.4	B	13.1	B	0.150	2.1
16	Vista Montana/Tasman Drive	San José <sup>j</sup>	AM	26.2	C	26.1	C	22.5	C	0.243	-3.1
			PM	22.2	C	23.8	C	27.6	C	0.131	6.2
17	Rio Robles/Tasman Drive	San José <sup>j</sup>	AM	24.3	C	24.2	C	28.2	C	0.238	7.1
			PM	27.5	C	46.4	D	<b>101.8</b>	<b>F</b>	<b>0.252</b>	<b>75.5</b>
18	North 1st Street/Tasman Drive	San José <sup>j</sup>	AM	33.5	C	38.0	D	40.1	D	0.148	2.9
			PM	38.0	D	42.0	D	45.6	D	0.178	7.5
19	Zanker Road/Tasman Drive	San José <sup>j</sup>	AM	36.4	D	37.8	D	40.0	D	0.119	2.8
			PM	37.7	D	41.4	D	42.4	D	0.111	1.4
20	McCarthy Boulevard/Tasman Drive	Milpitas	AM	34.0	C	34.2	C	41.9	D	0.144	10.6
			PM	33.0	C	31.8	C	34.3	C	0.170	18.1
21	Mission College Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	58.0	E	79.5	E	<b>99.1</b>	<b>F</b>	<b>0.118</b>	<b>36.5</b>
			PM	61.7	E	76.1	E	<b>111.4</b>	<b>F</b>	<b>0.093</b>	<b>60.8</b>
22	Agnew Road De La Cruz Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	46.6	D	51.9	D	<b>107.3</b>	<b>F</b>	<b>0.235</b>	<b>107.2</b>
			PM	57.8	E	79.0	E	<b>107.4</b>	<b>F</b>	<b>0.152</b>	<b>44.5</b>
23	Lick Mill Boulevard/Montague Expressway	Santa Clara County	AM	21.2	C	21.4	C	21.9	C	0.089	5.2
			PM	22.0	C	22.0	C	<b>100.9</b>	<b>F</b>	<b>0.285</b>	<b>138.6</b>
24	North 1st Street/Montague Expressway	Santa Clara County (CMP) <sup>j</sup>	AM	54.2	D	67.2	E	79.9	E	-0.032	8.5
			PM	69.0	E	<b>88.9</b>	<b>F</b>	<b>86.9</b>	<b>F</b>	<b>0.226</b>	<b>7.8</b>

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
25	Zanker Road/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	40.8	D	58.4	E	63.7	E	0.096	11.5
			PM	65.4	E	<b>81.8</b>	<b>F</b>	<b>93.2</b>	<b>F</b>	<b>0.080</b>	<b>24.3</b>
26	Montague Expressway/Plumeria Drive River Oaks Parkway	Santa Clara County <sup>j</sup>	AM	40.6	D	<b>89.7</b>	<b>F</b>	<b>88.0</b>	<b>F</b>	<b>0.046</b>	<b>-9.0</b>
			PM	41.5	D	<b>170.5</b>	<b>F</b>	<b>159.7</b>	<b>F</b>	<b>0.045</b>	<b>-15.1</b>
27	Trimble Road/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	49.4	D	47.7	D	47.6	D	0.034	-1.4
			PM	50.9	D	<b>72.7</b>	<b>E</b>	<b>87.3</b>	<b>F</b>	<b>0.052</b>	<b>25.2</b>
28	McCarthy Boulevard O'Toole Avenue/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	37.1	D	48.2	D	54.6	D	0.496	31.2
			PM	62.2	E	63.8	E	66.5	E	0.024	2.3
29	De La Cruz Boulevard/Trimble Road	San José (CMP) <sup>i</sup>	AM	29.4	C	28.9	C	33.9	C	0.153	4.9
			PM	32.0	C	31.1	C	35.6	D	0.086	6.4
30	North 1st Street/Trimble Road	San José (CMP) <sup>i</sup>	AM	40.2	D	45.0	D	47.8	D	0.062	4.1
			PM	40.8	D	43.8	D	46.4	D	0.059	3.3
31	Zanker Road/Trimble Road	San José (CMP) <sup>i</sup>	AM	38.3	D	38.2	D	38.6	D	0.034	0.4
			PM	38.4	D	38.5	D	39.0	D	0.135	6.9
32	North 1st Street/Charcot Avenue	San José <sup>j</sup>	AM	26.9	C	26.2	C	28.5	C	0.061	3.7
			PM	26.1	C	23.6	C	23.7	C	0.062	0.1
33	Zanker Road/Charcot Avenue	San José <sup>j</sup>	AM	22.0	C	22.0	C	22.1	C	0.017	0.3
			PM	23.9	C	23.9	C	24.3	C	0.045	0.4
34	North 1st Street/Brokaw Road	San José (CMP) <sup>i</sup>	AM	37.2	D	47.4	D	50.5	D	0.028	6.8
			PM	43.3	D	<b>58.9</b>	<b>E</b>	<b>73.6</b>	<b>E</b>	<b>0.054</b>	<b>14.4</b>
35	US 101 NB Off-Ramp/Brokaw Road	San José (CMP) <sup>i</sup>	AM	26.7	C	44.2	D	35.0	C	-0.164	-14.8
			PM	18.8	B	22.9	C	23.0	C	0.028	0.0

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
36	Zanker Road/Brokaw Road	San José (CMP) <sup>j</sup>	AM	36.7	D	36.7	D	37.8	D	0.030	1.5
			PM	43.1	D	43.1	D	46.2	D	0.110	6.3
37	Fair Oaks Avenue/Fair Oaks Way	Sunnyvale	AM	15.2	B	14.9	B	15.2	B	0.024	0.3
			PM	17.7	B	20.4	C	21.0	C	0.021	0.7
38	Fair Oaks Avenue/Weddell Drive	Sunnyvale	AM	12.6	B	18.4	B	18.2	B	0.036	-0.2
			PM	14.8	B	17.2	B	17.5	B	0.031	0.3
39	Fair Oaks Avenue/US 101 NB Ramps	Sunnyvale	AM	15.7	B	16.1	B	15.9	B	0.015	0.4
			PM	21.3	C	22.1	C	24.4	C	0.034	4.7
40	Fair Oaks Avenue/E. Ahawanee Avenue	Sunnyvale	AM	17.3	B	17.2	B	17.3	B	0.037	0.3
			PM	11.7	B	11.6	B	12.4	B	0.018	0.8
41	Fair Oaks Avenue/Duane Avenue	Sunnyvale	AM	27.3	C	27.3	C	28.1	C	0.040	0.7
			PM	30.2	C	30.1	C	30.7	C	0.017	0.8
42	Fair Oaks Avenue/Wolfe Road	Sunnyvale	AM	11.6	B	11.6	B	11.7	B	0.027	0.5
			PM	11.9	B	12.1	B	12.2	B	0.015	0.2
43	Fair Oaks Avenue/Maude Avenue	Sunnyvale	AM	29.3	C	28.8	C	30.2	C	0.027	2.1
			PM	27.3	C	27.3	C	27.6	C	0.012	0.2
44	Fair Oaks Avenue/E. Arques Avenue	Sunnyvale	AM	28.0	C	27.8	C	28.8	C	0.037	1.6
			PM	29.5	C	29.7	C	30.0	C	0.016	0.6
45	Fair Oaks Avenue/Evelyn Avenue	Sunnyvale	AM	27.8	C	27.8	C	28.3	C	0.017	0.7
			PM	26.0	C	26.0	C	26.5	C	0.019	0.5
46	Lawrence Expressway/Sandia Avenue	Santa Clara County	AM	50.5	D	50.9	D	54.7	D	0.024	0.7
			PM	57.9	E	58.4	E	67.0	E	0.085	15.3
47	Lawrence Expressway/US 101 NB Ramps	Santa Clara County	AM	23.1	C	23.1	C	23.3	C	0.106	-0.8
			PM	22.3	C	22.6	C	24.6	C	0.041	2.4
48	Lawrence Expressway/US 101 SB Ramps	Santa Clara County	AM	26.1	C	33.8	C	42.0	D	0.086	-4.3
			PM	<b>87.1</b>	<b>F</b>	<b>90.8</b>	<b>F</b>	<b>84.5</b>	<b>F</b>	<b>0.041</b>	<b>-12.4</b>

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
49	Lawrence Expressway/Oakmead Parkway	Santa Clara County	AM	46.4	D	46.9	D	55.5	E	0.097	13.9
			PM	51.5	D	52.1	D	58.1	E	0.073	7.4
50	Lawrence Expressway/Arques Avenue	Santa Clara County (CMP)	AM	38.3	D	41.2	D	46.4	D	0.117	8.4
			PM	61.4	E	66.9	E	<b>93.3</b>	<b>F</b>	<b>0.121</b>	<b>45.1</b>
51	Lawrence Expressway/Kifer Road	Santa Clara County	AM	27.4	C	27.7	C	43.7	D	0.128	23.8
			PM	48.6	D	50.5	D	54.4	D	0.111	2.8
52	Lawrence Expressway/Reed Avenue Monroe Street <sup>i</sup>	Santa Clara County (CMP)	AM	79.7	E	<b>98.2</b>	<b>F</b>	<b>115.0</b>	<b>F</b>	<b>0.074</b>	<b>30.2</b>
			PM	62.1	E	76.2	E	<b>92.1</b>	<b>F</b>	<b>0.072</b>	<b>30.2</b>
53	Lawrence Expressway/Cabrillo Avenue	Santa Clara County	AM	38.4	D	44.0	D	47.9	D	0.023	7.1
			PM	38.5	D	47.1	D	53.9	D	0.041	11.4
54	Lawrence Expressway/Benton Street	Santa Clara County	AM	71.2	E	<b>80.6</b>	<b>F</b>	<b>89.2</b>	<b>F</b>	<b>0.026</b>	<b>14.2</b>
			PM	44.9	D	47.3	D	52.9	D	0.042	9.0
55	Lawrence Expressway/Homestead Road	Santa Clara County (CMP)	AM	63.1	E	73.5	E	79.4	E	0.024	11.2
			PM	51.8	D	56.7	E	63.2	E	0.001	7.1
56	Lawrence Expressway/Pruneridge Avenue	Santa Clara County	AM	55.6	E	62.5	E	63.9	E	0.010	2.2
			PM	45.4	D	48.5	D	54.9	D	0.044	13.4
57	Great America Parkway/SR 237 WB Ramps	Santa Clara County (CMP)	AM	17.5	B	20.9	C	<b>116.5</b>	<b>F</b>	<b>0.489</b>	<b>139.9</b>
			PM	17.5	B	18.9	B	55.3	E	0.524	48.3
58	Great America Parkway/SR 237 EB Ramps	Santa Clara County (CMP)	AM	12.3	B	10.9	B	72.0	E	0.573	90.0
			PM	10.4	B	8.6	A	11.6	B	0.175	3.6
59	Great America Parkway/Yerba Buena (Great America) Way	Santa Clara	AM	20.7	C	27.0	C	<b>120.5</b>	<b>F</b>	<b>0.488</b>	<b>108.6</b>
			PM	22.9	C	31.4	C	<b>70.8</b>	<b>E</b>	<b>0.354</b>	<b>61.0</b>
60	Great America Parkway/Old Mountain View-Alviso Road	Santa Clara	AM	18.9	B	19.2	B	<b>83.1</b>	<b>F</b>	<b>0.417</b>	<b>101.9</b>
			PM	26.6	C	26.6	C	48.9	D	0.213	40.2

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
61	Great America Parkway/Future Driveway (south of Old Mountain View-Alviso Road)	Santa Clara	AM	Future Signalized Intersection				25.5	C	N/A	N/A
			PM					21.0	C	N/A	N/A
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	Santa Clara	AM	Future Signalized Intersection				24.2	C	N/A	N/A
			PM					25.1	C	N/A	N/A
63	Great America Parkway/Bunker Hill Lane	Santa Clara	AM	13.0	B	12.9	B	12.4	B	0.189	-2.7
			PM	15.5	B	15.6	B	16.5	B	0.264	2.9
64	Great America Parkway/Old Glory Lane	Santa Clara	AM	17.2	B	20.0	B	27.0	C	0.036	6.2
			PM	17.7	B	24.4	C	<b>&gt;180</b>	<b>F</b>	<b>0.423</b>	<b>326.5</b>
65	Great America Parkway/Patrick Henry Drive	Santa Clara	AM	20.3	C	19.7	B	19.9	B	0.084	1.5
			PM	24.8	C	25.2	C	<b>85.8</b>	<b>F</b>	<b>0.357</b>	<b>93.5</b>
66	Great America Parkway/Mission College Boulevard <sup>i</sup>	Santa Clara (CMP)	AM	39.4	D	37.7	D	42.8	D	0.206	8.1
			PM	55.9	E	44.4	D	59.6	E	0.236	23.3
67	Great America Parkway-Bowers Avenue/US 101 NB Ramps	Santa Clara (CMP)	AM	9.7	A	18.7	B	18.5	B	0.041	0.2
			PM	9.9	A	12.6	B	13.5	B	0.185	2.0
68	Bowers Avenue/US 101 SB Ramps	Santa Clara (CMP)	AM	22.4	C	23.7	C	24.7	C	0.016	0.3
			PM	8.0	A	8.3	A	8.4	A	0.162	0.5
69	Bowers Avenue/Augustine Drive <sup>i</sup>	Santa Clara	AM	23.0	C	31.5	C	33.4	C	0.076	-0.1
			PM	25.3	C	44.6	D	<b>72.6</b>	<b>E</b>	<b>0.212</b>	<b>45.9</b>
70	Bowers Avenue/Scott Boulevard <sup>i</sup>	Santa Clara (CMP)	AM	29.9	C	31.6	C	36.3	D	0.200	8.2
			PM	31.6	C	35.1	D	52.7	D	0.305	45.2
71	Bowers Avenue/Central Expressway	Santa Clara County (CMP)	AM	47.4	D	49.9	D	54.3	D	0.135	8.4
			PM	46.5	D	64.6	E	<b>112.4</b>	<b>F</b>	<b>0.043</b>	<b>81.2</b>
72	Bowers Avenue/Kifer Road Walsh Avenue	Santa Clara	AM	21.1	C	20.5	C	20.3	C	0.028	-0.4
			PM	25.3	C	25.4	C	26.3	C	0.067	0.9

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
73	Bowers Avenue/Monroe Street	Santa Clara	AM	30.8	C	33.2	C	34.2	C	0.036	1.1
			PM	32.6	C	38.8	D	43.3	D	0.056	5.0
74	Bowers Avenue/El Camino Real	Santa Clara (CMP)	AM	28.7	C	30.4	C	30.9	C	0.018	0.6
			PM	32.3	C	35.5	D	37.9	D	0.045	3.8
75	San Tomas Expressway/Scott Boulevard	Santa Clara County (CMP)	AM	38.9	D	58.4	E	<b>128.0</b>	<b>F</b>	<b>0.225</b>	<b>115.9</b>
			PM	50.1	D	66.2	E	78.1	E	0.162	9.6
76	San Tomas Expressway/Walsh Avenue	Santa Clara County	AM	40.4	D	60.2	E	<b>83.1</b>	<b>F</b>	<b>0.075</b>	<b>34.1</b>
			PM	42.5	D	48.0	D	53.3	D	0.048	7.8
77	San Tomas Expressway/Monroe Street	Santa Clara County (CMP)	AM	71.2	E	<b>103.7</b>	<b>F</b>	<b>124.7</b>	<b>F</b>	<b>0.063</b>	<b>30.3</b>
			PM	47.2	D	55.2	E	59.5	E	0.311	5.1
78	San Tomas Expressway/El Camino Real <sup>i</sup>	Santa Clara County (CMP)	AM	64.1	E	71.9	E	<b>86.4</b>	<b>F</b>	<b>0.053</b>	<b>23.9</b>
			PM	62.6	E	57.3	E	61.2	E	0.311	8.5
79	San Tomas Expressway/Benton Street <sup>i</sup>	Santa Clara County	AM	78.7	E	41.9	D	44.4	D	0.023	-0.4
			PM	47.6	D	37.8	D	38.7	D	0.03	1.7
80	San Tomas Expressway/Homestead Road <sup>i</sup>	Santa Clara County (CMP)	AM	72.6	E	53.0	D	55.1	E	0.055	3.8
			PM	<b>84.5</b>	<b>F</b>	57.9	E	58.2	E	0.010	0.7
81	San Tomas Expressway/Forbes Avenue	Santa Clara County	AM	22.1	C	26.4	C	38.8	D	0.609	30.3
			PM	20.2	C	24.3	C	25.7	C	0.042	0.8
82	San Tomas Expressway/Pruneridge Avenue	Santa Clara County	AM	57.3	E	69.1	E	<b>90.1</b>	<b>F</b>	<b>0.074</b>	<b>32.9</b>
			PM	46.4	D	50.8	D	71.0	E	0.488	38.4
83	San Tomas Expressway/Saratoga Avenue	Santa Clara County (CMP)	AM	63.0	E	73.7	E	<b>93.1</b>	<b>F</b>	<b>0.079</b>	<b>31.2</b>
			PM	50.8	D	55.4	E	68.7	E	0.067	24.4

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
84	Gold Street/Gold Street Connector	San José <sup>j</sup>	AM	22.6	C	22.7	C	<b>113.8</b>	<b>F</b>	<b>0.775</b>	<b>102.8</b>
			PM	21.5	C	21.7	C	29.8	C	0.451	13.6
85	Lafayette Street/Great America Way	Santa Clara	AM	Unsignalized Intersection				51.7	D	N/A	N/A
			PM					34.7	C	N/A	N/A
86	Lafayette Street/Future Driveway (south of Great America Way)	Santa Clara	AM	Future Signalized Intersection				17.1	B	N/A	N/A
			PM					17.4	B	N/A	N/A
87	Lafayette Street/Future Urban Interchange	Santa Clara	AM	Future Signalized Intersection				32.3	C	N/A	N/A
			PM					28.6	C	N/A	N/A
90	Lafayette Street/Calle De Luna	Santa Clara	AM	14.8	B	15.5	B	34.9	C	0.565	25.8
			PM	18.8	B	19.2	B	22.6	C	0.392	4.7
91	Lafayette Street/Hogan Drive	Santa Clara	AM	10.3	B	9.8	A	8.9	A	0.360	1.7
			PM	10.8	B	10.5	B	9.6	A	0.313	1.9
92	Lafayette Street/Eisenhower Drive	Santa Clara	AM	10.7	B	10.4	B	12.4	B	0.387	3.3
			PM	8.2	A	8.1	A	8.5	A	0.327	1.9
93	Lafayette Street/Hope Drive	Santa Clara	AM	21.0	C	20.5	C	18.8	B	0.377	1.6
			PM	13.9	B	13.7	B	13.2	B	0.318	0.8
94	Lafayette Street/Agnew Road	Santa Clara	AM	38.2	D	38.7	D	38.1	D	0.401	1.3
			PM	40.2	D	41.0	D	47.2	D	0.338	10.3
95	Lafayette Street/Palm Drive	Santa Clara	AM	7.4	A	7.2	A	8.5	A	0.371	3.2
			PM	15.0	B	14.3	B	12.2	B	0.317	-0.7
96	Lafayette Street/Montague Expressway WB Ramps	Santa Clara	AM	32.4	C	34.1	C	53.5	D	0.401	20.6
			PM	24.8	C	26.1	C	25.3	C	0.160	2.5
97	Lafayette Street/Montague Expressway EB Ramps	Santa Clara	AM	15.1	B	14.0	B	15.6	B	0.176	2.2
			PM	12.5	B	13.0	B	11.4	B	0.046	-4.4

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
98	Lafayette Street/Central Expressway	Santa Clara County (CMP)	AM	55.2	E	60.5	E	77.3	E	0.474	24.2
			PM	61.2	E	63.5	E	<b>113.4</b>	<b>F</b>	<b>0.062</b>	<b>52.6</b>
99	Lafayette Street/Walsh Avenue	Santa Clara	AM	12.4	B	12.7	B	13.4	B	0.090	1.1
			PM	18.6	B	19.2	B	19.8	B	0.061	1.3
100	Lafayette Street/Martin Avenue	Santa Clara	AM	19.7	B	20.0	B	20.2	C	0.088	0.4
			PM	19.4	B	19.6	B	19.9	B	0.049	0.3
101	Lafayette Street/Mathew Street- Memorex Drive	Santa Clara	AM	9.5	A	9.7	A	11.6	B	0.103	2.4
			PM	10.0	A	10.1	B	10.9	B	0.058	1.1
102	Lafayette Street/El Camino Real	Santa Clara (CMP)	AM	41.1	D	41.7	D	44.7	D	0.086	4.4
			PM	38.9	D	39.6	D	40.9	D	0.063	1.6
103	Lafayette Street/Lewis Street	Santa Clara	AM	9.6	A	9.5	A	8.8	A	0.084	-0.9
			PM	35.1	D	37.2	D	43.7	D	0.047	11.7
104	Lafayette Street/Benton Street	Santa Clara	AM	18.4	B	18.4	B	18.0	B	0.077	-0.7
			PM	16.9	B	17.1	B	17.0	B	0.017	0.1
105	Lafayette Street/Homestead Road	Santa Clara	AM	10.3	B	10.2	B	11.2	B	0.081	1.3
			PM	11.0	B	10.9	B	11.2	B	0.005	0.4
106	Lafayette Street/Market Street	Santa Clara	AM	34.2	C	34.3	C	39.6	D	0.132	5.7
			PM	27.9	C	28.3	C	33.4	C	0.098	4.9
107	Lafayette Street/Poplar Street	Santa Clara	AM	13.9	B	13.8	B	16.3	B	0.047	3.4
			PM	10.2	B	10.1	B	10.6	B	0.027	0.4
110	North 1st Street/Nortech Parkway	San José <sup>i</sup>	AM	13.9	B	13.9	B	14.4	B	0.008	0.4
			PM	20.1	C	20.1	C	15.0	B	0.196	-3.9
111	North 1st Street/SR 237 WB Ramps	San José (CMP) <sup>j</sup>	AM	15.6	B	15.6	B	15.7	B	0.006	0.1
			PM	19.3	B	20.2	C	28.1	C	0.209	8.4
112	North 1st Street/SR 237 EB Ramps	San José (CMP) <sup>j</sup>	AM	23.9	C	24.8	C	24.9	C	0.010	0.2
			PM	20.9	C	21.3	C	29.8	C	0.193	11.1

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
113	North 1st Street/Vista Montana	San José <sup>j</sup>	AM	30.4	C	30.8	C	30.9	C	0.004	0.2
			PM	36.4	D	36.1	D	36.2	D	0.007	0.2
115	Lick Mill Boulevard/Hope Drive	Santa Clara	AM	26.6	C	26.6	C	23.8	C	0.121	-11.6
			PM	23.6	C	23.6	C	21.3	C	0.310	-1.6
117	Agnew Road/Sun Fire Way	Santa Clara	AM	10.7	B	10.4	B	10.7	B	0.008	0.1
			PM	17.6	B	17.4	B	17.6	B	0.013	0.3
118	De La Cruz Boulevard/Greenwood Drive	Santa Clara	AM	9.5	A	9.3	A	7.4	A	0.128	-2.7
			PM	8.3	A	8.2	A	6.4	A	0.072	-3.0
119	De La Cruz Boulevard/Aldo Avenue	Santa Clara	AM	16.5	B	16.5	B	13.7	B	0.099	-6.0
			PM	16.0	B	16.0	B	16.9	B	0.168	0.4
120	De La Cruz Boulevard/Laurelwood Road	Santa Clara	AM	15.7	B	15.9	B	51.2	D	0.164	37.6
			PM	16.7	B	16.7	B	23.6	C	0.225	7.2
121	De La Cruz Boulevard/Central Expressway	Santa Clara County (CMP)	AM	<b>93.7</b>	<b>F</b>	<b>115.7</b>	<b>F</b>	<b>129.7</b>	<b>F</b>	<b>0.053</b>	<b>19.3</b>
			PM	46.5	D	43.7	D	73.2	E	0.206	57.0
122	De La Cruz Boulevard/Reed Avenue	Santa Clara	AM	11.7	B	12.2	B	12.8	B	0.027	0.7
			PM	13.6	B	14.3	B	15.9	B	0.047	1.9
123	Great America Parkway/Gold Street Connector	Santa Clara	AM	11.8	B	11.8	B	34.1	C	0.637	21.3
			PM	13.1	B	13.1	B	12.5	B	0.116	-2.5
124	Scott Boulevard/Central Expressway	Santa Clara County (CMP)	AM	46.8	D	45.9	D	47.2	D	0.039	2.3
			PM	66.7	E	71.7	E	<b>87.1</b>	<b>F</b>	<b>0.037</b>	<b>29.0</b>
125	San Tomas Expressway/Stevens Creek Boulevard	Santa Clara County (CMP)	AM	64.8	E	63.5	E	74.0	E	0.067	17.2
			PM	66.6	E	59.9	E	61.0	E	0.039	-0.7

**Table 3.3-17. Existing with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	$\Delta$ in Crit. V/C <sup>g</sup>	$\Delta$ in Crit. Delay <sup>h</sup>

Notes:

- a. CMP = Congestion Management Program intersection (VTA)
- b. AM = morning peak hour, PM = evening peak hour.
- c. “Counted Volumes” presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts.
- d. “Existing” presents the delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts plus vehicle trips from projects that are currently under construction (see Appendix 3.3-B and Appendix 3.3-D).
- e. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- f. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which applies the methods described in the 2000 *Highway Capacity Manual*.
- g. Change in critical V/C ratio between existing and existing with-Project conditions.
- h. Change in average critical movement delay between existing and existing with-Project conditions.
- i. Geometry has been modified to include the improvements for projects that are under construction, as outlined in Appendix 3.3-D.
- j. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.
- k. Maximum left-/right-turn lane or through-lane queuing in excess of available/potential storage at driveway entrances (intersections #10, 11, 12, 61, 62, 85, 86, and 87) during the morning and evening peak hours will most likely result in a worse LOS than calculated. These queues would require multiple traffic signal cycles to clear and could extend upstream and affect nearby intersections.

**Bold** text indicates unacceptable operations, according to the jurisdiction’s LOS standard.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.

## Background with-Project Signalized Intersection Analysis

LOS calculations were conducted to evaluate signalized intersection operations under background with-Project conditions. The intersection volumes are shown in Appendix 3.3-C, and results of the LOS analysis are summarized in Table 3.3-18. The corresponding LOS calculation sheets are included in Appendix 3.3-E. The results of the intersection LOS analysis are graphically shown in Figure 3.3-17. The LOS results for background conditions in Table 3.3-18, along with the projected increases in critical delay and critical V/C ratios, identify significant Project impacts. The Project has a significant impact on 50 signalized intersections under background with-Project conditions (see Table K-3 of Appendix 3.3-K for affected intersections and mitigation measures). Impacts and mitigation measures for combined existing with-Project and background with-Project conditions are discussed later in the section.

## Signalized Intersections with Significant Project Impacts

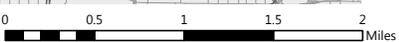
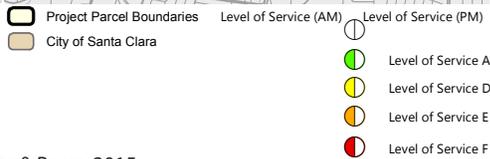
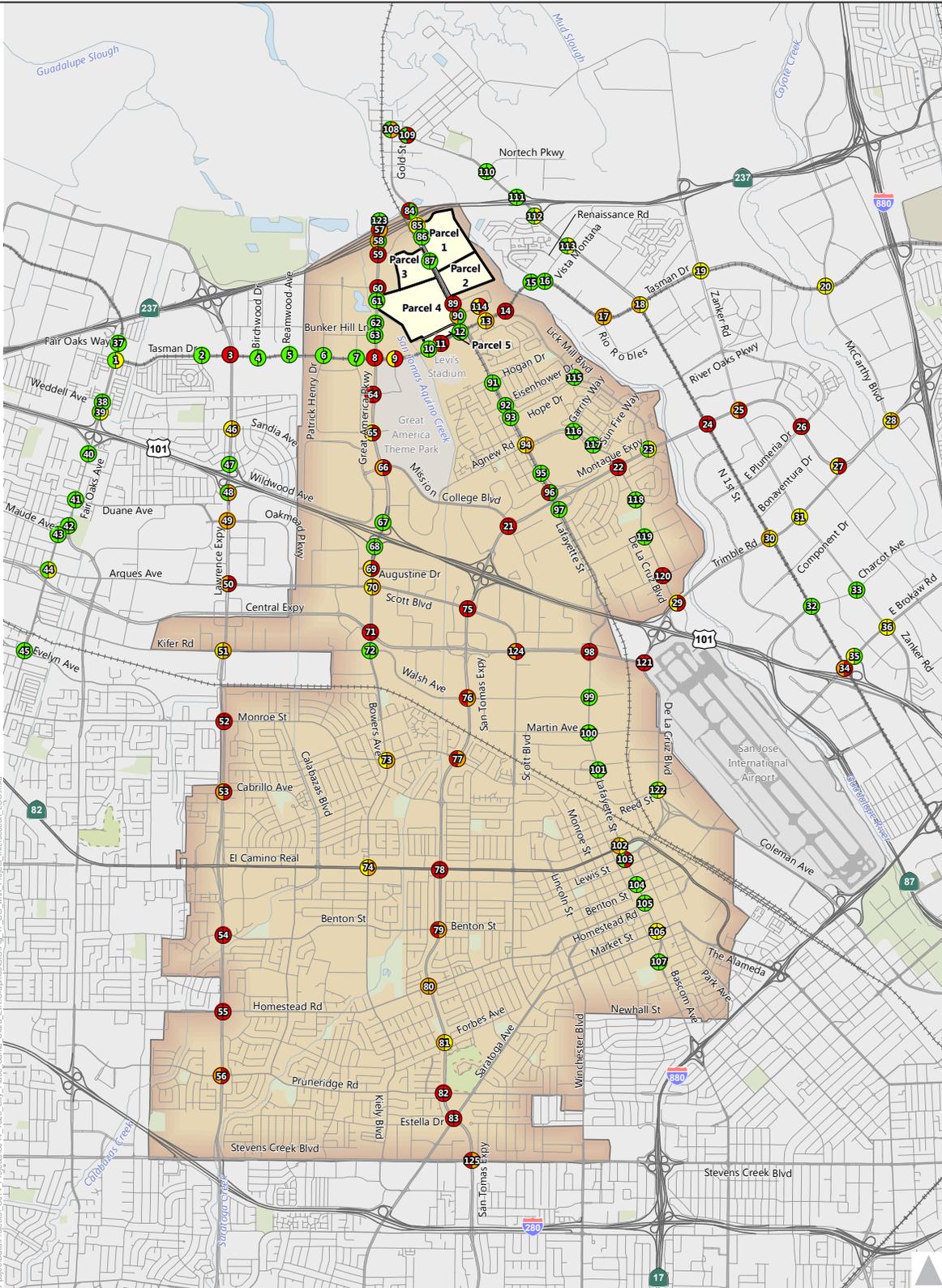
Project impacts on signalized intersections were identified as those that had a significant impact under either existing with-Project or background with-Project conditions. The Project has a significant impact on 51 signalized intersections, based on these combined conditions. Impacts on signalized intersections are **significant** before mitigation. Signalized intersections with significant impacts would operate at unacceptable levels of service, with excessive delays for vehicles when entering the intersections.

City Place Santa Clara would be a large development that would generate a substantial amount of vehicle traffic, creating far-reaching signalized intersection and roadway system impacts and impacts on intersections that provide direct access to the site. Therefore, a Transportation Demand Management (TDM) Plan, required by Mitigation Measure TRA-1.1, described below, is needed to both minimize the Project's impacts on the surrounding roadway system and accommodate the site access needs of the proposed land use plan.

City Place has several characteristics that would be conducive to promoting alternatives to single-occupancy passenger vehicle travel:

- *Proximity to Premium Transit* – City Place is adjacent to Capitol Corridor and ACE passenger rail service and VTA light-rail transit.
- *Proximity to Bicycle Infrastructure* – City Place is served by off-road bicycle paths along San Tomas Aquino Creek and the Guadalupe River.
- *Development Density* – The proposed development density would accommodate greater amounts of intra-campus travel by transit, shuttles, and active modes (bicycling and walking); more centralized access points for transit service; and common destination points for commuters forming carpools.
- *Critical Mass* – With more than 29,000 office, retail, restaurant, and hotel employees, potential employee demand would enable the Project to cost-effectively provide services, such as shuttles, at levels that would most likely appeal to prospective users.

It is unlikely that implementation of TDM measures alone would reduce the traffic impacts to less-than-significant levels at many locations. Thus, traffic impacts would remain **significant and unavoidable** with implementation of this measure at those locations where the traffic impact would not be reduced to a less-than-significant level through implementation of other mitigation measures included in this section.



Graphics ... 0033314 (9-25-2015).tm

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Source: Fehr & Peers, 2015.



**Figure 3.3-17**  
**Background with Project Intersection Level of Service Results**  
 City Place Santa Clara

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
1	Fair Oaks Avenue/Tasman Drive	Sunnyvale	AM	30.0	C	30.6	C	0.009	0.8
			PM	37.3	D	39.1	D	0.056	3.2
2	Vienna Drive/Tasman Drive	Sunnyvale	AM	14.5	B	14.8	B	0.026	0.2
			PM	12.7	B	12.7	B	0.016	0.1
3	Lawrence Expressway/Tasman Drive	Santa Clara County (CMP)	AM	70.6	E	<b>85.3</b>	<b>F</b>	<b>0.206</b>	<b>29.8</b>
			PM	<b>81.9</b>	<b>F</b>	<b>106.5</b>	<b>F</b>	<b>0.153</b>	<b>47.2</b>
4	Birchwood Drive/Tasman Drive	Sunnyvale	AM	11.0	B	11.3	B	0.077	0.5
			PM	11.8	B	12.6	B	0.035	0.7
5	Reamwood Avenue/Tasman Drive	Sunnyvale	AM	7.8	A	9.5	A	0.125	2.3
			PM	10.0	A	12.3	B	0.079	3.6
6	Patrick Henry Drive/Tasman Drive	Santa Clara	AM	15.8	B	16.4	B	0.109	0.8
			PM	17.7	B	29.9	C	0.190	16.0
7	Old Ironside Drive/Tasman Drive	Santa Clara	AM	17.5	B	16.8	B	0.098	0.9
			PM	17.2	B	21.1	C	0.222	5.9
8	Mat America Parkway/Tasman Drive <sup>h</sup>	Santa Clara (CMP)	AM	34.7	C	<b>89.9</b>	<b>F</b>	<b>0.342</b>	<b>96.3</b>
			PM	51.8	D	<b>&gt;180</b>	<b>F</b>	<b>0.665</b>	<b>300.6</b>
9	Convention Center/Tasman Drive <sup>h</sup>	Santa Clara	AM	17.3	B	46.0	D	0.234	47.5
			PM	21.9	C	<b>120.7</b>	<b>F</b>	<b>0.298</b>	<b>137.1</b>
10	Future Driveway (west of Centennial Boulevard)/Tasman Drive <sup>h</sup>	Santa Clara	AM	Future Signalized Intersection		6.3	A	N/A	N/A
			PM	Future Signalized Intersection		27.6	C	N/A	N/A
11	Centennial Boulevard/Tasman Drive <sup>h</sup>	Santa Clara	AM	20.4	C	<b>110.3</b>	<b>F</b>	<b>0.477</b>	<b>129.3</b>
			PM	24.1	C	<b>&gt;180</b>	<b>F</b>	<b>0.569</b>	<b>191.4</b>
12	Future Driveway (east of Centennial Boulevard)/Tasman Drive <sup>h</sup>	Santa Clara	AM	Future Signalized Intersection		6.6	A	N/A	N/A
			PM	Future Signalized Intersection		20.5	C	N/A	N/A
13	Calle Del Sol/Tasman Drive <sup>h</sup>	Santa Clara	AM	13.2	B	46.7	D	0.338	53.8
			PM	19.0	B	<b>68.8</b>	<b>E</b>	<b>0.451</b>	<b>88.7</b>

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
14	Lick Mill Boulevard/Tasman Drive	Santa Clara	AM	23.1	C	<b>92.8</b>	<b>F</b>	<b>0.517</b>	<b>122.5</b>
			PM	32.3	C	<b>148.3</b>	<b>F</b>	<b>0.594</b>	<b>163.3</b>
15	Renaissance Drive/Tasman Drive	San José <sup>i</sup>	AM	20.4	C	24.2	C	0.278	7.6
			PM	11.5	B	13.0	B	0.117	2.1
16	Vista Montana/Tasman Drive	San José <sup>i</sup>	AM	24.2	C	25.7	C	0.231	3.4
			PM	24.4	C	27.1	C	0.095	5.2
17	Rio Robles/Tasman Drive	San José <sup>i</sup>	AM	26.3	C	<b>62.1</b>	<b>E</b>	<b>0.237</b>	<b>49.2</b>
			PM	54.2	D	<b>68.6</b>	<b>E</b>	<b>0.083</b>	<b>22.9</b>
18	North 1st Street/Tasman Drive	San José <sup>i</sup>	AM	45.3	D	<b>74.1</b>	<b>E</b>	<b>0.215</b>	<b>41.9</b>
			PM	45.3	D	48.3	D	0.064	3.5
19	Zanker Road/Tasman Drive	San José <sup>i</sup>	AM	38.7	D	39.7	D	0.006	1.1
			PM	44.3	D	45.0	D	0.026	1.4
20	McCarthy Boulevard/Tasman Drive	Milpitas	AM	35.0	C	43.0	D	0.146	12.2
			PM	38.1	D	39.2	D	0.021	1.0
21	Mission College Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	<b>158.1</b>	<b>F</b>	<b>167.3</b>	<b>F</b>	<b>0.054</b>	<b>20.2</b>
			PM	<b>109.4</b>	<b>F</b>	<b>132.5</b>	<b>F</b>	<b>0.114</b>	<b>38.6</b>
22	Agnew Road-De La Cruz Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	<b>90.9</b>	<b>F</b>	<b>&gt;180</b>	<b>F</b>	<b>0.384</b>	<b>289.1</b>
			PM	<b>121.5</b>	<b>F</b>	<b>145.6</b>	<b>F</b>	<b>0.196</b>	<b>62.3</b>
23	Lick Mill Boulevard/Montague Expressway	Santa Clara County	AM	20.3	C	22.4	C	0.102	5.1
			PM	24.9	C	54.1	D	0.172	52.0
24	North 1st Street/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	77.7	E	<b>95.7</b>	<b>F</b>	<b>0.082</b>	<b>22.9</b>
			PM	<b>125.8</b>	<b>F</b>	<b>138.9</b>	<b>F</b>	<b>0.030</b>	<b>11.4</b>
25	Zanker Road/Montague Expressway <sup>h</sup>	Santa Clara County (CMP) <sup>i</sup>	AM	48.8	E	55.4	E	0.183	15.1
			PM	<b>100.1</b>	<b>F</b>	<b>113.3</b>	<b>F</b>	<b>0.069</b>	<b>27.6</b>
26	Montague Expressway/Plumeria Drive-River Oaks Parkway	Santa Clara County <sup>i</sup>	AM	<b>92.4</b>	<b>F</b>	<b>95.4</b>	<b>F</b>	<b>0.074</b>	<b>-1.1</b>
			PM	<b>157.7</b>	<b>F</b>	<b>155.6</b>	<b>F</b>	<b>0.007</b>	<b>-2.2</b>

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
27	Trimble Road/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	48.3	D	47.8	D	0.055	-3.5
			PM	<b>90.0</b>	<b>F</b>	<b>94.4</b>	<b>F</b>	<b>0.047</b>	<b>6.8</b>
28	McCarthy Boulevard-O'Toole Avenue/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	48.1	D	47.1	D	0.440	21.2
			PM	67.6	E	67.4	E	0.033	-6.0
29	De La Cruz Boulevard/Trimble Road	San José (CMP) <sup>i</sup>	AM	30.8	C	45.8	D	0.194	23.8
			PM	41.4	D	<b>93.4</b>	<b>F</b>	<b>0.268</b>	<b>67.6</b>
30	North 1st Street/Trimble Road	San José (CMP) <sup>i</sup>	AM	52.8	D	<b>61.9</b>	<b>E</b>	<b>0.068</b>	<b>15.3</b>
			PM	48.5	D	54.6	D	0.058	7.1
31	Zanker Road/Trimble Road <sup>s</sup>	San José (CMP) <sup>i</sup>	AM	38.4	D	38.8	D	0.013	0.1
			PM	37.3	D	37.6	D	0.025	0.1
32	North 1st Street/Charcot Avenue	San José <sup>i</sup>	AM	27.5	C	30.6	C	0.056	4.9
			PM	27.5	C	28.1	C	0.055	0.7
33	Zanker Road/Charcot Avenue <sup>h</sup>	San José <sup>i</sup>	AM	23.1	C	22.9	C	0.023	-0.3
			PM	26.0	C	25.9	C	0.019	0.1
34	North 1st Street/Brokaw Road	San José (CMP) <sup>i</sup>	AM	<b>69.1</b>	<b>E</b>	<b>79.4</b>	<b>E</b>	<b>0.060</b>	<b>21.8</b>
			PM	<b>77.8</b>	<b>E</b>	<b>105.0</b>	<b>F</b>	<b>0.079</b>	<b>32.6</b>
35	US 101 NB Off-Ramp/Brokaw Road	San José (CMP) <sup>i</sup>	AM	36.5	D	37.4	D	0.027	1.2
			PM	22.6	C	22.2	C	0.042	-0.2
36	Zanker Road/Brokaw Road <sup>h</sup>	San José (CMP) <sup>i</sup>	AM	34.9	C	35.2	D	0.075	3.1
			PM	50.2	D	50.6	D	0.006	0.5
37	Fair Oaks Avenue/Fair Oaks Way	Sunnyvale	AM	17.4	B	17.5	B	0.003	0.1
			PM	26.7	C	26.7	C	0.000	0.0
38	Fair Oaks Avenue/Weddell Drive	Sunnyvale	AM	20.5	C	20.5	C	0.004	0.0
			PM	18.8	B	19.8	B	0.032	1.4
39	Fair Oaks Avenue/US 101 NB Ramps	Sunnyvale	AM	21.6	C	22.2	C	0.013	1.1
			PM	32.5	C	35.9	D	0.025	7.2
40	Fair Oaks Avenue/E. Ahawanee Avenue	Sunnyvale	AM	17.4	B	17.4	B	0.000	0.0
			PM	12.3	B	12.3	B	0.002	0.0

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
41	Fair Oaks Avenue/Duane Avenue	Sunnyvale	AM	28.2	C	28.4	C	0.000	0.0
			PM	32.4	C	33.8	C	0.029	1.1
42	Fair Oaks Avenue/Wolfe Road	Sunnyvale	AM	11.6	B	11.7	B	0.003	0.1
			PM	12.5	B	12.8	B	0.017	0.3
43	Fair Oaks Avenue/Maude Avenue	Sunnyvale	AM	29.1	C	29.3	C	0.000	0.0
			PM	31.0	C	31.7	C	0.031	1.0
44	Fair Oaks Avenue/E. Arques Avenue	Sunnyvale	AM	29.5	C	30.3	C	0.022	0.9
			PM	34.0	C	35.7	D	0.046	2.6
45	Fair Oaks Avenue/Evelyn Avenue	Sunnyvale	AM	28.2	C	28.4	C	0.006	0.3
			PM	27.2	C	27.7	C	0.018	0.8
46	Lawrence Expressway/Sandia Avenue	Santa Clara County	AM	51.6	D	54.4	D	0.010	0.5
			PM	63.0	E	64.8	E	0.041	4.7
47	Lawrence Expressway/US 101 NB Ramps	Santa Clara County	AM	23.2	C	23.3	C	0.095	-0.6
			PM	23.8	C	28.0	C	0.121	6.1
48	Lawrence Expressway/US 101 SB Ramps	Santa Clara County	AM	33.9	C	31.3	C	0.098	-5.6
			PM	<b>82.3</b>	<b>F</b>	74.6	E	0.047	-11.8
49	Lawrence Expressway/Oakmead Parkway	Santa Clara County	AM	49.3	D	68.0	E	0.094	30.3
			PM	57.5	E	74.8	E	0.086	30.8
50	Lawrence Expressway/Arques Avenue	Santa Clara County (CMP)	AM	44.2	D	58.5	E	0.122	24.5
			PM	<b>97.1</b>	<b>F</b>	<b>127.5</b>	<b>F</b>	<b>0.120</b>	<b>54.1</b>
51	Lawrence Expressway/Kifer Road	Santa Clara County	AM	29.7	C	43.9	D	0.097	22.3
			PM	67.5	E	79.0	E	0.051	21.1
52	Lawrence Expressway/Reed Avenue-Monroe Street <sup>h</sup>	Santa Clara County (CMP)	AM	<b>107.8</b>	<b>F</b>	<b>121.3</b>	<b>F</b>	<b>0.056</b>	<b>23.6</b>
			PM	<b>112.9</b>	<b>F</b>	<b>129.6</b>	<b>F</b>	<b>0.066</b>	<b>31.4</b>
53	Lawrence Expressway/Cabrillo Avenue	Santa Clara County	AM	62.4	E	75.4	E	0.037	21.8
			PM	<b>83.9</b>	<b>F</b>	<b>98.6</b>	<b>F</b>	<b>0.044</b>	<b>24.0</b>
54	Lawrence Expressway/Benton Street	Santa Clara County	AM	<b>113.2</b>	<b>F</b>	<b>122.9</b>	<b>F</b>	<b>0.034</b>	<b>15.4</b>
			PM	74.2	E	<b>86.0</b>	<b>F</b>	<b>0.172</b>	<b>33.4</b>

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
55	Lawrence Expressway/Homestead Road	Santa Clara County (CMP)	AM	<b>92.1</b>	<b>F</b>	<b>98.6</b>	<b>F</b>	<b>0.028</b>	<b>12.5</b>
			PM	<b>99.0</b>	<b>F</b>	<b>115.0</b>	<b>F</b>	<b>0.045</b>	<b>19.9</b>
56	Lawrence Expressway/Pruneridge Avenue	Santa Clara County	AM	72.7	E	79.9	E	0.023	13.0
			PM	<b>81.1</b>	<b>F</b>	<b>85.6</b>	<b>F</b>	<b>0.219</b>	<b>-5.5</b>
57	Great America Parkway/SR 237 WB Ramps	Santa Clara (CMP)	AM	26.5	C	<b>104.7</b>	<b>F</b>	<b>0.356</b>	<b>117.6</b>
			PM	19.5	B	72.8	E	0.532	72.0
58	Great America Parkway/SR 237 EB Ramps	Santa Clara (CMP)	AM	11.9	B	68.8	E	0.485	86.7
			PM	10.9	B	23.4	C	0.268	21.9
59	Great America Parkway/Yerba Buena (Great America) Way	Santa Clara	AM	29.3	C	<b>123.1</b>	<b>F</b>	<b>0.448</b>	<b>107.7</b>
			PM	34.7	C	<b>139.3</b>	<b>F</b>	<b>0.467</b>	<b>155.0</b>
60	Great America Parkway/Old Mountain View-Alviso Road	Santa Clara	AM	20.6	C	<b>91.6</b>	<b>F</b>	<b>0.387</b>	<b>118.7</b>
			PM	37.2	D	<b>112.2</b>	<b>F</b>	<b>0.243</b>	<b>124.0</b>
61	Great America Parkway/Future Driveway (south of Old Mountain View-Alviso Road)	Santa Clara	AM	Future Signalized Intersection		24.9	C	N/A	N/A
			PM			22.7	C	N/A	N/A
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	Santa Clara	AM	Future Signalized Intersection		23.9	C	N/A	N/A
			PM			25.8	C	N/A	N/A
63	Great America Parkway/Bunker Hill Lane	Santa Clara	AM	13.2	B	12.5	B	0.104	-1.0
			PM	15.7	B	16.6	B	0.233	2.7
64	Great America Parkway/Old Glory Lane	Santa Clara	AM	<b>76.0</b>	<b>E</b>	<b>138.6</b>	<b>F</b>	<b>0.198</b>	<b>118.8</b>
			PM	<b>70.4</b>	<b>E</b>	<b>&gt;180</b>	<b>F</b>	<b>0.431</b>	<b>334.6</b>
65	Great America Parkway/Patrick Henry Drive	Santa Clara	AM	25.4	C	45.7	D	0.144	47.8
			PM	<b>73.9</b>	<b>E</b>	<b>&gt;180</b>	<b>F</b>	<b>0.414</b>	<b>202.8</b>
66	Great America Parkway/Mission College Boulevard <sup>h</sup>	Santa Clara (CMP)	AM	47.0	D	68.5	E	0.203	34.7
			PM	51.9	D	<b>108.7</b>	<b>F</b>	<b>0.272</b>	<b>83.8</b>
67	Great America Parkway-Bowers Avenue/US 101 NB Ramps	Santa Clara (CMP)	AM	18.5	B	18.5	B	0.056	0.5
			PM	13.9	B	19.2	B	0.143	7.6

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
68	Bowers Avenue/US 101 SB Ramps	Santa Clara (CMP)	AM	25.5	C	27.0	C	0.031	0.8
			PM	8.7	A	10.0	A	0.115	1.9
69	Bowers Avenue/Augustine Drive <sup>h</sup>	Santa Clara	AM	34.6	C	36.4	D	0.117	4.1
			PM	<b>68.3</b>	<b>E</b>	<b>115.8</b>	<b>F</b>	<b>0.175</b>	<b>69.6</b>
70	Bowers Avenue/Scott Boulevard <sup>h</sup>	Santa Clara (CMP)	AM	32.7	C	40.6	D	0.171	13.1
			PM	39.4	D	62.1	E	0.210	54.4
71	Bowers Avenue/Central Expressway	Santa Clara County (CMP)	AM	<b>80.3</b>	<b>F</b>	<b>94.3</b>	<b>F</b>	<b>0.118</b>	<b>25.4</b>
			PM	<b>117.1</b>	<b>F</b>	<b>147.9</b>	<b>F</b>	<b>0.068</b>	<b>23.4</b>
72	Bowers Avenue/Kifer Road- Walsh Avenue	Santa Clara	AM	22.2	C	22.3	C	0.030	0.2
			PM	32.3	C	34.9	C	0.049	4.5
73	Bowers Avenue/Monroe Street	Santa Clara	AM	35.9	D	36.3	D	0.019	0.5
			PM	48.6	D	<b>56.1</b>	<b>E</b>	<b>0.038</b>	<b>8.4</b>
74	Bowers Avenue/El Camino Real <sup>h</sup>	Santa Clara (CMP)	AM	35.3	D	35.9	D	0.009	1.1
			PM	58.8	E	61.7	E	0.015	5.1
75	San Tomas Expressway/Scott Boulevard	Santa Clara County (CMP)	AM	<b>99.6</b>	<b>F</b>	<b>167.0</b>	<b>F</b>	<b>0.207</b>	<b>109.2</b>
			PM	79.7	E	<b>90.9</b>	<b>F</b>	<b>0.336</b>	<b>17.8</b>
76	San Tomas Expressway/Walsh Avenue	Santa Clara County	AM	<b>101.9</b>	<b>F</b>	<b>118.9</b>	<b>F</b>	<b>0.052</b>	<b>26.3</b>
			PM	68.4	E	76.4	E	0.043	6.9
77	San Tomas Expressway/Monroe Street	Santa Clara County (CMP)	AM	<b>158.1</b>	<b>F</b>	<b>171.4</b>	<b>F</b>	<b>0.038</b>	<b>21.0</b>
			PM	69.4	E	71.3	E	0.006	3.2
78	San Tomas Expressway/El Camino Real <sup>h</sup>	Santa Clara County (CMP)	AM	<b>142.0</b>	<b>F</b>	<b>152.9</b>	<b>F</b>	<b>0.035</b>	<b>18.7</b>
			PM	<b>92.8</b>	<b>F</b>	<b>101.6</b>	<b>F</b>	<b>0.038</b>	<b>16.0</b>
79	San Tomas Expressway/Benton Street <sup>h</sup>	Santa Clara County	AM	77.0	E	<b>88.7</b>	<b>F</b>	<b>0.047</b>	<b>19.3</b>
			PM	55.9	E	57.5	E	0.021	3.3
80	San Tomas Expressway/Homestead Road <sup>h</sup>	Santa Clara County (CMP)	AM	69.1	E	71.9	E	0.028	5.5
			PM	74.6	E	79.3	E	0.024	8.2
81	San Tomas Expressway/Forbes Avenue	Santa Clara County	AM	64.8	E	75.5	E	0.035	17.8
			PM	43.2	D	48.4	D	0.022	10.4

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
82	San Tomas Expressway/Pruneridge Avenue	Santa Clara County	AM	<b>128.3</b>	<b>F</b>	<b>139.4</b>	<b>F</b>	<b>0.051</b>	<b>20.4</b>
			PM	<b>81.5</b>	<b>F</b>	<b>85.9</b>	<b>F</b>	<b>0.024</b>	<b>7.7</b>
83	San Tomas Expressway/Saratoga Avenue	Santa Clara County (CMP)	AM	<b>132.3</b>	<b>F</b>	<b>142.6</b>	<b>F</b>	<b>0.035</b>	<b>18.5</b>
			PM	75.3	E	<b>80.4</b>	<b>F</b>	<b>0.019</b>	<b>8.6</b>
84	Gold Street/Gold Street Connector	San José <sup>i</sup>	AM	23.3	C	<b>115.8</b>	<b>F</b>	<b>0.747</b>	<b>113.2</b>
			PM	21.7	C	34.4	C	0.515	20.2
85	Lafayette Street/Great America Way	Santa Clara	AM	Unsignalized Intersection		54.8	D	N/A	N/A
			PM			35.7	D	N/A	N/A
86	Lafayette Street/Future Driveway (south of Great America Way)	Santa Clara	AM	Future Signalized Intersection		16.9	B	N/A	N/A
			PM			18.7	B	N/A	N/A
87	Lafayette Street/Future Urban Interchange	Santa Clara	AM	Future Signalized Intersection		31.4	C	N/A	N/A
			PM			31.8	C	N/A	N/A
90	Lafayette Street/Calle De Luna	Santa Clara	AM	16.4	B	<b>70.3</b>	<b>E</b>	<b>0.581</b>	<b>66.4</b>
			PM	19.6	B	24.4	C	0.453	8.7
91	Lafayette Street/Hogan Drive	Santa Clara	AM	10.6	B	10.5	B	0.424	3.4
			PM	10.6	B	11.1	B	0.377	4.1
92	Lafayette Street/Eisenhower Drive	Santa Clara	AM	10.5	B	19.1	B	0.440	11.9
			PM	7.9	A	10.5	B	0.393	5.0
93	Lafayette Street/Hope Drive	Santa Clara	AM	20.1	C	21.3	C	0.426	5.8
			PM	14.3	B	18.4	B	0.343	1.7
94	Lafayette Street/Agnew Road	Santa Clara	AM	38.1	D	44.1	D	0.431	11.7
			PM	41.5	D	<b>56.1</b>	<b>E</b>	<b>0.361</b>	<b>21.5</b>
95	Lafayette Street/Palm Drive	Santa Clara	AM	7.5	A	10.3	B	0.409	5.8
			PM	14.5	B	12.3	B	0.307	-1.0
96	Lafayette Street/Montague Expressway WB Ramps	Santa Clara	AM	37.7	D	<b>87.8</b>	<b>F</b>	<b>0.507</b>	<b>59.1</b>
			PM	35.7	D	32.6	C	0.142	-33.5

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	$\Delta$ in Crit. V/C <sup>f</sup>	$\Delta$ in Crit. Delay <sup>g</sup>
97	Lafayette Street/Montague Expressway EB Ramps	Santa Clara	AM	13.8	B	15.7	B	0.187	2.7
			PM	12.3	B	12.4	B	0.162	0.6
98	Lafayette Street/Central Expressway	Santa Clara County (CMP)	AM	<b>118.5</b>	<b>F</b>	<b>129.0</b>	<b>F</b>	<b>0.038</b>	<b>2.8</b>
			PM	<b>90.9</b>	<b>F</b>	<b>118.8</b>	<b>F</b>	<b>0.065</b>	<b>42.8</b>
99	Lafayette Street/Walsh Avenue	Santa Clara	AM	13.2	B	14.2	B	0.084	1.6
			PM	20.5	C	20.7	C	0.039	1.0
100	Lafayette Street/Martin Avenue	Santa Clara	AM	21.7	C	22.1	C	0.082	0.8
			PM	24.8	C	26.7	C	0.063	2.6
101	Lafayette Street/Mathew Street- Memorex Drive	Santa Clara	AM	12.3	B	16.2	B	0.084	5.1
			PM	12.0	B	12.6	B	0.030	1.0
102	Lafayette Street/El Camino Real <sup>h</sup>	Santa Clara (CMP)	AM	53.4	D	64.4	E	0.078	18.1
			PM	45.9	D	49.6	D	0.062	6.6
103	Lafayette Street/Lewis Street	Santa Clara	AM	8.7	A	8.0	A	0.078	-0.5
			PM	<b>73.8</b>	<b>E</b>	<b>89.4</b>	<b>F</b>	<b>0.065</b>	<b>25.9</b>
104	Lafayette Street/Benton Street	Santa Clara	AM	17.9	B	17.4	B	0.058	-0.3
			PM	16.7	B	16.4	B	0.029	0.0
105	Lafayette Street/Homestead Road	Santa Clara	AM	10.4	B	10.1	B	0.051	-0.1
			PM	10.4	B	10.2	B	0.025	-0.2
106	Lafayette Street/Market Street	Santa Clara	AM	36.7	D	38.9	D	0.069	2.2
			PM	31.4	C	35.4	D	0.063	4.2
107	Lafayette Street/Poplar Street	Santa Clara	AM	13.7	B	12.9	B	0.056	-0.3
			PM	10.3	B	10.1	B	0.029	0.2
110	North 1st Street/Nortech Parkway	San José	AM	13.1	B	13.1	B	0.000	0.0
			PM	19.6	B	14.6	B	0.191	-4.3
111	North 1st Street/SR 237 WB Ramps	San José (CMP) <sup>i</sup>	AM	15.6	B	15.9	B	0.010	0.3
			PM	21.4	C	34.5	C	0.203	14.2
112	North 1st Street/SR 237 EB Ramps	San José (CMP) <sup>i</sup>	AM	29.2	C	29.2	C	0.000	0.0
			PM	27.4	C	53.5	D	0.192	34.1

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	Δ in Crit. V/C <sup>f</sup>	Δ in Crit. Delay <sup>g</sup>
113	North 1st Street/Vista Montana	San José <sup>i</sup>	AM	29.7	C	29.7	C	0.000	0.0
			PM	36.9	D	36.8	D	0.020	0.4
115	Lick Mill Boulevard/Hope Drive	Santa Clara	AM	26.7	C	24.2	C	0.080	-11.7
			PM	23.2	C	26.9	C	0.187	6.3
117	Agnew Road/Sun Fire Way	Santa Clara	AM	10.6	B	10.6	B	0.000	0.0
			PM	17.7	B	16.1	B	0.062	-1.4
118	De La Cruz Boulevard/Greenwood Drive	Santa Clara	AM	8.4	A	7.2	A	0.159	-1.7
			PM	7.4	A	7.4	A	0.186	-7.4
119	De La Cruz Boulevard/Aldo Avenue	Santa Clara	AM	16.4	B	14.5	B	0.171	-4.7
			PM	17.4	B	25.7	C	0.301	11.7
120	De La Cruz Boulevard/Laurelwood Road	Santa Clara	AM	27.7	C	<b>141.9</b>	<b>F</b>	<b>0.196</b>	<b>120.2</b>
			PM	21.0	C	<b>91.3</b>	<b>F</b>	<b>0.325</b>	<b>76.7</b>
121	De La Cruz Boulevard/Central Expressway	Santa Clara County (CMP)	AM	<b>&gt;180</b>	<b>F</b>	<b>&gt;180</b>	<b>F</b>	<b>0.055</b>	<b>31.5</b>
			PM	<b>97.8</b>	<b>F</b>	<b>111.3</b>	<b>F</b>	<b>0.030</b>	<b>22.7</b>
122	De La Cruz Boulevard/Reed Avenue	Santa Clara	AM	16.8	B	19.1	B	0.019	2.9
			PM	35.6	D	40.0	D	0.013	6.2
123	Great America Parkway/Gold Street Connector	Santa Clara	AM	11.9	B	29.1	C	0.577	15.9
			PM	13.6	B	13.0	B	0.152	-2.1
124	Scott Boulevard/Central Expressway	Santa Clara County (CMP)	AM	55.2	E	56.5	E	0.017	2.7
			PM	<b>150.1</b>	<b>F</b>	<b>164.7</b>	<b>F</b>	<b>0.027</b>	<b>23.6</b>
125	San Tomas Expressway/Stevens Creek Boulevard	Santa Clara County (CMP)	AM	<b>118.7</b>	<b>F</b>	<b>122.0</b>	<b>F</b>	<b>0.032</b>	<b>5.5</b>
			PM	65.4	E	71.5	E	0.084	5.1

**Table 3.3-18. Background with-Project Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Background <sup>c</sup>		Background with Project			
				Delay <sup>d</sup>	LOS <sup>e</sup>	Delay <sup>d</sup>	LOS <sup>e</sup>	$\Delta$ in Crit. V/C <sup>f</sup>	$\Delta$ in Crit. Delay <sup>g</sup>

Notes:

- a. CMP = Congestion Management Program intersection (VTA).
- b. AM = morning peak hour, PM = evening peak hour
- c. “Background” presents the delay and LOS for intersections using 2020 geometry and traffic volumes estimated and the VTA travel demand model.
- d. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- e. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which applies the methods described in the 2000 *Highway Capacity Manual*.
- f. Change in critical V/C ratio between background and background with-Project conditions.
- g. Change in average critical movement delay between background and background with-Project conditions.
- h. Geometry has been modified to include the improvements for projects under construction and planned projects under background conditions, as outlined in Appendix 3.3-D.
- i. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.
- j. Maximum left/right-turn lane or through-lane queuing in excess of available/potential storage at driveway entrances (intersections #10, 11, 12, 61, 62, 85, 86, and 87) during the morning and evening peak hours will most likely result in a worse LOS than calculated. These queues would require multiple traffic signal cycles to clear and could extend upstream and affect nearby intersections.

**Bold** text indicates unacceptable operations according to the jurisdiction’s LOS standard.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.

MITIGATION MEASURES. Mitigation Measure TRA-1.1 would reduce the severity of traffic impacts. Mitigation Measure TRA-1.2, intersection improvement, would fully mitigate some intersections. However, even with Mitigation Measures TRA-1.1 and TRA-1.2, some intersections would still have significant Project impacts. Thus, the Project impact on signalized intersection LOS would be **significant and unavoidable**.

## Vehicle Trip Reduction with Transportation Demand Management

*TRA-1.1: Vehicle Trip Reduction with Transportation Demand Management (TDM).* The Project Developer shall prepare and implement a TDM Plan with an overall target of reducing Project office-generated daily traffic by a minimum of 4 percent and peak-hour traffic by a minimum of 10 percent, with an overall target of reducing Project residential-generated daily traffic by a minimum of 2 percent and peak-hour traffic by a minimum of 4 percent, compared to the traffic estimates used in this EIR. The TDM Plan shall also include and implement TDM Best Management Practices (BMPs) for the retail uses. The TDM Plan shall reduce the amount of vehicle traffic generated by City Place by shifting employees, customers, and residents from driving alone to using transit, carpooling, cycling, and walking modes through TDM measures, strategies, incentives, and policies. The TDM obligation in this measure is to apply for the lifetime of the Project. The TDM Plan may specify a phased implementation approach that provides initially for implementation of the TDM measures that are appropriate for multi-tenant offices (e.g., measures aimed at increased transit use), which are expected to be developed during the first three phases of development, and then provides for more expansive TDM measures that are appropriate for large corporate office tenants in the remaining phases (such as shuttles). The Santa Clara Director of Planning and Inspection shall have the authority and discretion to permit modification of the measures provided that the modifications continue to achieve the overall trip reduction objective and/or Santa Clara Director of Planning and Inspection is satisfied that all feasible TDM measures are being implemented if the overall trip reduction objective is not being met.

### Vehicle Trip Reduction Targets

The vehicle trip reduction targets are a 10 percent reduction in peak-hour trips and a 4 percent reduction in daily trips for the office uses as well as a 4 percent reduction in peak-hour trips and 2 percent reduction in daily trips for the residential uses. These reductions are in addition to the trip reductions that are attributable to the mixed-use nature of the Project, site design, and proximity to public transit.

The office vehicle trip estimates used in the analysis include some reductions that are attributable to TDM as well as transit use,<sup>11</sup> given the design and location of the Project. The added 10 percent reduction in peak-hour trips would yield a total trip reduction of 15 to 18 percent. This level of reduction is similar to that achieved currently by the technology offices in the North Bayshore Area of Mountain View, which is similar to City Place Santa Clara, with limited vehicle access due to roadway congestion during the morning and evening peak periods, the amount and mix of land use, and the above-average employee density. Therefore, the 10 percent peak-hour vehicle trip reduction target for the office uses is appropriate.

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<sup>11</sup> The incorporated TDM reductions are a 5 percent vehicle trip reduction during the morning peak hour and a 7 percent vehicle trip reduction during the evening peak hour compared to estimates for general office uses without a TDM program and lower employee density based on general office rates on a per employee basis from ITE with 20,720 employees.

The majority of vehicle trip reductions for the office uses will occur during the AM and PM Peak Periods because TDM is most effective in reducing the number of commute trips, particularly those generated by solo drivers. Therefore, the percent reduction during peak hours will be higher than the daily reduction. Based on the characteristics of the Project, a 4 percent<sup>12</sup> reduction is to be applied to the number of daily office trips.

The residential vehicle trip estimates used in the analysis include some reductions that are attributable to the mixed-use nature of the development as well as transit use, given the design and location of the Project. The added 4 percent reduction in peak-hour trips would yield a total trip reduction of 14 to 34 percent.

### Vehicle Trip Thresholds

The number of peak-hour vehicle trips needs to be reduced from the estimates used in this environmental document to demonstrate a lessening of the severity of the signalized intersection impacts as well as the freeway and unsignalized intersection impacts, which are discussed later. These reductions will be measured through counts of vehicles that enter and exit the site and comparing the results to established trip thresholds.

- **Build-out:** The vehicle trip thresholds at build-out of the individual land uses at City Place, as well as all of the uses at City Place combined, under Scheme B, with the reduction targets, are shown in Table 3.3-19. The thresholds will be recalculated should other land use programs be constructed.
- **Interim Phases:** City Place will be built in phases. The exact order in which the phases will be developed has not yet been determined. As part of the annual monitoring process, vehicle trip generation estimates, based on the land uses and their sizes, will be prepared by a transportation professional, who will use the trip generation rates and internalization and public transit ridership reductions used in this EIR transportation analysis. The TDM reduction targets will be applied to create the thresholds. The estimates and thresholds will be reviewed and approved by the City's Traffic Engineer.
- **Retail:** No thresholds are established for retail uses because it is difficult to enforce trip reductions for retail customers. Instead, this measure requires implementation of TDM BMPs for retail portions of the Project, as described below.

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<sup>12</sup> The 4 percent reduction in daily office trips is calculated by applying the peak hour TDM reduction target because of (10 percent) to the AM and PM Peak-Hour trip estimates multiplied by 2 (to account for the reductions that affect trips during the 2-hour peak periods) and subtracting the results from the daily vehicle trip estimates.

**Table 3.3-19. City Place Vehicle Trip Thresholds at Build-out (Scheme B)**

Item	Daily	AM Peak Hour	PM Peak Hour
<b>Office</b>			
Vehicle Trips (EIR Estimates)	68,450	7,210	6,790
TDM Reduction Target <sup>a</sup>	-2,800	-720	-680
Vehicle Trip Thresholds	65,650	6,490	6,110
<b>Retail/Restaurant/Entertainment/Hotel</b>			
Vehicle Trips (EIR Estimates)	71,190	2,720	5,430
TDM Reduction Target <sup>b</sup>	0	0	0
Vehicle Trip Thresholds	71,190	2,720	5,430
<b>Residential</b>			
Vehicle Trips (EIR Estimates)	1,090	90	90
TDM Reduction Target <sup>c</sup>	-20	-5	-5
Vehicle Trip Thresholds	1,070	85	85
<b>Total</b>			
City Place Vehicle Trips (EIR Estimates)	140,730	10,020	12,310
TDM Reduction Target	-2,820	-725	-685
City Place Vehicle Trip Thresholds	137,910	9,295	11,625

**Notes:**

- a. Daily TDM mitigation reduction for office = 4 percent; AM Peak Hour TDM mitigation reduction = 10 percent; PM Peak-Hour TDM mitigation reduction = 10 percent (relative to office subtotal with mixed-use and public transit reductions).
- b. No daily or peak-hour TDM mitigation reductions have been applied to retail, restaurant, entertainment, or hotel land uses.
- c. Daily TDM mitigation reduction for residential = 2 percent; AM Peak-Hour TDM mitigation reduction = 4 percent; PM Peak-Hour TDM mitigation reduction = 4 percent (relative to residential subtotal with mixed-use and public transit reductions).

Vehicle volumes rounded to the nearest five vehicles.

Source: Fehr & Peers, September 2015.

**TDM Measures and Strategies**

Some TDM measures and strategies shall be incorporated into the design of the site and the buildings. A Transportation Management Association (TMA) will be formed to coordinate the TDM activities of the various employers. Therefore, the TDM Plan shall identify the vehicle trip-reducing measures and strategies to be provided and implemented by the Project Developer, those overseen by the TMA, and those to be provided by individual tenants/employers.

**Transportation Management Association:** TMA is a non-profit, member-controlled organization that provides transportation services in a particular area, such as a commercial district, medical center or office park. The TMA will oversee and coordinate implementation of the TDM measures to be implemented for the Project. The TDM Plan would describe the roles and responsibilities of the TMA and its members, which would be codified in a binding agreement to be approved by the City of Santa Clara and shall be recorded with the County of Santa Clara Clerk Recorder.

**Office TDM Measures:** TDM measures that target office employees would be described in detail in the TDM Plan, including information regarding the implementing party (e.g., developer, City, tenant, etc.).

The following TDM measures should be considered for inclusion in the TDM Plan for some or all portions of the office development, to the extent feasible and appropriate, either as part of an initial TDM Plan or as options for enhanced or remedial measures if trip reduction targets are not being met:

- On-site Support Facilities: shuttle bus stops with shelters, bicycle paths and lanes, pedestrian paths linking buildings and transit stations, priority parking for carpools and vanpools
- In-building Support Facilities: showers and changing rooms, bicycle storage rooms and bicycle racks, and bicycle repair stands, cafes, and fitness centers
- Private shuttles for both long distance commute and last-mile service from nearby public transit
- Ridesharing options for long distance commuters such as carpool and vanpool matching services
- Guaranteed ride home services for commuters who carpool, take transit, or bicycle to work
- Financial incentives such as pre-tax benefits for transit and bicycle expenses (e.g., Commuter Check) or subsidized transit passes (e.g., Commuter Checks or VTA EcoPass) for all employees
- Additional support services for employees who use transit or rideshare, such as flexible work hours
- A website and marketing program to disseminate information on commute options
- A TDM information packet to be provided to all new City Place employees upon commencement of work at City Place and, the benefits of alternative commute methods stressed during new employee orientation programs
- Incentives for employees to live in locations well served by transit or shuttles
- Bike share pods to enable trips on-site and to nearby destinations to be made by bicycle
- Car share services with cars on-site for use by employees (or others) who use alternative modes to travel to the site but need a car to run an errand, travel to a meeting, etc.
- Multi-passenger demand responsive ride services for local employees that are competitive with drive alone including transportation network/ride-sharing services such as Uber Pool, Lyft Line and Chariot on-demand and crowd-sourced bus services
- Yet-to-be developed new services, programs, strategies and emerging technologies

**Residential TDM Measures:** TDM measures that target residents will be described in the TDM Plan, including information regarding the implementing party (e.g., developer, City, tenant, etc.). The following TDM measures should be considered for inclusion in the TDM Plan for some or all portions of the residential development, to the extent feasible and appropriate, either as part of an initial TDM Plan or as options for enhanced or remedial measures if trip reduction targets are not being met:

- Bicycle infrastructure improvements
- Bicycle parking room or lockers
- Bicycle riders guide
- On-site bicycle repair facilities

- Financial subsidies for residents who commute by carpool, transit, walking or bicycle, such as VTA EcoPasses
- Rideshare matching services
- On-site shuttle services, shuttle bus stops with shelters, pedestrians path linking buildings and transit stations
- Bus stops located near buildings
- Pedestrian-oriented site design

**Retail Site Design BMPs:** BMPs that target retail employees will be described in the TDM Plan, including information regarding the implementing party (e.g., developer, City, tenant, etc.). The following BMPs should be considered for inclusion in the TDM Plan for some or all portions of the retail development, to the extent feasible and appropriate:

- Bicycle infrastructure improvements
- Bicycle rider encouragement program
- Bicycle parking, showers and lockers
- Bicycle riders guide
- On-site bicycle repair facilities
- Pre-tax commuter incentives
- Expanded carpool matching
- Rideshare matching services
- On-site shuttle services, shuttle bus stops with shelters, pedestrians path linking buildings and transit stations
- Bus stop locations near building entrances
- Pedestrian-oriented site design

### Monitoring

The TDM Plan shall be monitored annually to gauge its effectiveness in meeting the thresholds and to make modifications to add, intensify, or change TDM measures. General guidelines are provided; the monitoring and reporting process shall be explained in detail in the TDM Plan.

The TMA will assist with the monitoring activities that will be conducted. The monitoring activities shall include traffic counts at all City Place driveways, traffic counts at the driveways to office parking locations, a survey of employee transportation mode shares and travel preferences, and traffic counts at the driveways to residential parking locations. The results will be reported to the City of Santa Clara.

**Monitoring Counts and Surveys:** Traffic counts shall be conducted annually using mechanical counters or other devices approved by the City of Santa Clara to measure the daily and peak-hour entering and exiting vehicle volumes for a 72-hour period, Tuesday through Thursday. The counts shall be conducted when schools are in session and during non-holiday weeks with fair weather. The individual driveway volumes will be summed to provide the total site traffic volumes. The volumes at the driveways to the office and residential parking locations will be summed to provide the office- and

residential-generated traffic volumes.<sup>13</sup> The volumes will be compared to the trip thresholds to determine whether the reduction in vehicle trips is being met.

In addition to monitoring driveway volumes, a survey will be developed and administered by the TMA and individual office employers to determine actual mode splits for employees. The survey will also gather information on usage of individual TDM Plan components as well as gauge employee perception of the overall TDM Plan. The results will allow the TMA and employers to enhance the program and implement new TDM measures that will attract more employee participation. After an initial survey is conducted, subsequent surveys shall be conducted in years where the previous year's annual report has concluded that trip thresholds and trip reduction targets are not being met.

**Reporting:** The TMA will use the results of the annual vehicle counts and survey (if one is conducted that year) to prepare an annual report to be submitted to the City of Santa Clara presenting progress towards achieving the vehicle trip reduction target. The report will include descriptions of the TDM measures in place, highlighting new or modified measures, , summarize the results of the counts, summarize the results of the employee survey (if one is conducted that year), and conclude whether the trip thresholds and trip reduction targets are being met.

### Remedial Action

If TDM Plan monitoring results show that the trip reduction target is not being met, the TDM Plan shall be updated to identify replacement and/or additional feasible TDM measures to be implemented. The updated TDM Plan shall be submitted to the City and approved by the Santa Clara Director of Planning and Inspection. The updated TDM Plan shall also identify other TDM measures that were considered but determined to be infeasible or ineffective. The TMA shall oversee and coordinate the implementation of the feasible additional TDM measures and continue to explore methods of making other potential TDM measures feasible.

### Intersection Improvements

*TRA-1.2: Intersection Improvements.* The intersection improvements and off-setting mitigation measures summarized in Table 3.3-20 shall be implemented, and Project Developer shall pay the fair-share contributions for the mitigation measures summarized in Table 3.3-20. The intent of the table is to identify, based on a preliminary feasibility determination, physically feasible intersection mitigation measures (e.g., lane additions) that increase the intersection's vehicle carrying capacity and reduce vehicle delay while fully mitigating the impacts. As described below, feasible mitigation measures that fully mitigate the impacts were identified at some locations. However, at other locations, measures that provide only partial mitigation were identified because of physical constraints. Although these mitigation measures do not fully address the impact, they do help reduce the severity of the impact. For intersections where there are no feasible physical improvements, off-setting mitigation measures were investigated. These measures would provide improvements to other modes of travel, thereby increasing the capacity of the transportation system. At some intersections no feasible improvement or off-setting mitigation measures were identified.

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<sup>13</sup> The method(s) to isolate office and residential demand in shared-use parking facilities will be based on the site conditions, configuration, occupancy at the time of the survey and will be approved by the City at that time.

The four potential entries are:

- **Full Mitigation:** At the affected intersection, a physical modification to the intersection that would fully mitigate the impact was identified. This could be accomplished by adding vehicle lanes or upgrading an intersection to an interchange or “fly-over.” These improvements would reduce vehicle delays and fully mitigate Project impacts at several intersections by allowing the intersections to operate at acceptable levels, with delays that would be lower than they would be under no-project conditions, or with less than a 4-second increase in critical delay at intersections that operate at unacceptable levels.
- **Partial Mitigation:** At the affected intersection, a physical modification to the intersection that would partially mitigate the impact was identified. The proposed measure mitigates the impact during one peak hour but not the other or reduces the delay but not enough to mitigate the impact.
- **Off-setting Mitigation:** In the North San José Deficiency Plan area, off-setting local street network, transit, bicycle, or pedestrian improvements were identified to accommodate future travel growth but not directly mitigate the intersection with the identified impact.
- **No Feasible Mitigation:** No physical improvements or off-setting mitigation measures were identified, typically because of physical limitations, costs, and/or right-of-way constraints.

Some of the intersection improvements would require right-of-way (ROW) acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and “pork-chop” islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as “possible.” If the City makes a final determination that a portion or all of an improvement is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, and no off-setting mitigation measure is identified, that intersection shall be considered to have “no feasible mitigation.”

The Project Developer’s responsibility is included in Table 3-3.20, which indicates if the Project Developer would be wholly or partially responsible for the mitigation measure.

- As seen in the table, “100 percent” indicates that the cost and construction of the proposed mitigation measure is the full responsibility of the Project Developer. These are discrete mitigation measures that either fully or partially mitigate significant Project impacts.
- “Percent of total traffic” indicates that the Project Developer shall pay a fair-share contribution to the proposed mitigation measure, which is typically a larger transportation improvement, such as an expressway interchange, that has been identified in an adopted plan. Twelve of the intersections are on the County expressway system and are identified in the County’s Expressway Plan to be upgraded to an interchange or “fly-over.” The Project Developer shall pay its fair share toward these interchange upgrades per agreements between Santa Clara County and the City of Santa Clara.
- “Pay the North San José fee or fair-share contribution of alternative or off-setting mitigation” is identified for affected intersections in the North San José area. There are two options for these locations. The Project Developer can pay the North San José fee or a fair-

share contribution for the mitigation measure or off-setting mitigation measure based on the Project's percent contribution of added traffic at the intersection.

- Where there is no feasible mitigation measure, no fair share is identified (0 percent).

The City-preferred mitigation measure is identified where there is more than one mitigation option.

LOS calculations were conducted for the intersections with mitigation measures. The results are presented in Table 3.3-20. The conclusions are:

- Seven intersections located within the City of Santa Clara jurisdiction would have impacts that could be reduced to a **less-than-significant** level with implementation of the mitigation measures in Table 3.3-20.
  - Intersection 13: Calle Del Sol/Tasman Drive
  - Intersection 57: Great America Parkway/SR 237 WB Ramps
  - Intersection 73: Bowers Avenue/Monroe Street
  - Intersection 90: Lafayette Street/Calle De Luna
  - Intersection 94: Lafayette Street/Agnew Road
  - Intersection 96: Lafayette Street/Montague Expressway WB Ramps
  - Intersection 120: De La Cruz Boulevard/Laurelwood Road;
- Seven intersections located within the City of Santa Clara jurisdiction would have impacts that could be partially mitigated with implementation of the mitigation measures in Table 3.3-20 but would remain **significant and unavoidable**:
  - Intersection 8: Great America Parkway/Tasman Drive
  - Intersection 14: Lick Mill Boulevard/Tasman Drive
  - Intersection 59: Great America Parkway/Yerba Buena (Great America) Way
  - Intersection 60: Great America Parkway/Old Mountain View-Alviso Road
  - Intersection 64: Great America Parkway/Old Glory Lane
  - Intersection 65: Great America Parkway/Patrick Henry Drive
  - Intersection 66: Great America Parkway/Mission College Boulevard
- Four intersections located within the City of Santa Clara jurisdiction have no feasible mitigation measure so the impact would remain **significant and unavoidable**:
  - Intersection 9: Convention Center/Tasman Drive
  - Intersection 11: Centennial Drive/Tasman Drive
  - Intersection 69: Bowers Avenue/Augustine Drive
  - Intersection 103: Lafayette Street/Lewis Street

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
3	Lawrence Expressway /Tasman Drive	Santa Clara County (CMP)	No feasible mitigation (no right-of-way is available).	N/A	0%	x	x	AM	---	---	SU	---	---	SU
								PM	---	---	SU	---	---	SU
8	Great America Parkway/ Tasman Drive*	Santa Clara (CMP)	Partial Mitigation: Add a southbound right- turn lane and add a third westbound left- turn lane.	Yes	100%	x	x	AM	34.0	C	LTS	<b>88.6</b>	<b>F</b>	SU
								PM	<b>100.3</b>	<b>F</b>	SU	<b>162.1</b>	<b>F</b>	SU
9	Convention Center/ Tasman Drive*	Santa Clara	No feasible mitigation (no right-of-way is available).	N/A	0%	x	x	AM	---	---	LTS	---	---	LTS
								PM	---	---	SU	---	---	SU
11	Centennial Boulevard/ Tasman Drive*	Santa Clara	No feasible mitigation (no right-of-way is available).	N/A	0%		x	AM	---	---	LTS	---	---	SU
								PM	---	---	SU	---	---	SU
13	Calle Del Sol/Tasman Drive*	Santa Clara	Add a westbound right-turn lane. Reconfigure southbound approaches to include two left-turn lanes and one right-turn lane with overlap phase.	Yes	100%		x	AM				13.8	B	LTS
								PM				18.8	B	LTS

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
14	Lick Mill Boulevard/ Tasman Drive	Santa Clara	Partial Mitigation: Reconfigure northbound and southbound approach to two left-turn lanes, one through lane, and one right-turn lane. Change the northbound/southbou nd signal phasing from split to protective. Add a second westbound left-turn lane.	Yes	100%	x	x	AM PM	42.2 <b>83.8</b>	D <b>F</b>	LTS SU	<b>72.7</b> <b>56.7</b>	<b>E</b> <b>E</b>	SU SU
17	Rio Robles/ Tasman Drive	San José <sup>b</sup>	Partial Mitigation: Widen the southbound approach to include one left-turn lane and one shared through/right-turn lane. Change the northbound/southbou nd signal phasing from split to protected.	Yes	Pay North San José fee or fair- share contribution of partial mitigation	x	x	AM PM	27.8 47.0	C D	SU SU	<b>55.6</b> 34.4	<b>E</b> C	SU SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario			Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project	Peak Hour	Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
18	North 1st Street/ Tasman Drive	San José <sup>b</sup>	No feasible mitigation (no right-of-way is available).  Off-setting Mitigation: A new bus/shuttle stop (including right-of- way) is a proposed improvement at this location.**	Yes	Pay North San José fee or fair- share contribution of off-setting mitigation		x	AM PM				---	---	SU SU
21	Mission College Boulevard/ Montague Expressway	Santa Clara County (CMP)	Partial Mitigation: Add a third southbound left-turn lane (VTP 2040 #X14).**  An interchange is identified at this intersection as a Tier 2 priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Possible  Yes	% of Total Traffic  % of Total Traffic	x  x	x  x	AM PM  AM PM	<b>99.1</b> <b>99.3</b>	<b>F</b> <b>F</b>	SU SU  SU SU	<b>167.2</b> <b>111.2</b>	<b>F</b> <b>F</b>	SU SU  SU SU
22	Agnew Road-De La Cruz Boulevard/ Montague Expressway	Santa Clara County (CMP)	Partial Mitigation: Add a second northbound left-turn lane.	Possible	100%	x	x	AM PM	70.2 <b>93.5</b>	E <b>F</b>	SU SU	<b>153.8</b> <b>124.2</b>	<b>F</b> <b>F</b>	SU SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure						
						Existing with Project	Background with Project		Existing with Project			Background with Project			
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	
23	Lick Mill Boulevard/ Montague Expressway	Santa Clara County	Add a third southbound left-turn lane.	No	100%	x			AM	21.3	C	SU			
									PM	59.4	E	SU			
24	North 1st Street/ Montague Expressway	Santa Clara County (CMP) <sup>b</sup>	No feasible mitigation (no right-of-way is available).  Off-setting Mitigation: Future interchange, which includes grade separation of the light rail, is planned.**	Yes	% of Total Traffic	x	x		AM	---	---	SU	---	---	SU
									PM	---	---	SU	---	---	SU
25	Zanker Road/ Montague Expressway*	Santa Clara County (CMP) <sup>b</sup>	Widen Zanker Road to three lanes in each direction and add second northbound and southbound left- turn lanes with no separate right-turn lanes (North San José Deficiency Plan, January 2006).**	Yes	% of Total Traffic	x			AM	49.1	D	SU			
									PM	60.7	E	SU			
			Off-setting Mitigation: HOV-type signal improvements that could support future Bus Rapid Transit facilities.**	Yes	% of Total Traffic		x	AM				---	---	SU	
								PM				---	---	SU	

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
26	Montague Expressway /Plumeria Drive-River Oaks Parkway	Santa Clara County <sup>b</sup>	Partial Mitigation: Install an eastbound right-turn overlap phase and limit northbound U-turns.	No	% of Total Traffic	x	x	AM	<b>87.5</b>	<b>F</b>	SU	<b>94.8</b>	<b>F</b>	SU
								PM	<b>83.5</b>	<b>F</b>	SU	<b>82.8</b>	<b>F</b>	SU
27	Trimble Road/ Montague Expressway	Santa Clara County (CMP) <sup>b</sup>	A "fly-over" is identified at this intersection as a Tier 1B priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Yes	% of Total Traffic	x	x	AM	---	---	SU	---	---	SU
								PM	---	---	SU	---	---	SU
28	McCarthy Boulevard- O'Toole Avenue/ Montague Expressway	Santa Clara County (CMP) <sup>b</sup>	An interchange is identified at this intersection as a Tier 1B priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Yes	% of Total Traffic		x	AM				---	---	SU
								PM				---	---	SU
29	De La Cruz Boulevard/ Trimble Road	San José (CMP) <sup>b</sup>	Add a third southbound left-turn lane.	Yes	Pay North San José fee or fair- share contribution of off-setting mitigation		x	AM				45.7	D	SU
								PM				<b>62.1</b>	<b>E</b>	SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario			Delay and LOS with Mitigation Measure								
						Existing with Project	Background with Project	Peak Hour	Existing with Project			Background with Project					
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>			
30	North 1st Street/ Trimble Road	San José (CMP) <sup>b</sup>	Add a second eastbound left-turn lane and add an exclusive westbound right-turn lane (North San José Deficiency Plan, January 2006).	Yes	Pay North San José fee or fair- share contribution of mitigation		x	AM PM				47.8	D	SU	53.0	D	SU
34	North 1st Street/ Brokaw Road	San José (CMP) <sup>b</sup>	Partial Mitigation: Add a third westbound left- turn lane.**  Off-setting Mitigation: Bicycle facilities along North 1st Street between Brokaw Road and Gish Road; continue the sidewalk on the southeast corner of the intersection to the US 101 northbound loop on-ramp.	No	Pay North San José fee or fair- share contribution of mitigation	x	x	AM PM	50.2 66.3	D E	SU SU	79.1 94.5	E F	SU SU			
48	Lawrence Expressway /US 101 SB Ramps	Santa Clara County	Convert eastbound left-turn lane to a shared left-/right-turn lane.	No	100%	x		AM PM	37.4 56.8	D E	SU SU						

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario			Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project	Peak Hour	Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
50	Lawrence Expressway /Arques Avenue	Santa Clara County (CMP)	An interchange is identified at this intersection as a Tier 1B priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009; City of Sunnyvale Citywide Deficiency Plan, September 2005).	Yes	% of Total Traffic	x	x	AM PM	---	---	SU	---	---	SU
									---	---	SU	---	---	SU
52	Lawrence Expressway /Reed Avenue- Monroe Street*	Santa Clara County (CMP)	An interchange is identified at this intersection as a Tier 1B priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009; City of Sunnyvale Citywide Deficiency Plan, September 2005).	Yes	% of Total Traffic	x	x	AM PM	---	---	SU	---	---	SU
									---	---	SU	---	---	SU
53	Lawrence Expressway /Cabrillo Avenue	Santa Clara County	An interchange is identified at this intersection as a Tier 3 priority (Comprehensive County Expressway Planning Study Policy Advisory Board 2015 Update, March 23, 2015).	Yes	% of Total Traffic			AM PM				---	---	SU
												---	---	SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
54	Lawrence Expressway /Benton Street	Santa Clara County	Partial Mitigation: Add a second southbound left-turn lane and a second eastbound left- turn lane.	No	100%	x	x	AM	<b>88.7</b>	<b>F</b>	SU	<b>122.1</b>	<b>F</b>	SU
								PM	51.5	D	SU	78.1	E	SU
55	Lawrence Expressway /Homestead Road	Santa Clara County (CMP)	Add a third eastbound through lane and a third westbound through lane (Yahoo! Santa Clara Campus TIA, August 2009; City of Sunnyvale Citywide Deficiency Plan, September 2005; and City of Santa Clara Traffic Mitigation Program, June 2011).	Possible	100%		x	AM				<b>87.5</b>	<b>F</b>	SU
								PM				<b>92.0</b>	<b>F</b>	SU
56	Lawrence Expressway /Pruneridge Avenue	Santa Clara County	An interchange is identified at this intersection as a Tier 3 priority (Comprehensive County Expressway Planning Study Policy Advisory Board 2015 Update, March 23, 2015).	Yes	% of Total Traffic		x	AM				---	---	SU
								PM				---	---	SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
57	Great America Parkway/SR 237 WB Ramps	Santa Clara (CMP)	Add third westbound left-turn lane and associated receiving lane under underpass. Add a second westbound right-turn lane.	Yes	100%	x	x	AM	57.5	E	LTS	52.1	D	LTS
								PM	39.4	D	LTS	49.9	D	LTS
58	Great America Parkway/SR 237 EB Ramps <sup>c</sup>	Santa Clara (CMP)	Add third southbound through lane (from Int. 57) and a second eastbound right-turn lane.	Yes	100%	x <sup>c</sup>	x <sup>c</sup>	AM	28.3	C	LTS	30.6	C	LTS
								PM	11.5	B	LTS	23.3	C	LTS
59	Great America Parkway/ Yerba Buena (Great America) Way	Santa Clara	Partial Mitigation: Add a second westbound right-turn lane with an overlap phase and a second southbound left-turn lane.	Yes	100%	x	x	AM	<b>63.3</b>	<b>E</b>	SU	<b>69.5</b>	<b>E</b>	SU
								PM	27.2	C	LTS	40.8	D	LTS
60	Great America Parkway/ Old Mountain View-Alviso Road	Santa Clara	Partial Mitigation: Add a second eastbound left-turn lane.	Possible	100%	x	x	AM	<b>60.4</b>	<b>E</b>	SU	<b>91.6</b>	<b>F</b>	SU
								PM	25.2	C	LTS	55.0	D	LTS

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
64	Great America Parkway/ Old Glory Lane	Santa Clara	Partial Mitigation: Add a second northbound left-turn lane. Install an overlap phase for eastbound right turning vehicles (Yahoo! Santa Clara Campus TIA, August 2009).	No	100%	x	x	AM	26.4	C	LTS	<b>64.4</b>	<b>E</b>	LTS
								PM	<b>&gt;180</b>	<b>F</b>	SU	<b>&gt;180</b>	<b>F</b>	SU
65	Great America Parkway/ Patrick Henry Drive	Santa Clara	Partial Mitigation: Add a second northbound left-turn lane and an eastbound free-right- turn lane. The eastbound right-turn lane includes the addition of a fourth southbound lane on Great America Parkway between Patrick Henry Drive and Mission College Boulevard (Yahoo! Santa Clara Campus TIA, August 2009).	Yes	100%	x	x	AM	16.1	B	LTS	21.2	C	LTS
								PM	<b>58.0</b>	<b>E</b>	SU	<b>136.6</b>	<b>F</b>	SU
66	Great America Parkway/ Mission College Boulevard*	Santa Clara (CMP)	Partial Mitigation: Add a southbound and a westbound right-turn pocket (Yahoo! Santa Clara Campus TIA, August 2009).	Possible	100%		x	AM				52.8	D	LTS
								PM				<b>98.6</b>	<b>F</b>	SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
69	Bowers Avenue/ Augustine Drive*	Santa Clara	No feasible mitigation (no right-of-way is available).	N/A	0%	x	x	AM	---	---	LTS	---	---	LTS
								PM	---	---	SU	---	---	SU
71	Bowers Avenue/ Central Expressway	Santa Clara County (CMP)	Partial Mitigation: Add third southbound left- turn lane and third eastbound left-turn lane.**	No	100%	x	x	AM	51.7	D	SU	<b>80.8</b>	<b>F</b>	SU
								PM	<b>102.1</b>	<b>F</b>	SU	<b>128.0</b>	<b>F</b>	SU
								AM	---	---	SU	---	---	SU
								PM	---	---	SU	---	---	SU
73	Bowers Avenue/ Monroe Street	Santa Clara	Add a northbound and a southbound left-turn lane. Change the northbound and southbound from split to protected left-turn phasing.	No	% of Total Traffic	x	AM				30.9	C	LTS	
							PM				29.9	C	LTS	

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
75	San Tomas Expressway /Scott Boulevard	Santa Clara County (CMP)	Partial Mitigation: A second westbound right-turn lane is identified as a Tier 1C priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009; City of Santa Clara Traffic Mitigation Program, June 2011).**	No	% of Total Traffic	x	x	AM	<b>127.5</b>	<b>F</b>	SU	<b>166.0</b>	<b>F</b>	SU
								PM	77.3	E	SU	<b>95.9</b>	<b>F</b>	SU
76	San Tomas Expressway /Walsh Avenue	Santa Clara County	Partial Mitigation: Add a second eastbound left-turn lane.	No	100%	x	x	AM	<b>83.1</b>	<b>F</b>	SU	<b>117.5</b>	<b>F</b>	SU
								PM	53.0	D	SU	61.1	E	SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
77	San Tomas Expressway /Monroe Street	Santa Clara County (CMP)	Partial Mitigation: A second northbound left-turn lane is identified at this intersection as a Tier 3 priority (Comprehensive County Expressway Planning Study Policy Advisory Board 2015 Update, March 23, 2015).	Yes	% of Total Traffic	x	x	AM PM	<b>124.3</b> 59.3	<b>F</b> E	SU SU	<b>171.1</b> 71.2	<b>F</b> E	SU SU
78	San Tomas Expressway /El Camino Real*	Santa Clara County (CMP)	An interchange is identified at this intersection as a Tier 2 priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Yes	% of Total Traffic	x	x	AM PM	---	---	SU SU	---	---	SU SU
79	San Tomas Expressway /Benton Street*	Santa Clara County	Add a second eastbound left-turn lane.	Possible	100%		x	AM PM				65.8 52.3	E D	SU SU
82	San Tomas Expressway /Pruneridge Avenue	Santa Clara County	Partial Mitigation: Add a second northbound left-turn lane.	No	100%	x	x	AM PM	<b>89.2</b> 70.6	<b>F</b> E	SU SU	<b>125.6</b> <b>82.3</b>	<b>F</b> <b>F</b>	SU SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario			Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project	Peak Hour	Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
83	San Tomas Expressway /Saratoga Avenue	Santa Clara County (CMP)	Widen San Tomas to four lanes in each direction including exclusive right-turn lanes and maintain HOV lanes identified as a Tier 1A priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Yes	% of Total Traffic	x	x	AM	60.2	E	SU	74.1	E	SU
								PM	46.1	D	SU	63.8	E	SU
84	Gold Street/Gold Street Connector	San José <sup>b</sup>	Add second northbound left-turn lane and second eastbound right-turn lane (move pedestrian crossing to north leg of intersection).	Yes	100%	x	x	AM	25.7	C	SU	27.6	C	SU
								PM	23.6	C	SU	24.5	C	SU
90	Lafayette Street/Calle De Luna	Santa Clara	Reconstruct the westbound approach to include two left-turn lanes and one right- turn lane.	No	100%		x	AM				48.9	D	LTS
								PM				22.0	C	LTS
94	Lafayette Street/ Agnew Road	Santa Clara	Add a second eastbound left-turn lane and a second southbound left-turn lane.	No	100%		x	AM				36.7	D	LTS
								PM				45.4	D	LTS

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
96	Lafayette Street/ Montague Expressway WB Ramps	Santa Clara	Add second westbound right-turn lane with an overlap phase and a second southbound left-turn lane.	No	100%		x	AM				44.1	D	LTS
								PM				29.6	C	LTS
98	Lafayette Street/ Central Expressway	Santa Clara County (CMP)	HOV lane conversion to mixed-flow lanes on Central Expressway identified as a Tier 1A priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).**	No	% of Total Traffic	x	x	AM	62.9	E	SU	<b>85.6</b>	<b>F</b>	SU
								PM	<b>101.8</b>	<b>F</b>	SU			
											Grade separation between Central Expressway and Lafayette Street.	Yes	% of Total Traffic	x
								PM	---	---	SU	---	---	SU
103	Lafayette Street/ Lewis Street	Santa Clara	No feasible mitigation (no right-of-way is available).	N/A	0%		x	AM				---	---	LTS
								PM				---	---	SU
109	Liberty Street/ Taylor Street	San José <sup>b</sup>	Signalize.	Possible	100%		x	AM				13.2	B	SU
								PM				15.8	B	SU
114	Calle Del Sol/Calle Del Luna	Santa Clara	Signalize.	Possible	100%		x	AM				10.2	B	LTS
								PM				15.3	B	LTS

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Delay and LOS with Mitigation Measure						
						Existing with Project	Background with Project	Existing with Project			Background with Project			
								Peak Hour	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
120	De La Cruz Boulevard/ Laurelwood Road	Santa Clara	Reconfigure the northbound and southbound approaches to include one left-turn lane, one through, and one shared through/right-turn lane; change the phasing from split to protected in the northbound and southbound directions; and increase cycle length.	No	100%		x	AM PM				13.5 21.8	B C	LTS LTS
121	De La Cruz Boulevard/ Central Expressway	Santa Clara County (CMP)	HOV lane conversion to mixed-flow lanes on Central Expressway identified as a Tier 1A priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009). Add second southbound right-turn lane.	Yes	% of Total Traffic	x	x	AM PM	59.0 67.3	E E	SU SU	70.8 <b>94.9</b>	E <b>F</b>	SU SU
123	Great America Parkway/ Gold Street Connector <sup>c</sup>	Santa Clara	Add a second northbound right-turn lane (from Int. 57 dual westbound right-turn lanes).	Yes	100%	x <sup>c</sup>	x <sup>c</sup>	AM PM	9.9 10.0	A A	LTS LTS	9.8 9.6	A A	LTS LTS

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario		Peak Hour	Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project		Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>
124	Scott Boulevard/ Central Expressway	Santa Clara County (CMP)	HOV lane conversion to mixed-flow lanes on Central Expressway identified as a Tier 1A priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	No	% of Total Traffic	x	x	AM PM	43.2	D	SU	45.0	D	SU
									64.8	E	SU	<b>122.5</b>	<b>F</b>	SU
125	San Tomas Expressway /Stevens Creek Boulevard	Santa Clara County (CMP)	Widen San Tomas to four lanes in each direction including exclusive northbound and southbound right- turn lanes and maintain HOV lanes identified as a Tier 1A priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).**	Yes	% of Total Traffic		x	AM PM				<b>106.7</b>	<b>F</b>	SU
												67.7	E	SU
			An interchange is identified at this intersection as a Tier 2 priority (Comprehensive County Expressway Planning Study 2008 Update, March 2009).	Yes	% of Total Traffic		x	AM PM				---	---	SU SU

**Table 3.3-20. Project-Specific (Existing with-Project/Background with-Project) Intersection Mitigation Measures**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Mitigation Measure <sup>d</sup>	ROW Needed? <sup>e</sup>	Project Responsibility <sup>f</sup>	Affected Scenario			Delay and LOS with Mitigation Measure					
						Existing with Project	Background with Project	Peak Hour	Existing with Project			Background with Project		
									Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>	Delay <sup>g</sup>	LOS	Sig? <sup>h</sup>

Notes:

- a. CMP = Congestion Management Program intersection (VTA).
- b. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.
- c. This intersection is not an affected intersection, but would need to be modified to accommodate the improvements at Intersection #57: Great America Parkway/SR 237 WB Ramps.
- d. Off-setting Mitigation: In the North San José Deficiency Plan area, off-setting local street network, transit, bicycle, and pedestrian improvements were identified to accommodate future travel growth, but not directly mitigate the intersection with the identified impact. Partial Mitigation: The proposed mitigation measure mitigates the impact at one but not the other peak hour or reduces the delay but not enough to mitigate the impact.
- e. ROW = right-of-way. "Yes" = additional right-of-way is required to construct the proposed mitigation measure. This includes relocating existing curbs and gutters. "Possible" = additional right-of-way may be needed to maintain bike lanes or transit facilities, such as bus duck-outs. "No" = the proposed mitigation measure will fit within the existing right-of-way and existing curb-to-curb widths. Curbs and gutters will not need to be relocated, but the median may need to be modified.
- f. "100%" = The cost and construction of the proposed mitigation measure is the full responsibility of the Project Developer. These are discrete mitigation measures that either fully or partially mitigate significant Project impacts. "0%" = There is no feasible mitigation measure. "% of Total Traffic" = Project Developer shall pay a fair-share contribution to the proposed mitigation measure, which is typically a larger transportation improvement, such as an expressway interchange, that has been identified in an adopted plan. "Pay North San José fee or fair-share contribution of alternative or off-setting mitigation" = The Project Developer can pay the North San José fee or a fair-share contribution for the mitigation measure or off-setting mitigation measure based on the amount of Project's percent contribution of the traffic volume growth at the intersection.
- g. Signalized intersections: whole-intersection average control delay per vehicle (seconds). Unsignalized intersections: worst-approach average control delay per vehicle (seconds).
- h. LTS = Less than significant with mitigation, SU = significant and unavoidable. Significance determination is based on draft mitigation and responsible jurisdiction of the intersection. See mitigation list summary, which describes the mitigation in more detail.

**Bold** text indicates intersection operates at a deficient LOS.

**Bold and highlighted** indicates a significant impact (with mitigation).

\* Intersection improvement identified at this intersection under existing or background no-project conditions. See Appendix 3.3-D.

\*\*City-preferred mitigation option.

Source: Fehr & Peers, September 2015.

- Thirty-three affected intersections are located outside of the City of Santa Clara jurisdiction and implementation of the mitigation measure cannot be guaranteed; therefore, the impacts would remain ***significant and unavoidable***:
  - Nine intersections would have operations returned to an acceptable LOS with the identified mitigation measure in Table 3.3-20.
    - Intersection 23: Lick Mill Boulevard/Montague Expressway
    - Intersection 30: North 1st Street/Trimble Road
    - Intersection 48: Lawrence Expressway US 101 SB Ramps
    - Intersection 55: Lawrence Expressway/Homestead Road
    - Intersection 79: San Tomas Expressway/Benton Street
    - Intersection 83: San Tomas Expressway/Saratoga Avenue
    - Intersection 84: Gold Street/Gold Street Connector
    - Intersection 121: De La Cruz Boulevard/Central Expressway
    - Intersection 124: Scott Boulevard/Central Expressway
  - Nine intersections would have operations returned to an acceptable LOS in either the AM or PM Peak Hour or partially returned to an acceptable LOS in both peak hours with the identified mitigation measure in Table 3.3-20.
    - Intersection 17: Rio Robles/Tasman Drive
    - Intersection 22: Agnew Road-De La Cruz Boulevard/Montague Expressway
    - Intersection 26: Montague Expressway/Plumeria Drive-River Oaks Parkway
    - Intersection 29: De La Cruz Boulevard/Trimble Road
    - Intersection 34: North 1st Street/Brokaw Road
    - Intersection 54: Lawrence Expressway/Benton Street
    - Intersection 76: San Tomas Expressway/Walsh Avenue
    - Intersection 77: San Tomas Expressway/Monroe Street
    - Intersection 82: San Tomas Expressway/Pruneridge Avenue
  - Two intersections would have offsetting mitigations (offsetting local street network, transit, bicycle, or pedestrian improvements) in the North San José Deficiency Plan area to accommodate future travel growth but not directly affect LOS:
    - Intersection 18: North 1st Street/Tasman Drive
    - Intersection 24: North 1st Street/Montague Expressway
  - Six intersections would require a fair-share payment of a planned interchange, but the interchange would not be constructed until full funding is received:

- Intersection 27: Trimble Road/Montague Expressway
- Intersection 50: Lawrence Expressway/Arques Avenue
- Intersection 52: Lawrence Expressway/Reed Avenue-Monroe Street
- Intersection 53: Lawrence Expressway/Cabrillo Avenue
- Intersection 56: Lawrence Expressway/Pruneridge Avenue
- Intersection 78: San Tomas Expressway/El Camino Real
- One intersection would have two mitigation options: Option 1 would have operations returned to an acceptable LOS with the identified mitigation, and Option 2 would require a fair-share payment of a planned interchange:
  - Intersection 125: San Tomas Expressway/Stevens Creek Boulevard
- Four intersections would have two mitigation options: Option 1 would have operations returned to an acceptable LOS in either the AM or PM Peak Hour or partially returned to an acceptable LOS in both peak hours with the identified improvement, and Option 2 would require a fair-share payment of a planned interchange:
  - Intersection 21: Mission College Boulevard/Montague Expressway
  - Intersection 71: Bowers Avenue/Central Expressway
  - Intersection 75: San Tomas Expressway/Scott Boulevard
  - Intersection 98: Lafayette Street/Central Expressway
- One intersection has two mitigation options. Under existing with-Project conditions, the intersection would have operations returned to an acceptable LOS with the identified mitigation. Under background with-Project conditions, the intersection would have an offsetting mitigation in the North San José Deficiency Plan area:
  - Intersection 25: Zanker Road/Montague Expressway
- One intersection has no feasible mitigation measure:
  - Intersection 3: Lawrence Expressway/Tasman Drive

Intersections 58 and 123 are not affected intersections but would need to be modified to accommodate the mitigation measure at Intersection 57: Great America Parkway/SR 237 WB Ramps.

**Impact TRA-2: Unsignalized (Off-Site) Intersections. The Project would add a considerable amount of traffic to certain unsignalized intersections that would operate unacceptably under background with-Project conditions. (SU)**

### Existing with-Project Unsignalized Intersection Analysis

LOS calculations and the peak-hour traffic signal warrant were evaluated for the unsignalized intersections under existing with-Project conditions. The intersection volumes are shown in Appendix 3.3-C. The results of the LOS analysis are summarized in Table 3.3-21. The corresponding LOS calculation sheets are included in Appendix E. The results are graphically shown in Figure 3.3-16. The peak-hour signal warrant was evaluated for the intersections that currently or with Project traffic would operate at

LOS F; these results are presented in Table 3.3-21 and Appendix 3.3-G. The Project would have no significant impacts on unsignalized intersections under existing with-Project conditions.

## Background with-Project Unsignalized Intersection Analysis

The LOS results for the unsignalized intersections under background and background with-Project conditions are presented in Table 3.3-22. The intersection volumes are shown in Appendix 3.3-C. The results are graphically shown in Figure 3.3-17. The corresponding LOS calculation sheets are included in Appendix 3.3-E. The peak-hour signal warrant was evaluated for the unsignalized intersections that operate at LOS F; these results are presented in Table 3.3-22 and Appendix 3.3-G. The Project would have a significant impact on two unsignalized intersections under background with-Project conditions (see Table K-3 of Appendix 3.3-K for affected intersections and mitigation measures).

## Unsignalized Intersections with Significant Project Impacts

Project impacts on unsignalized intersections were identified as those locations where the Project would generate a significant impact under either existing with-Project or background with-Project conditions. The Project would have a significant impact on two unsignalized intersections. Impacts on unsignalized intersections are *significant* before mitigation.

MITIGATION MEASURES. With Mitigation Measures TRA-1.1 (above) and TRA-2.1 and TRA-2.2 (below and in Table 3.3-20), these impacts would be reduced, but one intersection may still experience significant Project impacts. Therefore, the Project impact on unsignalized intersection LOS would be ***significant and unavoidable***.

## Intersection Improvements

**TRA-2.1: Traffic Signal Installation.** Install a traffic signal at Intersection 109, Liberty Street/Taylor Street once the traffic volumes meet the warrant requirements.

The intersection of Liberty Street/Taylor Street is located in San José; the installation of a traffic signal would need to be approved by the City of San José. Therefore, there is no assurance that this mitigation measure would be implemented and the impact would remain ***significant and unavoidable***.

**TRA-2.2: Traffic Signal Installation.** Install a traffic signal at Intersection 114, Calle Del Sol/Calle De Luna, once the traffic volumes meet the warrant requirements. This improvement would reduce the impact to ***less than significant***.

**Table 3.3-21. Existing with-Project Unsignalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Unsig. Type <sup>b</sup>	Peak Hour <sup>c</sup>	Counted Volume <sup>d</sup>		Existing <sup>e</sup>		Existing with Project		Signal Warrant Met?
					Delay <sup>f</sup>	LOS <sup>g</sup>	Delay <sup>f</sup>	LOS <sup>g</sup>	Delay <sup>f</sup>	LOS <sup>g</sup>	
85	Lafayette Street/Great America Way	Santa Clara	SSSC	AM	9.6	A	9.7	A	Signalized Intersection		N/A
				PM	21.1	C	21.4	C			N/A
89	Lafayette Street/Calle Del Mundo	Santa Clara	SSSC	AM	14.1	B	14.9	B	<b>89.3</b>	<b>F</b>	No
				PM	12.7	B	12.9	B	<b>146.3</b>	<b>F</b>	No
108	Gold Street/Taylor Street	San José	AWSC	AM	8.4	A	8.4	A	8.6	A	N/A
				PM	8.8	A	8.8	A	23.5	C	N/A
109	Liberty Street/Taylor Street	San José	AWSC	AM	8.3	A	8.3	A	8.5	A	N/A
				PM	9.7	A	9.7	A	47.2	E	N/A
114	Calle Del Sol/Calle De Luna	Santa Clara	SSSC	AM	13.8	B	14.1	B	23.4	C	N/A
				PM	21.3	C	19.8	C	31.5	D	N/A
116	Agnew Road/Garrity Way	Santa Clara	SSSC	AM	12.9	B	13.1	B	13.5	B	N/A
				PM	14.0	B	14.2	B	14.8	B	N/A

Notes:

- a. CMP = Congestion Management Program intersection (VTA).
- b. SSSC = Side-Street Stop-Controlled intersection, AWSC = All-Way Stop-Controlled intersection.
- c. AM = morning peak hour, PM = evening peak hour.
- d. "Counted Volumes" presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts.
- e. "Existing" presents delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts plus project trips from projects that are currently under construction (see Appendix 3.3-B and Appendix 3.3-D).
- f. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- g. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

**Bold text** indicates unacceptable operations according to the jurisdiction's LOS.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.

**Table 3.3-22. Background with-Project Unsignalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Unsig. Type <sup>b</sup>	Peak Hour <sup>c</sup>	Background <sup>d</sup>		Background with Project		Signal Warrant Met?
					Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	
85	Lafayette Street/Great America Way*	Santa Clara	SSSC	AM	11.1	B	Signalized Intersection		N/A
				PM	27.0	D			N/A
89	Lafayette Street/Calle Del Mundo	Santa Clara	SSSC	AM	20.5	C	<b>194.1</b>	<b>F</b>	No
				PM	13.9	B	<b>173.2</b>	<b>F</b>	No
108	Gold Street/Taylor Street	San José	AWSC	AM	9.2	A	9.2	A	N/A
				PM	9.3	A	37.9	E	N/A
109	Liberty Street/Taylor Street	San José	AWSC	AM	8.9	A	8.9	A	No
				PM	10.6	B	<b>76.0</b>	<b>F</b>	<b>Yes</b>
114	Calle Del Sol/Calle De Luna	Santa Clara	SSSC	AM	15.6	C	32.0	D	No
				PM	23.2	C	<b>74.4</b>	<b>F</b>	<b>Yes</b>
116	Agnew Road/Garrity Way	Santa Clara	SSSC	AM	13.5	B	13.5	B	N/A
				PM	14.8	B	15.8	C	N/A

**Notes:**

a. CMP = Congestion Management Program intersection (VTA).

b. SSSC = Side-Street Stop-Controlled intersection, AWSC = All-Way Stop-Controlled intersection.

c. AM = morning peak hour, PM = evening peak hour.

d. "Background" presents delay and LOS for intersections, using 2020 geometry and traffic volumes estimated us the VTA travel demand model.

e. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for all-way stop-controlled intersection. For side-street stop-controlled intersections, values reported are the worst approach.

f. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

**Bold text** indicates unacceptable operations according to the jurisdiction's LOS standard.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.

**Impact TRA-3: Freeway Segments. The Project would add traffic to certain freeway segments, causing them to operate at unacceptable levels of service or worsen existing unacceptable levels of service. (SU)**

### Existing with-Project Freeway Segment Analysis

Freeway segments on SR 87, US 101, SR 237, I-680, and I-880 were analyzed to determine their LOS under existing with-Project conditions. (A freeway segment is defined as the portion of the freeway between two interchanges, by direction, with mixed-flow and HOV lanes evaluated separately.) Figures 3.3-18, 3.3-19, 3.3-20, and 3.3-21 show the northbound and southbound mixed-flow and HOV lanes that exceed the LOS standards during the AM and PM Peak Hours. The LOS analysis results are presented in Table H-2 of Appendix 3.3-H. This table identifies segments with significant Project impacts: (1) segments that would exceed their LOS standard due to the addition of Project traffic and (2) those that already exceed their LOS standard and where the Project would add a significant amount of traffic according to the significance criteria. The Project has a significant impact on 246 freeway segments under existing with-Project conditions. Impacts on freeway segments are *significant* before mitigation.

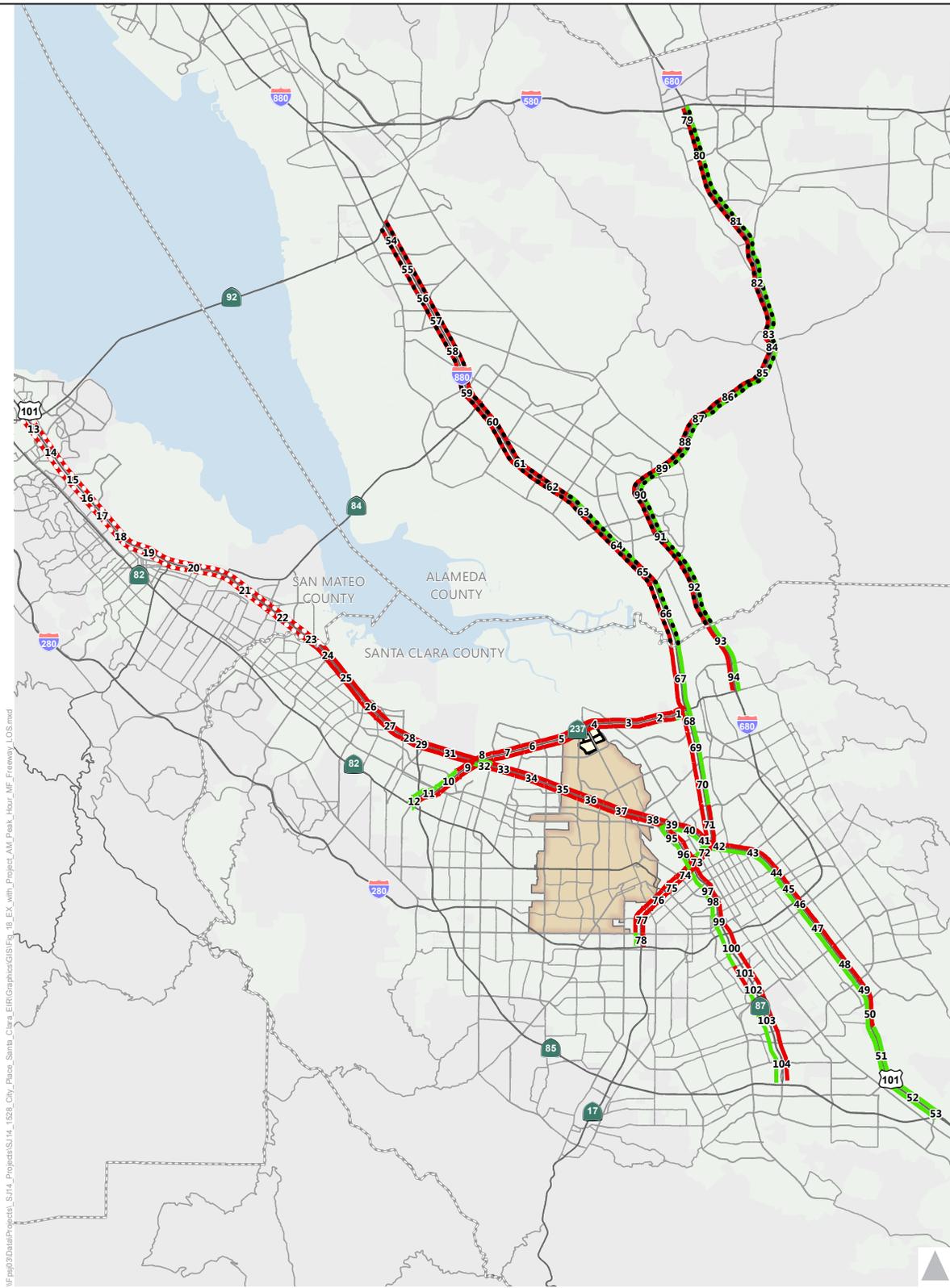
Potential mitigation measures for freeway segments include capacity enhancements (such as adding travel lanes and auxiliary lanes) and operational improvements (such as ramp metering and express lanes). There are limited options to widen the affected freeway segments because of right-of-way constraints. Additionally, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway because of increased capacity), air quality degradation, increases in noise associated with motor vehicles, and reductions in transit use (less congestion or reduced driving time may make driving more attractive than transit travel).

The VTA's VTP 2040 identifies freeway express lane projects along most freeways within Santa Clara County including portions of or the entire segments of US 101, I-280, I-680, I-880, SR 17, SR 87, and SR 237 (VTP 2040 project numbers H2, H3, H4, H5, H6, H7, and H15). These express lane projects would either convert existing HOV lanes to express lanes or add lanes as express lanes. Additionally, the VTP 2040 identifies freeway traffic operation improvements (VTP 2040 project number S83) that would close gaps in both ramp metering and traffic operations systems on freeway corridors throughout Santa Clara County. The improvements to metered on-ramps would add storage for queued vehicles.

The complete mitigation of freeway impacts is considered beyond the scope of an individual development project because of the inability of any individual project or City to:

1. Approve and acquire right-of-way for freeway widening. Freeway improvements would require approval by VTA and Caltrans, and as such the City cannot guarantee implementation of any improvement in the freeway right-of-way.
2. Fully fund a major freeway mainline improvement. To provide adequate funding, additional sources would be needed, which may include State Transportation Improvement Program funds for projects identified in the VTP, City impact fees, and/or a future regional impact fee. The City of Santa Clara could potentially participate in development of a regional fee should it be proposed by regional agencies, such as VTA.

MITIGATION MEASURES. With Mitigation Measures TRA-1.1 (above) and TRA-3.1 (below), the severity of the impacts would be reduced, but most segments would still have significant Project impacts. Thus, the Project impact on freeway segment LOS would be *significant and unavoidable*.

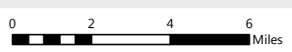


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- Santa Clara County below capacity
- Santa Clara County above capacity
- - - San Mateo County below capacity
- - - San Mateo County above capacity
- - - Alameda County below capacity
- - - Alameda County above capacity

- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary

- ← NB/WB LOS
- ← SB/EB LOS

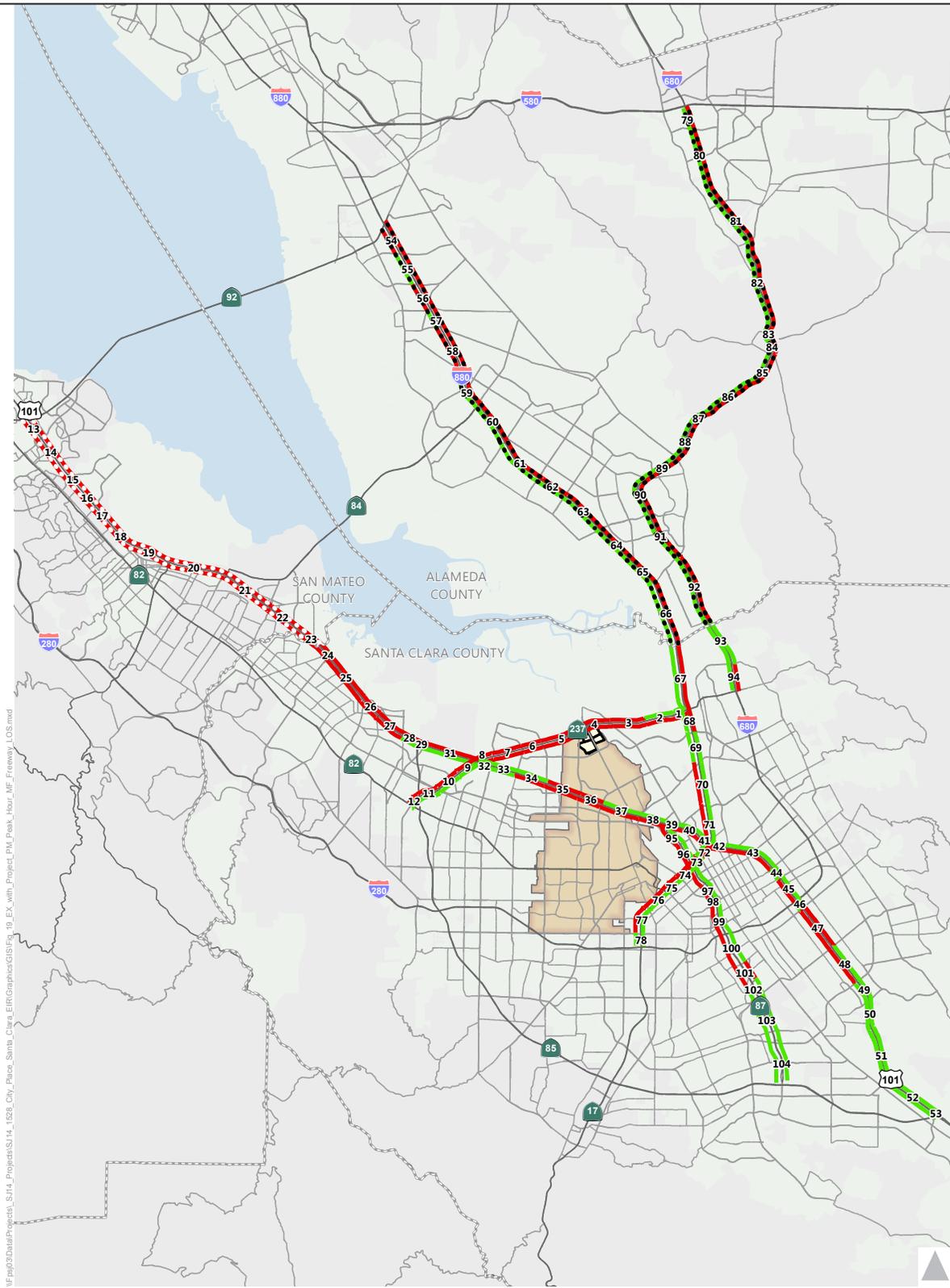


Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-18**  
**Existing with Project AM Peak Hour Directional Mixed-Flow Freeway Segment Results**  
 City Place Santa Clara



- Santa Clara County below capacity
- Santa Clara County above capacity
- - - San Mateo County below capacity
- - - San Mateo County above capacity
- - - Alameda County below capacity
- - - Alameda County above capacity

- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary

- ← NB/WB LOS
- ← SB/EB LOS



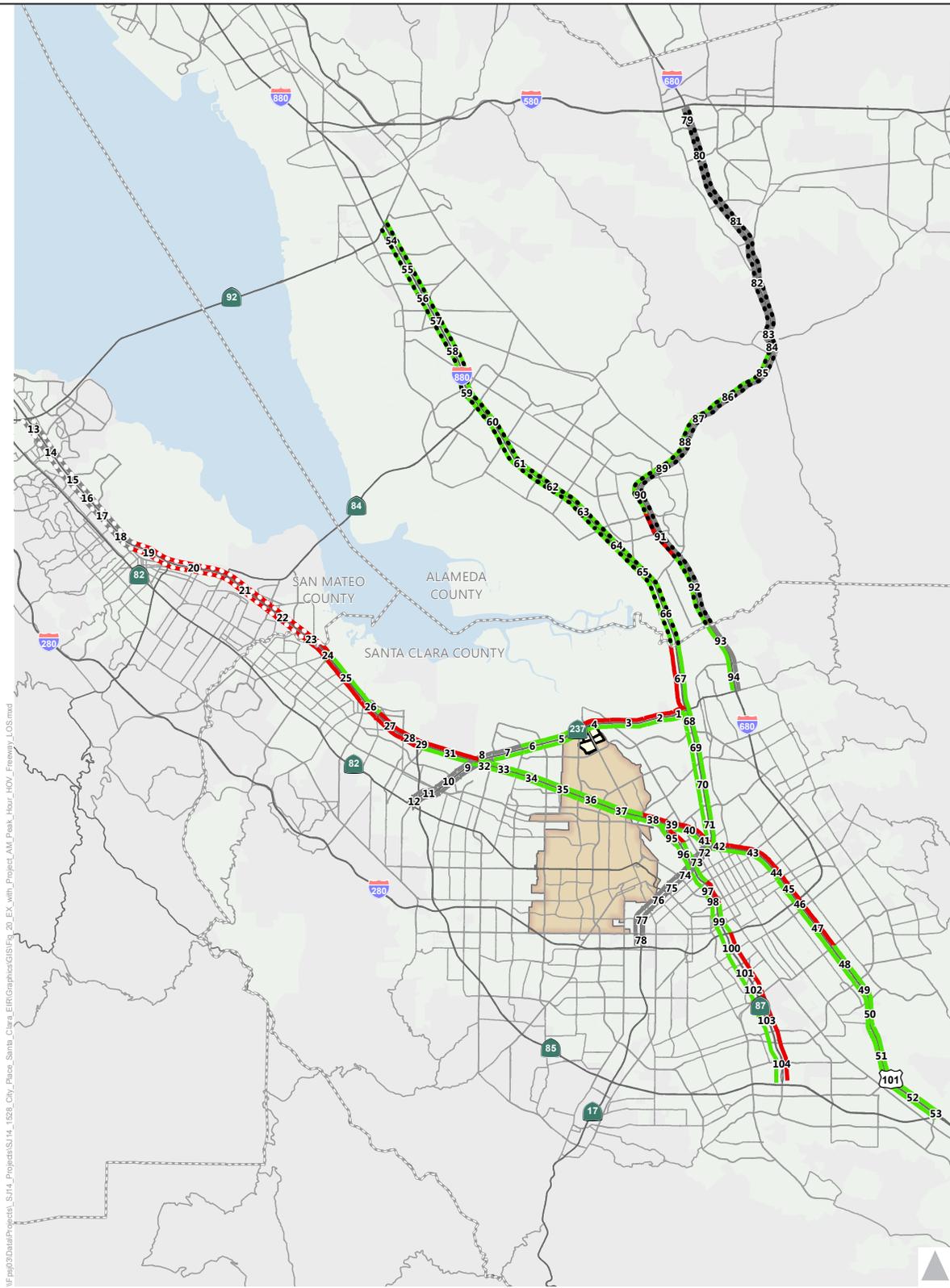
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Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-19**  
**Existing with Project PM Peak Hour Directional Mixed-Flow Freeway Segment Results**  
 City Place Santa Clara

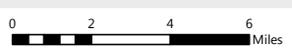


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- Santa Clara County below capacity
- Santa Clara County above capacity
- San Mateo County below capacity
- San Mateo County above capacity
- Alameda County below capacity
- Alameda County above capacity

- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary
- HOV Unavailable

- ← NB/WB LOS
- ← SB/EB LOS

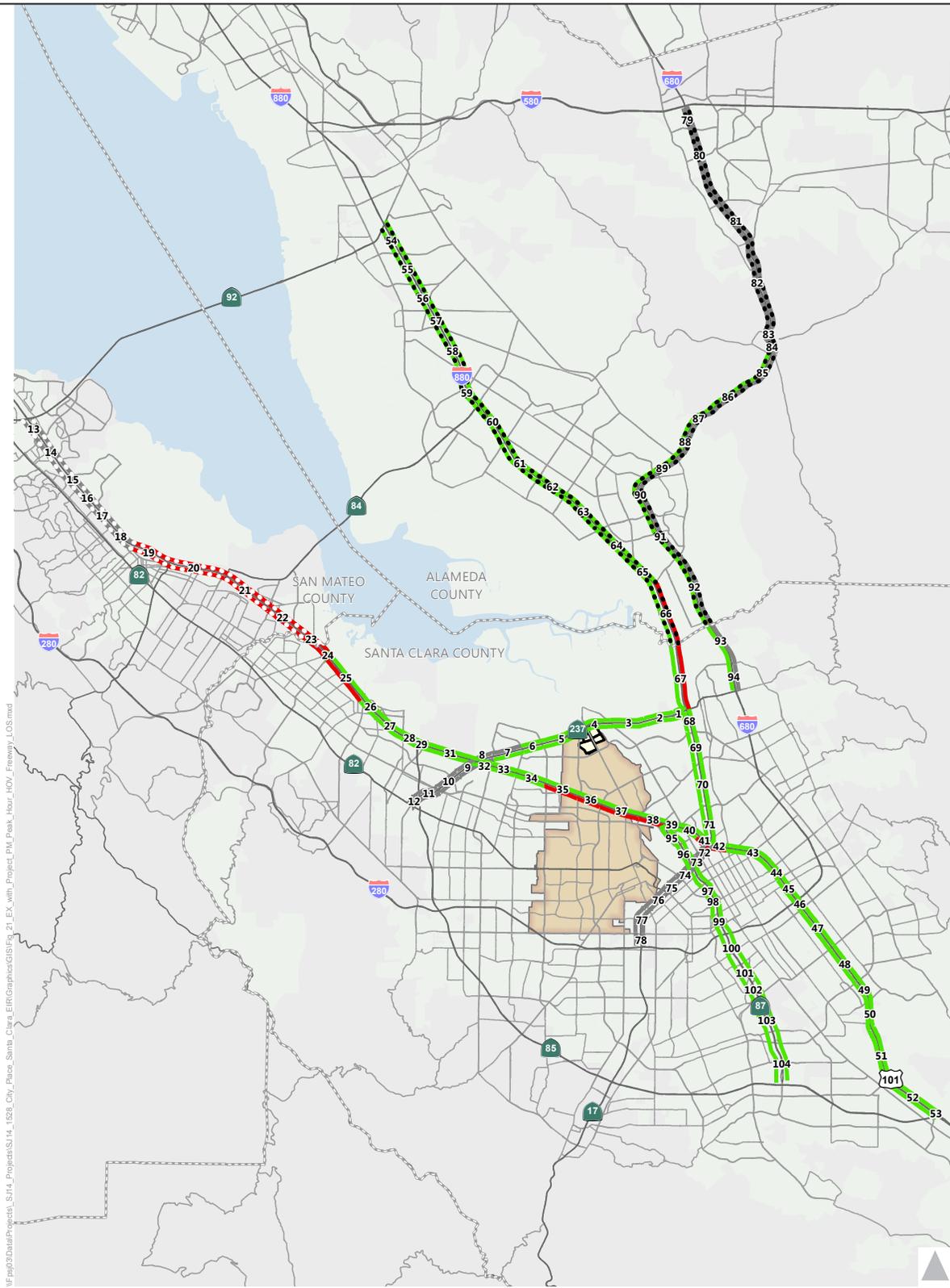


Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-20**  
**Existing with Project AM Peak Hour Directional HOV Freeway Segment Results**  
**City Place Santa Clara**



- Santa Clara County below capacity
- Santa Clara County above capacity
- San Mateo County below capacity
- San Mateo County above capacity
- Alameda County below capacity
- Alameda County above capacity
- # Study Segment Number
- City of Santa Clara
- Project Parcel Boundaries
- County Boundary
- HOV Unavailable
- ← NB/WB LOS
- ← SB/EB LOS

Graphics ...: 0033314 (9-25-2015).tm

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Source: Fehr & Peers, 2015.



**Figure 3.3-21**  
Existing with Project PM Peak Hour Directional HOV Freeway Segment Results  
City Place Santa Clara

## Freeway Improvements

*TRA-3.1: Freeway Segment Improvements.* The Project Developer will make a voluntary contribution toward the VTP’s 2040 Express Lane Projects (VTP 2040 project numbers H2, H3, H4, H5, H6, H7, and H15) and Countywide Freeway Traffic Operation System and Ramp Metering Improvements (VTP 2040 project number S83).

These VTP 2040 projects (H2, H3, H4, H5, H6, H7, H15, and S83), once fully funded and constructed, will enhance travel choices for Project travelers and make more efficient use of the transportation network. However, these freeway operations enhancements would not improve operations on the affected freeway segments to less-than-significant levels.

## Existing with Project Phases 1, 2, and 3

Intersections and freeway segments were evaluated under existing with-Project conditions with traffic generated by Phases 1, 2, and 3, which are located on Parcels 4 and 5. The vehicle trip generation estimates for this scenario are presented in Table 3.3-23. These phases would generate approximately 40 to 50 percent of the Project’s traffic at full build-out.

**Table 3.3-23. Trip Generation Estimates (Scheme B– Phases 1, 2, and 3)**

Parcel	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 4 (Phases 2 and 3)	61,520	2,300	1,040	3,340	2,090	2,680	4,770
Parcel 5	16,140	610	260	870	550	700	1,250
<b>Total</b>	<b>77,660</b>	<b>2,910</b>	<b>1,300</b>	<b>4,210</b>	<b>2,640</b>	<b>3,380</b>	<b>6,020</b>

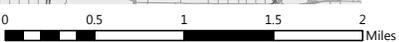
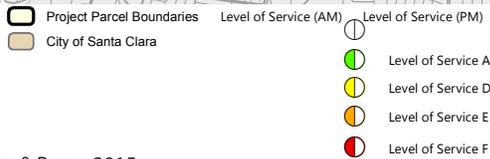
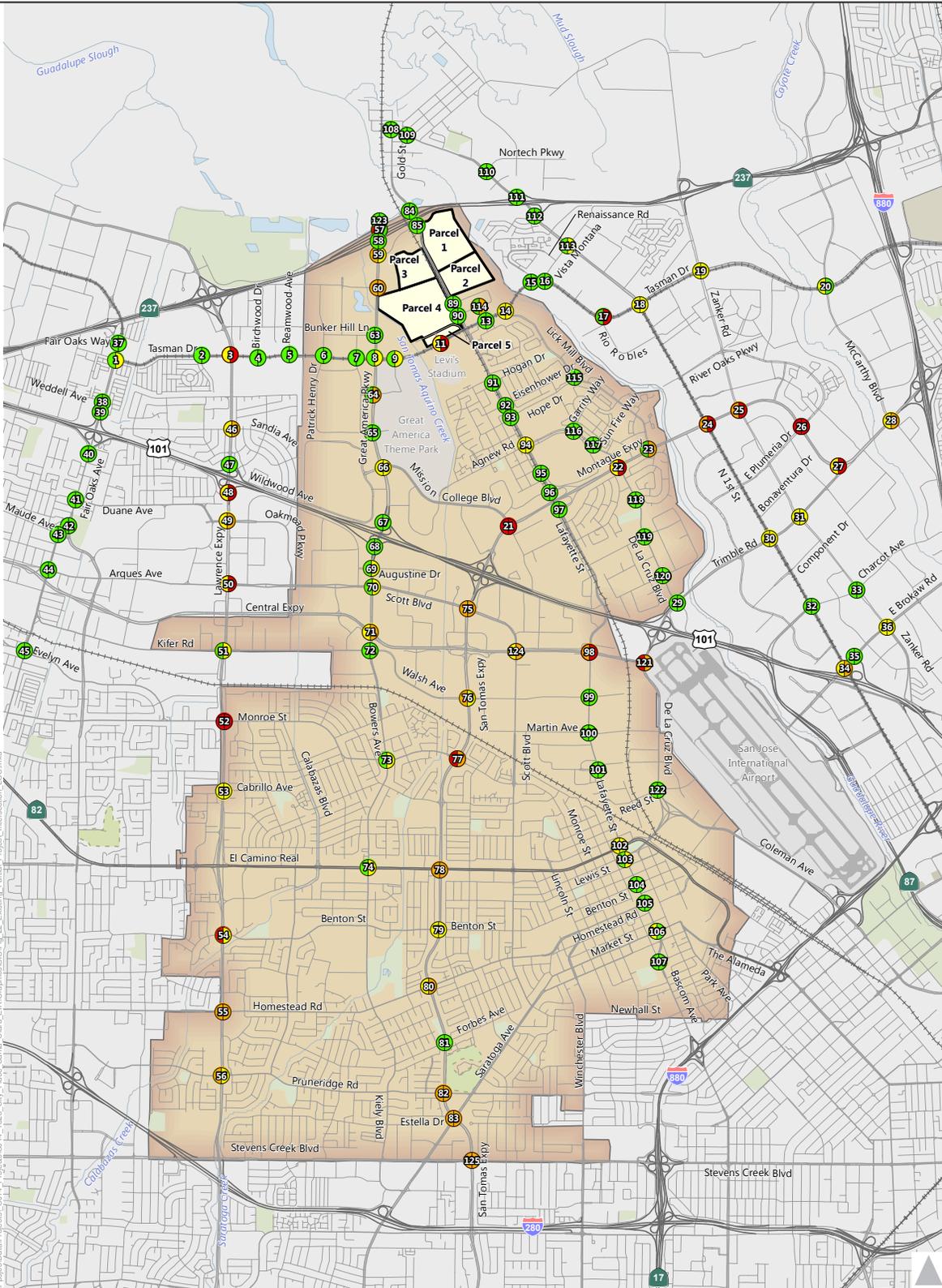
Source Fehr & Peers, 2015.

**Impact TRA-1a: Signalized (Off-Site) Intersections with Phases 1, 2 and 3. Phases 1, 2, and 3 of the Project would add traffic to certain signalized intersections, causing them to operate at unacceptable levels of service or worsen unacceptable levels of service under existing conditions. (SU)**

## Existing with Project Phases 1, 2, and 3 Intersection Analysis

LOS calculations were conducted to evaluate intersection operations. The results for signalized intersections are summarized in Table 3.3-24, and the results for unsignalized intersections are summarized in Table 3.3-25. The corresponding LOS calculation sheets are included in Appendix 3.3-E.

The results of the intersection LOS analysis for existing conditions with Project Phases 1, 2, and 3 are graphically shown in Figure 3.3-22. Twenty signalized intersections would have *significant* impacts; no unsignalized intersections would have *significant* impacts (see Table K-2 of Appendix 3.3-K for affected intersections and mitigation measures).



Graphics ... 0033314 (9-25-2015).tm

Source: Fehr & Peers, 2015.



**Figure 3.3-22**  
**Existing with Project Phases 1, 2, & 3 Intersection Level of Service Results**  
 City Place Santa Clara

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
1	Fair Oaks Avenue/Tasman Drive	Sunnyvale	AM	25.7	C	28.0	C	28.3	C	0.010	0.3
			PM	34.3	C	35.0	C	35.3	D	0.023	0.4
2	Vienna Drive/Tasman Drive	Sunnyvale	AM	14.4	B	14.1	B	14.2	B	0.009	0.1
			PM	13.3	B	12.9	B	13.1	B	0.009	0.4
3	Lawrence Expressway/Tasman Drive	Santa Clara County (CMP)	AM	39.8	D	41.0	D	42.1	D	0.041	1.6
			PM	55.8	E	57.7	E	<b>118.2</b>	<b>F</b>	<b>0.202</b>	<b>102.3</b>
4	Birchwood Drive/Tasman Drive	Sunnyvale	AM	14.4	B	13.5	B	13.4	B	0.008	0.0
			PM	10.6	B	10.5	B	11.2	B	0.078	0.9
5	Reamwood Avenue/Tasman Drive	Sunnyvale	AM	7.5	A	7.5	A	7.6	A	0.012	0.1
			PM	9.8	A	9.2	A	11.2	B	0.211	2.9
6	Patrick Henry Drive/Tasman Drive	Santa Clara	AM	10.9	B	12.1	B	15.7	B	0.021	0.5
			PM	12.6	B	13.2	B	17.4	B	0.107	2.0
7	Old Ironside Drive/Tasman Drive	Santa Clara	AM	14.4	B	13.2	B	13.9	B	0.010	0.6
			PM	12.6	B	12.7	B	11.4	B	0.109	0.0
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)	AM	25.6	C	26.0	C	29.9	C	0.262	8.0
			PM	29.2	C	31.5	C	52.9	D	0.263	34.0
9	Convention Center/Tasman Drive	Santa Clara	AM	16.2	B	16.2	B	16.9	B	0.080	1.0
			PM	18.5	B	20.2	C	37.8	D	0.113	26.4
10	Future Driveway (west of Centennial Boulevard)/Tasman Drive	Santa Clara	AM	Future Signalized Intersection				5.6	A	N/A	N/A
			PM					14.3	B	N/A	N/A
11	Centennial Boulevard/Tasman Drive	Santa Clara	AM	19.8	B	19.8	B	48.7	D	0.455	37.2
			PM	19.6	B	19.8	B	<b>121.7</b>	<b>F</b>	<b>0.720</b>	<b>152.8</b>
12	Future Driveway (east of Centennial Boulevard)/Tasman Drive	Santa Clara	AM	Future Signalized Intersection				2.6	A	N/A	N/A
			PM					10.0	A	N/A	N/A
13	Calle Del Sol/Tasman Drive	Santa Clara	AM	11.4	B	10.6	B	14.0	B	0.159	4.3
			PM	17.6	B	17.5	B	24.9	C	0.328	14.1

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
14	Lick Mill Boulevard/Tasman Drive	Santa Clara	AM	22.4	C	22.1	C	37.4	D	0.138	20.3
			PM	21.5	C	24.4	C	41.5	D	0.198	25.0
15	Renaissance Drive/Tasman Drive	San José <sup>j</sup>	AM	23.5	C	22.7	C	21.2	C	0.081	-1.5
			PM	10.3	B	11.4	B	11.0	B	0.009	0.1
16	Vista Montana/Tasman Drive	San José <sup>j</sup>	AM	26.2	C	26.1	C	24.1	C	0.135	-2.6
			PM	22.2	C	23.8	C	24.6	C	0.017	-6.1
17	Rio Robles/Tasman Drive	San José <sup>j</sup>	AM	24.3	C	24.2	C	25.6	C	0.130	2.3
			PM	27.5	C	46.4	D	<b>92.7</b>	<b>F</b>	<b>0.215</b>	<b>60.3</b>
18	North 1st Street/Tasman Drive	San José <sup>j</sup>	AM	33.5	C	38.0	D	38.6	D	0.051	0.7
			PM	38.0	D	42.0	D	44.7	D	0.161	5.3
19	Zanker Road/Tasman Drive	San José <sup>j</sup>	AM	36.4	D	37.8	D	38.1	D	0.045	0.2
			PM	37.7	D	41.4	D	42.6	D	0.121	1.3
20	McCarthy Boulevard/Tasman Drive	Milpitas	AM	34.0	C	34.2	C	36.0	D	0.053	2.4
			PM	33.0	C	31.8	C	33.6	C	0.159	16.4
21	Mission College Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	58.0	E	79.5	E	<b>92.3</b>	<b>F</b>	<b>0.082</b>	<b>21.4</b>
			PM	61.7	E	76.1	E	<b>94.6</b>	<b>F</b>	<b>0.054</b>	<b>32.4</b>
22	Agnew Road-De La Cruz Boulevard/Montague Expressway	Santa Clara County (CMP)	AM	46.6	D	51.9	D	52.4	D	0.006	0.9
			PM	57.8	E	79.0	E	<b>83.1</b>	<b>F</b>	<b>0.054</b>	<b>4.5</b>
23	Lick Mill Boulevard/Montague Expressway	Santa Clara County	AM	21.2	C	21.4	C	20.5	C	0.010	0.8
			PM	22.0	C	22.0	C	60.0	E	0.167	67.5
24	North 1st Street/Montague Expressway	Santa Clara County (CMP) <sup>j</sup>	AM	54.2	D	<b>67.2</b>	<b>E</b>	<b>72.5</b>	<b>E</b>	<b>0.007</b>	<b>2.2</b>
			PM	<b>69.0</b>	<b>E</b>	<b>88.9</b>	<b>F</b>	<b>92.5</b>	<b>F</b>	<b>0.025</b>	<b>1.6</b>
25	Zanker Road/Montague Expressway	Santa Clara County (CMP) <sup>j</sup>	AM	40.8	D	58.4	E	61.2	E	0.037	4.6
			PM	65.4	E	<b>81.8</b>	<b>F</b>	<b>86.3</b>	<b>F</b>	<b>0.041</b>	<b>8.3</b>
26	Montague Expressway/Plumeria Drive River Oaks Parkway	Santa Clara County <sup>j</sup>	AM	40.6	D	<b>89.7</b>	<b>F</b>	<b>89.8</b>	<b>F</b>	<b>0.008</b>	<b>1.5</b>
			PM	41.5	D	<b>170.5</b>	<b>F</b>	<b>164.2</b>	<b>F</b>	<b>0.041</b>	<b>-13.4</b>

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
27	Trimble Road/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	49.4	D	47.7	D	47.9	D	0.003	1.0
			PM	50.9	D	72.7	E	<b>87.6</b>	<b>F</b>	<b>0.048</b>	<b>23.0</b>
28	McCarthy Boulevard O'Toole Avenue/Montague Expressway	Santa Clara County (CMP) <sup>i</sup>	AM	37.1	D	48.2	D	51.0	D	0.476	25.3
			PM	62.2	E	63.8	E	67.2	E	0.019	7.0
29	De La Cruz Boulevard/Trimble Road	San José (CMP) <sup>i</sup>	AM	29.4	C	28.9	C	29.9	C	0.045	1.7
			PM	32.0	C	31.1	C	31.3	C	0.003	0.2
30	North 1st Street/Trimble Road	San José (CMP) <sup>i</sup>	AM	40.2	D	45.0	D	47.0	D	0.047	2.9
			PM	40.8	D	43.8	D	45.9	D	0.044	2.3
31	Zanker Road/Trimble Road	San José (CMP) <sup>i</sup>	AM	38.3	D	38.2	D	38.4	D	0.008	0.3
			PM	38.4	D	38.5	D	38.4	D	0.076	3.9
32	North 1st Street/Charcot Avenue	San José <sup>j</sup>	AM	26.9	C	26.2	C	28.2	C	0.053	3.3
			PM	26.1	C	23.6	C	23.7	C	0.046	0.2
33	Zanker Road/Charcot Avenue	San José <sup>j</sup>	AM	22.0	C	22.0	C	22.2	C	0.009	0.4
			PM	23.9	C	23.9	C	24.2	C	0.013	0.4
34	North 1st Street/Brokaw Road	San José (CMP) <sup>i</sup>	AM	37.2	D	47.4	D	48.7	D	0.012	2.8
			PM	43.3	D	<b>58.9</b>	<b>E</b>	<b>68.2</b>	<b>E</b>	<b>0.045</b>	<b>12.0</b>
35	US 101 NB Off-Ramp/Brokaw Road	San José (CMP) <sup>i</sup>	AM	26.7	C	44.2	D	35.0	C	-0.164	-14.8
			PM	18.8	B	22.9	C	23.2	C	0.016	0.2
36	Zanker Road/Brokaw Road	San José (CMP) <sup>i</sup>	AM	36.7	D	36.7	D	37.6	D	0.024	1.2
			PM	43.1	D	43.1	D	44.8	D	0.066	3.2
37	Fair Oaks Avenue/Fair Oaks Way	Sunnyvale	AM	15.2	B	14.9	B	15.2	B	0.011	0.3
			PM	17.7	B	20.4	C	20.9	C	0.015	0.6
38	Fair Oaks Avenue/Weddell Drive	Sunnyvale	AM	12.6	B	18.4	B	18.6	B	0.008	0.2
			PM	14.8	B	17.2	B	17.4	B	0.016	0.2
39	Fair Oaks Avenue/US 101 NB Ramps	Sunnyvale	AM	15.7	B	16.1	B	16.3	B	0.015	0.4
			PM	21.3	C	22.1	C	23.6	C	0.022	2.9

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
40	Fair Oaks Avenue/E Ahawane Avenue	Sunnyvale	AM	17.3	B	17.2	B	17.4	B	0.006	0.3
			PM	11.7	B	11.6	B	12.4	B	0.016	0.8
41	Fair Oaks Avenue/Duane Avenue	Sunnyvale	AM	27.3	C	27.3	C	27.8	C	0.016	0.7
			PM	30.2	C	30.1	C	30.7	C	0.014	0.9
42	Fair Oaks Avenue/Wolfe Road	Sunnyvale	AM	11.6	B	11.6	B	11.6	B	0.003	0.0
			PM	11.9	B	12.1	B	12.1	B	0.011	0.1
43	Fair Oaks Avenue/Maude Avenue	Sunnyvale	AM	29.3	C	28.8	C	29.6	C	0.015	0.9
			PM	27.3	C	27.3	C	27.6	C	0.006	0.2
44	Fair Oaks Avenue/E Arques Avenue	Sunnyvale	AM	28.0	C	27.8	C	28.4	C	0.024	0.9
			PM	29.5	C	29.7	C	30.0	C	0.010	0.4
45	Fair Oaks Avenue/Evelyn Avenue	Sunnyvale	AM	27.8	C	27.8	C	28.1	C	0.008	0.3
			PM	26.0	C	26.0	C	26.3	C	0.013	0.3
46	Lawrence Expressway/Sandia Avenue	Santa Clara County	AM	50.5	D	50.9	D	51.8	D	0.015	0.2
			PM	57.9	E	58.4	E	75.0	E	0.090	25.9
47	Lawrence Expressway/US 101 NB Ramps	Santa Clara County	AM	23.1	C	23.1	C	23.2	C	0.029	-0.3
			PM	22.3	C	22.6	C	23.4	C	0.031	1.1
48	Lawrence Expressway/US 101 SB Ramps	Santa Clara County	AM	26.1	C	33.8	C	35.9	D	0.011	0.6
			PM	<b>87.1</b>	<b>F</b>	<b>90.8</b>	<b>F</b>	<b>87.6</b>	<b>F</b>	<b>0.012</b>	<b>-2.5</b>
49	Lawrence Expressway/Oakmead Parkway	Santa Clara County	AM	46.4	D	46.9	D	47.8	D	0.022	1.5
			PM	51.5	D	52.1	D	55.1	E	0.057	5.0
50	Lawrence Expressway/Arques Avenue	Santa Clara County (CMP)	AM	38.3	D	41.2	D	41.8	D	0.010	0.8
			PM	61.4	E	66.9	E	<b>80.7</b>	<b>F</b>	<b>0.060</b>	<b>23.4</b>
51	Lawrence Expressway/Kifer Road	Santa Clara County	AM	27.4	C	27.7	C	28.1	C	0.004	0.3
			PM	48.6	D	50.5	D	51.8	D	0.020	-0.1
52	Lawrence Expressway/Reed Avenue-Monroe Street <sup>i</sup>	Santa Clara County (CMP)	AM	79.7	E	<b>98.2</b>	<b>F</b>	<b>110.0</b>	<b>F</b>	<b>0.038</b>	<b>16.8</b>
			PM	62.1	E	76.2	E	<b>81.9</b>	<b>F</b>	<b>0.024</b>	<b>10.4</b>
53	Lawrence Expressway/Cabrillo Avenue	Santa Clara County	AM	38.4	D	44.0	D	45.3	D	0.008	1.6
			PM	38.5	D	47.1	D	47.6	D	0.010	0.6

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
54	Lawrence Expressway/Benton Street	Santa Clara County	AM	71.2	E	<b>80.6</b>	<b>F</b>	<b>86.6</b>	<b>F</b>	<b>0.017</b>	<b>8.3</b>
			PM	44.9	D	47.3	D	50.0	D	0.025	4.0
55	Lawrence Expressway/Homestead Road	Santa Clara County (CMP)	AM	63.1	E	73.5	E	74.5	E	0.005	1.7
			PM	51.8	D	56.7	E	59.7	E	0.008	1.0
56	Lawrence Expressway/Pruneridge Avenue	Santa Clara County	AM	55.6	E	62.5	E	63.2	E	0.007	0.8
			PM	45.4	D	48.5	D	50.1	D	0.008	1.7
57	Great America Parkway/SR 237 WB Ramps	Santa Clara (CMP)	AM	17.5	B	20.9	C	<b>98.8</b>	<b>F</b>	<b>0.384</b>	<b>93.1</b>
			PM	17.5	B	18.9	B	24.0	C	0.295	6.1
58	Great America Parkway/SR 237 EB Ramps	Santa Clara (CMP)	AM	12.3	B	10.9	B	11.9	B	0.238	2.8
			PM	10.4	B	8.6	A	8.4	A	0.037	-0.6
59	Great America Parkway/Yerba Buena (Great America) Way	Santa Clara	AM	20.7	C	27.0	C	<b>70.2</b>	<b>E</b>	<b>0.382</b>	<b>62.4</b>
			PM	22.9	C	31.4	C	39.4	D	0.226	15.0
60	Great America Parkway/Old Mountain View-Alviso Road	Santa Clara	AM	18.9	B	19.2	B	<b>69.3</b>	<b>E</b>	<b>0.379</b>	<b>79.2</b>
			PM	26.6	C	26.6	C	<b>56.2</b>	<b>E</b>	<b>0.239</b>	<b>53.5</b>
61	Great America Parkway/Future Driveway (south of Old Mountain View-Alviso Road)	Santa Clara	AM	Future Signalized Intersection				40.9	D	N/A	N/A
			PM					41.9	D	N/A	N/A
62	Great America Parkway/Future Driveway (north of Bunker Hill Lane)	Santa Clara	AM	Does not exist under existing with Project Phases 1, 2, and 3							
63	Great America Parkway/Bunker Hill Lane	Santa Clara	AM	13.0	B	12.9	B	12.3	B	0.135	-3.0
			PM	15.5	B	15.6	B	15.5	B	0.194	1.0
64	Great America Parkway/Old Glory Lane	Santa Clara	AM	17.2	B	20.1	C	22.1	C	0.052	1.9
			PM	17.7	B	24.4	C	<b>56.1</b>	<b>E</b>	<b>0.149</b>	<b>59.2</b>
65	Great America Parkway/Patrick Henry Drive	Santa Clara	AM	20.3	C	19.7	B	19.5	B	0.045	0.7
			PM	24.8	C	25.2	C	27.2	C	0.083	4.2
66	Great America Parkway/Mission College Boulevard <sup>i</sup>	Santa Clara (CMP)	AM	39.4	D	37.7	D	39.3	D	0.137	3.2
			PM	55.9	E	44.4	D	45.3	D	0.056	1.3

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
67	Great America Parkway-Bowers Avenue/US 101 NB Ramps	Santa Clara (CMP)	AM	9.7	A	18.7	B	18.7	B	0.002	0.1
			PM	9.9	A	12.6	B	12.5	B	0.061	0.1
68	Bowers Avenue/US 101 SB Ramps	Santa Clara (CMP)	AM	22.4	C	23.7	C	23.9	C	0.009	0.2
			PM	8.0	A	8.3	A	8.1	A	0.034	-0.1
69	Bowers Avenue/Augustine Drive <sup>i</sup>	Santa Clara	AM	23.0	C	31.5	C	32.8	C	0.009	0.5
			PM	25.3	C	44.6	D	46.7	D	0.043	3.9
70	Bowers Avenue/Scott Boulevard <sup>i</sup>	Santa Clara (CMP)	AM	29.9	C	31.6	C	32.0	C	0.028	0.5
			PM	31.6	C	35.1	D	35.8	D	0.043	2.1
71	Bowers Avenue/Central Expressway	Santa Clara County (CMP)	AM	47.4	D	49.9	D	50.3	D	0.012	0.6
			PM	46.5	D	64.6	E	77.8	E	0.035	18.3
72	Bowers Avenue/Kifer Road Walsh Avenue	Santa Clara	AM	21.1	C	20.5	C	20.6	C	0.016	-0.1
			PM	25.3	C	25.4	C	25.6	C	0.028	0.7
73	Bowers Avenue/Monroe Street	Santa Clara	AM	30.8	C	33.2	C	33.8	C	0.023	0.7
			PM	32.6	C	38.8	D	40.7	D	0.028	2.2
74	Bowers Avenue/El Camino Real	Santa Clara (CMP)	AM	28.7	C	30.4	C	30.8	C	0.015	0.5
			PM	32.3	C	35.5	D	37.4	D	0.036	3.0
75	San Tomas Expressway/Scott Boulevard	Santa Clara County (CMP)	AM	38.9	D	58.4	E	59.3	E	0.007	1.7
			PM	50.1	D	66.2	E	67.5	E	0.012	2.8
76	San Tomas Expressway/Walsh Avenue	Santa Clara County	AM	40.4	D	60.2	E	68.3	E	0.030	11.9
			PM	42.5	D	48.0	D	55.0	D	0.041	11.0
77	San Tomas Expressway/Monroe Street	Santa Clara County (CMP)	AM	71.2	E	<b>103.7</b>	<b>F</b>	<b>105.9</b>	<b>F</b>	<b>0.010</b>	<b>3.1</b>
			PM	47.2	D	55.2	E	55.5	E	0.007	0.2
78	San Tomas Expressway/El Camino Real <sup>i</sup>	Santa Clara County (CMP)	AM	64.1	E	71.9	E	73.3	E	0.008	2.3
			PM	62.6	E	57.3	E	57.5	E	0.007	0.2
79	San Tomas Expressway/Benton Street <sup>i</sup>	Santa Clara County	AM	78.7	E	41.9	D	42.6	D	0.009	0.9
			PM	47.6	D	37.8	D	38.5	D	0.012	1.1
80	San Tomas Expressway/Homestead Road <sup>i</sup>	Santa Clara County (CMP)	AM	72.6	E	53.0	D	53.9	D	0.010	1.2
			PM	<b>84.5</b>	<b>F</b>	57.9	E	58.0	E	0.006	0.5

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
81	San Tomas Expressway/Forbes Avenue	Santa Clara County	AM	22.1	C	26.4	C	27.7	C	0.007	0.4
			PM	20.2	C	24.3	C	25.0	C	0.019	0.9
82	San Tomas Expressway/Pruneridge Avenue	Santa Clara County	AM	57.3	E	69.1	E	71.0	E	0.011	2.7
			PM	46.4	D	50.8	D	67.6	E	0.460	32.3
83	San Tomas Expressway/Saratoga Avenue	Santa Clara County (CMP)	AM	63.0	E	73.7	E	75.6	E	0.015	3.0
			PM	50.8	D	55.4	E	67.4	E	0.061	20.7
84	Gold Street/Gold Street Connector	San José <sup>i</sup>	AM	22.6	C	22.7	C	23.3	C	0.005	0.4
			PM	21.5	C	21.7	C	21.7	C	0.020	0.1
86	Lafayette Street/Future Driveway (south of Great America Way)	Santa Clara	AM PM	Does not exist under existing with Parcels 4 and 5 (Phases 1, 2, and 3)							
87	Lafayette Street/Future Urban Interchange	Santa Clara	AM PM	Future Signalized Intersection				10.5 7.5	B A	N/A N/A	N/A N/A
90	Lafayette Street/Calle De Luna	Santa Clara	AM	14.8	B	15.5	B	15.8	B	0.127	0.6
			PM	18.8	B	19.2	B	19.8	B	0.125	1.0
91	Lafayette Street/Hogan Drive	Santa Clara	AM	10.3	B	9.8	A	10.3	B	0.059	0.5
			PM	10.8	B	10.5	B	10.0	A	0.125	0.4
92	Lafayette Street/Eisenhower Drive	Santa Clara	AM	10.7	B	10.4	B	10.5	B	0.072	0.0
			PM	8.2	A	8.1	A	7.5	A	0.128	0.0
93	Lafayette Street/Hope Drive	Santa Clara	AM	21.0	C	20.5	C	20.4	C	0.070	0.3
			PM	13.9	B	13.7	B	13.2	B	0.119	-0.4
94	Lafayette Street/Agnew Road	Santa Clara	AM	38.2	D	38.7	D	37.9	D	0.079	-1.4
			PM	40.2	D	41.0	D	41.2	D	0.121	-0.7
95	Lafayette Street/Palm Drive	Santa Clara	AM	7.4	A	7.2	A	7.5	A	0.069	0.3
			PM	15.0	B	14.3	B	13.4	B	0.125	-0.9
96	Lafayette Street/Montague Expressway WB Ramps	Santa Clara	AM	32.4	C	34.1	C	33.7	C	0.070	-1.7
			PM	24.8	C	26.1	C	24.5	C	0.054	0.7
97	Lafayette Street/Montague Expressway EB Ramps	Santa Clara	AM	15.1	B	14.0	B	13.6	B	0.054	-0.3
			PM	12.5	B	13.0	B	12.5	B	0.059	-0.5

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
98	Lafayette Street/Central Expressway	Santa Clara County (CMP)	AM	55.2	E	60.5	E	64.0	E	0.005	1.5
			PM	61.2	E	63.5	E	<b>81.2</b>	<b>F</b>	<b>-0.013</b>	<b>15.6</b>
99	Lafayette Street/Walsh Avenue	Santa Clara	AM	12.4	B	12.7	B	13.0	B	0.048	0.6
			PM	18.6	B	19.2	B	19.8	B	0.040	1.0
100	Lafayette Street/Martin Avenue	Santa Clara	AM	19.7	B	20.0	B	20.3	C	0.050	0.3
			PM	19.4	B	19.6	B	19.9	B	0.026	0.2
101	Lafayette Street/Mathew Street- Memorex Drive	Santa Clara	AM	9.5	A	9.7	A	10.7	B	0.061	1.4
			PM	10.0	A	10.1	B	10.5	B	0.028	0.6
102	Lafayette Street/El Camino Real	Santa Clara (CMP)	AM	41.1	D	41.7	D	43.2	D	0.049	2.2
			PM	38.9	D	39.6	D	40.3	D	0.028	0.8
103	Lafayette Street/Lewis Street	Santa Clara	AM	9.6	A	9.5	A	9.2	A	0.044	-0.5
			PM	35.1	D	37.2	D	39.6	D	0.017	4.3
104	Lafayette Street/Benton Street	Santa Clara	AM	18.4	B	18.4	B	18.3	B	0.042	-0.3
			PM	16.9	B	17.1	B	17.3	B	0.008	0.2
105	Lafayette Street/Homestead Road	Santa Clara	AM	10.3	B	10.2	B	10.2	B	0.038	-0.2
			PM	11.0	B	10.9	B	11.3	B	-0.001	0.5
106	Lafayette Street/Market Street	Santa Clara	AM	34.2	C	34.3	C	36.5	D	0.075	2.2
			PM	27.9	C	28.3	C	30.1	C	0.099	1.8
107	Lafayette Street/Poplar Street	Santa Clara	AM	13.9	B	13.8	B	14.3	B	0.037	0.8
			PM	10.2	B	10.1	B	10.6	B	0.019	0.4
110	North 1st Street/Nortech Parkway	San José <sup>i</sup>	AM	13.9	B	13.9	B	14.4	B	0.008	0.4
			PM	20.1	C	20.1	C	18.9	B	0.048	-0.5
111	North 1st Street/SR 237 WB Ramps	San José (CMP) <sup>i</sup>	AM	15.6	B	15.6	B	15.7	B	0.006	0.1
			PM	19.3	B	20.2	C	21.6	C	0.053	1.4
112	North 1st Street/SR 237 EB Ramps	San José (CMP) <sup>i</sup>	AM	23.9	C	24.8	C	25.0	C	0.013	0.3
			PM	20.9	C	21.3	C	22.2	C	0.023	1.1
113	North 1st Street/Vista Montana	San José <sup>i</sup>	AM	30.4	C	30.8	C	30.9	C	0.004	0.2
			PM	36.4	D	36.1	D	36.2	D	0.011	0.3

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Δ in Crit. V/C <sup>g</sup>	Δ in Crit. Delay <sup>h</sup>
115	Lick Mill Boulevard/Hope Drive	Santa Clara	AM	26.6	C	26.6	C	24.2	C	0.081	-10.9
			PM	23.6	C	23.6	C	21.4	C	0.224	-2.7
117	Agnew Road/Sun Fire Way	Santa Clara	AM	10.7	B	10.4	B	10.7	B	0.008	0.1
			PM	17.6	B	17.4	B	17.6	B	0.013	0.3
118	De La Cruz Boulevard/Greenwood Drive	Santa Clara	AM	9.5	A	9.3	A	9.3	A	0.027	-0.2
			PM	8.3	A	8.2	A	8.3	A	0.006	0.6
119	De La Cruz Boulevard/Aldo Avenue	Santa Clara	AM	16.5	B	16.5	B	16.6	B	0.004	0.0
			PM	16.0	B	16.0	B	15.9	B	0.056	-0.6
120	De La Cruz Boulevard/Laurelwood Road	Santa Clara	AM	15.7	B	15.9	B	17.6	B	0.039	1.8
			PM	16.7	B	16.7	B	17.9	B	0.073	1.1
121	De La Cruz Boulevard/Central Expressway	Santa Clara County (CMP)	AM	<b>93.7</b>	<b>F</b>	<b>115.7</b>	<b>F</b>	<b>121.0</b>	<b>F</b>	<b>0.022</b>	<b>7.7</b>
			PM	46.5	D	43.7	D	64.2	E	0.053	30.5
122	De La Cruz Boulevard/Reed Avenue	Santa Clara	AM	11.7	B	12.2	B	12.3	B	0.008	0.1
			PM	13.6	B	14.3	B	14.9	B	0.022	0.7
123	Great America Parkway/Gold Street Connector	Santa Clara	AM	11.8	B	11.8	B	12.0	B	0.010	0.4
			PM	13.1	B	13.1	B	13.4	B	0.014	0.5
124	Scott Boulevard/Central Expressway	Santa Clara County (CMP)	AM	46.8	D	45.9	D	47.0	D	0.005	0.9
			PM	66.7	E	71.7	E	73.7	E	0.006	3.1
125	San Tomas Expressway/Stevens Creek Boulevard	Santa Clara County (CMP)	AM	64.8	E	63.5	E	68.6	E	0.030	8.2
			PM	66.6	E	59.9	E	60.6	E	0.006	0.1

**Table 3.3-24. Existing with Project Phases 1, 2, and 3 Signalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Peak Hour <sup>b</sup>	Counted Volumes <sup>c</sup>		Existing <sup>d</sup>		Existing with Project Phases 1, 2, and 3			
				Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	Delay <sup>e</sup>	LOS <sup>f</sup>	$\Delta$ in Crit. V/C <sup>g</sup>	$\Delta$ in Crit. Delay <sup>h</sup>

Notes:

- a. CMP = Congestion Management Program intersection (VTA)
- b. AM = morning peak hour, PM = evening peak hour.
- c. "Counted Volumes" presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts.
- d. "Existing" presents delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts plus project trips from projects that are currently under construction (see Appendix 3.3-B and Appendix 3.3-D).
- e. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- f. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which applies the methods described in the 2000 *Highway Capacity Manual*.
- g. Change in critical volume-to-capacity ratio between existing and existing with Project Phases 1, 2, and 3.
- h. Change in average critical movement delay between existing and existing with Project Phases 1, 2, and 3.
- i. Geometry has been modified to include the improvements for projects under construction as outlined in Appendix 3.3-D.
- j. An LOS D threshold is used for study intersections within San José, including CMP designated intersections. Santa Clara County intersections in San José use an LOS E threshold.
- k. Maximum left-/right-turn lane or through-lane queuing in excess of available/potential storage at driveway entrances (intersections #61, 62, 85, 86, and 87) during the morning and evening peak hours will most likely result in a worse LOS than calculated. These queues would require multiple traffic signal cycles to clear and could extend upstream and affect nearby intersections.

**Bold text** indicates intersection operates at a deficient LOS.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.

**Table 3.3-25. Existing with Project Phases 1, 2, and 3 Unsignalized Intersection LOS Results**

ID	Intersection	Jurisdiction/ CMP <sup>a</sup>	Unsig. Type <sup>b</sup>	Peak Hour <sup>c</sup>	Counted Volume <sup>d</sup>		Existing <sup>e</sup>		Existing with Project		Signal Warrant Met?
					Delay <sup>f</sup>	LOS <sup>g</sup>	Delay <sup>f</sup>	LOS <sup>g</sup>	Delay <sup>f</sup>	LOS <sup>g</sup>	
85	Lafayette Street/Great America Way	Santa Clara	SSSC	AM	9.6	A	9.7	A	10.6	B	N/A
				PM	21.1	C	21.4	C	16.9	C	N/A
89	Lafayette Street/Calle Del Mundo	Santa Clara	SSSC	AM	14.1	B	14.9	B	22.0	C	N/A
				PM	12.7	B	12.9	B	19.1	C	N/A
108	Gold Street/Taylor Street	San José	AWSC	AM	8.4	A	8.4	A	8.6	A	N/A
				PM	8.8	A	8.8	A	9.1	A	N/A
109	Liberty Street/Taylor Street	San José	AWSC	AM	8.3	A	8.3	A	8.5	A	N/A
				PM	9.7	A	9.7	A	10.4	B	N/A
114	Calle Del Sol/Calle Del Luna	Santa Clara	SSSC	AM	13.8	B	14.1	B	18.8	C	N/A
				PM	21.3	C	19.8	C	43.3	E	N/A
116	Agnew Road/Garrity Way	Santa Clara	SSSC	AM	12.9	B	13.1	B	13.5	B	N/A
				PM	14.0	B	14.2	B	14.8	B	N/A

Notes:

- a. CMP = Congestion Management Program intersection (VTA).
- b. SSSC = Side-Street Stop-Controlled intersection, AWSC = All-Way Stop-Controlled intersection.
- c. AM = morning peak hour, PM = evening peak hour.
- d. "Counted Volumes" presents the delay and LOS for intersections, using existing intersection geometry and existing traffic counts.
- e. "Existing" presents the delay and LOS for intersections, using existing geometry plus any approved and funded transportation projects and existing traffic counts plus project trips from projects that are currently under construction (see Appendix 3.3-B and Appendix 3.3-D).
- f. Whole intersection weighted average control delay expressed in seconds per vehicle, calculated using methods described in the 2000 *Highway Capacity Manual*, with adjusted saturation flow rates to reflect Santa Clara County conditions for signalized intersections.
- g. LOS = Level of service. LOS calculations conducted using the TRAFFIX analysis software packages, which apply the methods described in the 2000 *Highway Capacity Manual*.

**Bold text** indicates intersection operates at a deficient LOS.

**Bold and highlighted** indicates a significant impact.

Source: Fehr & Peers, September 2015.