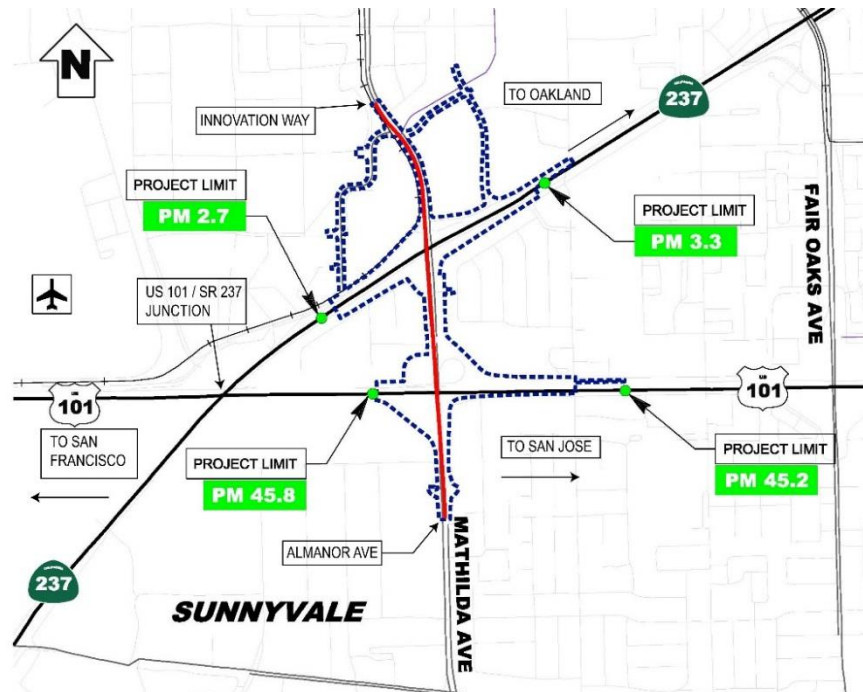


# Mathilda Avenue Improvements at SR 237 and US 101 Project

SANTA CLARA COUNTY, CALIFORNIA  
DISTRICT 4 – SCL- 237-PM 2.7/3.3; SCL-101-PM 45.2/45.8  
EA 04-4H2900/Project ID 0413000204

## Final Environmental Impact Report



Prepared by the  
State of California Department of Transportation  
and  
Santa Clara Valley Transportation Authority



January 2017

## **General Information about This Document**

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SCH # 2015082030

SCL-237-PM 2.7/3.3;  
SCL-101-PM 45.2/45.8  
04-4H2900/Project ID 0413000204

Construct improvements on Mathilda Avenue from Almanor Avenue to Innovation Way; on SR 237 from 0.3 mile east of US 101/SR 237 Junction to 0.3 mile east of Mathilda Avenue Undercrossing; and on US 101 from 0.5 mile south of Mathilda Avenue Overcrossing to 0.3 mi south of SR 237/US 101 Junction in City of Sunnyvale, in Santa Clara County

### **Final Environmental Impact Report**

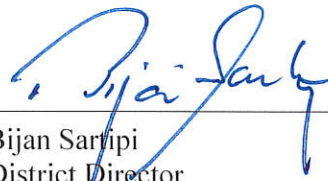
Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

and

Responsible Agencies: Santa Clara Valley Transportation Authority and the City of Sunnyvale

1-10-17  
Date of Approval

  
\_\_\_\_\_  
Bijan Sartipi  
District Director  
California Department of Transportation  
CEQA Lead Agency

The following persons may be contacted for more information about this document:

Department of Transportation  
ATTN: Jamie Le Dent  
Office of Environmental Analysis  
111 Grand Avenue, MS-8B  
Oakland, CA 94612  
(510) 622-8729

Santa Clara Valley Transportation Authority  
ATTN: Lani Lee Ho  
3331 North First Street, B-2  
San Jose, CA 95134  
(408) 321-5927



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## Acronyms and Abbreviations

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$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
AB	Assembly Bill
ADA	Americans with Disabilities Act
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CAAQS	California ambient air quality standards
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of Sunnyvale
CNPS	California Native Plant Society
County	Santa Clara County
CRHR	California Register of Historical Resources
CRMP	construction risk management plan
CWA	Clean Water Act
dB	Decibels
dba	A-weighted decibel
DBH	diameter at breast height
DDI	Diverging Diamond Interchange
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
EO	Executive Order
ESA	federal Endangered Species Act
ESL	Environmental Screening Levels
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FSTIP	Federal Statewide Transportation Improvement Program
GHG	greenhouse gas
ICE	Intersection Control Evaluation
IPCC	Intergovernmental Panel on Climate Change
KOP	Key Observation Points
LRT	light rail transit
LUST	leaking underground storage tanks
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
mph	miles per hour
MPSP	Moffett Park Specific Plan
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer systems
MSAT	mobile source air toxics
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards

NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NOA	naturally occurring asbestos
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OCPs	organochlorine pesticides
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Act
PA/ED	Project Approval/Environmental Document
PAL	project area limit
PDT	Project Development Team
PG&E	Pacific Gas & Electric
PID	project initiation document
PM	post mile
ppm	parts per million
PPV	peak particle velocity
PRC	CA Public Resources Code
Project	Mathilda Avenue Improvements at SR 237 and US 101 Project
PSI	Preliminary Site Investigation
RCRA	Resource Conservation and Recovery Act of 1976
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	San Francisco Bay Regional Water Quality Control Board's
SB	Senate Bill
SCS	Sustainable Communities Strategy
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SR	State Route
SWDR	Storm Water Data Report
SWMP	Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Loads
TMP	Traffic Management Plan
U.S. EPA	United States Environmental Protection Agency
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
VTA	Santa Clara Valley Transportation Authority
WDR	Waste Discharge Requirements

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# Executive Summary

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## ES.1 Introduction

The California Department of Transportation (Caltrans), as Lead Agency under the California Environmental Quality Act (CEQA), in cooperation with the Santa Clara Valley Transportation Authority (VTA) and the City of Sunnyvale (City), has prepared this Final Environmental Impact Report (EIR) for the Mathilda Avenue Improvements at State Route (SR) 237 and U.S. Highway 101 (US 101) Project (Project). The Project is also referred to as the Build Alternative. A No-Build Alternative is also considered.

During the early stages of the project development process, it was not yet determined if the proposed Project could have potentially significant impacts to the environment. As a result, the Project team decided to prepare an EIR due to the fair argument standard under CEQA. Preparing an EIR allowed for a more robust evaluation of the Project's potential impacts on the environment while the Project team continued to work to avoid and minimize potential environmental impacts.

## ES.2 Overview of the Project Area

The Project is located in the southern region of the San Francisco Bay Area in the City. The Project extends from Almanor Avenue/Ahwanee Avenue to Innovation Way and includes on- and off-ramp improvements at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges. On SR- 237, the Project limits are from 0.3 mile east of the US 101/SR 237 interchange (post mile [PM] 2.7) to 0.3 mile east of the Mathilda Avenue undercrossing (PM 3.3). On US 101, the Project limits are from 0.5 mile south of the Mathilda Avenue overcrossing (PM 45.2) to 0.3 mile south of the SR 237/US 101 interchange (PM 45.8). The total length of the Project on Mathilda Avenue is approximately 1 mile.

In the general Project area, additional development projects include Moffett Place, Moffett Towers II, current development of the former Onizuka Air Force Station, and Perry Park development projects.

## ES.3 Statement of Project Purpose and Need

The primary purpose of the Project is to improve traffic operations on Mathilda Avenue through the US 101 and SR 237 interchanges.

Specifically, the objectives of the Project are to:

- Reduce congestion and improve traffic operations along Mathilda Avenue and at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges.
- Improve mobility for all travel modes in the area including motor vehicles, transit, bicycles, and pedestrians.
- Provide standard crosswalks and sidewalks along Mathilda Avenue, improving access to local destinations such as Moffett Park, VTA light rail transit stations, and downtown Sunnyvale.

The Project is needed for the following reasons:

- Regional growth and new local development combined with inefficient roadway operations have resulted in substantial traffic congestion on Mathilda Avenue.
- Efficient access for all travel modes into and out of downtown Sunnyvale and development to the north of SR 237 is critical to a healthy and sustainable economy. Congestion on Mathilda Avenue adversely affects the economic vitality of the City.

## ES.4 Project Description

The Project includes the Project Build Alternative (generally referred to as the “Project” in this EIR) and No-Build Alternative. Criteria used for evaluation included, but were not limited to, Project cost, potential for environmental impacts, and the ability of an alternative to meet the Project’s objectives and purpose.

### ES.4.1 Build Alternative

A summary of the main improvements proposed by the Project is provided in sections ES.4.1 and ES.4.2, below. A detailed description of the improvements proposed by the Project is provided in Chapter 1, Section 1.3, *Project Description*. The design features of the Project include reconfiguration of the US 101 and SR 237 interchanges with Mathilda Avenue. As shown in Figure ES-1, this includes modification to on- and off-ramps; removal, addition, and signalization of intersections; and provision of new left-turn lanes. In addition, the Project would require modification to bicycle and pedestrian facilities, utilities, storm water treatment facilities, street lighting, ramp metering, signage, retaining walls, and light rail crossing facilities as described.



## Roadway Improvements

The Project would consist of the following roadway improvements:

- Provide three continuous through lanes in each direction on Mathilda Avenue.
- Remove the northbound US -101 loop off-ramp to Mathilda Avenue and shift traffic to the northbound US 101 diagonal off-ramp.
- Realign and widen the northbound US 101 ramps and signalize the ramp intersection with Mathilda Avenue, and construct a left-turn lane on southbound Mathilda Avenue to access the northbound US 101 loop on-ramp.
- Realign the southbound US 101 off-ramp and loop on-ramp and signalize the ramp intersection with Mathilda Avenue.
- Modify the Mathilda Avenue/Ross Drive signal intersection.<sup>1</sup>
- Close Moffett Park Drive between Bordeaux Drive and Mathilda Avenue, replace with a Class I bikeway,<sup>2</sup> and shift traffic to Bordeaux Drive and Innovation Way.<sup>3</sup> Innovation Way would be extended from Mathilda Avenue to Bordeaux Drive as part of the Moffett Place Campus Project. Moffett Park Drive eastbound north of Mathilda Avenue would remain. Moffett Park Drive would remain open to bicyclists and would become a Class I bikeway.
- Modify and signalize the Innovation Way and Juniper Networks driveway intersection.
- Remove the westbound SR 237 ramp signal intersection. Realign the westbound SR 237 off-ramp opposite Moffett Park Drive and modify the signal intersection. The existing signalized intersections on Mathilda Avenue at the SR 237 westbound off-ramp and Moffett Park Drive would be removed.
- Signalize the reconfigured westbound SR 237 off-ramp/Moffett Park Drive intersection. The westbound SR 237 off-ramp would be modified to intersect with Mathilda Avenue just south of the new signalized intersection. Mathilda Avenue northbound traffic heading to westbound SR 237 would have to make a U-turn movement<sup>4</sup> at the new signalized intersection to access the on-ramp.
- Modify the westbound SR 237 ramps to provide a diamond configuration.

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<sup>1</sup> The bus stop on the east side of Mathilda Avenue, south of Ross Drive, would be relocated 300 feet south, closer to US 101.

<sup>2</sup> Per the Highway Design Manual Index 1002.1, a Class I bikeway is a *bicycle path* that is completely separate from the roadway.

<sup>3</sup> Innovation Way would be extended from Mathilda Avenue to Bordeaux Drive by the Moffett Place development project.

<sup>4</sup> U-turn movement is part of the intersection improvement.

## Bicycle and Pedestrian Facilities

The proposed Project would be developed to provide improved mobility for all users, including bicyclists, pedestrians, transit riders, and motorists.

As shown in Figure ES-2, bicycle improvements on Mathilda Avenue would consist of Class II bike lanes<sup>5</sup> based on available pavement widths within the Project area, and would connect to the existing Class II bike lanes and Class III bike routes on Mathilda Avenue and the Class I bikeway on the Sunnyvale West Channel. Bicycle improvements on Moffett Park Drive would consist of a Class I bikeway between Borregas Avenue and Mathilda Avenue. Between Mathilda Avenue and Innovation Way, a Class I multi-use path would be installed.

Bicycle and pedestrian improvements in the Project area would be consistent with the *City of Sunnyvale 2006 Bicycle Plan* (City of Sunnyvale 2006) and the *Santa Clara Countywide Bicycle Plan* (Santa Clara County 2008), and would include:

- Upgrading existing pedestrian facilities to incorporate current Americans with Disabilities Act standards, including curb ramps at all crosswalks.
- Incorporating pavement delineation with new crosswalk markings.
- Installing pedestrian countdown signals at westbound SR 237 ramps, eastbound SR 237 ramps, Ross Drive, northbound US 101 ramps, and southbound US 101 ramps.
- Realigning (“teeing up”) and signaling ramp termini to provide new pedestrian crossings, where feasible.
- Installing sidewalk along the west side of Mathilda Avenue between Almanor Avenue/Ahwanee Avenue and Moffett Park Drive. The sidewalk would be a minimum of 6 feet wide where feasible.

### ES.4.2 No-Build Alternative

Under the No-Build Alternative, no changes would be made to the existing local roadways or freeway ramps within the Project limits. No construction activities would occur, and there would be no change in the operation of the existing facilities. Other planned and approved land use development and transportation improvements along local routes may be implemented by local agencies or under other projects.

### ES.4.3 Cost

The Project is included in the 2015 Federal Statewide Transportation Improvement Program (ID No. SCL130001) (California Department of Transportation 2014) and the current

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<sup>5</sup> Per the Highway Design Manual Index 1002.1, a Class II bikeway is a *bicycle lane* and a Class III bikeway is a *bicycle route*. A Class II bikeway lane has a separate striped bicycle-only lane adjacent to the roadway, and a Class III bikeway route is a shared roadway, often referred to as a *sharrow*.

Regional Transportation Plan/Sustainable Communities Strategy (Project No. 240554 in *Plan Bay Area*), which is updated by the Metropolitan Transportation Commission (Metropolitan Commission 2013). The Project is also identified in the Valley Transportation Plan 2040 (Santa Clara Valley Transportation Authority 2009) under ID H43 and in the City's Capital Improvement Program for Fiscal Year 2013/2014 as Project No. 826890 (City of Sunnyvale 2013).

Under the No-Build Alternative, no improvements would be made to the existing local roadways or freeway ramps within the Project limits. There would be no construction activities and therefore no capital costs. In comparison, the Build Alternative is anticipated to cost \$41.3 million dollars.<sup>6</sup> The City has committed local funding to the development of the Project. Other funding sources have yet to be determined, but may include a combination of state and local transportation funds.

#### **ES.4.4 Schedule**

Construction of these improvements would take approximately 250 working days, or 12 months, and is expected to start in early 2018. A combination of day and night work is anticipated. Weekend work is not anticipated. Short-term lane and ramp closures would be necessary to facilitate construction. A Traffic Management Plan (refer to Chapter 2, Section 2.14, *Traffic/Transportation*) would be implemented during construction to minimize and prevent delay and inconvenience to the traveling public.

### **ES.5 Summary of Environmental Impacts and Mitigation Measures**

Table ES-1 provides a summary of the environmental impacts of the Project and associated avoidance, minimization, and/or mitigation measures. Refer to Chapter 2, *Environmental Setting, Impacts, and Avoidance, Minimization and/or Mitigation Measures*, for a detailed impact analysis of each resource area, including the regulatory setting and existing conditions.

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<sup>6</sup> The escalated (2018) total Project cost is \$41.3 million dollars. The current (2013) total Project cost is \$39.8 million dollars.

**Table ES-1. Summary of Environmental Impacts and Avoidance, Minimization, and/or Mitigation Measures**

<b>Environmental Impact Topic</b>	<b>Build Alternative</b>	<b>No-Build Alternative</b>	<b>Avoidance, Minimization, and/or Mitigation Measure</b>
<b><i>Aesthetics (EIR Section 2.2)</i></b>			
Visual Character (Operation)	Less than Significant	No Impact	<b>AES-1:</b> Restore Highway Planting <b>AES-2:</b> Incorporate Bioretention Basins in Planting Design <b>AES-3:</b> Implement Aesthetic Treatment on Bridge Barriers, Sound Walls, and Retaining Walls
Visual Character (Construction)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required. Changes in visual character during construction would be temporary. For permanent changes in visual character, the Project will implement <b>AES-1</b> through <b>AES-3</b> .
Light and Glare (Operation)	Less than Significant	No Impact	<b>AES-4:</b> Apply Minimum Lighting Standards
Light and Glare (Construction)	Less than Significant	No Impact	<b>AES-5:</b> Minimize Fugitive Light from Portable Sources Used for Construction
<b><i>Air Quality (EIR Section 2.3)</i></b>			
Conformity with Applicable Air Quality Plan	Conforms	No Impact	Not applicable.
Violate air quality standard for Carbon Monoxide (Operation)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Criteria Pollutants (Operation)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Mobile Source Air Toxic Emissions (Operation)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Criteria Pollutants (Construction)	Less than Significant	No Impact	<b>AQ-1:</b> Implement California Department of Transportation Standard Specification Section 14 <b>AQ-2:</b> Implement Basic and Additional Dust Control Measures for Construction Emissions of Fugitive Dust
<b><i>Biological Resources (EIR Section 2.4)</i></b>			
Nesting Birds and Raptors (Construction)	Less than Significant	No Impact	<b>BIO-1:</b> Implement Nesting Birds Avoidance Measures
Tree Removal (Construction)	Less than Significant	No Impact	<b>BIO-2:</b> Implement Tree Avoidance, Minimization, or Replacement

<b>Environmental Impact Topic</b>	<b>Build Alternative</b>	<b>No-Build Alternative</b>	<b>Avoidance, Minimization, and/or Mitigation Measure</b>
Invasive Species (Construction)	Less than Significant	No Impact	<b>BIO-3:</b> Minimize the Introduction and Spread of Invasive Plants
<b><i>Cultural Resources (EIR Section 2.5)</i></b>			
Historic Architectural Resources	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
Archaeological Resources/Human Remains (Construction)	No Impact	No Impact	<b>CUL-1:</b> Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities <b>CUL-2:</b> Stop Work if Human Remains are Encountered During Ground-Disturbing Activities
Paleontological Resources (Construction)	No Impact	No Impact	<b>CUL-3:</b> Conduct Protocol and Procedures for Encountering Paleontological Resources
<b><i>Geology, Soils, and Seismicity (EIR Section 2.6)</i></b>			
Seismic activity, unstable geologic units, expansive and corrosive soils (Construction)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
<b><i>Greenhouse Gas Emissions (EIR Section 2.7)</i></b>			
Greenhouse Gas Emissions	Not applicable	Not applicable	Refer to Section 2.7, <i>Greenhouse Gas Emissions</i> for a comprehensive discussion of greenhouse gas emissions. While Caltrans has provided the public and decision-makers as much information as possible about the Project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the Project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the Project. These measures are outlined in the body of the environmental document.

<b>Environmental Impact Topic</b>	<b>Build Alternative</b>	<b>No-Build Alternative</b>	<b>Avoidance, Minimization, and/or Mitigation Measure</b>
<b><i>Hazardous Wastes/Materials (EIR Section 2.8)</i></b>			
Exposure to Hazardous Wastes/Materials (Aerially Deposited Lead, Hazardous Material Release Sites, Agricultural Pesticides, Naturally Occurring Asbestos, Lead-Based Paint, Asbestos-Containing Materials, Thermosplastic Paint, Asphalt Cement, Drainage Swales/Catch Basins) (Construction)	Less than Significant	No Impact	<b>HAZ-1:</b> Prepare Preliminary Site Investigation <b>HAZ-2:</b> Prepare Construction Risk Management Plan
<b><i>Hydrology and Water Quality (EIR Section 2.9)</i></b>			
Impacts to water quality standards/waste discharge requirements, alteration of drainage resulting in runoff or flooding (Operation)	Less than Significant	No Impact	<b>WQ-1:</b> Implement Best Management Practices
Impacts to depletion of groundwater supplies/interference with groundwater recharge (Operation)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Impacts to water quality standards/waste discharge requirements, depletion of groundwater supplies/interference with groundwater recharge (Construction)	Less than Significant	No Impact	<b>WQ-1:</b> Implement Best Management Practices
Impacts to depletion of groundwater supplies/interference with groundwater recharge, alteration of drainage resulting in runoff or flooding (Construction)	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
<b><i>Land Use and Recreation (EIR Section 2.10)</i></b>			
Division of an Established Community (Operation)	Beneficial	No Impact	No avoidance, minimization, and/or mitigation measures required.
Division of an Established Community (Construction)	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
Consistency with State, Regional, and Local Plans and Programs	Consistent	Not Consistent	Not applicable

<b>Environmental Impact Topic</b>	<b>Build Alternative</b>	<b>No-Build Alternative</b>	<b>Avoidance, Minimization, and/or Mitigation Measure</b>
<b><i>Noise and Vibration (EIR Section 2.11)</i></b>			
Permanent Noise (Operation)	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
Temporary Noise (Construction)	Less than Significant	No Impact	<b>NV-1:</b> Implement Noise-Reducing Construction Practices
Temporary Vibration (Construction)	Less than Significant	No Impact	<b>NV-2:</b> Implement Vibration-Reducing Construction Measures to Limit Groundborne Vibration at Nearby Structures and Residences
<b><i>Population and Housing (EIR Section 2.12)</i></b>			
Growth (Construction)	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
<b><i>Public Services and Utilities (EIR Section 2.13)</i></b>			
Public Services	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
Public Utilities (Construction)	No Impact	No Impact	No avoidance, minimization, and/or mitigation measures required.
<b><i>Transportation/Traffic (EIR Section 2.14)</i></b>			
Local Roadways and Ramp and Termini Operations	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Impacts to Freeway Mainline Operations	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Freeway System Performance	Less than Significant	No Impact	No avoidance, minimization, and/or mitigation measures required.
Impacts to Bicycle and Pedestrians	Beneficial	No Impact	No avoidance, minimization, and/or mitigation measures required.
Construction Impacts	Less than Significant	No Impact	<b>TRF-1:</b> Prepare a Transportation Management Plan
<b><i>Cumulative Impacts (EIR Section 2.15)</i></b>			
Cumulative Impacts	No Impact	Cumulative impacts will not be substantial	No avoidance, minimization, and/or mitigation measures required.

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## 1.1 Introduction

The California Department of Transportation (Caltrans), as the Lead Agency under the California Environmental Quality Act (CEQA), in cooperation with the Santa Clara Valley Transportation Authority (VTA) and the City of Sunnyvale (City), proposes the Mathilda Avenue Improvements at SR 237 and US 101 Project (Project) to improve Mathilda Avenue in the City from Almanor Avenue/Ahwanee Avenue to Innovation Way, including on- and off-ramp improvements at the State Route (SR) 237/Mathilda Avenue and U.S. Highway 101 (US 101)/Mathilda Avenue interchanges. On SR 237, the Project limits are from 0.3 mile east of the US 101/SR 237 interchange (post mile [PM] 2.7) to 0.3 mile east of the Mathilda Avenue undercrossing (PM 3.3). On US 101, the Project limits are from 0.5 mile south of the Mathilda Avenue overcrossing (PM 45.2) to 0.3 mile south of the SR 237/US 101 interchange (PM 45.8). The total length of the Project on Mathilda Avenue is approximately 1 mile. Figure 1-1 shows the location of the Project. The Project is subject to state environmental review requirements and is being prepared in compliance with CEQA.

During the early stages of the project development process, it was not yet determined if the proposed Project could have potentially significant impacts to the environment. As a result, the Project team decided to prepare an Environmental Impact Report (EIR) due to the fair argument standard under CEQA. Preparing an EIR allowed for a more robust evaluation of the Project's potential impacts on the environment while the project team continued to work to avoid and minimize potential environmental impacts.

The Project is included in the 2015 Federal Statewide Transportation Improvement Program (ID No. SCL130001) (California Department of Transportation 2014) and in the Metropolitan Transportation Commission (MTC) *Plan Bay Area*,<sup>1</sup> adopted July 18, 2013 (Project No. 240554) (Association of Bay Area Governments and Metropolitan Transportation Commission 2013). The Project is also identified in the VTA Valley Transportation Plan 2040 (Santa Clara Valley Transportation Authority 2009) under ID H43 and in the City's Capital Improvement Program for Fiscal Year 2013/2014 as Project No. 826890 (City of Sunnyvale 2013). The City has committed local funding to the development of the Project. Other funding sources have yet to be determined, but may include a combination of state and local transportation funds. The Project is included in the current Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in the

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<sup>1</sup> *Plan Bay Area* is a long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area.

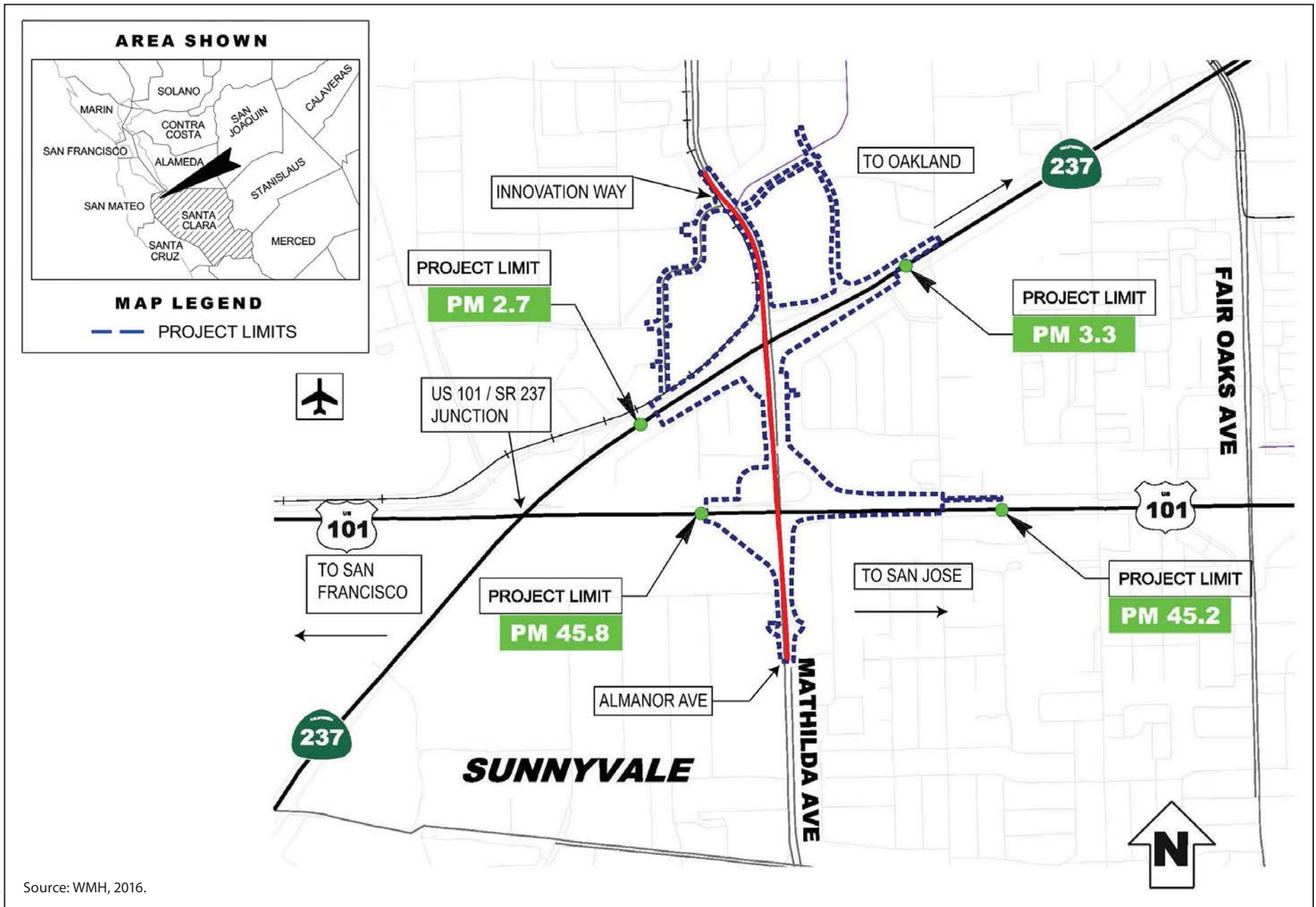


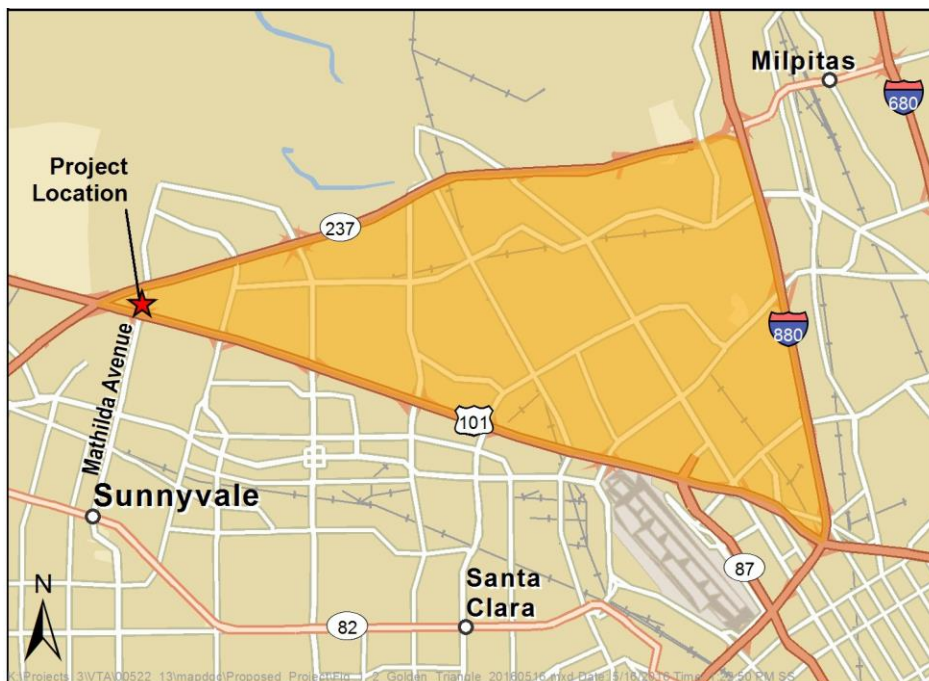
Figure 1-1  
 Project Location  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

Financially Constrained Element,<sup>2</sup> with a combination of programmed and planned local funds totaling \$18 million available over the long term of the *Plan Bay Area*.

## 1.1.1 Project Background

The SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges are primary access points on the State Highway System for the City, including important local destinations such as downtown Sunnyvale, Caltrain stations to the north and south, and the expanding high-tech business district to the north. The proposed Project is also located within the “Golden Triangle,” an area bordered by US 101, SR 237, and Interstate 880 (I-880) that includes parts of Sunnyvale, Santa Clara, North San Jose, and Milpitas (see Figure 1-2). The Golden Triangle is named for the high concentration of employment centers within this area. US 101, SR 237, and I-880 are heavily used commute corridors to destinations within and beyond the Golden Triangle.

Figure 1-2. The Golden Triangle



### 1.1.1.1 Mathilda Avenue

Within the Project limits, Mathilda Avenue is a six-lane divided local roadway.<sup>3</sup> Mathilda Avenue serves as the main access to the residential communities on the east side of Mathilda

<sup>2</sup> For *Plan Bay Area*, MTC worked with partner agencies and used financial models to forecast how much revenue will be available for transportation purposes over the 28-year duration of the plan. These forecasts are used to plan investments that fit within the “financially constrained” envelope of revenues that are reasonably expected to be available.

<sup>3</sup> The Project limits (sometimes referred to as the Project area limits) is the boundary that surrounds the 63 acre Project area (refer to Figure 1-1) that is being evaluated in this document. The terms “Project limits,” “Project area,” and “Project study area” are used interchangeably, as appropriate.

Avenue and is the only access to the constrained area contained within the US 101/SR 237/Mathilda Avenue triangle via Ross Drive (refer to Figure 1-1). Mathilda Avenue is also one of the City's designated truck routes for trucks over 3 tons in weight. The speed limit is 45 miles per hour (mph), and on-street parking is prohibited within the Project limits. Approximately 45,000 vehicles travel on Mathilda Avenue south of SR 237 on an average weekday.<sup>4</sup>

Existing pedestrian facilities within the Project limits include discontinuous sidewalks along Mathilda Avenue, limiting pedestrian movements in both north-south and east-west directions. Approximately 0.3 mile east of Mathilda Avenue, a pedestrian/bicycle bridge crosses SR 237 and US 101, providing an alternate north-south connection along Borregas Avenue between Moffett Park Drive to the north and Ahwanee Avenue to the south. There are no bicycle lanes on Mathilda Avenue within the Project limits.

### **1.1.1.2 SR 237**

Within the Project limits, SR 237 provides two mixed-flow lanes (open to all motorists at all times) in each direction. On eastbound SR 237, a high occupancy vehicle lane (lanes restricted to vehicles carrying two or more passengers during the morning and evening commute) is provided east of Mathilda Avenue and becomes a high occupancy vehicle/express lane (lanes that charge a variable toll for solo motorists depending on congestion) from east of Zanker Road to the eastbound SR 237/northbound I-880 direct connector ramp. On westbound SR 237, there is a high occupancy vehicle/express lane beginning at the southbound I-880/westbound SR 237 direct connector ramp that becomes a high occupancy vehicle lane from North First Street to just east of Fair Oaks Avenue. Within the Project limits, auxiliary lanes (an extra lane on the freeway between interchanges, giving motorists time to merge in or out of the freeway) are provided in each direction between US 101 and Mathilda Avenue on SR 237. There is also an auxiliary lane on westbound SR 237 between Fair Oaks Avenue and Mathilda Avenue. SR 237 is a link for trucking between the southern part of the San Francisco Peninsula and the East Bay, providing the first connection south of the Dumbarton Bridge. SR 237 east of Mathilda Avenue currently carries approximately 90,000 vehicles daily.<sup>5</sup>

The SR 237/Mathilda Avenue Interchange is a full tight diamond interchange that accommodates all ramp movements with access to and from eastbound and westbound SR 237. All ramp termini are signalized. The westbound SR 237 on-ramp has existing ramp metering; however, there is no existing ramp metering for the eastbound SR 237 on-ramp.

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<sup>4</sup> Approximate daily vehicle counts are taken from the *Traffic Operations Analysis and Report* (Fehr & Peers 2016) prepared for the Project, which used 2013 as the existing year.

<sup>5</sup> Ibid.

### 1.1.1.3 US 101

Within the Project limits, US 101 provides three mixed-flow lanes plus one high occupancy vehicle lane in each direction; an auxiliary lane is also provided in the southbound direction between SR 237 and Mathilda Avenue. US 101 south of Mathilda Avenue currently carries approximately 154,000 vehicles daily.<sup>6</sup>

The Moffett Park Drive/US 101 northbound on-ramp is a one-lane on-ramp located along Moffett Park Drive to the west of the Mathilda Avenue/Moffett Park Drive intersection. This on-ramp merges with the westbound SR 237 off-ramp that connects to northbound US 101. The ramp terminus is signalized, and the on-ramp is not metered.

The US 101/Mathilda Avenue Interchange is a partial cloverleaf interchange with access to all but two movements: southbound Mathilda Avenue to northbound US 101 and southbound US 101 to northbound Mathilda Avenue. None of the ramp termini are signalized, but all of the on-ramps are metered.

### 1.1.1.4 Transit Facilities in the Project Area

Two VTA light rail transit (LRT) stations, Moffett Park and Lockheed Martin, are located within the Project limits and serve the business district to the north of SR 237. VTA also operates a local bus service with four bus stops on Mathilda Avenue (Santa Clara Valley Transportation Authority 2016).<sup>7</sup> The Sunnyvale Caltrain Station is in downtown Sunnyvale adjacent to West Evelyn Avenue.

## 1.2 Statement of Project Purpose and Need

The Project proposes to improve operations on Mathilda Avenue through the US 101 and SR 237 interchanges. Due to the proximity of the SR 237 and US 101 interchanges (less than 1 mile), modification of one interchange would affect the other.

### 1.2.1 Purpose

The primary purpose of the Project is to improve traffic operations on Mathilda Avenue through the US 101 and SR 237 interchanges.

Specifically, the objectives of the Project are to:

- Reduce congestion and improve traffic operations along Mathilda Avenue and at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges.
- Improve mobility for all travel modes in the area including motor vehicles, transit, bicycles, and pedestrians.

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<sup>6</sup> Ibid.

<sup>7</sup> Route 54 is the VTA local bus service from De Anza College (in the City of Cupertino) to the City of Sunnyvale Lockheed Martin LRT Transit Center.

- Provide standard crosswalks and sidewalks along Mathilda Avenue, improving access to local destinations such as Moffett Park, VTA LRT stations, and downtown Sunnyvale.

## 1.2.2 Need

The Project is needed for the following reasons:

- Regional growth and new local development combined with inefficient roadway operations has resulted in substantial traffic congestion on Mathilda Avenue.
- Efficient access for all travel modes into and out of downtown Sunnyvale and development to the north of SR 237 is critical to a healthy and sustainable economy. Congestion on Mathilda Avenue adversely affects the economic vitality of the City of Sunnyvale.

### 1.2.2.1 Roadway Deficiencies

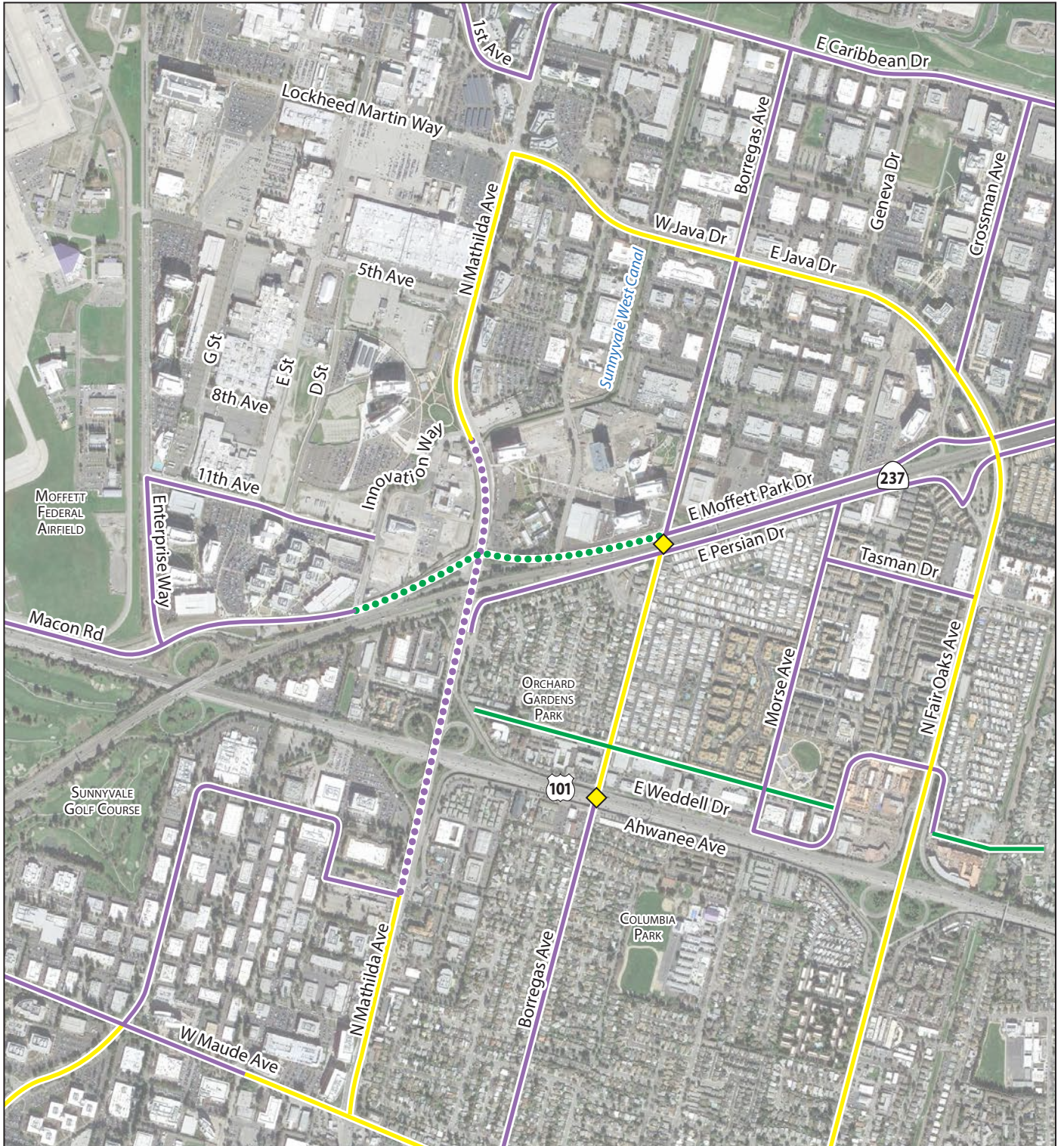
Existing congestion and delay on Mathilda Avenue within the Project area are associated with the following roadway deficiencies:

- Four closely spaced signalized intersections along Mathilda Avenue (Ross Drive, eastbound SR 237 ramp termini, westbound SR 237 ramp termini, and Moffett Park Drive) at and adjacent to the SR 237 interchange provide inadequate storage for queuing vehicles, and limited green signal time for conflicting turning movements.
- Uncontrolled ramp movements at the US 101 interchange ramps at Mathilda Avenue and their proximity to signalized intersections (Ross Drive and Almanor Avenue/Ahwanee Avenue) provide limited distance for traffic to move into the desired lane of travel. This is further exacerbated by queues during peak periods at adjacent signalized intersections. Furthermore, the distribution of queues across available travel lanes is uneven, as some turning movement volumes are heavier than others.
- The US 101/SR 237 interchange to the west of the Project area does not provide for all turning movements. As a result, Mathilda Avenue carries both local and regional (freeway) traffic in both directions between US 101 and SR 237. Westbound SR 237 to southbound US 101 motorists utilize southbound Mathilda Avenue, and northbound US 101 to eastbound SR 237 motorists utilize northbound Mathilda Avenue.
- The US 101/Mathilda Avenue interchange does not provide for all turning movements. As a result, southbound Mathilda Avenue to northbound US 101 and southbound US 101 to northbound Mathilda Avenue motorists shift to the SR 237/Mathilda Avenue interchange or other routes.

- Southbound Mathilda Avenue reduces from three lanes to two lanes between Ross Drive and the northbound US 101 loop off-ramp merge lane, which results in a bottleneck for through traffic.
- The northbound US 101 loop ramps have a cloverleaf configuration. The short distance between the ramps results in traffic entering and exiting the freeway at much slower speeds, which affects freeway operations.
- High levels of traffic congestion and inefficient operations also adversely affect pedestrian, bicycle, and transit access within the Project area.





Existing bicycle and pedestrian facilities in the area include the following deficiencies:

- No sidewalk or crosswalks along the west side of Mathilda Avenue are provided between Almanor Avenue/Ahwanee Avenue and the southbound US 101 off-ramp, or between the northbound US 101 loop-off-ramp and Moffett Park Drive (see Figure 1-3).
- Crosswalks at the US 101 ramps along the east side of Mathilda Avenue are uncontrolled. Pedestrians cross two lanes of traffic at the southbound US 101 on-ramp.
- Using the crosswalk south of Ross Drive to access bus stops on both sides of Mathilda Avenue is a safety concern. Local residents, the elderly, and children must cross nine lanes of traffic without the benefit of a pedestrian refuge.
- No designated bicycle facilities are provided along Mathilda Avenue in the Project area.
- Bicycle lanes on Moffett Park Drive between Bordeaux Drive and Innovation Way are not continuous





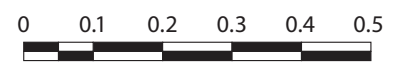
**Legend**

**Existing**

-  Bicycle/Pedestrian Bridge
-  Class I Bicycle Path
-  Class II Bicycle Lane
-  Class III Bicycle Route

**Proposed**

-  Class I Bicycle Path
-  Class II Bicycle Lane



Miles

Image: Google Inc. 2016. Google Earth Pro, Version 7.1. Mountain View, CA. Accessed: 7-11-2016.

Graphics: 0052213 (7-25-2016).tm

**Figure 1-4**  
**Existing and Proposed Bicycle Facilities**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project



**Figure 1-3. Existing Conditions at Mathilda Avenue and Almanor Way**

### 1.2.2.2 Bicycle and Pedestrian Access

Class II bicycle lanes<sup>8</sup> are provided in both directions on Bordeaux Drive (between Moffett Park Drive and Java Drive) and Borregas Avenue (between Moffett Park Drive and Caribbean Drive). Bicycle lanes are provided on Mathilda Avenue (north of Bordeaux Drive) and Moffett Park Drive (east of Bordeaux Drive). A Class III bicycle route is designated on Mathilda Avenue from Bordeaux Drive to Innovation Way. A Class I bicycle path extends from the north-east of the US 101/Mathilda Avenue interchange along the John W. Christian Greenbelt from Garner Drive to Morse Avenue, where it connects with existing bike lanes along Weddell Drive. A multi-use Class I bicycle/pedestrian path north of the Project area runs parallel to SR 237 and east of Lawrence Expressway along the eastern border of the City of Sunnyvale.

The primary bicycle movement through the Project Area is along Moffett Park Drive, which is a major commuter route. As shown in Figure 1-4, while there is existing bicycle access in the surrounding Project area, bicycle access is discontinuous between Mathilda Avenue at Innovation Way, Mathilda Avenue at Ahwanee Avenue, and Mathilda Avenue at East and West Moffett Park Drive.

<sup>8</sup> Per the Highway Design Manual Index 1002.1, a Class I bikeway is a bicycle *path*, a Class II bikeway is a bicycle *lane*, and a Class III bikeway is a bicycle *route*. A Class I bikeway path is completely separate from the roadway, a Class II bikeway lane has a separate striped bicycle-only lane adjacent to the roadway, and a Class III bikeway route is a shared roadway, often referred to as a *sharrow*.

Existing pedestrian facilities in the Project area include sidewalks on both sides of Mathilda Avenue between Fifth Avenue and Moffett Park Drive. South of Moffett Park Drive, sidewalks are provided on the east side of Mathilda Avenue until Ross Drive. At the Mathilda Avenue/SR 237 interchange, north-south pedestrian movements are limited to the east side of Mathilda Avenue and east-west crossing of Mathilda Avenue is prohibited within the interchange area. Pedestrians crossing Mathilda (east-west) have to use the crosswalk on the north leg of the Mathilda Avenue/Moffett Park Drive intersection. Sidewalks continue on the east side of Mathilda Avenue from the SR 237 interchange to south of the US 101 interchange, at which point sidewalks continue on both sides of Mathilda Avenue.

A multi-use pedestrian/bicycle bridge crosses SR 237 and US 101 east of Mathilda Avenue, providing a pedestrian/bicycle connection between Moffett Park to the north and Ahwanee Avenue neighborhood to the south.

### 1.2.2.3 Local Roadway Operations

Mathilda Avenue is the primary north-south crossing of US 101 and SR 237 in the Project area. The closest crossings are Moffett Boulevard (2 miles west) and Fair Oaks Avenue (0.5 mile east). Moffett Park Drive (west of Mathilda Avenue) is the primary east-west access for the business district to the north of SR 237 and Moffett Airfield. Within the Project area, Mathilda Avenue serves as the main access to the residential communities on the east side of Mathilda Avenue and is the only access to the landlocked area contained within the US 101/SR 237/Mathilda Avenue triangle, via Ross Drive.

Regional growth and new local development combined with physical constraints, such as closely spaced intersections, has resulted in traffic congestion on Mathilda Avenue. Existing City intersections along Mathilda Avenue within the Project area were found to operate at acceptable service levels during the peak hours between 7:00-8:00 a.m. and 5:00-6:00 p.m. However, due to the effects of closely spaced intersections, queuing occurs along Mathilda Avenue during peak periods within the Project area. Long queues (where queue length in feet exceeds available storage) indicating high peak-period traffic demand have been observed at the following seven intersections (out of 13 intersections total) along Mathilda Avenue:

- Innovation Way
- Moffett Park Drive
- Westbound SR 237 ramps
- Eastbound SR 237 ramps
- Ross Drive
- Northbound US 101 ramps
- Almanor Avenue/Ahwanee Avenue

As a result of existing and planned development, congestion and delay along Mathilda Avenue is expected to worsen over time in the Project area, particularly to the north of SR 237 in the Moffett Park development area.

#### **1.2.2.4 Economic Development in the Project Area**

Efficient access along Mathilda Avenue to downtown Sunnyvale, to the growing business district (Moffett Park) to the north of SR 237, to Moffett Airfield, and to the commercial/residential area between US 101 and SR 237 is critical to the economic vitality of the City.

Planned economic development projects within the Project area include the Moffett Place Campus Project, the Foothill-De Anza Community College District Sunnyvale Center, and expansion of the Sheraton Hotel.

The Moffett Place Campus Project is located north of the Sheraton Hotel site between Mathilda Avenue and Bordeaux Drive, and also east of Bordeaux Drive. This project will replace approximately 671,944 square feet of existing office space with six new eight-story office buildings, a two-story amenities building, surface parking, and two three-level parking structures for a total of approximately 1.8 million square feet of building area. The project's campus layout includes two large landscaped common spaces to accommodate active and passive recreation on site. All of this development will be primarily accessed by Mathilda Avenue and local transit. The project was approved in December 2013 and is currently under construction.

The Foothill-De Anza Community College District Sunnyvale Center is located on the former Onizuka Airforce Station Site on the east side of Innovation Way. The site encompasses 9.15 acres and is just north of the Moffett Park Place development. The Foothill-De Anza development includes a two-story, 46,882-square-foot education center. This project is currently under construction with a target completion date of fall 2016.

Expansion plans for the existing 173-room Sheraton Hotel, located just off of Moffett Place Drive, include demolition of two structures and construction of a new nine-story, 342-room hotel building with an adjacent new four-level parking structure. The project is currently under review with the City.

### **1.3 Project Description**

This section describes the Project Build and No-Build alternatives, how the alternatives were developed, and how each alternative meets or does not meet the objectives and purpose of the Project. The alternatives discussed in this EIR include the Build Alternative (see Figure 1-5) (generally referred to as the "Project" in this EIR) and the No-Build Alternative. Criteria used for evaluation included, but were not limited to, Project cost, potential for

environmental impacts, and the ability of an alternative to meet the Project's objectives and purpose (refer to Section 1.2.1, *Purpose*).

## 1.3.1 Build Alternative

Proposed improvements included in the Build Alternative are the reconfiguration of the US 101 and SR 237 interchanges at Mathilda Avenue; modification of on- and off-ramps; removal, addition, and signalization of intersections; and provision of new left-turn lanes. In addition, the Build Alternative would include modification of existing, and construction of new, bicycle and pedestrian facilities, utility relocations, new storm water treatment facilities, enhanced street lighting, ramp metering modifications, modification of overhead signage, three new retaining walls, and LRT crossing facilities. The effects of not implementing the Project are discussed under Section 1.3.2, *No-Build Alternative*, and are detailed in each resource section of Chapter 2, *Environmental Setting, Impacts, and Avoidance, Minimization and/or Mitigation Measures*. A detailed description of the elements of the Build Alternative follows.

### 1.3.1.1 Roadway Improvements

The Project would consist of the following roadway improvements:

- Provide three continuous through lanes in each direction on Mathilda Avenue.
- Remove the northbound US 101 loop off-ramp and shift traffic to the northbound US 101 diagonal off-ramp.
- Realign and widen the northbound US 101 ramps and signalize the ramp intersection with Mathilda Avenue, and construct a left-turn lane on southbound Mathilda Avenue to access the northbound US 101 loop on-ramp.
- Realign the southbound US 101 off-ramp and loop on-ramp and signalize the ramp intersection with Mathilda Avenue.
- Modify the Mathilda Avenue/Ross Drive signal intersection.<sup>9</sup>
- Close Moffett Park Drive to vehicular traffic between Bordeaux Drive and Mathilda Avenue, and shift traffic to Bordeaux Drive and Innovation Way. Innovation Way would be extended from Mathilda Avenue to Bordeaux Drive as part of the Moffett Place Campus Project. Moffett Park Drive eastbound north of Mathilda Avenue would remain. Moffett Park Drive would remain open to bicyclists and would become a Class I bikeway (see Section 1.3.1.2).
- Modify and signalize the Innovation Way and Juniper Networks driveway intersection.
- Remove the westbound SR 237 ramp signal intersection. Realign the westbound SR 237 off-ramp opposite Moffett Park Drive and modify the signal intersection. The existing

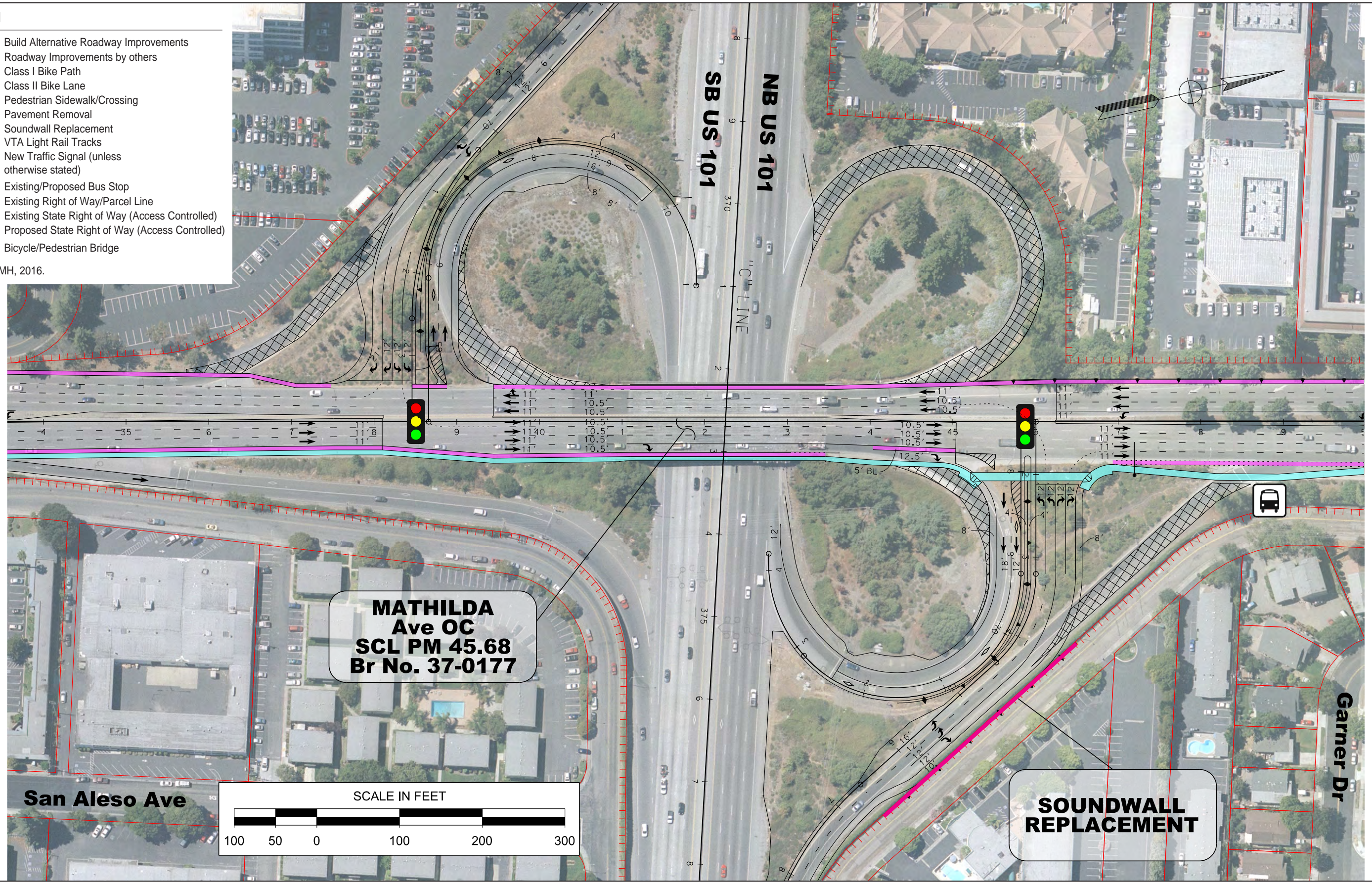
<sup>9</sup> The bus stop on the east side of Mathilda Avenue, south of Ross Drive, would be relocated 300 feet south, closer to US 101.



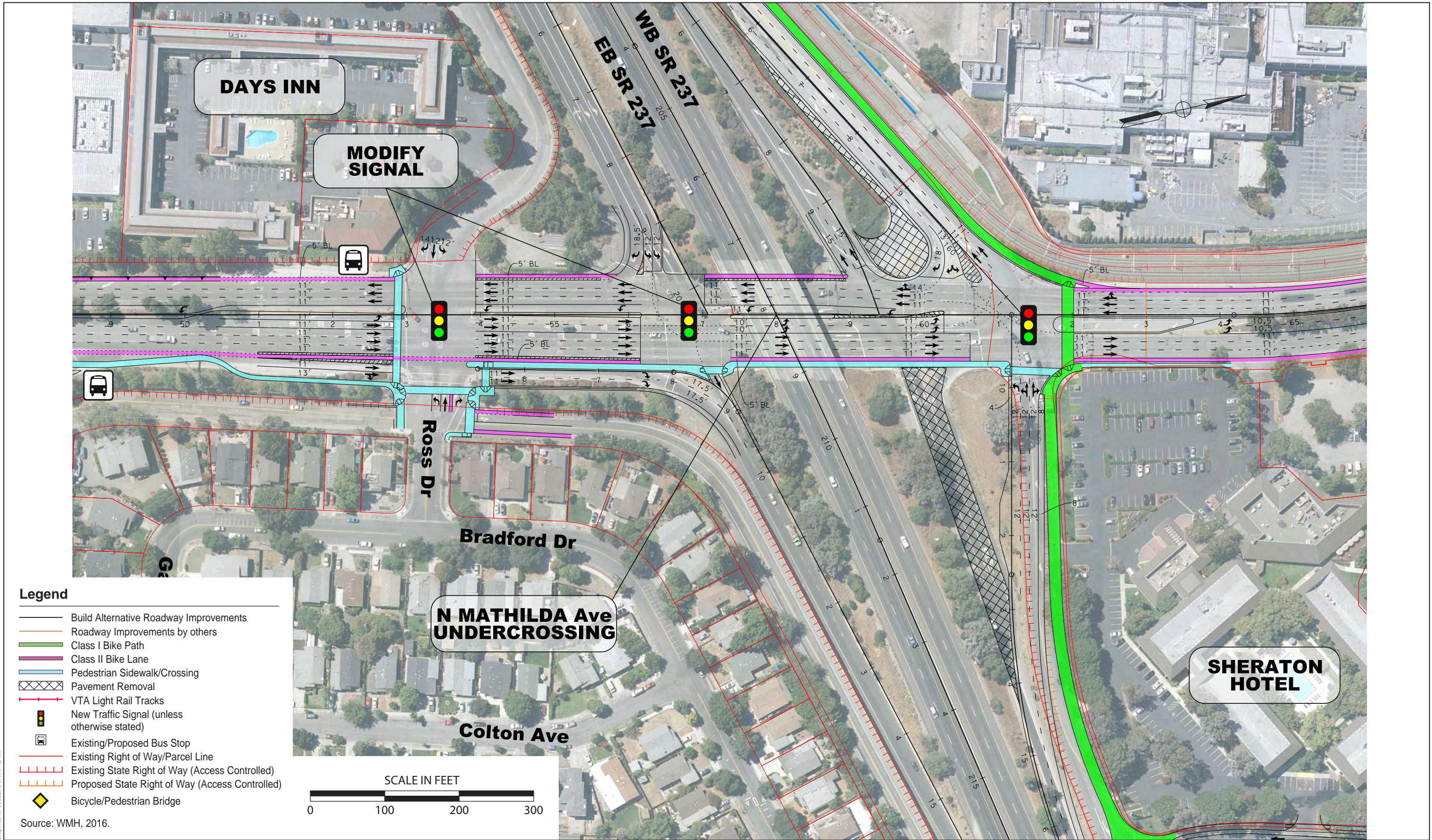
**Legend**

- Build Alternative Roadway Improvements
- Roadway Improvements by others
- Class I Bike Path
- Class II Bike Lane
- Pedestrian Sidewalk/Crossing
- ▨ Pavement Removal
- Soundwall Replacement
- VTA Light Rail Tracks
- 🚦 New Traffic Signal (unless otherwise stated)
- 🚌 Existing/Proposed Bus Stop
- Existing Right of Way/Parcel Line
- Existing State Right of Way (Access Controlled)
- Proposed State Right of Way (Access Controlled)
- ◆ Bicycle/Pedestrian Bridge

Source: WMH, 2016.



**Figure 1-5b**  
**Build Alternative**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project



**Figure 1-5c**  
**Build Alternative**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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signalized intersections on Mathilda Avenue at the SR 237 westbound off-ramp and Moffett Park Drive would be removed.

- Signalize the reconfigured westbound SR 237 off-ramp/Moffett Park Drive intersection. The westbound SR 237 off-ramp would be modified to intersect with Mathilda Avenue just south of the new signalized intersection. Mathilda Avenue northbound traffic heading to westbound SR 237 would have to make a U-turn movement<sup>10</sup> at the new signalized intersection to access the on-ramp.
- Modify the westbound SR 237 ramps to provide a diamond configuration (see Figure 1-4).

### 1.3.1.2 Bicycle and Pedestrian Facilities

The proposed Project would be developed to provide improved mobility for all users, including bicyclists, pedestrians, transit riders, and motorists.<sup>11</sup>

Bicycle improvements on Mathilda Avenue would consist of Class II bike lanes, based on available pavement widths within the Project area, and would connect to the existing Class II bike lanes and Class III bike routes on Mathilda Avenue and the Class I bikeway on the Sunnyvale West Channel. Bicycle improvements on Moffett Park Drive would consist of a Class I bikeway between Borregas Avenue and Mathilda Avenue. The Project proposes to remove the existing curb and gutter and replace them with a vertical curb to provide a full 5 feet of width of bicycle lane for use. A signal-controlled crosswalk would be provided for bicyclists and pedestrians to cross Mathilda Avenue. Between Mathilda Avenue and Innovation Way, a Class I multi-use path would be installed.<sup>12</sup>

Bicycle and pedestrian improvements in the Project area would be consistent with the *City of Sunnyvale 2006 Bicycle Plan* (City of Sunnyvale 2006) and the *Santa Clara Countywide Bicycle Plan* (Santa Clara County 2008), and would include:

- Upgrading existing pedestrian facilities to incorporate current Americans with Disabilities Act (ADA) standards, including curb ramps at all crosswalks.
- Incorporating pavement delineation with new crosswalk markings.
- Installing pedestrian countdown signals at westbound SR 237 ramps, eastbound SR 237 ramps, Ross Drive, northbound US 101 ramps, and southbound US 101 ramps.
- Realigning (“teeing up”) and signalizing ramp termini to provide new pedestrian crossings, where feasible.

<sup>10</sup> U-turn movement is part of the intersection improvement.

<sup>11</sup> The City proposes to perform an engineering and traffic survey along Mathilda Avenue that will include an analysis of roadway conditions and accident records, and a sampling of the prevailing speed of traffic. Local authorities may, by ordinance or resolution, determine and declare a reduced speed limits on the basis of engineering and traffic surveys (California Vehicle Code (CVC) 22358 and 627). Based on the results of the survey, the City may consider modifying the speed limit on Mathilda Avenue to meet statutory guidelines set out in the CVC.

<sup>12</sup> A multi-use path would accommodate both bicycle and pedestrian users.

- Installing sidewalk along the west side of Mathilda Avenue between Almanor Avenue/Ahwanee Avenue and Moffett Park Drive. The sidewalk would be a minimum of 6 feet wide where feasible.

### **1.3.1.3 Utility Relocations**

The following utility companies have known facilities within the Project limits: Pacific Gas & Electric (PG&E) gas and electric services; American Telephone and Telegraph (AT&T) telephone service; Comcast cable and internet service; Verizon telecommunication service; San Francisco Public Utilities Commission Hetch-Hetchy Aqueduct; VTA LRT electric and communication services; and City water line, recycled water line, storm drain, and sanitary sewer services.

The Project would require the relocation of Verizon telecommunication lines and a City 8-inch recycled water line along the current alignment of Moffett Park Drive, east of Mathilda Avenue. The Project would also require adjustments to three PG&E electrical pole wires to accommodate ramp modifications at the US 101/Mathilda Avenue interchange. Utility manhole covers would be adjusted to grade in areas of pavement rehabilitation.

### **1.3.1.4 Storm Water Treatment**

The proposed interchange ramp modifications are expected to result in the fill or removal of existing ditches, modification or relocation of existing longitudinal drainage structures, and construction of new drainage structures. The drainage design would maintain existing drainage patterns; however, during construction, temporary drainage facilities may be required to redirect runoff from construction areas.

New storm water treatment facilities for the Project may include biofiltration strips, biofiltration swales, bioretention basins, and/or detention basins within the state right-of-way near the on- and off-ramps and on City streets. Biofiltration is a pollution control technique using living material (vegetation) to capture sediment and pollutants from storm water runoff. Biofiltration strips are vegetated sections of land that capture sediment and pollutants as storm water passes over the strips in sheet flows. Biofiltration swales are vegetated ditches, frequently used in conjunction with biofiltration strips, that receive and direct sheet flows into linear, concentrated flow channels. Bioretention basins are designed to pond storm water and filter it through several layers of natural treatment: a layer of imported topsoil, followed by a layer of specially designed bioinfiltration media, and finally permeable material/gravels to encourage infiltration into native soil further below. Storm water enters the underdrain only in heavier storms, after ponding up and filtering through the cleansing media above and saturating gravels below. Detention basins temporarily detain storm water, letting sediment in the storm water settle to the bottom of the basin before discharging the water through a raised/controlled outlet. If these biofiltration techniques are not feasible on City streets due to right-of-way constraints, tree wells may also be utilized. Tree wells are optimized for high volume/flow treatment and high pollutant removal. Their small footprint allows them to be integrated into landscaped areas and streets/sidewalks.

### **1.3.1.5 Enhanced Lighting**

The proposed Project would provide enhanced lighting to improve roadway visibility for motorists, bicyclists, and pedestrians during nighttime hours. Overhead lighting would be maintained or installed at all ramps.

### **1.3.1.6 Highway Planting**

Existing highway plantings and irrigation infrastructure that are damaged or destroyed as a result of the Project would be repaired and replaced as necessary. Irrigation infrastructure (i.e., crossovers, electrical service, and new water meters) would be installed as needed based on Project landscaping. Highway plantings and irrigation would be installed and would commence immediately following Project roadway construction. The Project would include a 3-year plant establishment period.

### **1.3.1.7 Ramp Metering**

Ramp metering facilities already exist at the northbound US 101 loop on-ramp, southbound US 101 ramps, and the westbound SR 237 on-ramp. Because these ramps would be modified and realigned with the Project, the affected ramp metering equipment would also be modified/replaced in-kind. The Project does not propose any additional ramp meters.

### **1.3.1.8 Overhead Signage**

Updated overhead signs in each direction on SR 237 and US 101 would inform motorists of the approaching on- and off-ramps associated with the Project. The overhead sign structure mounted to the Mathilda Avenue overcrossing on northbound US 101 would be removed as it applies to the existing loop off-ramp, which is being relocated and integrated as both a west and east Mathilda Avenue access route from northbound US 101. The northbound US 101 off-ramp widening would require that signage be replaced just south of the Borregas Pedestrian Overcrossing.

### **1.3.1.9 Light Rail Transit Facilities**

VTA LRT facilities crossing the Moffett Park Drive/Innovation Way and Mathilda Avenue/Innovation Way intersections would be modified as part of the Project but would continue to have their signal timing coordinated with adjacent intersection traffic signals.

### **1.3.1.10 Retaining Walls and Sound Walls**

The Project proposes construction of three new retaining walls to minimize the amount of earthwork and right-of-way acquisitions required. The locations of proposed retaining walls (refer to Figure 1-6) are:

1. The southbound US 101 diagonal off-ramp/southbound US 101 loop on-ramp.
2. The northbound US 101 off-ramp/northbound US 101 loop on-ramp.

### 3. Along the west side of Mathilda Avenue.

Retaining walls would receive standard aesthetic treatments that would be determined during final design in coordination with the Caltrans Office of Landscape Architecture.

To accommodate proposed realignment and widening of the northbound US 101 off-ramp to Mathilda Avenue, the Project would remove and replace approximately 1,000 feet of an existing 10-foot-high sound wall adjacent to the ramp and West Weddell Drive (see Figure 1-6). The replacement sound wall would be supported on a retaining wall and located at the widened edge of pavement, abutting the realigned northbound US 101 off-ramp. This sound wall would be replaced in-kind to be the same height, color, and texture as the adjacent sound walls.

#### **1.3.1.11 Construction Staging Areas**

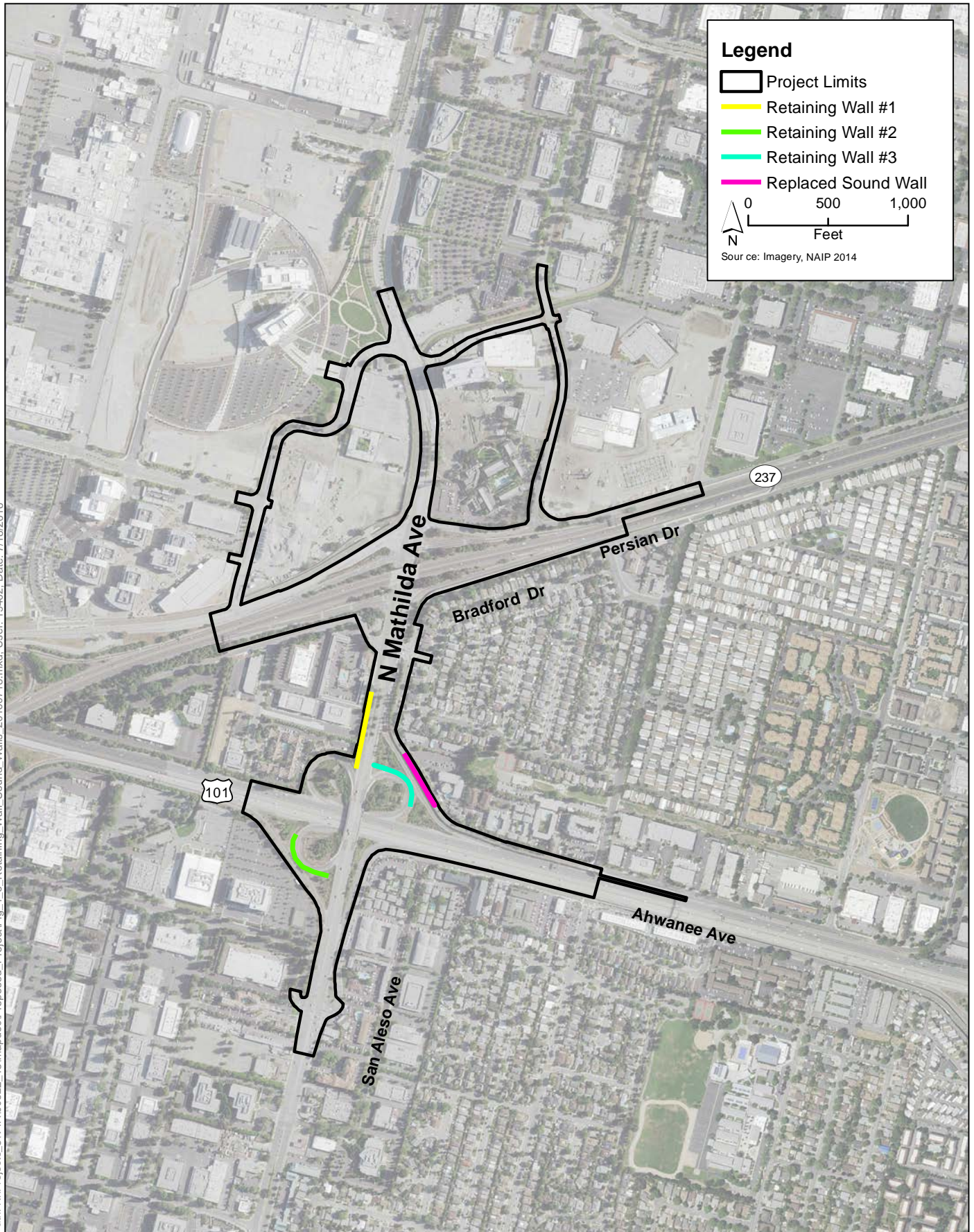
Staging/laydown areas for equipment and materials would be needed during Project construction. Final construction staging areas are to be determined, but generally would be located within the state right-of-way adjacent to Mathilda Avenue. Potential locations are shown in Figure 1-7 and include:

- Within the northbound US 101 loop off-ramp.
- Between the northbound US 101 diagonal off-ramp and northbound loop on-ramp.
- Within the southbound US 101 loop on-ramp.
- Between the southbound US 101 loop on-ramp and diagonal off-ramp.
- Between the westbound SR 237 ramps and Moffett Park Drive.

#### **1.3.1.12 Right-of-Way Acquisitions**

Based on preliminary designs, the proposed Project would require the acquisition of right-of-way. The location of all the temporary construction easements may change as design is refined. Depending on sidewalk widths and property lines, temporary construction easements may be required in the northern portion of the Project area to modify the traffic signal along Moffett Park Drive where the Project is outside of the local roadway right-of-way. The Project would require partial acquisition of the Sheraton Sunnyvale Hotel property at 1108 North Mathilda Avenue. This partial acquisition would not affect any buildings associated with the property, but would permanently close the entrance/driveway along Moffett Park Drive. The hotel would still be accessible along North Mathilda Avenue and Bordeaux Drive. Access to all properties within the Project area would be maintained during construction. Table 1-1 lists proposed right-of-way acquisitions and temporary construction easements required for construction of the Project.

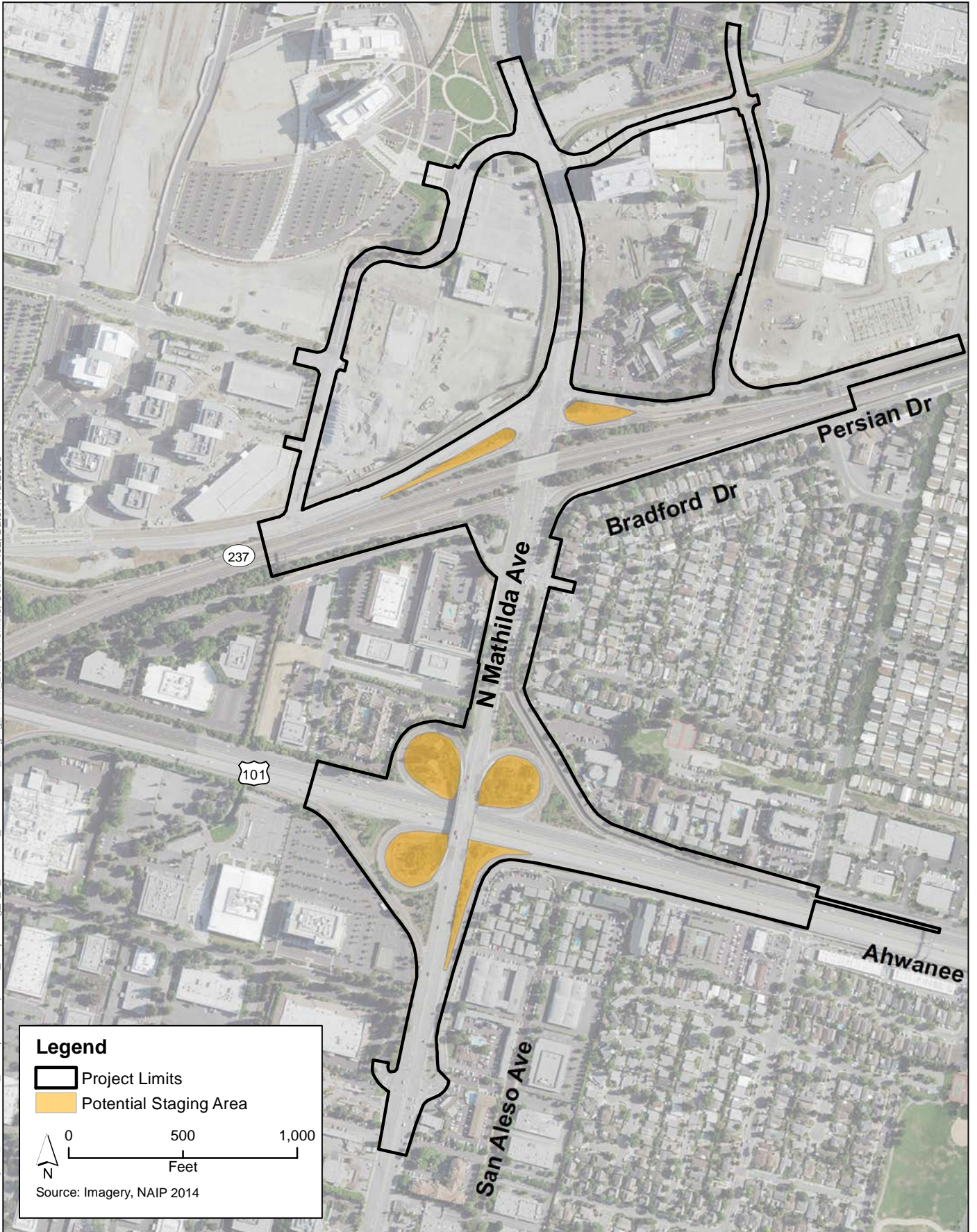
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**Figure 1-6**  
**Retaining Walls and Sound Walls**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Figure 1-7**  
**Potential Construction Staging Areas**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Table 1-1. Proposed Right-of-Way Acquisitions<sup>13</sup>**

<b>Assessor Parcel Number (APN)</b>	<b>Property Owner</b>	<b>Temporary Construction Easement (TCE)<sup>a</sup></b>	<b>Public Access Easement<sup>b</sup></b>	<b>Partial Acquisition</b>	<b>Ownership Transfer<sup>c</sup></b>
204-01-013	PSS Enterprises Inc. (Shell Station) 776 N. Mathilda Ave. Sunnyvale, CA 94085	1,600 square feet (sf)/ 0.036 acre (ac)	-	-	-
165-43-019	Burger King 773 N. Mathilda Ave. Sunnyvale, CA 94085	370 sf/0.008 ac	-	-	-
110-08-025	Pappas, Louis G and Effie 502 Ross Dr. Sunnyvale, CA 94089	324 sf/ 0.007 ac	-	-	-
110-27-025	SOF-X Sunnyvale Owner, L.P. (Sheraton Sunnyvale Hotel) 1108 N. Mathilda Ave. Sunnyvale, CA 94089	11,293 sf/ 0.259 ac	-	2,383 sf/ 0.055 ac	-
N/A Moffett Park Dr. East of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave. Sunnyvale, CA 94086	-	-	-	43,774 sf/ 1.005 ac
111-27-040 Innovation Way	Foothill-De Anza Community College 12345 El Monte Rd. Los Altos Hills, CA 94022	38,395 sf/ 0.881 ac	-	-	-
110-02-068, 110-27-035 Innovation Way	Menlo/Juniper Networks LLC, 1194 Mathilda Ave, Sunnyvale, CA 94089	80,588 sf/ 1.850 ac	-	-	-
110-27-044 Innovation Way	Moffett Place Association LLC 1183 Borregas Ave Sunnyvale, CA 94089	41,226 sf/ 0.946 ac	-	-	-
110-45-001, 002, 003, 004 and 009 Innovation Way	MPDB1-4 LLC 803-809 11 <sup>th</sup> Avenue, Sunnyvale, CA 94089	24,884 sf/ 0.5713 ac	24,884 sf/ 0.5713 ac	-	-
N/A Moffett Park Dr. West of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave Sunnyvale, CA 94086	-	-	-	4,798 sf/ 0.110 ac
N/A W. Weddell Dr. East of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave Sunnyvale, CA 94086	-	-	-	1,322 sf/0.030 ac

<sup>13</sup> Changes in Table 1-1 between the Draft EIR and the Final EIR were made to reflect a change in ownership information for the Sheraton Sunnyvale Hotel. Additionally, as Innovation Way is a private road owned by multiple entities, ongoing research regarding parcel ownership boundaries and public rights-of-way resulted in modifications to the acquisition areas.

Assessor Parcel Number (APN)	Property Owner	Temporary Construction Easement (TCE) <sup>a</sup>	Public Access Easement <sup>b</sup>	Partial Acquisition	Ownership Transfer <sup>c</sup>
<p><sup>a</sup> Square footages are subject to change during subsequent engineering phases.</p> <p><sup>b</sup> A public access easement allows the general public to use a street that passes through private property.</p> <p><sup>c</sup> A transfer of ownership of street or highway between the City and a state agency, pursuant to Section 83 of the California Streets and Highway Code.</p> <p>Source: VTA Real Estate 2016.</p>					

### 1.3.2 No-Build Alternative

Under the No-Build Alternative, no changes would be made to the existing local roadways or freeway ramps within the Project limits. No construction activities would occur, and there would be no change in the operations of the existing facilities. Other planned and approved land use development and transportation improvements along local routes may be implemented by local agencies or under other projects.

Under CEQA, the baseline for environmental impact analysis consists of the existing conditions at the time of the Notice of Preparation. Under the No-Build Alternative, existing roadway deficiencies on Mathilda Avenue would not be addressed, bicycle and pedestrian access (provision of sidewalk/crosswalk/designated bicycle facilities) would not be provided, and congestion and delay in the Project area is expected to worsen. Improvements to accommodate existing demand and prepare for future regional growth and new local development would not be implemented, which may indirectly impact the economic health of the City. As such, the No-Build Alternative would not meet any objectives of the Project, as listed in Section 1.2.1, *Purpose*. Under the No-Build Alternative, projected increases in traffic would cause congestion to worsen, as described in Section 2.14, *Transportation/Traffic*.

### 1.3.3 Cost

The Project is included in the 2015 Federal Statewide Transportation Improvement Program (ID No. SCL130001) (California Department of Transportation 2014) and the current Regional Transportation Plan/Sustainable Communities Strategy (Project No. 240554 in *Plan Bay Area*), which is updated by the Metropolitan Transportation Commission (Metropolitan Commission 2013). The Project is also identified in the Valley Transportation Plan 2040 (Santa Clara Valley Transportation Authority 2009) under ID H43 and in the City's Capital Improvement Program for Fiscal Year 2013/2014 as Project No. 826890 (City of Sunnyvale 2013).

Under the No-Build Alternative, no improvements would be made to the existing local roadways or freeway ramps within the Project limits. There would be no construction activities and therefore no capital costs. In comparison, the Build Alternative is anticipated to

cost \$41.3 million dollars.<sup>14</sup> The City has committed local funding to the development of the Project. Other funding sources have yet to be determined, but may include a combination of state and local transportation funds.

### 1.3.4 Schedule

Construction of these improvements would take approximately 250 working days, or 12 months, and is expected to start in early 2018. A combination of day and night work is anticipated. Weekend work is not anticipated. Short-term lane and ramp closures would be necessary to facilitate construction. A Traffic Management Plan (refer to Chapter 2, Section 2.14, *Traffic/Transportation*) would be implemented during construction to minimize and prevent delay and inconvenience to the traveling public.

### 1.3.5 Comparison of Alternatives

This section summarizes the differences between the Build Alternative and the No-Build Alternative. Table 1-2 presents a comparison of the alternatives.

**Table 1-2. Comparison of Alternatives**

	<b>Build Alternative</b>	<b>No-Build Alternative</b>
<i>Objectives</i>		
<b>Congestion, operation, and delay</b>	<ul style="list-style-type: none"> <li>Improvement of operational conditions by decreasing delay and accommodating the continued and planned growth in the Project area.</li> </ul>	<ul style="list-style-type: none"> <li>Congestion would continue to worsen over time as planned development continues.</li> </ul>
<b>Mobility for all travel modes</b>	<ul style="list-style-type: none"> <li>Enhanced bicycle and pedestrian facilities would be provided.</li> </ul>	<ul style="list-style-type: none"> <li>No improvements.</li> </ul>
<b>Access to local destinations</b>	<ul style="list-style-type: none"> <li>Provide for all traffic movements at US 101/Mathilda Avenue interchange.</li> </ul>	<ul style="list-style-type: none"> <li>No improvements.</li> </ul>
<i>Purpose</i>		
<b>Roadway improvements to address closely spaced intersections, inadequate storage for and distribution of queuing, accommodation of turning movements</b>	<ul style="list-style-type: none"> <li>Remove Moffett Park Drive between Bordeaux Drive and Mathilda Avenue; shift traffic to Bordeaux Drive and Innovation Way to access Mathilda Avenue.</li> <li>Realign and widen the westbound SR 237 off-ramp and signalize.</li> <li>Remove existing signalized intersections on Mathilda Avenue at SR 237 westbound off-ramp and Moffett Park Drive.</li> </ul>	<ul style="list-style-type: none"> <li>No changes would be made to the existing local roadways or freeway ramps within the Project limits.</li> </ul>
<b>Provision of sidewalk or crosswalks and bicycle facilities</b>	<ul style="list-style-type: none"> <li>Enhanced bicycle and pedestrian facilities would be provided.</li> </ul>	<ul style="list-style-type: none"> <li>No improvements.</li> </ul>

<sup>14</sup> The escalated (2018) total Project cost is \$41.3 million dollars. The current (2013) total Project cost is \$39.8 million dollars.

### 1.3.6 Alternatives Considered but Eliminated from Further Discussion Prior to Draft Environmental Impact Report

The objectives of the proposed Project, as described in Section 1.2.1, *Purpose*, are to reduce congestion on Mathilda Avenue, improve mobility for all travel modes, particularly for bicyclists and pedestrians, and provide better access to local destinations, particularly for bicyclists and pedestrians. The alternatives that were evaluated focused on achieving these objectives through various alterations to the Mathilda Avenue and SR 237 interchange, Mathilda Avenue and US 101 interchange, and/or local streets.

An alternatives assessment study was conducted to identify viable alternatives for further study during early stages of Project development. A total of 19 conceptual alternatives were considered, and a screening process was conducted with the Project Development Team (PDT) to assess each alternative and identify reasons to withdraw alternatives from further study. Conceptual alternatives considered and removed during the project development process are summarized in Table 1-3. Table 1-3 also provides a brief discussion of Transportation System Management (TSM), Transportation Demand Management (TDM), and Mass Transit Alternatives.

During the environmental planning phase, the PDT agreed to eliminate a second Build Alternative (Diverging Diamond Interchange [DDI]). The DDI alternative proposed to realign and widen the existing westbound SR 237 ramps and close Moffett Park Drive (West) at Mathilda Avenue, and modify the SR 237/Mathilda Avenue Interchange to provide a DDI configuration. This alternative was proposed to provide free left turns for ramp movements and additional storage between ramp intersections.

As part of the preliminary engineering studies conducted during Project development, this alternative was withdrawn from further consideration due to safety concerns associated with the DDI configuration, including the proximity of local street intersections, narrow lane widths, and bicycle and pedestrian access.

**Table 1-3. Alternatives and Options Considered but Eliminated from Further Discussion Prior to Draft Environmental Impact Report**

<b>Alternatives and Options<sup>a</sup></b>	<b>Description</b>	<b>Reason(s) for Withdrawal</b>
<b>Alternatives</b>		
1	Transportation System Management (TSM)	<ul style="list-style-type: none"> <li>• SR 237 ramps and local street intersections spaced too close.</li> <li>• Eliminating left-turn movements at the Mathilda Avenue/Moffett Park Drive intersection would result in traffic shifting to other routes, which may cause congestion elsewhere.</li> </ul>
2	Diamond Interchange	<ul style="list-style-type: none"> <li>• Would close Moffett Park Drive (West) at Mathilda Avenue, causing traffic to shift onto Innovation Way or choose alternate routes. The Innovation Way/Mathilda Avenue intersection does not have adequate capacity to accommodate the increased level of traffic. Releasing this traffic onto Mathilda Avenue would increase congestion and not meet the Project objectives.</li> </ul>
3	Diamond Interchange at SR 237 with Loop On-Ramp	<ul style="list-style-type: none"> <li>• High capital cost to serve estimated low volume of users for new loop on-ramp (approximately 100 vehicles per hour existing).</li> <li>• Reduced vertical clearance on Mathilda Avenue to nonstandard height.</li> </ul>
4	Tight Diamond Interchange at SR 237 with Loop On-Ramp	<ul style="list-style-type: none"> <li>• SR 237 ramps and local street intersections spaced too close.</li> <li>• High capital cost to serve estimated low volume of users for new loop on-ramp (approximately 100 vehicles per hour existing).</li> <li>• Reduced vertical clearance on Mathilda Avenue to nonstandard height.</li> <li>• Potential safety issue concern associated with left turning traffic traveling eastbound on Moffett Park Drive to northbound Mathilda Avenue making a wrong-way movement onto the westbound SR 237 off-ramp.</li> </ul>
5	Diverging Diamond Interchange (DDI) <sup>c</sup>	<ul style="list-style-type: none"> <li>• Nonstandard interchange configuration would require special approvals.</li> <li>• Free left turns at ramp termini are undesirable for safe passage of pedestrians/bicycles.</li> <li>• The combination of small curve radii and narrow lanes through the DDI crossover intersections would result in vehicles (especially large trucks) “off-tracking” into shoulder areas. This raises safety concerns for bicyclists using the DDI facility.</li> <li>• Stopping sight distance for traffic traveling through the crossover intersections would be impeded by the SR 237/Mathilda Avenue Undercrossing bridge columns and abutment walls. This would increase the potential for rear-end type collisions.</li> </ul>
6	Diamond Interchange at SR 237 with Roundabouts	<ul style="list-style-type: none"> <li>• Not enough right-of-way to accommodate roundabouts.</li> <li>• Entries and exits on the roundabout would be closely spaced and would adversely affect operations and cause safety issues for pedestrians and bicyclists.</li> </ul>
7	Diamond Interchange at SR 237 with Braided Ramps	<ul style="list-style-type: none"> <li>• SR 237 ramps and local street intersections would be spaced too close together.</li> <li>• The improved SR 237 weave operations would adversely affect downstream northbound US 101 operations.</li> </ul>

Alternatives and Options <sup>a</sup>	Description	Reason(s) for Withdrawal
<b>Alternatives</b>		
8	Parallel Street Interchange	<ul style="list-style-type: none"> <li>• There would be minimal improvements to eastbound ramp operations.</li> <li>• Access to Ross Drive to the west of Mathilda Avenue would be significantly modified.</li> </ul>
9	Westbound SR 237 Braided Ramps	<ul style="list-style-type: none"> <li>• The radius of the westbound SR 237 to Moffett Park Drive ramp would be too tight.</li> <li>• The US 101/SR 237 separation would require widening.</li> <li>• The improved SR 237 weave operations would adversely affect downstream northbound US 101 operations.</li> </ul>
10	Westbound SR 237 Collector/Distributor	<ul style="list-style-type: none"> <li>• SR 237 ramps and local street intersections would be spaced too close together.</li> <li>• The US 101/SR 237 separation would require widening.</li> </ul>
11	Westbound SR 237 Collector/Distributor with Braided Ramps	<ul style="list-style-type: none"> <li>• Radius of the westbound SR 237 to Moffett Park Drive ramp would be too tight.</li> <li>• US 101/SR 237 separation would require widening.</li> <li>• The improved SR 237 weave operations would adversely affect downstream northbound US 101 operations.</li> </ul>
12	Single Point Diamond Interchange at SR 237	<ul style="list-style-type: none"> <li>• Would require complete reconstruction of the interchange (bridge, ramps, and intersections), which has associated stage construction complexities and high capital cost.</li> <li>• Left turn access for Ross Drive would be eliminated.</li> </ul>
13	Flyover from Eastbound SR 237 to Northbound Mathilda Avenue	<ul style="list-style-type: none"> <li>• The distance between the SR 237 ramps and local street intersections would be too close.</li> <li>• U-turn movement would be required to access the westbound SR 237 on-ramp from northbound Mathilda Avenue.</li> <li>• Would have substantial right-of-way and driveway access impacts on the Sheraton Hotel.</li> </ul>
15	Full Partial-Clover Interchange at SR 237	<ul style="list-style-type: none"> <li>• Realignment of the southbound US 101 diagonal on-ramp would require realignment of the frontage road (West Ahwanee Avenue).</li> <li>• Substantial right-of-way impacts on residential apartment and commercial properties adjacent to West Ahwanee Avenue, including loss of driveway access and onsite parking, and removal of buildings requiring relocation of residents.</li> <li>• Would result in reduced capacity for vehicles waiting at the on-ramp meter, or would require extending the ramp merge south, which would require reconstruction of the pedestrian/bicycle overcrossing at Borregas Avenue.</li> </ul>
A	Northbound US 101 Partial-Clover Interchange	<ul style="list-style-type: none"> <li>• Would result in queues on the northbound US 101 off-ramp extending to the mainline and disruption of the flow of northbound US 101 traffic.</li> <li>• Would maintain the existing interchange configuration at US 101/Mathilda Avenue and maintain a partial interchange configuration.</li> </ul>

Alternatives and Options <sup>a</sup>	Description	Reason(s) for Withdrawal
<b>Alternatives</b>		
B	Northbound US 101 Partial-Clover Interchange with Loop On-Ramp	<ul style="list-style-type: none"> <li>• Would result in queues on the northbound US 101 off-ramp extending to the mainline and disruption of the flow of northbound US 101 traffic.</li> </ul>
C	Northbound US 101 Partial-Clover Interchange with Diagonal On-Ramp	<ul style="list-style-type: none"> <li>• Would result in queues on the northbound US 101 off-ramp extending to the mainline and disruption of the flow of northbound US 101 traffic.</li> <li>• The additional traffic from the new northbound US 101 diagonal on-ramp would impact US 101 mainline operations.</li> <li>• Would result in additional environmental impacts on creek/riparian habitat and a cultural resources site.</li> <li>• Would have additional right-of-way impacts.</li> </ul>
D	Southbound US 101 Partial-Clover Interchange	<ul style="list-style-type: none"> <li>• Would result in queues on the southbound US 101 off-ramp extending to the mainline and the disruption of flow of southbound US 101 traffic.</li> </ul>
TDM/Mass Transit	Transportation Demand Management (TDM) and Mass Transit Alternatives	<ul style="list-style-type: none"> <li>• The proposed Project includes measures to improve accessibility for other modes of travel (bicycle and pedestrian facilities) and would improve traffic signal coordination. Implementation of other measures typically included as part of the TDM and Mass Transit alternatives would not meet the Project objectives and purpose, as described in Sections 1.2.1, <i>Purpose</i>, and 1.2.2, <i>Need</i>, respectively.</li> <li>• TDM alternatives focus on regional strategies for reducing the number of trips and miles traveled as well as increasing vehicle occupancy. As stated, the Project already includes improved bicycle and pedestrian facilities, expanding traveler choice in terms of travel method and routes. TSM alternatives (discussed previously) include actions that increase the efficiency of existing facilities and the number of vehicle trips a facility can accommodate; and include strategies such as auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination; as well as encouraging automobile, public, and private transit as elements of a unified transport system. As such, the TDM and Mass Transit alternatives were not considered further.</li> </ul>

Alternatives and Options <sup>a</sup>	Description	Reason(s) for Withdrawal
<b>Alternatives</b>		
<b>Alternative Options</b> – Considered features that could be incorporated into the alternatives described		
Option 1	Roundabout Intersections	<ul style="list-style-type: none"> <li>• In accordance with the Caltrans Intersection Control Evaluation screening project, an evaluation of yield-controlled roundabouts as a potential method of intersection control was conducted. Analysis of two-lane roundabouts was conducted at the proposed SR 237 and US 101 ramp intersections with Mathilda Avenue, and found that two-lane roundabouts with bypass lanes to accommodate the heavy right-turn volumes would not provide adequate capacity at these locations and would operate under congested conditions during peak hours.</li> <li>• Roundabout intersections cannot be accommodated due to various physical constraints, including right-of-way and property impacts, impacts on light rail transit, proximity of Ross Drive, and reduced storage for queuing vehicles between ramp intersections. A three-lane roundabout is not considered viable either, given the significant right-of-way impacts and potential safety issues entering and exiting a three-lane roundabout. Based on this analysis, a roundabout intersection was withdrawn from further consideration at these locations.</li> </ul>
Option 2	Class I Bicycle Facility	<ul style="list-style-type: none"> <li>• A continuous Class I trail was considered along the east side of Mathilda Avenue between Ahwanee Way and Innovation Way, in lieu of the Class II bicycle lanes and east sidewalk proposed for the Project. The Class I trail option was discussed with the PDT and withdrawn from further consideration for the following reasons: <ul style="list-style-type: none"> <li>○ Bicyclists using the Class I trail would need to cross over Mathilda Avenue to connect with existing Class III facilities north and south of the Project limits.</li> <li>○ Experienced bicyclists are anticipated to continue to share the road with traffic rather than cross over to a trail shared with pedestrians.</li> <li>○ There are no planned improvements to extend bicycle facilities north and south of the Project limits.</li> </ul> </li> </ul>
<p><sup>a</sup> Alternative 14 (Build Alternative 1) has been carried forward and is evaluated in this document as the proposed Build Alternative. Therefore, it is not included in this table.</p> <p><sup>b</sup> TSM refers to a set of strategies that largely aim to reduce GHG emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. TSM strategies could also address a wide range of other externalities associated with driving such as pedestrian/driver safety, efficiency, congestion, travel time, and driver satisfaction. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.</p> <p><sup>c</sup> Alternative 5 (Build Alternative 2 [Diverging Diamond Interchange or DDI]) was carried forward for further study and later withdrawn from consideration. It is described in Appendix E of this document.</p>		



## 1.4 Permits and Approvals Needed

Table 1-4 shows the permits, reviews, and approvals that would be required for Project construction.

**Table 1-4. Permits and Approvals Needed During Construction**

Agency	Permit/Approval	Status
California Public Utilities Commission	General Order 88-B authorization	As necessary, Caltrans will seek authorization for any modifications to VTA's LRT facilities; to the extent feasible, the LRT crossings will be avoided.
California Department of Transportation (Caltrans)	Access Encroachment Permit for work within the right-of-way	Application for access encroachment permit will be submitted prior to construction if VTA administers construction of the Project.

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Chapter 2

# Environmental Setting, Impacts, and Avoidance, Minimization and/or Mitigation Measures

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## 2.1 Introduction

This chapter addresses environmental impacts and provides an evaluation of the Project. The evaluation is consistent with the CEQA Appendix G: Environmental Checklist Form, provided in Appendix A. Many of the environmental resource discussions presented in this chapter are based on technical reports and studies listed in Appendix G, *Technical Studies*.

Avoidance, minimization, and/or mitigation measures are summarized in Table ES-1 of the Executive Summary, discussed in Sections 2.2 through 2.14, and included in the *Environmental Commitments Record*, provided as Appendix C.

As part of the scoping and environmental analysis conducted for the Project, Table 2.1-1 shows environmental resource areas and individual Appendix G Checklist items that were considered, but for which no impacts were identified. Consequently, there is no further discussion required regarding these issues. However, this document does include analysis for specific resource areas (topics) that have no impact, which are not listed in Table 2.1-1, but which are provided for the reader's information (e.g., there would be no impacts on population and housing as a result of the Project, but Section 2.12, *Population and Housing*, has been included to provide information on the area demographics and employment).

**Table 2.1-1. Environmental Resource Areas (Topics) Not Evaluated Further**

Resource Area (Topic) Considered	Reason for Rejection
Farmlands/Timberlands	There are no agricultural farmlands or forest/timberland resources in the Project area.
Air Quality ( <i>Objectionable Odors</i> )	The Project would not create any objectionable odors affecting a substantial number of people.
Biological Resources ( <i>Riparian Habitat/Sensitive Natural Communities, Wetlands, Special-Status Species, Wildlife Corridors, Habitat Conservation Plan/Natural Community Conservation Plan</i> )	There is no suitable riparian habitat in the Project area. There are no natural communities or special-status plant or animal species identified within the Project area. The Project does not include any wetlands or wildlife corridors and would not conflict with the provisions of an adopted Habitat Conservation Plan/Natural Community Conservation Plan.
Geology, Soils, and Seismicity ( <i>Septic Tanks</i> )	The Project does not include use of septic tanks or alternative wastewater disposal systems.
Hydrology and Water Quality ( <i>Seiche/Tsunami/Mudflow</i> )	The Project area is not subject to inundation by seiche, tsunami, or mudflow.
Mineral Resources	Mineral resources (including oil, gas, and geothermal resources) have not been mapped within or adjacent to the Project site. Therefore, the Project is not anticipated to impact existing or potential mineral resources.

<b>Resource Area (Topic) Considered</b>	<b>Reason for Rejection</b>
Noise and Vibration ( <i>Public Airport/Private Airstrip</i> )	The Project is within 2 miles of the Moffett Federal Airfield. However, the Project is within an existing transportation facility, and would not increase the exposure of people residing or working in the Project area to excessive noise levels.
Public Services and Utilities ( <i>Schools/Parks/Other Public Facilities</i> )	The Project is within an existing transportation facility and no physical impacts associated with new facilities for schools, parks/recreational facilities, or other public facilities would occur.
Coastal Zones	The Project is not located within the coastal zone.
Wild and Scenic Rivers	No wild and scenic rivers run through the Project area.
Energy	When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the Project would not have substantial energy impacts.

Each environmental topic considered in this chapter comprises four primary sections:

- **Regulatory Setting** – provides an overview of statutory and regulatory considerations that are applicable to the specific environmental topic. Applicable land use and recreation plans and programs are included under Section 2.10.2, *Consistency with Federal, State, Regional, and Local Plans and Programs*.
- **Existing Conditions** – provides a description of the baseline physical setting for the Project site and its surroundings at the beginning of the environmental review process.
- **Impact Analysis** – discusses the impacts that could result from construction and operation of the Project (No-Build and Build Alternatives). Impacts specific to construction and operation of the Project are identified separately, as appropriate.
- **Avoidance, Minimization, and/or Mitigation Measures** – identifies avoidance, minimization, and/or mitigation measures.

## 2.2 Aesthetics

The information in this section is based on the *Visual Impact Assessment – Mathilda Avenue Improvements at SR 237 and US 101 Project*. This assessment was approved in May 2016.

Please refer to the *Visual Impact Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.2.1 Regulatory Setting

There are no federal regulations or plans applicable to aesthetics. On the state level, CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of *aesthetic*, natural, scenic, and historic environmental qualities” (PRC Section 21001[b]).

### 2.2.2 Existing Conditions

For this analysis, the Project site is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

The Project site is generally flat, except at the highway interchanges that are built up to accommodate the grade-separated crossing of SR 237 over Mathilda Avenue and the crossing of Mathilda Avenue over US 101. Land uses primarily include hotels and office complexes on either side of Mathilda Avenue; single- and multi-family residences east of Mathilda Avenue; and major and minor transportation facilities associated with SR 237, US 101, Mathilda Avenue, and adjoining local roadways and associated signage. Trees, shrubs, and other vegetation are present within medians and interchange loops, and along the roadway associated with businesses and residential areas. These landscaping areas provide visual buffering from Mathilda Avenue, SR 237, and US 101. A portion of US 101 within the Project site is classified by Caltrans as a Landscaped Freeway<sup>1</sup> beginning near the northbound Mathilda Avenue exit ramp and continuing north past the Project limits on US 101.

The Project is not located within an eligible or officially designated state scenic highway and does not include scenic resources. However, the wide corridors of Mathilda Avenue, SR 237, US 101, and the elevated SR 237/Mathilda Avenue and Mathilda Avenue/US 101 overcrossings allow for scenic background views of the Diablo Range to the northeast and

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<sup>1</sup> As defined by the Outdoor Advertising Act, a landscaped freeway “means a section or sections of a freeway that is now, or hereafter may be, improved by the planting at least on one side or on the median of the freeway ROW of lawns, trees, shrubs, flowers, or other ornamental vegetation requiring reasonable maintenance.” Landscaped freeways must have planting areas that are at least 1,000 feet in length that are in healthy condition and improve the aesthetic appearance of the highway. Functional plantings (i.e., plantings for erosion control, traffic safety, reduction of fire hazards, and traffic noise abatement, or other non-ornamental purposes) do not qualify. The placement of advertising is prohibited within 660 feet of the edge of the ROW of a landscaped freeway (Caltrans 2014b).

the Santa Cruz Mountains to the southwest. Vista views are not available due to buildings, infrastructure, and mature trees that intervene within potential vista views.

The Project site is well lit from street lighting along Mathilda Avenue and at the SR 237 and US 101 interchanges, safety lighting in parking lots, and interior and exterior building lighting associated with residences and businesses.

## **2.2.3 Impact Analysis**

Visual impacts are determined by assessing changes to the existing visual resources and predicting viewer response to those changes. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the Project corridor before and after construction of the Project. Changes in visual character and visual quality can be described in terms of low, moderate-low, moderate, moderate-high, and high changes, and viewer response is based on the type of viewer (e.g., neighbors, roadway users) can be described as low-, moderate-, and high sensitivity.

### **2.2.3.1 No-Build Alternative**

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing visual environment. No impacts related to aesthetics are anticipated.

### **2.2.3.2 Build Alternative**

There are two types of viewers considered when evaluating impacts on visual resources: neighbors (people with views to the road) and roadway users (people with views from the road). Neighbors consist of business employees, business patrons, residents who immediately border the Project corridor, and motorists connecting to the Project site from local roadways. Roadway users include local commuters traveling to and from work, shoppers, recreational travelers, and commercial vehicle drivers on Mathilda Avenue, SR 237, US 101, Moffett Park Drive, Bordeaux Drive, and Innovation Way.

Business employees and residents are considered to have high visual sensitivity because, while they are accustomed to views of the existing roadways and passing traffic, they generally view the Project site for an extended period of time. Therefore, business employees and residents are likely to have a high sense of ownership over local views, and are more likely to be affected by changes in these views than business patrons or people passing by on local roadways. Business patrons have intermittent and limited views of the Project corridor. Therefore, they are likely to have moderate-low visual sensitivity.

Depending on their speed, roadway users (drivers and passengers) experience brief to longer views of the surrounding scenery. Most views from the Project corridor are of surrounding development; however, sections of the roadway provide scenic views of the vegetated roadway corridor with hillsides and mountains in the background. Therefore, roadway users are considered to have moderate visual sensitivity.

Simulations for key observation points (KOP) were used to evaluate Project impacts. The KOPs are mapped on Figure 2.2-1 and post-Project simulations are provided on Figures 2.2-2 to 2.2-4.

## Visual Character

### Permanent Impacts

Minor visual changes would result from operation of the Project. Relocated utilities would be consistent with existing conditions, and would not substantially alter the visual character of views of and from the Project site. Similarly, ramp metering facilities and overhead signage already exists at the Project site, and their relocation and modification would be visually consistent with existing conditions. The commercial property entrance/driveway on Moffett Park Drive between Mathilda Avenue and Bordeaux Drive would be closed as a result of the Project. Modifications to the two remaining entrances/driveways (one on Mathilda Avenue and the other on Bordeaux Drive) would be minor and visually consistent with existing conditions.

The most notable visual changes would be modifications to Mathilda Avenue and to the SR 237 and US 101 on- and off-ramps, with associated vegetation removal. Impacts on vegetation, including trees, are addressed in further detail in Section 2.4, *Biological Resources*.

Mature landscaping is considered to be an attractive visual resource. Areas where vegetation would be removed would be replanted as a part of the Project, with the exception of the clear recovery zone<sup>2</sup> and the areas that would be converted to bioretention basins (refer to Section 1.3.1.4, *Storm Water Treatment*). Implementation of Avoidance and Minimization Measure AES-1, *Restore Highway Planting*, and Avoidance and Minimization Measure AES-2, *Incorporate Bioretention Basins in Planting Design*, would ensure that the replacement planting and bioretention basins will be designed to blend with existing highway planting and create a cohesive landscape. Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, would further aid in improving Project aesthetics.

Figure 2.2-2 *Simulated Views* for KOP 1 and Figure 2.2-3, *Simulated Views* for KOP 2, show changes to the Mathilda Avenue corridor that would result in slight changes to views. However, the changes would be consistent with the existing visual character. As shown in the figures, there would be changes to landscaping (1) on both sides of the northbound US 101 on- and off-ramp to accommodate the reconfigured ramp; (2) west of Mathilda Avenue to accommodate the new retaining wall; and (3) east of Mathilda Avenue to accommodate new lanes for the SR 237 on-ramp and right hand turns onto Ross Drive. Each would result in slight visual changes. However, views would still be of vegetation.

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<sup>2</sup> An area clear of fixed objects adjacent to the traveled way.

As seen in the *Simulated View* for KOP 1, vegetation removal would be needed to shift the ramps over, to create a perpendicular connection for the northbound US 101 on- and off-ramps to Mathilda Avenue. The relocated sidewalk and crosswalk would be slightly more visible from this vantage point. New elements within this view would be the new traffic signal and a short, concrete barrier to separate traffic entering and exiting the ramp. These changes would create a slightly wider ramp but would allow for the existing northbound US 101 off-ramp to be removed and revegetated, with groundcover and accent shrubs planted in the old ramp alignment. The proposed southbound on- and off-ramps would result in similar visual changes associated with creating a perpendicular intersection with Mathilda Avenue. These changes would be visible to roadway users on Mathilda Avenue and on the ramps, and to pedestrians using sidewalks.

One new retaining wall would be installed north of the existing northbound US 101 loop off-ramp. This wall would be located within the existing state right-of-way, on the west side of Mathilda Avenue. The wall would be approximately 400 feet long and vary in height from 2 to 4 feet. Construction of the retaining wall would require vegetation removal. Removal of mature trees and shrubs west of Mathilda Avenue would slightly detract from views, but this area would be replanted with screening shrubs. Also, the new retaining wall would not be visible from Mathilda Avenue as it would be even with or at a slightly lower elevation than the roadway, as shown in the *Simulated View* for KOP 1. Views from the parking lot of businesses to the west of this new retaining wall would be slightly affected by tree removal. However, views of the wall would be screened by an existing privacy fence along the parking lot that buffers views of the roadway, and replanting with screening shrubs would help to replace screening that existing trees and shrubs provide. As shown in the *Simulated View* for KOP 2, the landscaping changes west of Mathilda Avenue would blend in with the existing roadside vegetation and are would therefore not be very noticeable. Avoidance and Minimization Measure AES-3, *Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls*, would ensure that the aesthetic treatment of any visible wall surface will be included.

The Project would require that vegetation between Mathilda Avenue and Persian and Weddell Drives be removed to accommodate new lanes for the SR 237 on-ramp and right hand turns onto Ross Drive, which can be seen in the *Simulated View* for KOP 2. As shown in the simulation, this area would be replanted with trees, shrubs, and groundcover; however, it would take several years for this landscaping to mature and provide the same level of vegetative cover and shade. Nevertheless, the landscaping would still be attractive and add to the vegetated roadway corridor. These changes would be most visible to roadway users and pedestrians but would not be readily visible from adjacent residences because the existing sound wall along Mathilda Avenue would remain and residential privacy fencing and landscaping helps limit views. However, some of the tall evergreen trees growing along Persian and Weddell Drives (refer to *Existing View* for KOP 2) would be removed.

The roadway widening would slightly increase the roadway surface area, and roadway striping would be altered. This would not substantially change the roadway character. As





**Figure 2.2-1**  
**KOP Simulation Location Map**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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Existing



Simulation

Graphics ... 00522.13 (5-2-2016).tm

**Figure 2.2-2**  
**KOP 1 – Existing and Simulated Views for the Build Alternative**  
Mathilda Avenue Improvements at SR 237 and US 101 Project



Existing



Simulation

Graphics ... 0052213 (7-12-2016).tm

**Figure 2.2-3**  
**KOP 2 – Existing and Simulated Views for the Build Alternative**  
Mathilda Avenue Improvements at SR 237 and US 101 Project



Graphics ... 0052213 (7-12-2016).tm

**Figure 2.2-4**  
**KOP 3 – Existing and Simulated Views for Build the Alternative**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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shown in the *Existing View* for KOPs 1 and 2, cobbles pave the thinner portion of the median and mature trees are growing where the median is slightly wider. As shown in the simulations, the median footprint would be slightly modified and cobbles would still pave thinner portions of the median. As shown in KOP 1, the thinner median sections would not be wide enough to accommodate replacement plantings; thus, there would be views of a slightly wider roadway corridor. As shown in the simulation for KOP 2, instead of trees, low-growing groundcover and accent shrubs would be planted in the median near the Mathilda Avenue intersection with Ross Drive, which would slightly alter views but would not substantially alter the visual character of the Project site. The medians from the US 101 ramps and south to Almanor Avenue and north of Ross Drive would be slightly reconfigured, but would remain paved with cobbles and concrete, consistent with existing views. However, wider portions of these reconfigured medians would also be planted with low-growing groundcover and accent shrubs. This would increase the amount of shrub and groundcover plantings within the medians.

Pedestrian facilities along Mathilda Avenue would be very similar to existing conditions. Sidewalks would be only slightly shifted to accommodate turn lanes, as shown in the *Simulated Views* for KOP 1 and KOP 2. Similarly, striping would be added to delineate bicycle facilities. The existing concrete barrier on the Mathilda Avenue Bridge over US 101 that separates vehicular from pedestrian traffic would be removed. There would be a bicycle lane on both sides of the bridge, separated from traffic only by striping. The outermost bridge barrier would be replaced with a new barrier. This would slightly alter views on the bridge by removing the intermediate barrier between the roadway and sidewalks and using roadway striping in place of the barrier. Avoidance and Minimization Measure AES-3, *Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls*, would ensure that the aesthetic treatment of any visible wall surface will be included in the Project. New bicycle facilities to the north of Ross Drive would have the same visual character that is associated with striping to delineate the bicycle lanes. Bicycle facilities associated with the Project would increase recreational viewer access because currently there are few such facilities.

The SR 237 ramp connections to Mathilda Avenue would also result in small areas of vegetation removal that would be needed for the ramp reconfigurations. These changes are primarily associated with the westbound SR 237 ramps. However, shifting the westbound off-ramp to follow the current alignment of Moffett Park Drive creates a newly available space for planting in the area where the old ramp segment would be removed. The Project would provide bicycle facilities between Mathilda Avenue and Bordeaux Drive. The Project would also connect Moffett Park Drive to Bordeaux Drive to maintain vehicular access to Mathilda Avenue via Innovation Way. The westbound SR 237 on-ramp would be slightly reconfigured and would have a bioretention area.

Views from SR 237 and US 101 would not be greatly altered by the Project because roadway users on the freeways would quickly pass by the interchanges. However, even at highway speeds, viewers would notice minor visual changes resulting from vegetation removal.

Implementation of Avoidance and Minimization Measure AES-1, *Restore Highway Planting*, would ensure that infill plantings will be provided to further supplement replacement plantings and create a visually cohesive highway landscape. Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, will maximize tree preservation to the extent possible and further improve Project aesthetics.

The eastbound SR 237 on- and off-ramps would not result in visually apparent changes when seen in passing on the freeway because changes would primarily be lane striping occurring further up the ramps, closer to the intersection with Mathilda Avenue. Views from westbound SR 237 would be of slightly wider ramp exits and altered lane striping to accommodate an additional off-ramp lane. These views would only occur in passing.

From US 101, there would be noticeable visual changes due to hardscape changes associated with ramp reconfiguration, landscape changes associated with vegetation removal and replacement plantings, and changes resulting from the modification and installation of safety barriers. As shown in the *Simulated View* for KOP 3 (Figure 2.2-4), the southbound US 101 off-ramp would be slightly wider, and the off-ramp intersection with Mathilda Avenue would be more exposed. The wider ramp would slightly increase the amount of visible pavement and result passing traffic on Mathilda Avenue being more visible from this vantage point. As shown in the foreground of the simulation, the most notable changes from this vantage point would be associated with vegetation removal along the right side of the ramp. Removing the existing mature trees and shrubs and replanting with shorter shrubbery would create more direct views of an office building, parking lot, parked cars, and fencing. A limited amount of vegetation would also be removed to the left of the ramp to accommodate the ramp realignment; this area would be replanted with low-growing groundcovers. In addition, portions of existing vegetation within the ramp loop, which is behind existing vegetation that will remain and which is not visible within the simulation, would be affected by the Project. However, most of these areas would be replanted with low-growing groundcovers and shrubs, except for within the clear recovery zone and in areas that would be converted to bioretention basins. Replacement plantings would improve aesthetics, and implementation of Avoidance and Minimization Measure AES-1, *Restore Highway Planting*, would ensure that infill plantings will be provided to supplement replacement plantings and further improve Project aesthetics. Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, will maximize tree preservation to the extent possible and further improve Project aesthetics.

The bioretention basins would not be visible to viewers from the vantage of KOP 3 due to screening provided by existing and newly planted trees and shrubs. The bioretention basins would appear as sunken, grassy depressions that would hold water for short periods of time until the water infiltrates or enters the drainage system, and would mostly be seen by roadway users traveling on the US 101 ramps. Implementation of Avoidance and Minimization Measure AES-2, *Incorporate Bioretention Basins in Planting Design*, would use design means to blend the bioretention basins with the overall highway planting, thus improving Project aesthetics.



Similar visual changes associated with vegetation removal, replacement plantings, and bioretention basins would be seen when traveling on northbound US 101. Reconfiguration of the existing northbound US 101 off-ramp to northbound Mathilda Avenue would occur in the Project area that corresponds to the portion of US 101 that is classified as Landscaped Freeway. Replacement plantings would occur in this area. Consequently, views of this section of US 101 would not be greatly affected, and the replacement planting would serve to retain the designation of Landscaped Freeway. In addition, landscaping would be planted where the northbound loop off-ramp is removed, increasing the overall amount of landscaping associated with the interchange. Implementation of Avoidance and Minimization Measure AES-1, *Restore Highway Planting*, would ensure that additional plantings will be provided to supplement replacement plantings to create a visually cohesive highway landscape. Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, will maximize tree preservation to the extent possible and further improve Project aesthetics.

The outer barrier along the Mathilda Avenue Bridge over US 101 would be replaced, and barriers along the ramps, placed to separate traffic traveling in opposite directions, would be visible from the vantage of KOP 3, as shown in the *Simulated View*. Avoidance and Minimization Measure AES-3, *Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls*, would ensure that the aesthetic treatment of any visible barrier and wall surfaces will be included. Aesthetic treatment of these roadway features would enhance the visual character of the Project setting and would be consistent with transportation corridor aesthetics. The barrier along the ramp would be hard difficult to seek out and focus upon in passing at fast freeway speeds but would be visible to roadway users on the ramps as they drive past the barrier. As shown in the simulation, new lane striping on the ramps would be consistent with existing visual conditions.

The sound wall between Weddell Drive and the northbound US 101 off-ramp would be replaced. The new wall would be the same height and would be shifted 3 feet towards Weddell Drive to accommodate the slightly wider ramp at this location. This would not allow enough space on the Weddell Drive side of the wall to replant the creeping vines that would be removed. Therefore, the bare wall surface would remain visible along this affected segment. While this is a relatively short segment of sound wall, it would negatively affect views from multi-family residences located along this portion of Weddell Drive. It would also be visible for pedestrians, recreationists, and roadway users traveling Weddell Drive and its associated sidewalks. These viewers would now see a stark wall surface, instead of a more pleasing vegetated wall surface. It would only briefly detract from views seen by roadway users along US 101 and on the northbound US 101 off-ramp, as viewers tend to pass by quickly. Avoidance and Minimization Measure AES-3, *Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls*, would ensure that the aesthetic treatment of any visible barrier and sound wall surface will be included and help maintain the visual quality of the Project setting.

Given the above, permanent impacts on the existing visual character or quality of the site and its surroundings would be less than significant.

### **Temporary Impacts**

The most visible activities during construction would be modifications occurring on the roadway and ramps. Other visible activities occurring during construction include removal of mature landscaping such as trees, shrubs, and vines; replacement of the sound wall between Weddell Drive and the northbound US 101 off-ramp; installation of a new retaining wall within existing state right-of-way on the west side of Mathilda Avenue north of the existing northbound US 101 loop off-ramp; modification of the local roadway intersection connections and driveway entrances to Mathilda Avenue; relocation of utilities; modification and installation of lighting, ramp metering, and overhead signage; and enhancement of bicycle and pedestrian facilities. These activities would be seen as a continuation of construction activities associated with roadway and ramp improvements and would only result in minor visual changes as the modifications are occurring.

Individuals most affected by construction would be at single-family residences along Weddell Drive and Persian Drive and multi-family residences along Weddell Drive, who would experience visually disruptive construction activities. Construction occurring north of SR 237 would not greatly affect businesses in this area because of existing and on-going construction activities. Construction activities would be visible from SR 237 and US 101, but roadway users would pass by the Mathilda Avenue interchanges very quickly and would have only brief, passing views. The majority of construction activities would be visible to roadway users on Mathilda Avenue. Specific equipment that would be used for construction includes graders, excavators, pavers, compactors, and various types of construction vehicles (e.g., pickup trucks, dump trucks). The visual presence of construction activities is considered temporary because the Project would take approximately 12 months to construct, and the temporary visual changes from construction signaling, signage, and lighting would not be significant. Therefore, temporary construction impacts on the existing visual character or quality of the site and its surroundings would be less than significant.

### **Light and Glare**

#### **Permanent Impacts**

The Project would result in a nominal increase in daytime glare by increasing the paved area and by removing mature roadside vegetation that provides shade. To minimize daytime glare, the new pavement would be grey, similar to existing conditions, and some mature roadside vegetation would remain along the right-of-way to provide shade. Although it would take a few years to mature and provide the same level of shading as currently exists, new highway and street planting would be provided within the Project corridor. Therefore, the Project would not create a permanent new source of substantial glare that would adversely affect daytime or nighttime views in the area.

The Project proposes minor physical changes to signalized intersections and street lighting. Existing signalized intersections and changes to these intersections include:

- *Mathilda Avenue with Innovation Way*- Signal modified (including the light rail crossing signals and facilities)
- *Mathilda Avenue with Moffett Park Drive*- Signal removed
- *Mathilda Avenue with SR 237 West*- Signal removed, new signals would be installed for the relocated ramp entrances
- *Mathilda Avenue with SR 237 East*- Signal removed, new signals would be installed for the relocated ramp entrances
- *Mathilda Avenue with Ross Drive*- Signal modified (including the light rail crossing signals and facilities)
- *Mathilda Avenue with Almanor Avenue*- No change to signal
- *Innovation Way with Moffett Park Drive*- Signal modified (including the light rail crossing signals and facilities)
- *Innovation Way at Juniper Networks driveway*- Modify and signalize the intersection

In addition, new traffic signals would be installed at the Mathilda Avenue intersection with northbound and southbound US 101.

Signal modification and the overall contribution of one additional signalized intersection compared to existing conditions would result in an inconsequential increase in lighting from signals in an area that is already well lit. The existing overhead street lighting would also need to be modified to accommodate the new, slightly expanded roadway corridor and reconfigured ramps. Lighting would be relocated where the widened corridor would affect existing light posts along the edge of the roadway and ramps, and within the median near Moffett Place.

In addition, lighting would be enhanced for security and safety purposes, resulting in an increased amount of light within the corridor. If shielding is not provided and blue-rich white light lamps are used, lights can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow (International Dark-Sky Association 2010a, 2010b, 2015). This could result in a substantial source of nighttime light and glare that could adversely affect nighttime views in the area. Avoidance and Minimization Measure AES-4, *Apply Minimum Lighting Standards*, would ensure that impacts associated with lighting would be less than significant.

### **Temporary Impacts**

Nighttime construction would occur, requiring the use of nighttime lighting at the construction site, which would result in nuisance light. Avoidance and Minimization

Measure AES-5, *Minimize Fugitive Light from Portable Sources Used for Construction*, would ensure that lighting used for construction would be directed downward and that spill light would be minimized to the greatest extent possible through use of shielding, if necessary, to prevent spill lighting on adjacent offsite uses. Temporary construction impacts resulting from changes to light and glare would be less than significant.

## **2.2.4 Avoidance, Minimization, and/or Mitigation Measures**

The following avoidance and minimization measures would be incorporated into the Project during construction, as applicable, to reduce the effects of the impacts discussed above in Section 2.2.3, *Impact Analysis*.

### **Avoidance and Minimization Measure AES-1: Restore Highway Planting**

A restored highway landscape will be provided within the interchanges of SR 237 and US 101 with Mathilda Avenue. A cohesive highway planting design, including additional plantings in areas not directly impacted by Project construction, will ensure that replacement plantings are integrated with the existing landscape to meet community expectations. Replacement planting will be installed within 2 years of roadway construction in keeping with Caltrans Replacement Highway Planting policy defined in Chapter 29 of the *Project Development Procedures Manual*. A plant establishment period of 3 years will be provided to ensure that new planting matures.

### **Avoidance and Minimization Measure AES-2: Incorporate Bioretention Basins in Planting Design**

Bioretention basins will be integrated with the overall highway planting design, using landform grading<sup>3</sup> and/or ornamental planting.

### **Avoidance and Minimization Measure AES-3: Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls**

Architectural treatment will be provided on new bridge barriers, sound walls, and the visible side of retaining walls.

### **Avoidance and Minimization Measure AES-4: Apply Minimum Lighting Standards**

All artificial outdoor lighting and overhead street lighting will be designed to have minimum impact on the surrounding environment. Design measures to reduce light pollution will use technologies such as downcast, cut-off type fixtures that are shielded and that direct only the minimum light necessary toward objects requiring illumination.

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<sup>3</sup> A design concept which utilizes grading techniques that replicate natural slopes, resulting in aesthetically pleasing elevations and profiles.

### **Avoidance and Minimization Measure AES-5: Minimize Fugitive Light from Portable Sources Used for Construction**

The construction contractor will be required to minimize Project-related light and glare to the maximum extent feasible, given safety considerations. Color corrected lights that minimize white light (or an appropriate substitute) will be used. Portable lights will be operated at the lowest allowable wattage and height and will be raised to a height no greater than 20 feet. All lights will be screened or shielded and directed downward toward work activities and away from the night sky, highway users, highway neighbors, and, particularly, adjacent offsite uses (i.e., residential areas), to the maximum extent possible. The number of nighttime lights used will be minimized to the greatest extent possible.

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## 2.3 Air Quality

The information in this section is based on the *Air Quality Study Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This report was approved in May 2016. Please refer to the *Air Quality Study Report* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.3.1 Regulatory Setting

The Federal Clean Air Act, as amended, is the primary federal law that governs air quality. The California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards (see Table 2.3-1) have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM<sub>10</sub>) and particles of 2.5 micrometers and smaller (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics or TACs) and mobile source air toxics (MSAT). Toxic air contaminants and mobile source air toxics are pollutants that may result in an increase in mortality or serious illness, or that may pose a present or potential hazard to human health. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Some criteria pollutants are also air toxics or may include certain air toxics in their general definition. In addition, the U.S. EPA identified the following seven compounds as priority mobile source air toxics (MSATs):

- Acrolein
- Benzene
- 1,3-Butadiene
- Diesel particulate matter/diesel exhaust organic gases
- Formaldehyde
- Naphthalene
- Polycyclic organic matter

**Table 2.3-1. National and California Ambient Air Quality Standards Applicable in California**

Pollutant	Symbol	Average Time	Standard (ppm)		Standard (µg/m <sup>3</sup> )		Violation Criteria	
			California	National	California	National	California	National
Ozone	O <sub>3</sub>	1 hour	0.09	NA	180	NA	If exceeded	NA
		8 hours	0.070	0.070	137	137	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor within an area
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO <sub>2</sub>	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	NA
Sulfur dioxide	SO <sub>2</sub>	Annual arithmetic mean	NA	0.030	NA	NA	NA	If exceeded
		24 hours	0.04	0.14	105	NA	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	75	655	196	If exceeded	NA
Hydrogen sulfide	H <sub>2</sub> S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C <sub>2</sub> H <sub>3</sub> Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA
Inhalable Particulate Matter (PM)	PM10	Annual arithmetic mean	NA	NA	20	NA	If exceeded	If exceeded at each monitor within area
		24 hours	NA	NA	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	NA	NA	12	12.0	If exceeded	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	NA	NA	NA	35	NA	If 3-year average of 98 <sup>th</sup> percentile at each population-oriented monitor within an area is exceeded



Pollutant	Symbol	Average Time	Standard (ppm)		Standard (µg/m <sup>3</sup> )		Violation Criteria	
			California	National	California	National	California	National
Sulfate particles	SO <sub>4</sub>	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded on more than 1 day per year
		30-day average	NA	NA	1.5	NA	If equaled or exceeded	NA
		Rolling 3-month average	NA	NA	NA	0.15	If equaled or exceeded	Averaged over a rolling 3-month period
<p>Source: California Air Resources Board 2015</p> <p>Notes: All standards are based on measurements at 25°C and 1 atmosphere pressure; national standards shown are the primary (health effects) standards; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter; NA = not applicable.</p>								

The Federal Clean Air Act Section 176(c) outlines federal transportation conformity requirements, which prohibit federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan (SIP) for attaining the NAAQS. The Transportation Conformity Act takes place on two levels: the regional, or planning and programming level, and the project level. A project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and maintenance (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. Where a project does not conform, the project must be evaluated under the regional transportation conformity requirements unless the project is already included in an approved Regional Transportation Plan (RTP) and/or Transportation Improvement Program (TIP), and the project design concept or scope remains the same as that described in the RTP and/or TIP.

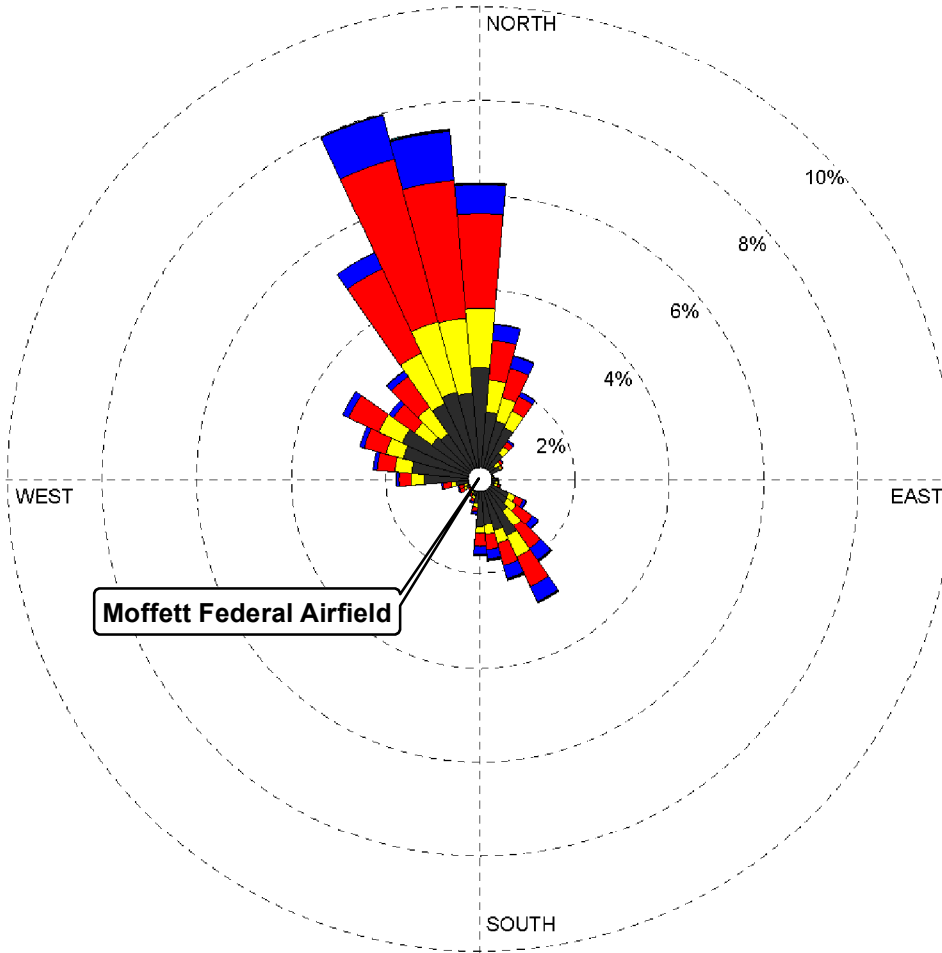
### **2.3.2 Existing Conditions**

The Project lies within the Santa Clara Valley region of the San Francisco Bay Area Air Basin. The northwest-southeast oriented Santa Clara Valley is bounded by the Santa Cruz Mountains to the west, the Diablo Range to the east, the San Francisco Bay to the north, and the convergence of the Gabilan Range and the Diablo Range to the south. Temperatures are warm in summer, under mostly clear skies, although a relatively large diurnal range results in cool nights. Winter temperatures are mild, except for very cool but generally frostless mornings. At the northern end of Santa Clara Valley, the Norman Y. Mineta San Jose International Airport mean maximum temperatures range from the high 70s to the low 80s Fahrenheit during the summer to the high 50s to the low 60s Fahrenheit during the winter. Mean minimum temperatures range from the high 50s during the summer to the low 40s during the winter. Farther inland, where the moderating effect of the San Francisco Bay is not as strong, temperature extremes are greater. Rainfall amounts are modest, ranging from 13 inches per year in the lowlands to 20 inches per year in the hills.

Figure 2.3-1 indicates the predominant wind direction in the region based on meteorological data from Moffett Federal Airfield in Sunnyvale, located about 1 mile west of the Project site (California Air Resources Board 2015). The wind patterns in Santa Clara Valley are influenced greatly by the terrain, resulting in a prevailing flow roughly parallel to the Valley's northwest-southeast axis, with a north-northwesterly sea breeze extending up the Valley during the afternoon and early evening and a light south-southeasterly drainage flow occurring during the late evening and early morning. In summer, a convergence zone is sometimes observed in the southern end of Santa Clara Valley between Gilroy and Morgan Hill, when air flowing from the Monterey Bay through the Pajaro Gap gets channeled northward into the south end of the Santa Clara Valley and meets with the prevailing north-northwesterlies. Speeds are greatest in the spring and summer seasons, and least in the fall and winter seasons. Nighttime and early morning hours have light winds and are frequently calm in all seasons, while summer afternoon and evenings are quite breezy. Strong winds are rare, coming only with an occasional winter storm.

WIND ROSE PLOT:  
**Sunnyvale Wind Rose Plot**

DISPLAY:  
**Wind Speed  
 Direction (blowing from)**



WIND SPEED  
 (Knots)

- >= 21.58
- 17.11 - 21.58
- 11.08 - 17.11
- 7.00 - 11.08
- 4.08 - 7.00
- 0.97 - 4.08

Calms: 28.84%

COMMENTS:

DATA PERIOD:  
**Start Date: 1/1/1967 - 00:00  
 End Date: 12/31/1971 - 23:00**

COMPANY NAME:

MODELER:

CALM WINDS:  
**28.84%**

TOTAL COUNT:  
**43824 hrs.**

AVG. WIND SPEED:  
**4.23 Knots**

DATE:  
**3/25/2016**

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

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**Figure 2.3-1**  
**Sunnyvale Wind Rose Plot**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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The air pollution potential of Santa Clara Valley (Valley) is high. The Valley has a large population and the largest complex of mobile sources (which include motor vehicles) in the Bay Area, making it a major source of CO, particulate, and photochemical air pollution. In addition, photochemical precursors to ozone formation—nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs)—from San Francisco, San Mateo, and Alameda counties can be carried along by the prevailing winds to Santa Clara Valley, making it also a major ozone receptor. Geographically, the Valley tends to channel pollutants to the southeast with its northwest/southeast orientation, and concentrate pollutants by its narrowing to the southeast. Meteorologically, on high-ozone, elevated temperature inversion<sup>1</sup> days in the summer and fall, pollutants can be recirculated by the prevailing northwesterlies in the afternoon and the light drainage flow in the late evening and early morning, increasing the impact of emissions significantly. On high particulate and CO days during late fall and winter, clear, calm, and cold conditions associated with a strong surface-based temperature inversion prevail.

### 2.3.2.1 Existing Air Quality

Existing air quality conditions in the Project area can be characterized in terms of the NAAQS and California ambient air quality standards (CAAQS) that the federal and state governments have established for several different pollutants and by monitoring data collected in the region. The Bay Area Air Quality Management District monitors air quality conditions at over 30 locations throughout the Bay Area. These stations are used by the ARB and U.S. EPA to determine whether the County and San Francisco Bay Area Air Basin meet CAAQS and NAAQS and to determine the region's attainment status related to these standards. There are six air quality monitoring stations located within Santa Clara County, and the nearest stations to the Project site were used to characterize existing air quality conditions in the Project area.

The nearest air quality monitoring station is about 6.0 miles southwest of the Project site in the City of Cupertino on Voss Avenue. Until 2014, this station monitored for all criteria pollutants, except for CO, which was monitored until 2013. The closest monitoring station that monitors for all criteria pollutants through 2014, the most current reporting year, is in the City of San Jose on Jackson Street, about 7.5 miles southeast of the Project site. The San Jose monitoring station exceeded the state 1-hour ozone standard once in 2012 and the state and national 8-hour standards once for each standard during 2013. The Cupertino monitoring station also experienced an exceedance of the state and national 8-hour ozone standards once during 2013. The San Jose monitoring station reported state PM<sub>10</sub> standard and federal PM<sub>2.5</sub> standard exceedances in multiple instances during the 3-year monitoring period for which complete data are available (2012 to 2014). No violations of the state or federal CO standards have occurred at either monitoring station during the 3-year monitoring period. Table 2.3-2 identifies the attainment status of pollutants in Santa Clara County.

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<sup>1</sup> Thermal inversion occurs when a layer of warm air settles over a layer of cooler air that lies near the ground. The warm air holds down the cool air and prevents pollutants from rising dispersing.

**Table 2.3-2. Attainment Status of Santa Clara County**

Pollutant	Attainment Status	
	State	Federal
8-hour Ozone	Nonattainment	Marginal Nonattainment
Carbon Monoxide	Attainment	Moderate Maintenance
PM10	Nonattainment	Attainment
PM2.5	Nonattainment	Nonattainment

Sources: California Air Resources Board 2014; U.S. Environmental Protection Agency 2015a.

### 2.3.2.2 Sensitive Receptors

Sensitive receptors are generally defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors include schools, hospitals, and residential areas. Primary pollutants of concern to sensitive receptors are CO, diesel particulate matter (DPM), and, to a lesser extent, odors or odorous compounds such as ammonia and sulfur dioxide. Sensitive receptors would not be directly affected by emissions of regional pollutants, such as ozone precursors (ROG [Reactive Organic Gases] and NO<sub>x</sub>).

The Project area is located within an existing urban environment that includes a number of sensitive receptors, such as single- and multi-family homes, park/recreational land uses, and schools. Sensitive receptors near the Project area are shown on Figure 2.3-2. Figure 2.3-2 does not include the locations of scattered or individual sensitive receptors. The nearest sensitive receptors are 25 feet from the Project site.

## 2.3.3 Impact Analysis

### 2.3.3.1 No-Build Alternative

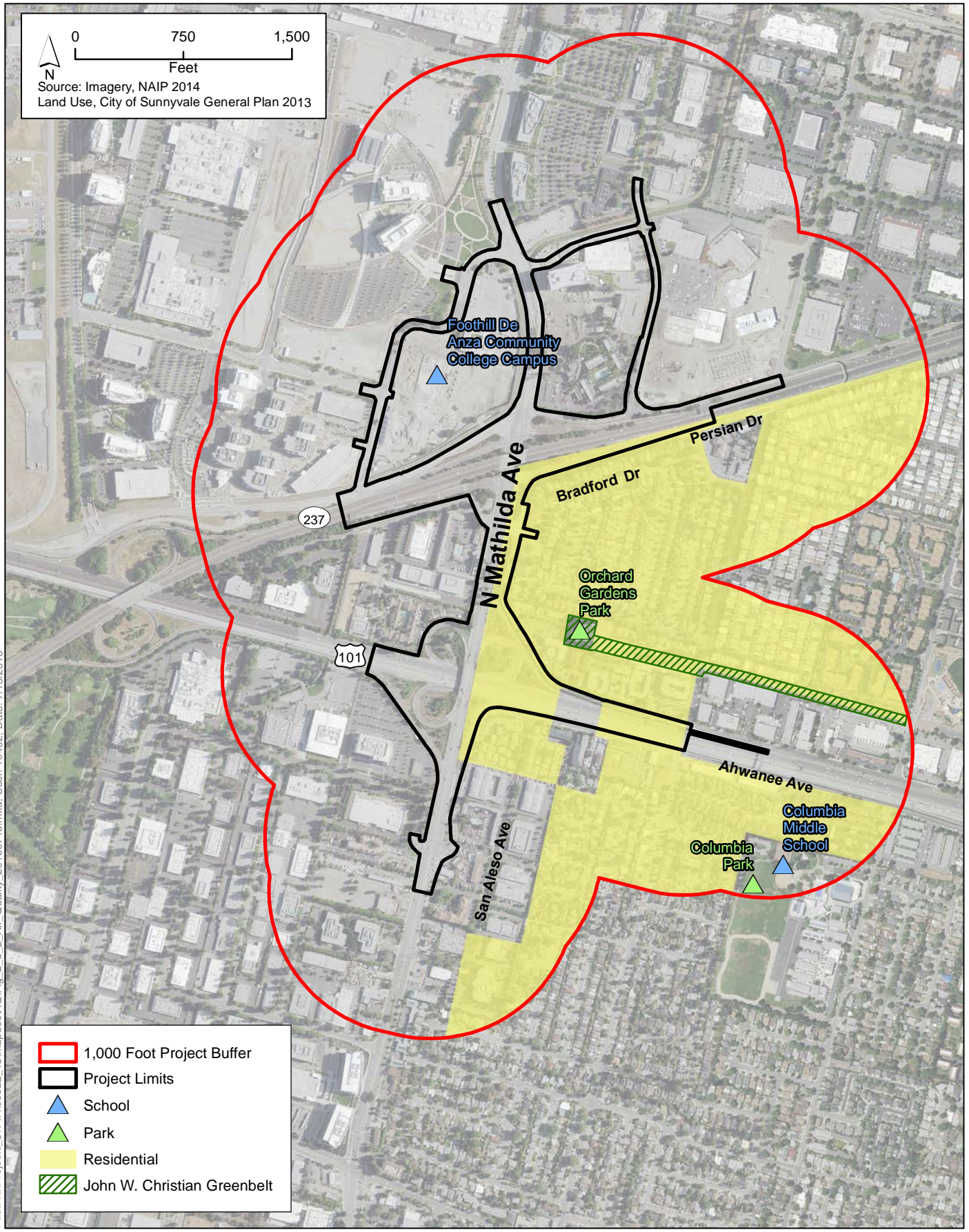
Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to air quality are anticipated.







### 2.3.3.2 Build Alternative

#### Operation

The primary operational emissions associated with the Project are CO, PM10, PM2.5, the ozone precursors ROG and NO<sub>x</sub>, and carbon dioxide (CO<sub>2</sub>) emitted as vehicle exhaust. Various models were used to determine emissions under the Project and the effects of criteria pollutants (ozone precursors, CO, PM10, and PM2.5), as well as CO<sub>2</sub> emissions, were quantified using emission factors obtained from Caltrans' CT-EMFAC emission modeling program (version 6.0) and traffic data provided by the Project traffic engineers. The effects of localized CO hot-spot emissions were evaluated through CO dispersion modeling using the *Transportation Project-Level Carbon Monoxide Protocol* developed for Caltrans by the Institute of Transportation Studies at the University of California, Davis (Garza et al. 1997)

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-  1,000 Foot Project Buffer
-  Project Limits
-  School
-  Park
-  Residential
-  John W. Christian Greenbelt

**Figure 2.3-2**  
**Air Quality Sensitive Receptors**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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and traffic data provided by the Project traffic engineers. The effects of localized PM were evaluated using the EPA and Federal Highway Administration's (FHWA) guidance manual, *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* (U.S. Environmental Protection Agency 2015b). MSAT emissions were evaluated using the FHWA's *Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*.

### **Conformity of the Regional Transportation Plan with the State Implementation Plan**

The Project is located in a marginal nonattainment for the federal 8-hour ozone standard. Because ozone and its precursors are regional pollutants, the Project must be evaluated under the regional transportation conformity requirements unless the Project is already included in an approved RTP and/or TIP, and the Project design concept or scope remains the same as that described in the RTP and/or TIP.

The Project is included in the Metropolitan Transportation Commission's (MTC) 2013 Regional Transportation Plan, Plan Bay Area (2040 RTP), which the FHWA and Federal Transit Administration determined to be in conformity with the State Implementation Plan on July 18, 2013. The Project is also included in the Metropolitan Transportation Commission's financially constrained 2015 TIP (ID SCL130001). The design concept and scope of the Project is consistent with the project description in the 2040 RTP, the 2015 TIP, and the assumptions in MTC's regional emissions analysis. Therefore, the Project does not need to be evaluated under regional transportation conformity requirements.

### **Carbon Monoxide**

Existing year (2013), opening year (2018), and design year (2040) conditions were modeled to evaluate CO concentrations at 4 receptor locations at each of the 12 intersections (see Figure 2.14-1 in Section 2.14, *Transportation/Traffic*) analyzed, for a total of 48 receptors. Traffic volumes and operating conditions used in the model were obtained from traffic data prepared by the Project traffic engineers. Only the PM peak hour traffic was modeled, as the traffic congestion would generally be worse in the PM peak hour than in the AM peak hour. The following intersections were included in the model for the specific Project conditions (Existing, No-Build, or Build):

- Mathilda Avenue and Moffett Park Drive (Existing and No-Build)
- Mathilda Avenue and SR 237 westbound ramps (Existing and No-Build)
- Mathilda Avenue and Moffett Park Drive-SR 237 westbound off-ramp (Build)
- Mathilda Avenue and SR 237 westbound on-ramp (Build)
- Mathilda Avenue and US 101 northbound ramps (Existing and No-Build)
- Mathilda Avenue and US 101 northbound ramps (Build)
- Mathilda Avenue and US 101 southbound ramps (Existing and No-Build)

- Mathilda Avenue and US 101 southbound ramps (Build)
- Mathilda Avenue and Almanor Avenue-Ahwanee Ave (Existing, No-Build and Build)
- Innovation Way and Juniper Networks Drive (Existing, No-Build and Build)
- Bordeaux Drive and Innovation Way (Existing and No-Build)
- Bordeaux Drive and Innovation Way (Build)

The 1- or 8- hour CAAQS for concentrations of CO is 20 parts per million (ppm) and 9 ppm, respectively. The analysis shows that the highest modeled concentrations of CO occur under Existing Conditions at the intersection of Mathilda Avenue and the US 101 southbound ramps, with a model result of 6.63 ppm for 1-hour and 4.90 ppm for 8-hour (see Table 2.3-3). The concentration of CO for all other intersections and all other Project conditions is less than these calculations. Therefore, the Project would not result in an exceedance of the 1- or 8- hour CAAQS for concentrations of CO.

**Table 2.3-3. CO Modeling Concentration Results (Parts per Million)**

Intersection	Receptor <sup>a</sup>	Existing (2013)		Opening Year (2018) No Build		Opening Year (2018) Build Alternative		Design Year (2040) No Build		Design Year (2040) Build Alternative	
		1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>
3A. Mathilda Avenue/Moffett Park Drive (Existing/No Build)	1	4.73	3.57	3.83	2.94	N/A	N/A	3.63	2.80	N/A	N/A
	2	4.43	3.36	3.63	2.80	N/A	N/A	3.53	2.73	N/A	N/A
	3	5.03	3.78	3.93	3.01	N/A	N/A	3.83	2.94	N/A	N/A
	4	4.23	3.22	3.63	2.80	N/A	N/A	3.53	2.73	N/A	N/A
3B. Mathilda Ave/SR 237 westbound Ramps (Existing/No Build)	5	4.53	3.43	4.23	3.22	N/A	N/A	3.83	2.94	N/A	N/A
	6	5.33	3.99	3.53	2.73	N/A	N/A	3.53	2.73	N/A	N/A
	7	5.23	3.92	4.13	3.15	N/A	N/A	4.03	3.08	N/A	N/A
	8	5.03	3.78	3.53	2.73	N/A	N/A	3.63	2.80	N/A	N/A
3A. Mathilda Avenue/Moffett Park Drive-SR 237 westbound Off-Ramp (Build Alternative)	9	N/A	N/A	N/A	N/A	4.53	3.43	N/A	N/A	4.23	3.22
	10	N/A	N/A	N/A	N/A	3.73	2.87	N/A	N/A	3.63	2.80
	11	N/A	N/A	N/A	N/A	4.43	3.36	N/A	N/A	4.03	3.08
	12	N/A	N/A	N/A	N/A	3.53	2.73	N/A	N/A	3.53	2.73
3B. Mathilda Avenue/SR 237 westbound On-Ramp (Build Alternative)	13	N/A	N/A	N/A	N/A	4.43	3.36	N/A	N/A	4.13	3.15
	14	N/A	N/A	N/A	N/A	3.53	2.73	N/A	N/A	3.33	2.59
	15	N/A	N/A	N/A	N/A	4.53	3.43	N/A	N/A	4.13	3.15
	16	N/A	N/A	N/A	N/A	3.53	2.73	N/A	N/A	3.43	2.66
6. Mathilda Avenue/US 101 northbound Ramps (Existing/No Build)	17	6.53	4.83	4.83	3.64	N/A	N/A	4.43	3.36	N/A	N/A
	18	4.53	3.43	3.73	2.87	N/A	N/A	3.53	2.73	N/A	N/A
	19	6.33	4.69	4.73	3.57	N/A	N/A	4.33	3.29	N/A	N/A
	20	4.83	3.64	3.83	2.94	N/A	N/A	3.63	2.80	N/A	N/A
7. Mathilda Avenue/US 101 southbound Ramps (Existing/No Build)	21	6.63	4.90	4.93	3.71	N/A	N/A	4.53	3.43	N/A	N/A
	22	5.23	3.92	4.13	3.15	N/A	N/A	3.93	3.01	N/A	N/A
	23	5.63	4.20	4.33	3.29	N/A	N/A	4.03	3.08	N/A	N/A
	24	5.03	3.78	3.93	3.01	N/A	N/A	3.73	2.87	N/A	N/A

Intersection	Receptor <sup>a</sup>	Existing (2013)		Opening Year (2018) No Build		Opening Year (2018) Build Alternative		Design Year (2040) No Build		Design Year (2040) Build Alternative	
		1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>	1-hr CO <sup>b</sup>	8-hr CO <sup>c</sup>
6. Mathilda Avenue/US 101 northbound Ramps (Build Alternative)	25	N/A	N/A	N/A	N/A	4.03	3.08	N/A	N/A	3.73	2.87
	26	N/A	N/A	N/A	N/A	4.03	3.08	N/A	N/A	3.83	2.94
	27	N/A	N/A	N/A	N/A	4.43	3.36	N/A	N/A	4.13	3.15
	28	N/A	N/A	N/A	N/A	4.03	3.08	N/A	N/A	3.83	2.94
7. Mathilda Avenue/US 101 southbound Ramps (Build Alternative)	29	N/A	N/A	N/A	N/A	4.83	3.64	N/A	N/A	4.53	3.43
	30	N/A	N/A	N/A	N/A	4.13	3.15	N/A	N/A	3.93	3.01
	31	N/A	N/A	N/A	N/A	4.83	3.64	N/A	N/A	4.53	3.43
	32	N/A	N/A	N/A	N/A	4.03	3.08	N/A	N/A	3.83	2.94
8. Mathilda Avenue/ Almanor Avenue/ Ahwanee Avenue	33	5.43	4.06	4.23	3.22	4.23	3.22	3.93	3.01	3.93	3.01
	34	5.13	3.85	4.03	3.08	4.03	3.08	3.83	2.94	3.83	2.94
	35	5.63	4.20	4.33	3.29	4.33	3.29	4.03	3.08	4.03	3.08
	36	4.43	3.36	3.63	2.80	3.63	2.80	3.53	2.73	3.53	2.73
12. Innovation Way/Juniper Networks Drive	37	3.23	2.52	3.03	2.38	3.13	2.45	3.03	2.38	3.13	2.45
	38	3.63	2.80	3.23	2.52	3.23	2.52	3.13	2.45	3.23	2.52
	39	3.33	2.59	3.13	2.45	3.13	2.45	3.13	2.45	3.23	2.52
	40	3.33	2.59	3.03	2.38	3.13	2.45	3.13	2.45	3.13	2.45
13. Bordeaux Drive/Innovation Way (Existing/No Build)	41	2.93	2.31	2.83	2.24	N/A	N/A	2.73	2.17	N/A	N/A
	42	2.83	2.24	2.73	2.17	N/A	N/A	2.73	2.17	N/A	N/A
	43	2.93	2.31	2.83	2.24	N/A	N/A	2.73	2.17	N/A	N/A
	44	2.83	2.24	2.73	2.17	N/A	N/A	2.73	2.17	N/A	N/A
13. Bordeaux Drive/Innovation Way (Build Alternative)	45	N/A	N/A	N/A	N/A	3.03	2.38	N/A	N/A	3.03	2.38
	46	N/A	N/A	N/A	N/A	3.13	2.45	N/A	N/A	3.13	2.45
	47	N/A	N/A	N/A	N/A	2.93	2.31	N/A	N/A	2.93	2.31
	48	N/A	N/A	N/A	N/A	3.03	2.38	N/A	N/A	3.03	2.38

a Receptors are located at 3 meters from the intersection, at each of the four corners. All intersections modeled have two intersecting roadways.  
b Average 1-hour background concentration between 2012 and 2014 was 2.63 ppm (U.S. Environmental Protection Agency 2016).  
c Average 8-hour background concentration between 2012 and 2014 was 2.10 ppm (U.S. Environmental Protection Agency 2016).

To be considered a Project of Air Quality Concern (POAQC), and require a PM<sub>2.5</sub> hotspot analysis, a project would need to be one of the following types of projects, as defined by the U.S. EPA's POAQC Guidance:

- i) *New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles.*

The Project would improve operations on Mathilda Avenue through the US 101 and SR 237 interchanges to reduce existing and future traffic congestion. Maximum Average Annual Daily Traffic<sup>2</sup> (AADT) under design year 2040 conditions will vary between approximately 51,000 and 65,000 on SR 237 and approximately 87,000 and 102,000 on US 101, depending on the direction of traffic flow. Heavy-duty trucks comprise 3.86 percent of US 101 AADT and 2.95 percent of SR 237 AADT, resulting in a truck AADT of 3,366 to 3,914 on US 101 and 1,520 to 1,913 on SR 237 (Fehr & Peers 2016). Truck percentages on SR 237 and US 101 would remain constant for all years of analysis and for the Build or No-Build Alternatives (i.e., the Project would not affect truck percentages between the Build and No-Build Alternatives). Truck volumes proportionally increase as total AADT increases with time, but predicted truck volumes would be well below the U.S. EPA's guidance criteria of 8 percent or 10,000 vehicles per day (maximum truck volume is 3,914). Accordingly, the Project would not serve a significant number of diesel vehicles or result in a significant increase in diesel vehicles.

- ii) *Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.*

Section 2.14.4 of the *Transportation/Traffic* section describes peak-hour Level of Service<sup>3</sup> (LOS) and delay at study area intersections under existing year (2013), opening (2018), and design year (2040) conditions. The peak-hour LOS and delay indicates three degradations in opening year LOS between the No-Build and Build Alternatives and six improvements each in opening year LOS between the No-Build and Build Alternatives. Under existing year (2013) conditions, total vehicle hours of delay during the AM peak hour would decrease from 1,319 hours under No-Build conditions to 493 hours under Build Alternative conditions. During the PM peak hour, total vehicle hours of delay would decrease from 1,504 hours under No-Build conditions to 1,285 hours for the Build Alternative conditions. There would be four degradations in design year LOS between the No-Build and the Build Alternatives. However, there would be two improvements in design year (2040) LOS between the No-Build and the Build Alternatives. Under design year (2040) conditions, total vehicle hours of delay during the AM peak hour would decrease from 2,989 hours under No-Build conditions to 1,948 hours for the Build Alternative conditions. During the PM peak hour, total vehicle hours of delay would decrease from 3,830 hours under No-Build conditions to 3,130 hours for Build

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<sup>2</sup> Total volume of vehicle traffic of a highway or road for a year.

<sup>3</sup> A qualitative measure of operating conditions within a traffic stream, and their perception by motorists and/or passengers. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety.

Alternative conditions. Refer to Section 2.14, *Transportation/Traffic* for more information.

- iii) *New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.*

The Project does not include new bus or rail terminals and transfer points.

- iv) *Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.*

The Project does not include new or expanded bus or rail terminals and transfer points.

- v) *Projects in or affecting locations, areas, or categories of sites which are identified in the PM2.5 or PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.*

Currently, there is no SIP for the federal PM2.5 standard.

Accordingly, the Project is not considered to be a POAQC, and project-level particulate matter conformity determination requirements are thus satisfied.

#### **Criteria Pollutants – Generation of Operation-Related Emissions of Reactive Organic Gases, Oxides of Nitrogen, Carbon Monoxide, and Particulate Matter**

Long-term air quality impacts are those associated with motor vehicles operating on the roadway network, predominantly those operating in the Project area. Emissions of ROG, NO<sub>x</sub>, CO, PM10, PM2.5, and CO<sub>2</sub> for existing year (2013), opening year (2018), and design year (2040) conditions were evaluated. Table 2.3-4 summarizes the modeled Project-related criteria pollutant emissions. The differences in emissions between the Build Alternative and No-Build Alternative conditions represent emissions generated directly as a result of implementation of the Project. Vehicular emission rates are anticipated to lessen in future years due to continuing improvements in engine technology and the retirement of older, higher-emitting vehicles.

In 2018, the Project would result in decreases in all pollutants compared to existing conditions. Compared to No-Build Alternative conditions in 2018, the Project shows a decrease in all pollutants, except for no change in ROG emissions. In 2040, the Project would result in decreases in all pollutants compared to existing conditions.

**Table 2.3-4. Mathilda Avenue Improvements Project-Related Criteria Pollutant Emissions (pounds per day)**

Scenario	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
2013 Existing	313	2,070	7,727	243	117
2018 No-Build	147	977	3,991	237	101
2018 Build	147	970	3,962	235	100
2040 No-Build	100	350	2,217	283	115
2040 Build	98	343	2,169	277	113

*Note:* Emissions calculations based on CT-EMFAC v6.0.

### Mobile Source Air Toxic Emissions

As discussed in Section 2.14, *Transportation/Traffic*, the Project would result in a decrease in vehicle miles traveled (VMT) compared to No-Build Alternative conditions (see Table 2.3-5). This decrease in VMT would not result in changes in vehicle mix (i.e., the mix of on-road vehicles modeled in the analysis), basic project location, or any other factor that would cause an increase in MSAT impacts.

**Table 2.3-5. Criteria Pollutant, MSAT, and CO<sub>2</sub> Modeling VMT Data Alternatives Comparison**

Comparison of VMT by Alternatives	Increase in Daily VMT	Increase in Annual VMT <sup>a</sup>
<b>Comparison of 2018 Build Conditions to Existing Conditions</b>		
2018 No Build—Existing	180,183	62,523,364
2018 Build Alternative 1—Existing	164,333	57,023,689
2018 Build Alternative 2—Existing	172,310	59,791,476
<b>Comparison of 2040 Build Conditions to Existing Conditions</b>		
2040 No Build—Existing	694,990	241,161,552
2040 Build Alternative 1—Existing	633,857	219,948,514
2040 Build Alternative 2—Existing	664,623	230,624,266
<b>Comparison of 2018 Build Conditions to 2018 No Build Conditions</b>		
2018 Build Alternative 1—2018 No Build	-15,849	-5,499,676
2018 Build Alternative 2—2018 No Build	-7,873	-2,731,889
<b>Comparison of 2040 Build Conditions to 2040 No Build Conditions</b>		
2040 Build Alternative 1—2040 No Build	-61,133	-21,213,037
2040 Build Alternative 2—2040 No Build	-30,367	-10,537,286

<sup>a</sup> Annual VMT values derived from Daily VMT values multiplied by 347, per ARB methodology (California Air Resources Board 2008).  
*Source:* Brooke pers. comm.

Table 2.3-6 indicates that implementation of the Project would result in either no change or a decrease in MSAT emissions under opening year (2018), and design- year (2040) conditions when compared to the existing and No-Build conditions. Therefore, the Project would have no MSAT effects, and a quantitative analysis of MSAT emissions is not required.

**Table 2.3-6. Mathilda Avenue Improvements Project MSAT Emissions (pounds per day)**

Scenario	Naphthalene	Acrolein	Benzene	1, 3-Butadiene	Formaldehyde	Diesel Particulate Matter	Polycyclic Organic Matter
2013 Existing	0	0	10	2	16	29	0
2018 No-Build	0	0	5	1	6	6	0
2018 Build	0	0	5	1	6	6	0
2040 No-Build	0	0	3	1	5	1	0
2040 Build	0	0	3	1	5	1	0

Note: Emissions calculations based on CT-EMFAC v6.0.

Moreover, U.S. EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with the U.S. EPA’s Motor Vehicle Emissions Simulator model forecasts a combined reduction of over 80 percent in the total annual emission rate for MSAT emissions from 2010 to 2050, while VMT is projected to increase by over 100 percent. This will reduce the background level of MSAT emissions and potentially reduce minor MSAT emissions from this Project.

## Construction

### Criteria Pollutants – Potential for Temporary Increase in Emissions during Grading and Construction Activities

Implementation of the Build Alternative would result in the construction of widened and reconfigured roads as well as intersection improvements. Temporary construction emissions of ozone precursors ROG and NO<sub>x</sub>, CO, and PM10 emissions would result from grubbing/land clearing, grading/excavation, drainage/utilities/subgrade construction, paving activities, and construction worker commuting patterns. Pollutant emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather.

To provide a realistic, yet conservative scenario, maximum daily emissions from construction activities were estimated assuming all equipment would operate at the same time during individual construction phases. Because of this conservative assumption, actual emissions could be less than those forecasted. Table 2.3-7 summarizes maximum daily emissions levels for the opening year 2018. The Bay Area Air Quality Management District (BAAQMD) thresholds are also provided for reference.



**Table 2.3-7. Worst-Case Construction Emission Estimates (pounds per day)**

				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust
Project Phases	ROG	CO	NO <sub>x</sub>	PM10	PM10	PM10	PM2.5	PM2.5	PM2.5
Grubbing/Land Clearing	1.4	11.0	15.4	25.7	0.7	25.0	5.8	0.6	5.2
Grading/Excavation	8.4	50.9	96.0	29.5	4.5	25.0	9.2	4.0	5.2
Drainage/Utilities /Sub-Grade	4.7	28.6	43.5	27.5	2.5	25.0	7.4	2.2	5.2
Paving	2.1	14.8	19.1	1.2	1.2	-	1.1	1.1	-
Maximum (pounds/day)	8.4	50.9	96.0	29.5	4.5	25.0	9.2	4.0	5.2
Total (tons/ construction project)	0.7	4.4	7.7	3.2	0.4	2.8	0.9	0.3	0.6
BAAQMD Threshold	54	-	54	-	82	BMPs	-	54	BMPs

Notes: BMPs = best management practices

Construction activities are subject to requirements found in Caltrans’ Standard Specifications (California Department of Transportation 2015), Section 14-9.02, which includes specifications relating to controlling air pollution by complying with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statutes provided in Government Code Section 11017 (Public Contract Code §10231). Standard specification Sections 14-11.04 and 18 address dust control and palliative requirements. Implementation of Avoidance and Minimization Measure AQ-1, *Implement California Department of Transportation Standard Specification Section 14*, and Avoidance and Minimization Measure AQ-2, *Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust*, would ensure that air quality impacts from construction activities are less than significant.

**Potential for Disturbance of Soil Containing Naturally Occurring Asbestos**

There are no geologic features normally associated with naturally occurring asbestos (i.e., serpentine rock or ultramafic rock near fault zones) in or near the Project area. However, the disturbance of naturally occurring asbestos in embankment fill during construction activities (e.g., excavation, grading, soil stockpiling) could generate asbestos-containing dust and pose an inhalation hazard for construction workers and the public. Potential impacts related to naturally occurring asbestos emissions during construction activities are discussed in Section 2.8, *Hazardous Waste/Materials*. Impacts would be reduced by implementation of Avoidance and Minimization Measure HAZ-1: *Prepare Preliminary Site Investigation* and Avoidance and Minimization Measure HAZ-2: *Prepare Construction Risk Management Plan*.

Furthermore, any construction activities that involve the demolition of any building or structure containing asbestos would be subject to the U.S. EPA's National Emissions Standards for Hazardous Air Pollutants and ARB's Airborne Toxic Control Measures.

## 2.3.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be incorporated into the Project during construction, as applicable, to reduce the effects of the impacts discussed above in Section 2.3.3, *Impact Analysis*.

### **Avoidance and Minimization Measure AQ-1: Implement California Department of Transportation Standard Specifications**

To control the generation of construction-related air pollutants and dust, the Project will follow Caltrans Department of Transportation Standard Specifications.

Standard Specification Section 7, "Legal Relations and Responsibility to the Public," addresses the contractor's responsibility regarding compliance with laws, responsibilities for public safety and convenience, and responsibilities for indemnification, insurance, and liability. Section 7-1.02C Emissions Reduction requires the contractor to submit a certification stating that the contractor is aware of emissions reduction regulations being mandated by the California Air Resources Board, the contractor will comply with such regulations before commencing the performance of the work, and the contractor will maintain compliance throughout the duration of this Contract.

Standard Specification Section 10, "Division II General Construction," address general specification for performing construction work. Section 10-5 Dust Control requires the contractor to prevent and alleviate dust by applying a dust palliative per Section 18, applying temporary soil stabilization per Section 13-5, and managing material stockpiles per Section 13-403C(3).

Standard Specification Section 18, "Dust Palliatives," includes specifications for applying dust palliatives. Section 18-1.01 requires the contractor to choose a dust palliative that is either water, a dust suppressant, or a dust control binder. Section 18-1.01 also includes testing requirements for dust suppressants, when to use dust palliatives, and how to use dust palliatives.

Standard Specification Section 14, "Environmental Stewardship," addresses the contractor's responsibility on many items of concern such as air pollution. Section 14-9.02 Air Pollution Control requires construction activities to comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, and ordinances, and statutes provided in Government Code Section 11017 (Public Contract Code §10231). Section 14-11.04 Dust Control requires all excavation, transportation, and handling of material containing hazardous

waste or contamination to not result in any visible dust migration. A water truck or tank is required when clearing, grubbing, and earthwork operations are performed in hazardous waste or contamination.

**Avoidance and Minimization Measure AQ-2: Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust**

Additional measures to control dust required by the BAAQMD (see Table 2.3-8) will be implemented to the extent practicable when the measures have not already been incorporated and do not conflict with requirements of Caltrans’ Standard Specifications, Special Provisions, and the National Pollutant Discharge Elimination System stormwater permit.

**Table 2.3-8. BAAQMD Feasible Control Measures for Construction Emissions of Particulate Matter**

<b>Basic Construction Measures Recommended for ALL Projects</b>
<ol style="list-style-type: none"> <li>1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.</li> <li>2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</li> <li>3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</li> <li>4. All vehicle speeds on unpaved roads shall be limited to 15 mph.</li> <li>5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</li> <li>6. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.</li> </ol>
<b>Additional Construction Measures Recommended for Projects with Construction Emissions Above the Threshold</b>
<ol style="list-style-type: none"> <li>1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12%. Moisture content can be verified by lab samples or moisture probe.</li> <li>2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.</li> <li>3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.</li> <li>4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</li> <li>5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surface at any one time.</li> <li>6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.</li> <li>7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.</li> <li>8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.</li> </ol>

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## 2.4 Biological Resources

The information in this section is based on the *Natural Environment Study – Minimal Impact – for the Mathilda Avenue Improvements at SR 237 and US 101 Project* and the *Wetlands Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. These reports were approved in March 2016 and January 2016, respectively. The *Natural Environment Study – Minimal Impacts* and *Wetlands Assessment* are found in Appendix G, *Technical Studies*. Please refer to these studies for a detailed discussion of the information contained in this section.

### 2.4.1 Regulatory Setting

#### 2.4.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) is administered by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service. The National Marine Fisheries Service is responsible for protection of ESA-listed marine species and anadromous fishes, whereas other listed species are under USFWS jurisdiction. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

#### 2.4.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects migratory birds, their occupied nests, and their eggs. Most actions that result in “take” or in permanent or temporary possession of a protected species constitute violations of the MBTA. *Take* means “to pursue, hunt, take, capture, kill, possess, offer for sale, sell, offer to purchase, purchase, or transport...any migratory bird, or any part, nest or egg of any such bird” (USFWS 1998). The USFWS is responsible for overseeing compliance with the MBTA.

#### 2.4.1.3 Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law to protect the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain a water quality certification from the state in which the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also

comply with CWA Section 401. If a project would result in impacts on waters of the United States (or waters of the State), the project applicant would obtain and comply with Section 401 and Section 404 permits, and all conditions attached to those permits would be implemented as part of the project.

#### **2.4.1.4 California Endangered Species Act**

The California Endangered Species Act prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of take. Pursuant to California Fish and Game Code (CFGC) Section 86, *take* means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2090 of the California Endangered Species Act requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act and authorizes take through Section 2081 permits (except for species that are designated as fully protected). CDFW can adopt a federal biological opinion as a state biological opinion under CFGC Section 2095. In addition, for species listed under both the ESA and California Endangered Species Act, CDFW can issue a consistency determination stating that a document written in compliance with Section 7 of the ESA is consistent with CESA.

#### **2.4.1.5 California Fish and Game Code**

The CFGC provides protection from take for a variety of species, referred to as fully protected species. CFGC 3511 lists fully protected birds and prohibits take of these species. The code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected birds is prohibited.

CFGC 3513 prohibits the take or possession of any migratory non-game bird, as designated in the MBTA, or any part of such migratory non-game bird, except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. In addition, CFGC 3503 prohibits the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

#### **2.4.1.6 Porter-Cologne Water Quality Control Act**

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the State to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Act definition, waters of the State are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the State, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the State, regardless of whether the U.S. Army Corps of Engineers (USACE) has concurrent jurisdiction under CWA Section 404. If USACE determines that a wetland is not subject to

regulation under Section 404, CWA Section 401 water quality certification is not required. However, the Regional Water Quality Control Board may impose waste discharge requirements if fill material is placed into waters of the State.

### **2.4.1.7 California Native Plant Protection Act**

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and the sale of rare and endangered plants. The California Endangered Species Act defers to the California Native Plant Protection Act, which ensures that state-listed plant species are protected when state agencies are involved in projects that are subject to CEQA. In this case, plants that are listed as rare under the California Native Plant Protection Act are not protected under the California Endangered Species Act but rather under CEQA.

## **2.4.2 Existing Conditions**

The Project area encompasses approximately 63 acres. Biological resources and potential Project impacts on such resources were identified through a literature and database review, correspondence with USFWS, and reconnaissance field surveys. Field surveys were conducted within the Project area to identify vegetation and land cover types and assess habitat suitability for special-status species. During the botanical field surveys (March 6 and July 29, 2015), vegetation communities were identified and mapped, and trees were identified and recorded. A wetlands assessment was conducted concurrently with the botanical field surveys. During the wildlife survey (March 6, 2015), observations of habitat conditions and wildlife species were recorded in field notes.

### **2.4.2.1 Natural Communities**

Sensitive natural communities are communities (vegetation types) that are of limited distribution statewide or within a county or region, such as California sycamore woodlands. There are no sensitive natural communities within the Project area.

Land cover types within the Project area include developed and landscaped (Figure 2.4-1). For the purpose of this EIR land cover types are defined as the dominant character of the land surface as determined by vegetation, water, or human uses.

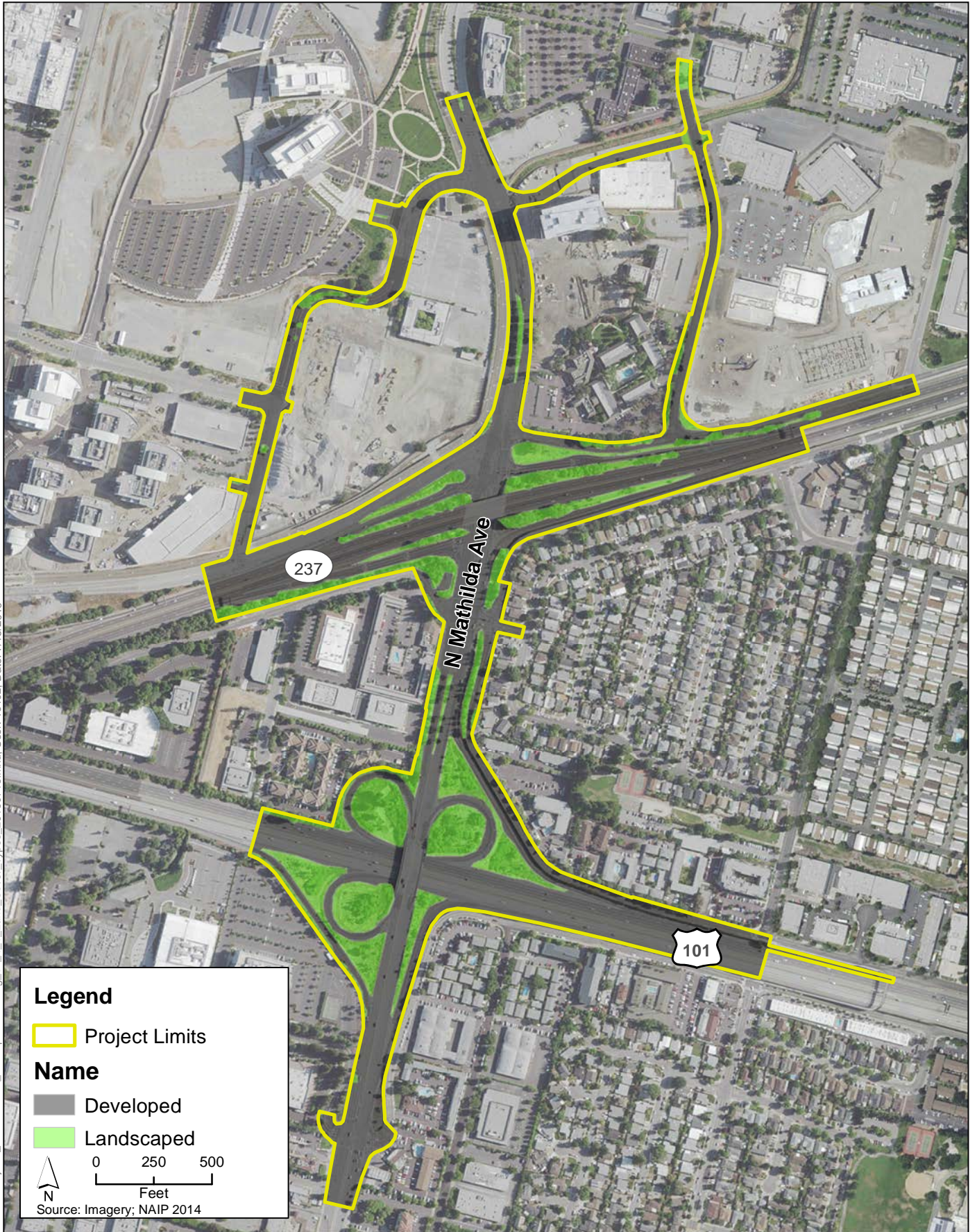
The developed land cover type consists of the existing paved Mathilda Avenue, on- and off-ramps from US 101 and SR 237, other existing roads, parking lots, and residential and commercial development. Developed land cover totals 48 acres in the Project area.

The landscaped land cover type comprises the remainder of the Project area (15 acres). Landscaped vegetation is typically planted and consists of non-native, ornamental plant species, and/or cultivars of native plant species that may or may not be regularly maintained or managed. Although not considered a natural vegetation community, landscaped vegetation can provide habitat and food sources for wildlife.

Trees in the Project area occur within the landscaped land cover type and consist mostly of non-native species. Table 2.4-1 includes a list of all 626 trees identified within the Project area and their approximate DBH. Refer to Figure 2.4-2 for the general locations of the identified trees.

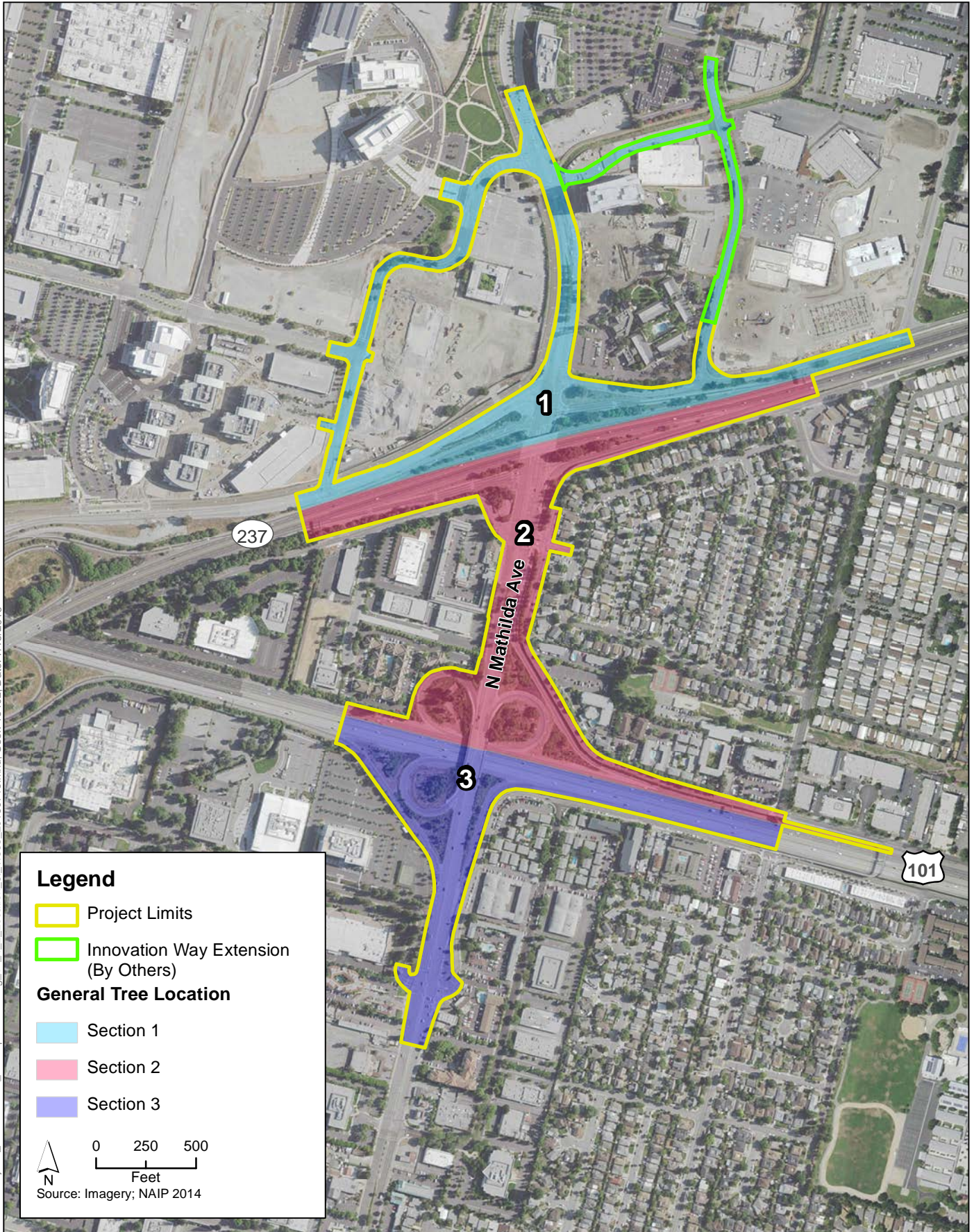


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**Figure 2.4-1**  
**Land Cover Types within the Study Area**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Figure 2.4-2**  
**General Locations of Trees within the Study Area**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

**Table 2.4-1. Trees in the Study Area**

Common Name	Scientific Name	Number of Trees	DBH (in inches)	General Location
ash	<i>Fraxinus</i> sp.	7	2–6	Project limits north of SR 237, including Moffett Park Drive (Figure 2.4-2, Section 1)
ash, autumn purple	<i>Fraxinus americana</i>	1	8	
ash, velvet	<i>Fraxinus velutina</i>	1	2–6	
blackwood acacia	<i>Acacia melanoxylon</i>	2	2–8	
Bradford pear	<i>Pyrus calleryana</i>	13	8–12	
camphor tree	<i>Cinnamomum camphora</i>	2	4–8	
Chinese elm	<i>Ulmus parvifolia</i>	5	2–8	
Chinese elm	<i>Ulmus parvifolia</i>	3	16	
Chinese pistache	<i>Pistacia chinensis</i>	1	6–10	
coast redwood*	<i>Sequoia sempervirens</i>	27	4–12	
crape myrtle	<i>Lagerstroemia</i> sp.	6	2–6	
crape myrtle	<i>Lagerstroemia</i> sp.	4	6–8	
gum	<i>Eucalyptus</i> sp.	1	20–30	
gum, blue	<i>Eucalyptus globulus</i>	1	14–18	
gum, blue	<i>Eucalyptus globulus</i>	3	20–30	
gum, red	<i>Eucalyptus camaldulensis</i>	8	30	
gum, silver dollar	<i>Eucalyptus polyanthemos</i>	2	30	
Italian stone pine	<i>Pinus pinea</i>	19	50–100	
oak, coast live*	<i>Quercus agrifolia</i>	10	6–10	
oak, southern live	<i>Quercus virginiana</i>	32	4–10	
oak, southern live	<i>Quercus virginiana</i>	1	30	
Peruvian pepper	<i>Schinus molle</i>	9	16–30	
purple-leaf plum	<i>Prunus cerasifera</i>	6	6–10	
sheoak	<i>Casuarina</i> sp.	1	6–10	
sheoak	<i>Casuarina</i> sp.	1	30–50	
unknown ornamental	—	1	6	

Common Name	Scientific Name	Number of Trees	DBH (in inches)	General Location
ash	<i>Fraxinus</i> sp.	4	6–12	Adjacent to Mathilda Avenue between SR 237 and US 101 (Figure 2.4-2, Section 2)
ash, autumn purple	<i>Fraxinus americana</i>	2	8	
blackwood acacia	<i>Acacia melanoxylon</i>	7	4–10	
California black walnut*	<i>Juglans californicus</i>	11	8–16	
camphor tree	<i>Cinnamomum camphora</i>	7	10–20	
Chinese elm	<i>Ulmus parvifolia</i>	5	6–10	
Chinese elm	<i>Ulmus parvifolia</i>	10	10–20	
Chinese pistache	<i>Pistacia chinensis</i>	29	8–12	
Chinese pistache	<i>Pistacia chinensis</i>	1	20	
Chinese privet	<i>Ligustrum lucidum</i>	19	6–10	
coast redwood*	<i>Sequoia sempervirens</i>	27	20–40	
crimson bottlebrush	<i>Callistemon citrinus</i>	2	6–10	
deodar cedar	<i>Cedrus deodara</i>	16	12–20	
deodar cedar	<i>Cedrus deodara</i>	17	20–30	
gum	<i>Eucalyptus</i> sp.	7	14–18	
gum, blue	<i>Eucalyptus globulus</i>	19	12–30	
gum, red	<i>Eucalyptus camaldulensis</i>	1	10–20	
gum, red	<i>Eucalyptus camaldulensis</i>	1	20	
Italian cypress	<i>Cupressus sempervirens</i>	1	8–12	
Lombardy poplar	<i>Populus nigra</i>	9	16–26	
London plane	<i>Platanus acerifolia</i>	4	10–20	
oak, coast live*	<i>Quercus agrifolia</i>	5	4–10	
oak, southern live	<i>Quercus virginiana</i>	34	4–10	
Peruvian pepper	<i>Schinus molle</i>	15	20–30	
Peruvian pepper	<i>Schinus molle</i>	28	8–16	
pine	<i>Pinus</i> sp.	6	6–10	
pine, Canary Island	<i>Pinus camariensis</i>	9	16–24	
purple-leaf plum	<i>Prunus cerasifera</i>	8	6–10	
purple-leaf plum	<i>Prunus cerasifera</i>	7	8–12	

Common Name	Scientific Name	Number of Trees	DBH (in inches)	General Location
red maple	<i>Acer rubrum</i>	3	8–12	Adjacent to Mathilda Avenue between SR 237 and US 101 (Figure 2.4-2, Section 2)
silk oak	<i>Grevillea robusta</i>	12	12–18	
silver birch	<i>Betula pendula</i>	2	16	
southern magnolia	<i>Magnolia grandiflora</i>	3	8–14	
unknown ornamental	<i>Prunus</i> sp.	5	8–12	
wax myrtle	<i>Myrica cerifera</i>	7	8–12	
western redbud*	<i>Cercis occidentalis</i>	1	4–8	
ash	<i>Fraxinus</i> sp.	1	6–12	
ash, autumn purple	<i>Fraxinus americana</i>	1	10	
blackwood acacia	<i>Acacia melanoxylon</i>	3	6–10	
California black walnut*	<i>Juglans californicus</i>	3	8–16	
Chinese elm	<i>Ulmus parvifolia</i>	8	6–10	
Chinese pistache	<i>Pistacia chinensis</i>	12	4–8	
Chinese privet	<i>Ligustrum lucidum</i>	3	6–10	
crape myrtle	<i>Lagerstroemia</i> sp.	18	4–8	
deodar cedar	<i>Cedrus deodara</i>	17	12–20	
gum	<i>Eucalyptus</i> sp.	3	12–20	
oak, southern live	<i>Quercus virginiana</i>	12	8–14	
olive	<i>Olea europaea</i>	2	6–10	
Peruvian pepper	<i>Schinus molle</i>	20	16–30	
pine	<i>Pinus</i> sp.	1	6–10	
southern magnolia	<i>Magnolia grandiflora</i>	1	16	
unknown ornamental	<i>Prunus</i> sp.	10	6–12	
<b>Total</b>		<b>626</b>		
* Native species DBH = diameter at breast height				

### 2.4.2.2 Wetlands and Other Waters

The Sunnyvale West Channel (refer to Figure 2.9-1 in Section 2.9, *Hydrology and Water Quality*) is a concrete-lined, flood control channel within the Project area. The channel is culverted underground as it crosses SR 237 and Mathilda Avenue. This channel is identified as a water of the United States that is subject to USACE jurisdiction. This channel is also assumed to be a water of the state that is subject to jurisdiction by the San Francisco Bay Regional Water Quality Control Board.

Storm water drainage ditches within the Project area do not meet the criteria to qualify as waters of the United States.<sup>1,2</sup> The ditches are excavated in dry land and do not drain wetlands or relocate tributaries. The ditches drain storm water runoff during rain events, but flow does not persist after rain events. Where there is vegetation associated with the ditches, instead of bare ground or gravel/cobble, the vegetation consists of ruderal or weedy species including wild oat, Italian thistle, and ripgut grass.

### 2.4.2.3 Plant Species

Based on the California Natural Diversity Database search results (California Department of Fish and Wildlife 2016), the California Native Plant Society (CNPS) inventory (California Native Plant Society 2016), and the USFWS species list (U.S. Fish and Wildlife Service 2016) for the Project region, it was determined that six plant species have the potential to occur in the Project region (Table 2.4-2). However, after completing field surveys, Project biologists determined that suitable habitat is not present for any of these plant species because of the predominant developed or landscaped land cover types.

### 2.4.2.4 Animal Species

The pallid bat is a California Species of Special Concern (see Table 2.4-3). The underside of the Mathilda Avenue overpass above US 101 was inaccessible during Project biologists' site visits because of the high volume of traffic on US 101. However, the pallid bat is not expected to occur under the overpass due to the species' incompatibility with urban development (Desert Renewable Energy Conservation Plan 2012; Technology Associates 2009); the urban character of the Project area, including high traffic volumes and human

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<sup>1</sup> Waters of the United States are defined in 33 Code of Federal Regulations (CFR) Part 328 as "(1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide, all interstate waters including interstate wetlands; (3) all other waters such as interstate lakes, rivers streams...(4) all impoundments of waters otherwise defined as waters of the United States under the definition; (5) tributaries of waters...(6) the territorial seas; (7) wetlands adjacent to waters...(8) Waters of the United States do not include prior converted cropland. Refer to 33 CFR Part 328 for complete description.

<sup>2</sup> Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Refer to Section 404 of the Clean Water Act for complete description.

activity; and the species having been extirpated<sup>3</sup> from the Santa Clara Valley floor due to extensive development (Johnston pers. comm.). Also, there was no observation of bat guano and staining under the overpass during the field survey.

### **Nesting Birds and Raptors**

The trees and shrubs within the undeveloped portions of the Project area provide suitable nesting substrate<sup>4</sup> for numerous bird species that are protected by the MBTA and CFGC.

While no active nests were observed during the March 2015 survey, an inactive cliff swallow nest was observed under the northern portion of the Mathilda Avenue overpass above US 101. Therefore, this species, as well as other swallows and black phoebes, could nest on this structure in the future.

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<sup>3</sup> Extirpated species are those that no longer survive in a region that was once part of their range.

<sup>4</sup> Nesting substrate is the material that physically supports a bird's nest, such as branches of a tree or a cavity in a tree or light post, or on which a nest is constructed, such as the ground (for ground-nesting birds) or the eaves of a building or bridge (for birds that attach mud nests to structures).

**Table 2.4-2. Special-Status Plant Species Known or with Potential to Occur in the Project Region**

<b>Common Name</b>	<b>Scientific Names</b>	<b>Status<sup>a</sup> Federal/ State/CNPS</b>	<b>Geographic Distribution</b>	<b>General Habitat Description</b>	<b>Blooming Period</b>	<b>Habitat (Present/Absent)</b>	<b>Rationale</b>
Alkali milk-veitch	<i>Astragalus tener</i> var. <i>tener</i>	–/–/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area.	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; 1–200 feet.	Mar–June	Absent	Playas, valley and foothill grassland, vernal pools, and adobe clay and alkaline soils not present in the Project area. Not observed during March or July 2015 surveys.
Congdon’s tarplant	<i>Centromadia parryi</i> ssp. <i>congdonii</i>	–/–/1B.1	East San Francisco Bay Area, Salinas Valley, Los Osos Valley.	Alkaline soils in annual grassland, on lower slopes, flats, and swales (sometimes on saline soils); below 755 feet.	May–Oct (Nov)	Absent	Alkaline and saline soils not present in the Project area. Not observed during March or July 2015 surveys.
Point Reyes bird’s-beak	<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	–/–/1B.2	Coastal Northern California, from Humboldt to Santa Clara County; Oregon.	Coastal salt marsh; below 33 feet.	June–Oct	Absent	Coastal salt marsh not present in the Project area. Not observed during March or July 2015 surveys.
Hoover’s button-celery	<i>Eryngium aristulatum</i> var. <i>hooveri</i>	–/–/1B.1	South San Francisco Bay Area; South Coast Ranges in Alameda, San Benito, Santa Clara, and San Luis Obispo Counties.	Vernal pools; 9–148 feet.	July (Aug)	Absent	Vernal pools not present in the Project area. Not observed during March or July 2015 surveys.



Common Name	Scientific Names	Status <sup>a</sup> Federal/State/CNPS	Geographic Distribution	General Habitat Description	Blooming Period	Habitat (Present/Absent)	Rationale
Slender-leaved pondweed	<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	-/-/2B.2	Scattered locations in California: Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Placer, Santa Clara, and Sierra Counties; Arizona, Nevada, Oregon, Washington.	Freshwater marsh, shallow emergent wetlands and freshwater lakes, drainage channels; 984–7,054 feet.	May–July	Absent	Freshwater marsh, shallow emergent wetlands, freshwater lakes not present in the Project area. Not observed during March or July 2015 surveys.
California seablite	<i>Suaeda californica</i>	FE/-/1B.1	Morro Bay, San Luis Obispo County, and San Francisco and Contra Costa Counties; historically found in the south San Francisco Bay.	Margins of tidal salt marsh; below 49 feet.	July–Oct	Absent	Tidal salt marsh not present in the Project area. Not observed during March or July 2015 surveys.

<sup>a</sup> Status explanations:

**Federal**

FE = listed as *endangered* under the Endangered Species Act (ESA)

- = no listing

**State**

- = no listing

**California Native Plant Society (CNPS)**

1A = List 1A species: presumed extinct in California

1B = List 1B species: rare, threatened, or endangered in California and elsewhere

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere

**CNPS Code Extensions:**

0.1 = seriously endangered in California (more than 80% of occurrences threatened/high degree and immediacy of threat)

0.2 = fairly endangered in California (20–80% of occurrences threatened)

**Table 2.4-3. Special-Status Wildlife Species Known or with Potential to Occur in the Project Region**

Common Names	Scientific Names	Legal Status (Federal/State/Other) <sup>a</sup>	General Habitat Description	Habitat Present/Absent	Rationale
<b>Invertebrates</b>					
San Bruno elfin butterfly	<i>Callophrys mossii bayensis</i>	FE/-	North-facing slopes and ridges that face the Pacific Ocean that support <i>Sedum spathulifolium</i> , its host plant; 600 to 1,100 feet.	Absent	No suitable slopes or ridges that face the Pacific Ocean present in the Project area. No <i>Sedum spathulifolium</i> observed in the Project area during March or July 2015 surveys.
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT/-	Native grasslands on outcrops of serpentine soil; California plantain and owl's clover are host plants.	Absent	No suitable native grasslands on outcrops of serpentine soil present in the Project area.
Vernal pool tadpole shrimp	<i>Lepidurus packardi</i>	FE/-	Found in vernal pools and ephemeral stock ponds.	Absent	No suitable vernal pool or ephemeral stock pond habitat in the Project area.
<b>Amphibians</b>					
California tiger salamander	<i>Ambystoma californiense</i>	FT/ST	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	Absent	No suitable aquatic breeding or upland (rodent burrow complexes within uplands) habitat in the Project area.
California red-legged frog	<i>Rana draytonii</i>	FT/SSC	Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation; may aestivate in rodent burrows or cracks during dry periods.	Absent	No suitable aquatic breeding or upland habitat (rodent burrow complexes) in the Project area.

Common Names	Scientific Names	Legal Status (Federal/State/ Other) <sup>a</sup>	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Reptiles</b>					
Western pond turtle	<i>Actinemys marmorata</i>	—/SSC	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Absent	No suitable marsh habitat in the Project area.
<b>Birds</b>					
Tricolored blackbird	<i>Agelaius tricolor</i> (nesting colony)	—/SCE, SSC	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	Absent	No suitable marsh habitat in the Project area.
Burrowing owl	<i>Athene cunicularia</i>	—/SSC	Level, open, dry, heavily grazed, or low-stature grassland or desert vegetation to forage in with available burrows for refuge and nesting.	Absent	No suitable level, open, dry, heavily grazed, or low-stature grassland or desert vegetation with available rodent burrows in the Project area.
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT/SSC	Coastal beaches above the normal high-tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent.	Absent	No suitable coastal beach habitat in the Project area.

<b>Common Names</b>	<b>Scientific Names</b>	<b>Legal Status (Federal/State/ Other)<sup>a</sup></b>	<b>General Habitat Description</b>	<b>Habitat Present/ Absent</b>	<b>Rationale</b>
Northern harrier	<i>Circus cyaneus</i>	—/SSC	Grasslands, meadows, marshes, and seasonal and agricultural wetlands; nests on the ground within a thicket of vegetation.	Present (foraging)/ A (nesting)	No suitable grassland, meadow, marsh, or wetland habitat in the Project area. Known to occur within 2 miles of the Project area (California Department of Fish and Wildlife 2015) but not expected to nest because of ongoing disturbance and lack of suitable nesting substrate. Individuals may occasionally forage in undeveloped open areas within the Project area.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT/SE	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Absent	No suitable riparian habitat in the Project area.
American peregrine falcon	<i>Falco peregrinus</i>	—/FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; on human-made structures.	Absent	No suitable wetland, lake, riparian, or cliff habitat in the Project area. Unlikely to occur on buildings surrounding Project site because of the high level of human activity/disturbance.
San Francisco (=salt marsh) common yellowthroat	<i>Geothlypis trichas sinuosa</i>	—/SSC	Freshwater marshes in summer and salt or brackish marshes in fall and winter; requires tall grasses, tules, and willow thickets for nesting and cover.	Absent	No suitable marsh or riparian habitat in the Project area.

Common Names	Scientific Names	Legal Status (Federal/State/Other) <sup>a</sup>	General Habitat Description	Habitat Present/Absent	Rationale
California black rail	<i>Laterallus jamaicensis coturniculus</i>	—/ST	Tidal salt marshes associated with dense pickleweed; also occurs in brackish or freshwater marshes at low elevations.	Absent	No suitable marsh habitat in the Project area.
Alameda song sparrow	<i>Melospiza melodia pusillula</i>	—/SSC	Tidal marshes dominated by pickleweed; nests in tall vegetation (gumplant) or dense stands of pickleweed.	Absent	No suitable tidal salt marsh habitat in the Project area.
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE/—	Restricted to tidal salt marshes; usually associated with dense pickleweed and abundant tidal channels.	Absent	No suitable tidal salt marsh habitat in the Project area.
Black skimmer	<i>Rynchops niger</i>	—/SSC	Mostly ocean beaches, tidewater. Favors coastal waters protected from open surf, such as lagoons, estuaries, inlets, sheltered bays. Locally on inland lakes in Florida and at Salton Sea, California. Nests on sandy islands, beaches, shell banks. In South America, occurs far inland along major rivers.	Absent	No suitable coastal shoreline habitat in the Project area.
California least tern	<i>Sternula antillarum</i> (= <i>Sterna</i> , = <i>albifrons</i> ) <i>browni</i>	FE/SE	Nests on sandy, upper ocean beaches, and occasionally uses mudflats; forages on adjacent surf line, estuaries, or the open ocean.	Absent	No suitable nesting or foraging habitat in the Project area.

Common Names	Scientific Names	Legal Status (Federal/State/ Other) <sup>a</sup>	General Habitat Description	Habitat Present/ Absent	Rationale
<b>Mammals</b>					
Pallid bat	<i>Antrozous pallidus</i>	— /SSC/WBVG- High	Occurs throughout California, primarily at lower and mid-level elevations in a variety of habitats, from desert to coniferous forest; most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in Northern California and oak woodland, grassland, and desert scrub in Southern California. Daytime roosts include rock outcrops, mines, caves, hollow trees, buildings, and bridges. Extremely intolerant of urban development.	Absent	Extirpated from the Santa Clara Valley floor (Johnston pers. comm.).
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	—/SCT, SSC/ WBVG-High	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings; very sensitive to disturbances; may abandon roost after one on-site visit.	Absent	No suitable roosting habitat in the Project area, due to the species' sensitivity to disturbance and the presence of routine vehicular disturbance.
Hoary bat	<i>Lasiurus cinereus</i>	—/—/WBVG- Medium	Roosts in trees, typically within forests.	Absent	No suitable native tree habitat in the Project area. Vehicular disturbance reduces the likelihood of the species roosting within the Project area.
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE/SE, FP	Tidal salt marshes with dense pickleweed and fat hen with sufficient high-tide cover in adjacent uplands.	Absent	No suitable tidal salt marsh habitat in the Project area.
Salt marsh wandering shrew	<i>Sorex vagrans halicoetes</i>	—/SSC	Mid-elevation salt marsh habitats with dense pickleweed; requires driftwood and other objects for nesting cover.	Absent	No suitable tidal salt marsh habitat in the Project area.

Common Names	Scientific Names	Legal Status (Federal/State/Other) <sup>a</sup>	General Habitat Description	Habitat Present/Absent	Rationale
<b>Fish</b>					
Green sturgeon	<i>Acipenser medirostris</i>	FT/—	Ocean water, bays, and estuaries while not spawning; spawns in the mainstem of freshwater rivers with connections to marine habitat and suitable deep pools.	Absent	No suitable ocean, bay, estuary, river, or deep-pool habitat in the Project area.
Delta smelt	<i>Hypomesus transpacificus</i>	FT/SE	Occurs in estuary habitat in the Delta where fresh and brackish water mix, in the salinity range of 2 to 7 parts per thousand (Moyle 2002).	Absent	No suitable estuary habitat in the Project area.
Coho salmon—central California coast	<i>Oncorhynchus kisutch</i>	FE/—	Occurs in coastal streams with water temperatures < 15°C; needs cool, clear water with instream cover; spawns in tributaries to large rivers or streams that are directly connected to the ocean (Moyle 2002).	Absent	No suitable coastal streams or large rivers that are directly connected to the ocean in the Project area.
Central California Coastal steelhead, Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT/—	An anadromous fish that spawns and spends a portion of its life in inland streams, typically maturing in the open ocean.	Absent	No suitable stream or ocean habitat in the Project area.
Central Valley Chinook salmon	<i>Oncorhynchus tshawytscha</i>	FT (spring run)/—FE (winter run)/—	An anadromous fish that spawns and spends a portion of its life in inland streams, typically maturing in the open ocean.	Absent	No suitable stream or ocean habitat in the Project area.
Longfin smelt	<i>Spirinchus thaleichthys</i>	Candidate for federal listing/ST, SSC	Bay, estuary, Humboldt Bay, Gulf of the Farallones, San Francisco Bay, San Pablo Bay, and the Sacramento (from upstream of Rio Vista) and San Joaquin River Delta (from Cache Slough and Medford Island) through Suisun Bay and Suisun Marsh.	Absent	No suitable bay, estuary, gulf, river delta, or marsh habitat in the Project area.

Common Names	Scientific Names	Legal Status (Federal/State/ Other) <sup>a</sup>	General Habitat Description	Habitat Present/ Absent	Rationale
<p>Notes:</p> <p><sup>a</sup> <b>Status codes</b></p> <p>— = no status</p> <p>FE = listed as <i>endangered</i> under the federal Endangered Species Act</p> <p>FT = listed as <i>threatened</i> under the federal Endangered Species Act</p> <p>PD = proposed for delisting under the federal Endangered Species Act</p> <p>SE = listed as <i>endangered</i> under the California Endangered Species Act</p> <p>ST = listed as <i>threatened</i> under the California Endangered Species Act</p> <p>SCT = candidate for listing as <i>threatened</i> under the California Endangered Species Act</p> <p>SCE = candidate for listing as <i>endangered</i> under the California Endangered Species Act</p> <p>SSC = California Species of Special Concern</p> <p>FP = California fully protected species</p> <p>WBWG = Western Bat Working Group conservation priority (high or medium)</p>					



Based on the California Natural Diversity Database search results and the USFWS species list for the Project region, 29 special-status wildlife species were identified as potentially occurring in the Project region. However, after completing field surveys and reviewing information on species distribution and habitat requirements, Project biologists determined that 28 of the 29 species are not expected to occur in the Project area because it lacks suitable habitat and/or is outside the species' known range (Table 2.4-3). Individual northern harriers, a California Species of Special Concern, may occasionally forage over landscaped portions of the Project area but are not expected to nest due to the lack of habitat (i.e., marsh or grassland with dense ground cover) and high disturbance levels.

#### **2.4.2.5 Invasive Species**

Invasive plant species include those that threaten California's wildlands and are categorized as non-native invasive plants by the California Invasive Plant Council (California Invasive Plant Council 2013). Roads, highways, and construction projects are some of the principal dispersal pathways for invasive plant species. The introduction and spread of invasive plants adversely affects natural communities by displacing native plant species that provide shelter and forage for wildlife species. Table 2.4-4 lists invasive plant species identified in the Project area.

**Table 2.4-4. Invasive Plant Species Identified in the Study Area**

Species	California Department of Food and Agriculture	California Invasive Plant Council Category
blackwood acacia ( <i>Acacia melanoxylon</i> )	—	Limited
bristly ox-tongue ( <i>Helminthotheca echioides</i> )	—	Limited
California burclover ( <i>Medicago polymorpha</i> )	—	Limited
edible fig ( <i>Ficus carica</i> )	—	Moderate
English ivy ( <i>Hedera helix</i> )	—	High
fennel ( <i>Foeniculum vulgare</i> )	—	High
gum, blue ( <i>Eucalyptus globulus</i> )	—	Limited
gum, red ( <i>Eucalyptus camaldulensis</i> )	—	Limited
Italian thistle ( <i>Carduus pycnocephalus</i> )	C	Moderate
oat ( <i>Avena</i> sp.)	—	Moderate
olive ( <i>Olea europaea</i> )	—	Limited
Peruvian pepper tree ( <i>Schinus molle</i> )	—	Limited
ripgut brome ( <i>Bromus diandrus</i> )	—	Moderate
Russian thistle ( <i>Salsola tragus</i> )	C	Limited
soft chess ( <i>Bromus hordeaceus</i> )	—	Limited
summer mustard ( <i>Hirschfeldia incana</i> )	—	Moderate
Sources: California Invasive Plant Council 2013; California Department of Food and Agriculture 2003 Notes: The California Department of Food and Agriculture category indicated in the table is defined as follows: <b>C:</b> State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner. The California Invasive Plant Council categories indicated in the table are defined as follows: <b>High:</b> Species with severe ecological impacts, high rates of dispersal and establishment, and usually wide distribution. <b>Moderate:</b> Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, and limited to widespread distribution; establishment dependent on disturbance. <b>Limited:</b> Species with minor ecological impacts, low to moderate rates of invasion, and limited distribution; locally persistent and problematic.		

## 2.4.3 Impact Analysis

### 2.4.3.1 No-Build Alternative

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to biological resources are anticipated.

### 2.4.3.2 Build Alternative

Impacts on biological resources would be limited to the potential disturbance of nesting birds and raptors, the removal of landscaped vegetation that can provide habitat and food sources for wildlife trees, and the potential to spread invasive species.

#### **Nesting Birds and Raptors**

Native migratory birds and raptors have the potential to nest in trees and shrubs in the Project area. Swallows and black phoebes also have the potential to nest under the highways in the Project area. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by CFGC Sections 3503 and 3503.5 and the MBTA.

The trees and shrubs within the undeveloped portions of the Project area provide suitable nesting substrate for numerous bird species. Vegetation clearing, ground disturbance, and construction-generated noise and vibration could result in direct or indirect mortality of nesting birds through crushing, parental abandonment of young, reduced fitness, reduction in amount of available prey, and degradation or loss of habitat. Removal of trees or other vegetation could result in the destruction of active bird nests. Birds that nest on existing structures within or near the Project area could be disturbed by the demolition or modification of these structures (particularly the Mathilda Avenue overpass above US 101). One inactive cliff swallow nest was observed attached to a vertical support column below the Mathilda Avenue overpass above US 101 during the survey on March 6, 2015.

Construction activities during the breeding season could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. With implementation of avoidance measures, this type of impact would not be considered substantial for either colonial nesters or other bird species that could potentially nest in or adjacent to the Project area due to the local and regional abundances of these species and/or the low magnitude of the potential impact of the Project on these species. Implementation of Avoidance and Minimization Measure BIO-1, *Implement Nesting Bird Avoidance Measures*, would avoid or reduce impacts on nesting migratory birds from construction activities to a less-than-significant level.

## Tree Removal

Approximately 626 trees were identified in the Project area; however, the majority of the trees will be unaffected by construction or operation of the Project. The precise number of trees to be removed by the Project will be determined during subsequent design phases.

Many of the trees meet the size requirements to be considered protected under the Sunnyvale Municipal Code. The intent of the City's tree preservation ordinance is to maintain the benefits to the community provided by trees, including keeping public rights-of-way cooler in the summer, providing aesthetic value, and removing air pollutants. Trees may also provide habitat or food sources for local wildlife. Damage to and/or removal of trees reduces these benefits to the community and wildlife.

While Caltrans is exempt from the City's tree ordinance, the Project will replace trees removed by the Project at ratios that are consistent with the spirit and intent of the City's tree ordinance, as described in Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, which would avoid or reduce impacts on trees to a less-than-significant level.

## Invasive Species

The Project area is entirely within a developed area; therefore, the Project is not likely to contribute to the spread of invasive species to sensitive natural communities in adjacent areas. Numerous invasive species already occur within the Project area; therefore, the Project area itself is not as sensitive to the introduction of invasive species compared to areas that lack invasive species. Vegetation removed by the Project during construction will be transported and disposed of in accordance with best management practices to address the potential of invasive plants spreading to uninfested areas outside the Project limits. Avoidance and Minimization Measure BIO-3, *Minimize the Introduction and Spread of Invasive Plants*, would avoid or reduce impacts on invasive species to a less-than-significant level.

### 2.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be incorporated into the Project during construction, as applicable, to reduce the effects of the impacts discussed in Section 2.4.3, *Impact Analysis*.

#### **Avoidance and Minimization Measure BIO-1: Implement Nesting Bird Avoidance Measures**

To avoid impacts on nesting birds, the following avoidance measures will be implemented to ensure that Project activities comply with the MBTA and CFGC.

- To the extent feasible, Project activities should be scheduled outside the avian nesting season to avoid impacts on nesting birds (including raptors) protected under the MBTA and CFGC. The nesting season for most birds in Santa Clara County typically extends from February 1 through August 31, although some raptors may nest as early as January 1.
- If it is not possible to schedule Project activities between September 1 and January 1, then preconstruction surveys will be conducted by a qualified biologist to identify any nests within the Project area so that protection measures can be implemented to avoid disturbance to these nests. These surveys will be conducted no more than 48 hours prior to the initiation of Project activities. During this survey, a qualified biologist will inspect all potential nesting habitats (e.g., trees, shrubs, and overpasses) within 300 feet of impact areas for raptor nests and within 100 feet of impact areas for nests of non-raptors. If an active nest (i.e., a nest with eggs or young, or any completed raptor nest attended by adults) is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with CDFW, will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 300 feet for raptors and 50–100 feet for other species), to ensure that no nests of species protected by the MBTA and CFGC will be disturbed during Project implementation.
- Nest Prevention. If Project activities will not be initiated until after the start of the nesting season, potential nesting substrate (e.g., bushes, trees, other vegetation, and structures) that is scheduled to be removed by the Project, if any, may be removed prior to the start of the nesting season (e.g., prior to January 1) to reduce the potential for initiation of nests.

**Avoidance and Minimization Measure BIO-2: Implement Tree Avoidance, Minimization, or Replacement**

- To the maximum extent practicable, damage to or removal of trees will be avoided by the Project. If trees need to be removed or are damaged as a result of the Project, they will be replaced within the Project site to the extent feasible. Native trees with a DBH of less than 12 inches will be replaced at a 2:1 ratio. Native trees with a DBH of 12 inches or more will be replaced at a 3:1 ratio. If urban trees (non-natives and ornamentals) are replaced with native trees, a reduced minimization ratio of 1:1 for all trees smaller than 12 inches DBH, and 2:1 for all trees with a DBH of 12 inches or more, will be implemented. Trees will be replaced within one (1) year of the impact. Should tree impacts occur at different times during the Project, an appropriate number (per the preceding ratios) of replacement (minimization) trees will be planted within one (1) year of the associated tree impact(s). These trees will be irrigated and maintained for a period of not less than three (3) years. If trees cannot be replaced at the stated ratios within the Project site, replacement trees will be planted within two (2) miles of the Project site within the City's limits along bike trails, in existing parks, or adjacent to creeks (native replacement tree species only). Replacement trees will not be planted within 500 feet of

salt marsh habitat, occupied burrowing owl habitat (per current CDFW's California Natural Diversity Database data: <https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>), or the San Francisco Bay. If trees cannot be replaced at such locations within two (2) miles of the Project site, in-lieu fees will be paid to an appropriate fund so that trees can be planted elsewhere within the City.

### **Avoidance and Minimization Measure BIO-3: Minimize the Introduction and Spread of Invasive Plants**

To minimize introduction and spread of non-native invasive plant species, the following avoidance and minimization measures will be implemented by the Project:

- Prior to construction, Project disturbance areas infested with invasive plant species will be identified, mapped, and cleared of vegetation. All vegetative material will be incinerated offsite or disposed of in a landfill, taking care to prevent any seed dispersal during the process.
- During construction, vehicles and all equipment will be washed (including wheels, undercarriages, and bumpers) before and after entering the Project area. Vehicles will be cleaned at existing construction yards or legally operating car washes. In addition, tools, such as chainsaws, hand clippers, pruners, etc., will be washed before and after entering the Project work area.
- Following Project implementation, areas where vegetation was removed will be either hydroseeded with native seed from a local source or planted with landscaping vegetation and properly maintained per Caltrans standards to reduce the risk of non-native invasive species establishment. Native species and/or drought-tolerant plants will be used in landscaping to the extent practicable.

## 2.5 Cultural Resources

The information in this section is based on the *Mathilda Avenue Improvements at SR 237 and US 101 Archaeological Survey Report*, the *Historic Resources Compliance Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project*, and the *Paleontological Identification Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. These reports were approved in March 2016, March 2016, and December 2015, respectively. Please refer to the *Historic Resources Compliance Report* and the *Paleontological Identification Report* in Appendix G, *Technical Studies*, for detailed discussion of the information contained in this section.

### 2.5.1 Regulatory Setting

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance.

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP).

Historical resources are considered under CEQA, as well as California PRC Section 5024.1, which established the California Register of Historical Resources (CRHR). PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet NRHP listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks.

Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014) establishes a formal consultation process for California Native American tribes as part of CEQA and equates significant impacts on “tribal cultural resources” with significant environmental impacts (new PRC Section 21084.2).

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. Paleontological resources are protected under CEQA.

## 2.5.2 Existing Conditions

The Project Area Limits (PAL) were established to determine the historic architectural, archaeological, and paleontological resources within the boundaries of or near the Project site in which it can be reasonably expected that the Project may have a direct or indirect effect, if such resources exist.

### 2.5.2.1 Historic Architectural Resources

Thirteen properties were identified within the PAL. Seven of these properties contain buildings constructed less than 30 years ago, four are vacant, and two are bridges previously determined not eligible for listing in the NRHP/CRHR. Generally, resources must be at least 50 years old to be considered for listing on the CRHR.

### 2.5.2.2 Archaeological Resources

A prehistoric and historic site record and literature search by the California Historical Resources Information System, Northwest Information Center at Sonoma State University, was undertaken to determine if known archaeological resources are within a 0.5-mile radius of the PAL. The records search did not identify any previously recorded archaeological resources therein.

### 2.5.2.3 Paleontological Resources

The Project is within the Santa Clara Valley in the central portion of the Coast Ranges geomorphic province of California. Geologically, the Project site is underlain by alluvial and fluvial deposits consisting of clay, silt, sand, and gravel. These deposits range in age from Holocene Alluvium and Pleistocene Older Alluvium to the Pliocene–Pleistocene Santa Clara Formation. Both Holocene and Pleistocene deposits may contain paleontological resources.

## 2.5.3 Impact Analysis

The PAL was studied to determine whether cultural or paleontological resources are present and, if so, to assess the impacts of the Project on those resources. Several methodologies were employed for the purpose of determining the presence of cultural or paleontological resources within the PAL:

- Existing records and historic inventories including the NRHP, California Inventory of Historic Resources, and the Office of Historic Preservation Historic Properties Directory were consulted. This included a search for previously recorded historic resources within the PAL and a 0.5-mile radius, as well as a review of pertinent historic material. A records search was conducted at the Northwestern Information Center at Sonoma State University on February 5, 2015.
- Consultation with the Native America Heritage Commission and local Native American communities and individuals was undertaken. A request for a search of the Sacred Lands



File, as well as a list of individuals who might have information or interest in the Project, was originally issued in March 2015, and a response was received March 26, 2015. A request for updated information was submitted to the Native American Heritage Commission on December 3, 2015. Letters containing general Project information were sent to the individuals listed by the Native American Heritage Commission on December 3, 2015. Follow-up phone calls were made on February 10, 2016. Responses (or lack thereof) from the individuals contacted are as follows: The Muwekma Ohlone Indian Tribe of the San Francisco Bay Area expressed that that they should be contacted if a resource is found. The Amah Mutsun Tribal Band of Mission San Bautista asked that an archaeologist be called “right away” if a resource is found. The Indian Canyon Mutsun Band of Costanoan expressed confidence in the preparation of the Archaeological Survey Report and had no other comments or concerns regarding the Project. The Amah Mutsun Tribal Band responded that the Project is outside of their jurisdiction. The Ohlone Indian Tribe did not respond.

- A desktop geoarchaeological analysis was undertaken to determine general archaeological sensitivity based on soils present within the PAL.
- An intensive pedestrian survey of the PAL was conducted on March 9, 2015.

Specific to paleontological resources, the following sources of information were reviewed: geologic mapping of the Project area; published geologic and paleontological literature; the University of California Berkeley, Museum of Paleontology online collections database; and evaluations of paleontological sensitivity/potential from other projects. In addition, an air photo inspection and windshield survey of the Project site was conducted.

### **2.5.3.1 No-Build Alternative**

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to cultural resources or paleontology are anticipated.

### **2.5.3.2 Build Alternative**

#### **Historic Architectural Resources**

There are no historic architectural resources within the Project area. As stated previously, 13 properties were identified within the PAL. Seven of these contain buildings constructed less than 30 years ago, four are vacant, and two are bridges previously determined not eligible for listing in the NRHP/CRHR. As stated, resources must generally be at least 50 years old to be considered for listing on the CRHR. A resource less than 50 years old may be considered for listing in the CRHR if it embodies a particularly substantial contribution to the broad patterns of California’s history, is associated with the lives of important historical figures, or shows exceptional architectural or artistic merit. There is no scholarly or other information that establishes the historical significance of the properties within the PAL, and the extant

buildings and structures are typical, rather than exceptional, examples of their style type. Therefore, the Project would have no impacts on historical architectural resources.

### **Archaeological Resources (Human Remains)**

No cultural resources were identified within the PAL either through the Northwest Information Center (Sonoma State University) records search or during the field survey. In addition, previous studies conducted within the PAL indicate low potential to encounter previously unrecorded subsurface archaeological sites. The majority of ground-disturbing construction activities would be in previously disturbed contexts. The Project includes Avoidance and Minimization Measure CUL-1, *Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities*, in the event that unrecorded subsurface archaeological sites are encountered. As such, the Project would have no impacts on archaeological resources.

Similarly, no human remains were identified as occurring within the PAL either through the background records search or during the Project site survey. The Project includes Avoidance and Minimization Measure CUL-2, *Stop Work if Human Remains are Encountered During Ground-Disturbing Activities*. As such, the Project would have no impacts on human remains.

While desktop geoarchaeological research indicates that the PAL is within an area sensitive for encountering subsurface deposits, soils testing conducted in 2014 and 2015 within the PAL demonstrate the lack of sensitive soils. All testing returned negative results for cultural material. Therefore, the Project would have no impacts on intact unknown archaeological resources.

### **Paleontological Resources**

The Project would not involve deep construction excavation into the native Holocene deposits. The majority of Project work, and all Project staging, would occur within an area already disturbed and would consist largely of changing existing lanes and flows of traffic. The Project focuses on minor modifications and improvements requiring minimal and superficial ground disturbance, ranging from 3 feet for roadway widening/ramp modifications/auxiliary lane construction/retaining wall foundations/storm water treatment basins, up to 6 feet for storm drain improvements/larger wooden pole post holes for street signage, and up to 25 feet for overhead sign foundations. The Project includes Avoidance and Minimization Measure CUL-3, *Conduct Protocol and Procedures for Encountering Paleontological Resources*, in the event that paleontological resources are uncovered. As such, the Project would have no impacts related to paleontological resources.

## 2.5.4 Avoidance, Minimization, and/or Mitigation Measures

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will stop until a qualified archaeologist can assess the nature and significance of the find. Furthermore, should human remains be discovered, State Health and Safety Code Section 7050.5 states that disturbances and activities must stop in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to PRC Section 5097.98, if human remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Kathryn Rose, District 4 Branch Chief, Archaeology so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Avoidance and minimization measures would be incorporated into the Project and would reduce the effects of the impacts discussed in Section 2.5.3, *Impact Analysis*.

### **Avoidance and Minimization Measure CUL-1: Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities**

While there is low potential to encounter or impact archaeological resources during construction, VTA or its contractor will issue a stop work order if prehistoric or historic-period cultural materials are unearthed during ground-disturbing activities. All work within a minimum of 100 feet of the find will be stopped until a qualified archaeologist can assess the significance of the find. If the find is determined to be potentially significant, the archaeologist, in consultation with Environmental Planning staff of VTA and Caltrans Office of Cultural Resource Studies, will develop a treatment plan that could include site avoidance, capping, or data recovery.

### **Avoidance and Minimization Measure CUL-2: Stop Work if Human Remains are Encountered During Ground-Disturbing Activities**

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop immediately in any area or nearby area (typically a minimum of 100 feet) suspected to overlie remains. The person who discovered the remains will immediately contact their project oversight staff, the Resident Inspector or Resident Engineer, who will then notify VTA Environmental Planning staff. VTA staff will notify the County Coroner and Caltrans Office of Cultural Resource Studies the District Environmental Branch. Pursuant to CA PRC Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the MLD. VTA and Caltrans staff will coordinate with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

### **Avoidance and Minimization Measure CUL-3: Conduct Protocol and Procedures for Encountering Paleontological Resources**

While there is low potential to encounter or impact paleontological resources during construction, if a fossil is encountered during construction, all work within 50 feet of any potential fossil find will be stopped, and a qualified paleontologist will be notified to evaluate the find's significance. If a fossil is determined to be significant and avoidance is not feasible, the paleontologist will develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during monitoring and salvage activities will be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will then be deposited in a scientific institution with paleontological collections.

## 2.6 Geology, Soils, and Seismicity

The information in this section is based on the *Preliminary Geological Assessment* for the Mathilda Avenue Improvements Project. This assessment was approved in December 2015. Please refer to the *Preliminary Geological Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section. Note: information regarding soil erosion is included in Section 2.9, *Hydrology and Water Quality*.

### 2.6.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under CEQA.

This section discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans’ Office of Earthquake Engineering is responsible for assessing the seismic hazard for its projects. Structures are designed using Caltrans’ Seismic Design Criteria. For more information, please see the Caltrans’ Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.<sup>1</sup>

### 2.6.2 Existing Conditions

The Project site is located in the San Francisco Bay Area, which includes numerous active faults. Table 2.6-1 shows faults within 10 miles of the Project site, and Figure 2.6-1 shows the location of the Project with respect to nearby faults. Potential seismic hazards associated with active faults include surface fault rupture, ground shaking, liquefaction, and landslides.

**Table 2.6-1. Active and Potentially Active Faults within 10 Miles of the Project Site**

<b>Fault</b>	<b>Distance to (miles) and Direction from the Project Site</b>	<b>Maximum Expected Earthquake (Moment Magnitude)</b>
Cascade	3.9 (southwest of Project site)	6.7
Silver Creek	4.5 (east of Project site)	6.9
Monte Vista-Shannon	5.0 (southwest of Project site)	6.4
Hayward	7.6 (east of Project site)	6.7
San Andreas	9.1 (west of Project site)	8

Source: United States Geological Survey 2016; BASELINE Environmental Consulting 2015; Caltrans 2012.

<sup>1</sup> Available at: [http://www.dot.ca.gov/hq/esc/earthquake\\_engineering/sdc/](http://www.dot.ca.gov/hq/esc/earthquake_engineering/sdc/).

Surface fault rupture occurs when the ground surface is broken due to fault movement during an earthquake. The location of surface fault rupture generally occurs along an existing fault trace, which is the intersection of a fault with the ground surface. As shown in Table 2.6-1, the closest fault to the Project site is the Cascade fault, 3.9 miles to the southwest.

The extent of ground shaking is a function of the magnitude and intensity of an earthquake, distance from the epicenter, and local geologic conditions. The Project site is located on Holocene alluvium soils, which can intensify ground shaking. Preliminary estimates of ground motion at the Project site from nearby active faults at the maximum earthquake magnitude suggest that the Project site could experience severe to violent ground shaking.

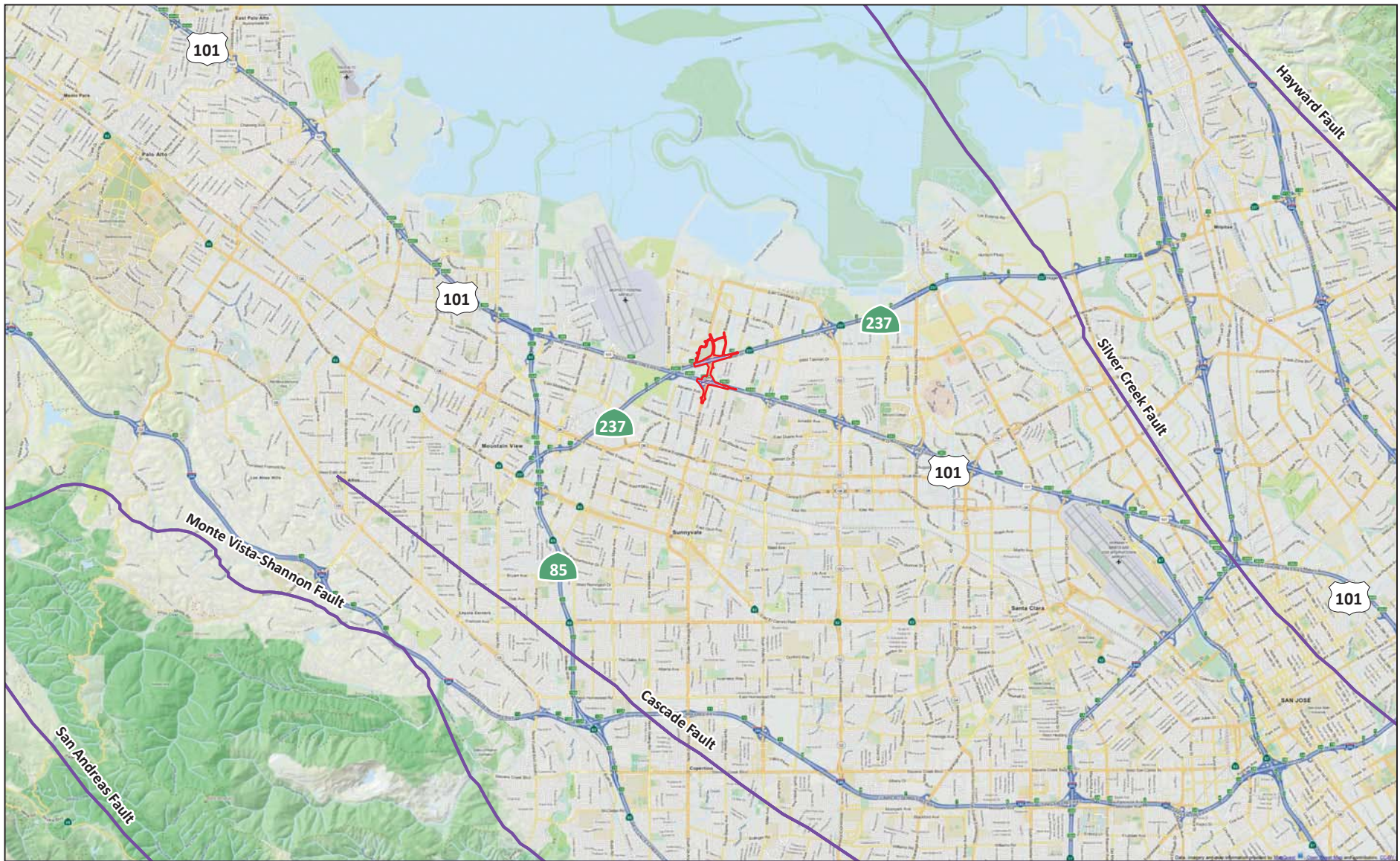
Ground shaking can also result in liquefaction, which is the temporary transformation of loose, saturated, granular sediments to a fluid-like state. In the process, soil undergoes transient loss of strength, which commonly causes ground displacement. The Project site is located within the California Geological Survey's Seismic Hazard Zone for liquefaction (refer to Figure 2.6-2).

Landslides can occur as either rapid movement of large masses of soil or imperceptibly slow movement of soils on slopes. Landslides are generally triggered by rainfall, excavation, or seismic activity. The elevation profile of the Project site is relatively flat, and the Project site is not located within the California Geological Survey's Seismic Hazard Zone for landslides (refer to Figure 2.6-2).

Soils mapped within 45 inches below ground surface on the Project site have a high to very high expansion potential. Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present. Soils mapped on the Project site also have a high potential to corrode uncoated steel and a moderate potential to corrode concrete due to the moisture content, texture, acidity, electrical conductivity, and sulfate and sodium content of the soil.

### **2.6.3 Impact Analysis**

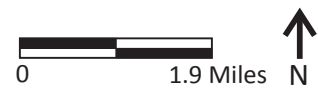
The analysis included in this section was performed in accordance with Chapter 7 of the Caltrans *Standard Environmental Reference* (Caltrans 2015b). Documents, databases, maps, and geospatial data from Caltrans, the United States Geological Survey, the United States Department of Agriculture, and the California Geological Survey were reviewed to characterize existing conditions, described above, and identify known or potential hazards at the Project site. Any hazards identified were evaluated to determine the potential impacts to or from the Project.



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**Legend**

- Project Limits
- Active Fault



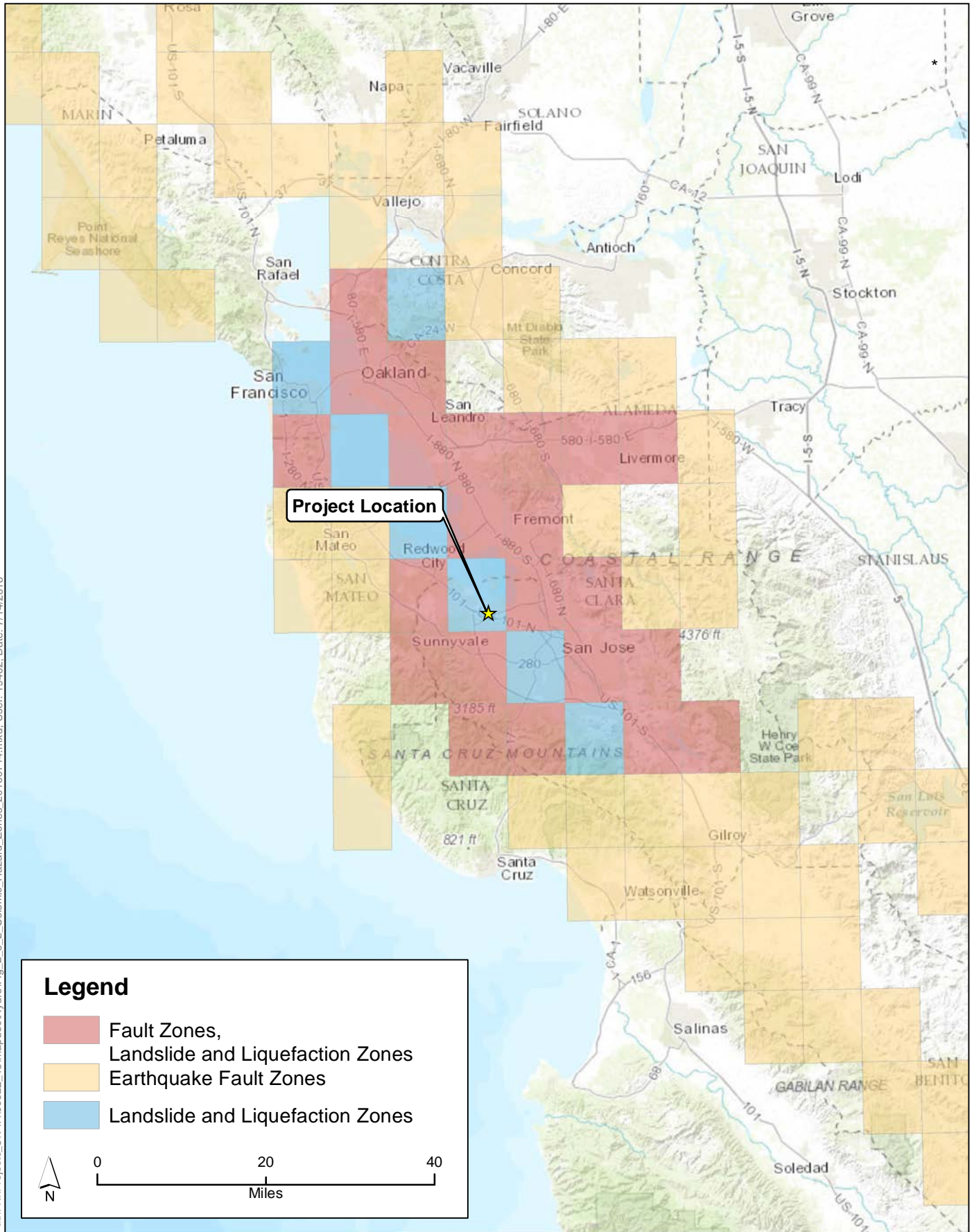
Base: MapQuest OpenStreetMap, 2015  
 Source: Active Faults (Caltrans, 2012a)

**Figure 2.6-1**  
**Active Faults**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Figure 2.6-2**  
**Seismic Hazard Zones**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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### **2.6.3.1 No-Build Alternative**

There would be no modification to existing facilities or changes in the existing environment under the No-Build Alternative. No impacts related to geology, soils, and seismicity are anticipated.

### **2.6.3.2 Build Alternative**

Design of the Project is subject to numerous standards, such as the *Caltrans Guidelines for Structures Foundation Manual* (Caltrans 2008, Revised 2015), *Caltrans Seismic Design Criteria* (Caltrans 2013), *Caltrans Highway Design Manual* (Caltrans 2015a), and *Caltrans Standard Environmental Reference* (Caltrans 2015b). Caltrans developed these standards to ensure the design and construction of new facilities meet all required safety standards.

#### **Seismic Activity**

The Project site is not located within a mapped Alquist-Priolo Earthquake Fault Zone and is not near an active fault trace (Caltrans 2012); therefore, impacts from surface fault rupture are not expected at the Project site. The Project site could experience severe to violent ground shaking exposing people and structures to potential substantial adverse effects given a maximum earthquake magnitude from nearby active faults. Strong ground shaking could crack and distort pavement, walls, and foundations, as well as rupture underground pipelines. However, implementation of the Project would be subject to numerous design standards and would not increase the risk of structural damage or damage to utilities due to ground shaking over existing conditions. Therefore, impacts would be less than significant.

#### **Unstable Geologic Units**

Potential liquefaction could result in surface impacts at the Project site. Such impacts could affect the structural integrity of roadways and bridges and damage underground utilities. Implementation of the Project would be subject to numerous design standards and would not increase the risk of structural damage to roadways and bridges, nor would it result in damage to underground utilities due to liquefaction over existing conditions.

The Project site is nearly level and not located within a Seismic Hazard Zone for seismically induced landslides (refer to Figure 2.6-2). The Project would not cause or exacerbate landslide hazards. Therefore, impacts would be less than significant.

#### **Expansive and Corrosive Soils**

Expansive soils at the Project site could impact Project structures and utilities. Project structures (e.g., retaining walls and underground utilities containing steel) could be impacted by corrosive soils. However, implementation of the Project would be subject to numerous design standards and would not increase the risk of structural damage or damage to utilities due to expansive and corrosive soils over existing conditions.

Therefore, potential hazards associated with seismic activity, unstable geological units, and expansive and corrosive soils, would be less than significant.

#### **2.6.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, and/or mitigation measures are required.

## 2.7 Greenhouse Gas Emissions

The information in this section is based on the *Air Quality Study Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This report was approved in May 2016. Please refer to the *Air Quality Study Report* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), HFC-23 (fluoroform), HFC-134a (1, 1, 1, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO<sub>2</sub>, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: *Greenhouse Gas Mitigation* and *Adaptation*. Greenhouse Gas Mitigation is a term for reducing GHG emissions to reduce or mitigate the impacts of climate change. Adaptation refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).<sup>1</sup>

There are four primary strategies for reducing GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity), (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective all four strategies should be pursued cooperatively.<sup>2</sup>

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<sup>1</sup> [http://climatechange.transportation.org/ghg\\_mitigation/](http://climatechange.transportation.org/ghg_mitigation/)

<sup>2</sup> [http://www.fhwa.dot.gov/environment/climate\\_change/mitigation/](http://www.fhwa.dot.gov/environment/climate_change/mitigation/)

## 2.7.1 Regulatory Setting

### 2.7.1.1 State

With the passage of several pieces of legislation including state Senate and Assembly Bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate change.

- **Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002:** This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.
- **Executive Order S-3-05 (EO) (June 1, 2005):** The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by the 2020, and (3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.
- **Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006:** AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."
- **Executive Order S-20-06 (October 18, 2006):** This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.
- **Executive Order S-01-07 (January 18, 2007):** This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020.
- **Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions:** SB 97 required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.
- **Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection:** This bill requires the ARB to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization for each region must then develop a Sustainable Communities Strategy (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.
- **Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan:** This bill requires the state's long-range transportation plan to meet California's climate change goals under AB 32.

### 2.7.1.2 Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis.<sup>3</sup> FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and EO 13514 – *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 (October 5, 2009) is focused on reducing greenhouse gases internally in federal agency missions, programs, and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and U.S. EPA’s assessment of the scientific evidence that form the basis for U.S. EPA’s regulatory actions. U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA)

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<sup>3</sup> To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria, or thresholds for GHGs resulting from mobile sources.

issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.<sup>4</sup>

The U.S. EPA and NHTSA are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017–2025 standards this program is projected to save approximately 4 billion barrels of oil and 2 billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama’s 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO<sub>2</sub> emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

## 2.7.2 Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.<sup>5</sup> In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (State CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of

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<sup>4</sup> <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>

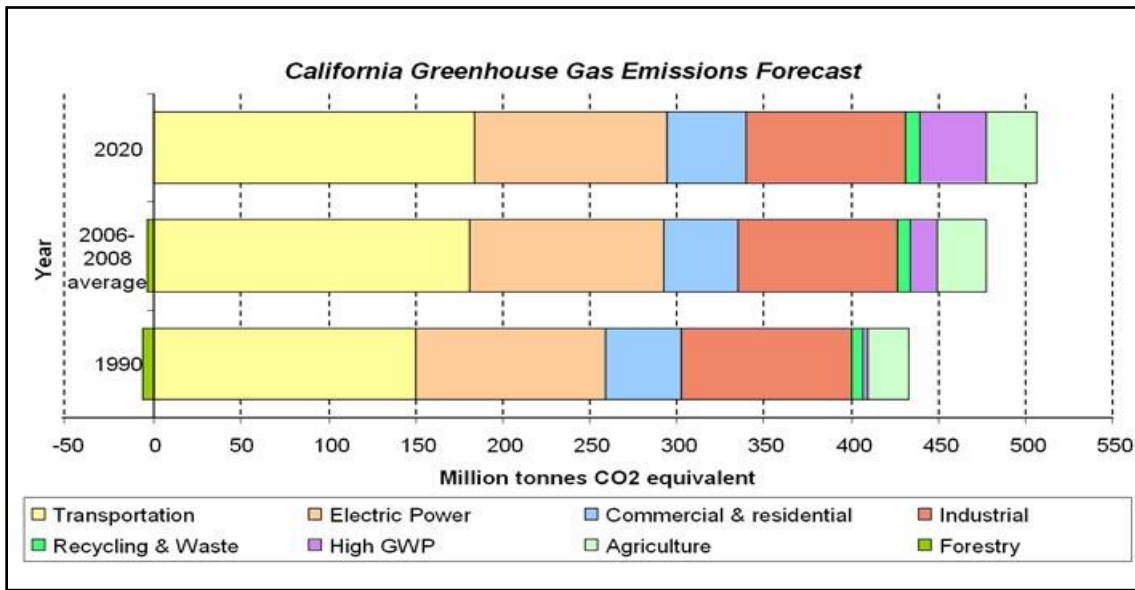
<sup>5</sup> This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (*Climate Change Considerations in Project Level NEPA Analysis*, July 13, 2009).



past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated: October 28, 2010) (Figure 2.7-1). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

**Figure 2.7-1. California Greenhouse Gas Forecast**



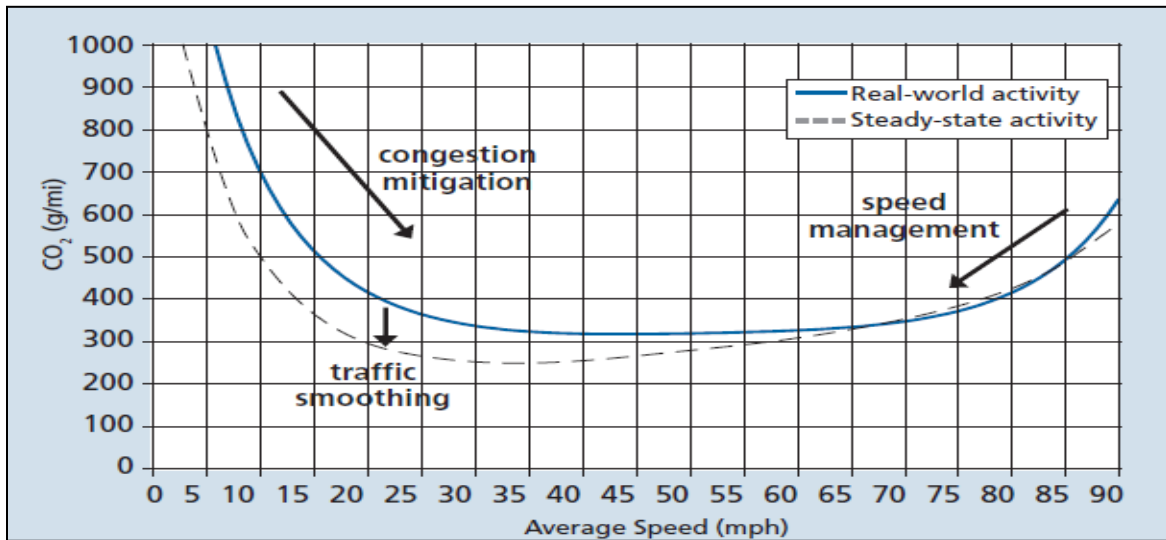
Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans, which was published in December 2006.<sup>6</sup>

<sup>6</sup> Caltrans Climate Action Program is located at the following web address:  
[http://www.dot.ca.gov/hq/tpp/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

One of the main strategies in Caltrans’ Climate Action Program to reduce GHG emissions is to make California’s transportation system more efficient. The highest levels of CO<sub>2</sub> from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 2.7-2 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions, particularly CO<sub>2</sub>, may be reduced.

**Figure 2.7-2. Possible Effect of Traffic Operation Strategies in Reducing On-Road CO<sub>2</sub> Emission<sup>7</sup>**



## 2.7.3 Impact Analysis

### 2.7.3.1 No-Build Alternative

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to greenhouse gas emissions are anticipated.

### 2.7.3.2 Build Alternative

#### Operational Emissions

Caltrans’ CT-EMFAC model was used to estimate CO<sub>2</sub> emissions for existing year (2013), opening year (2018), and design year (2040) conditions and evaluate potential emissions increases for the Build Alternative. Table 2.7-1 summarizes the modeled emissions by

<sup>7</sup> Barth, M., and K. Boriboonsomsin. 2010. Traffic Congestion and Greenhouse Gases. *TR News* 268, May–June 2010. Available: <http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>.

scenario, and compares Build Alternative emissions with No-Build and existing conditions emissions. The numbers are not necessarily an accurate reflection of what the true CO<sub>2</sub> emissions will be because CO<sub>2</sub> emissions are dependent on factors that are not part of the emissions model, such as the fuel mix,<sup>8</sup> rate of acceleration, and aerodynamics and efficiency of the vehicles.

**Table 2.7-1. Estimated Greenhouse Gas Emissions from Operation of Mathilda Avenue Improvements Project (metric tons per year)**

Year	Annual VMT	Emissions		
		CO <sub>2</sub>	Other <sup>a</sup>	CO <sub>2</sub> e
2013 Baseline	662,218,242	266,191	13,310	279,501
2018 No-Build Alternative	724,741,607	250,062	12,503	262,565
2018 Build Alternative	719,241,931	248,217	12,411	260,628
2040 No-Build Alternative	903,379,794	211,441	10,572	222,014
2040 Build Alternative	882,166,756	206,746	10,337	217,083
<b>Comparison to Existing Conditions</b>				
2018 No-Build Alternative	62,523,365	-16,129	-806	-16,936
2018 Build Alternative	57,023,689	-17,974	-899	-18,873
2040 No-Build Alternative	241,161,552	-54,750	-2,737	-57,487
2040 Build Alternative	219,948,514	-59,445	-2,972	-62,417
<b>Comparison to the No-Build Alternative</b>				
2018 Build Alternative	-5,499,676	-1,845	-92	-1,937
2040 Build Alternative	-21,213,037	-4,695	-235	-4,930
<sup>a</sup> Includes methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), and other trace GHGs emissions emitted by typical passenger vehicles (U.S. Environmental Protection Agency 2015). CO <sub>2</sub> e = carbon dioxide equivalent VMT = vehicle miles traveled				

As shown in Table 2.7-1, implementation of the Build Alternative would result in decreases in GHG emissions when compared to the future No-Build and existing conditions. These decreases are attributed to decreases in vehicle miles traveled (VMT) between the No-Build and Build Alternative conditions.

MTC’s 2040 Regional Transportation Plan (RTP)/SCS, *Plan Bay Area*, is a state-mandated, integrated long-range transportation, land-use, and housing plan. *Plan Bay Area* sets forth a regional transportation policy and provides capital program planning for all regional, state, and federally funded projects. In addition, *Plan Bay Area* provides strategic investment recommendations to improve the performance of the regional transportation system over the next 25 years.

<sup>8</sup> EMFAC model emission rates are only for direct engine-out CO<sub>2</sub> emissions, not for full fuel cycle. In addition, fuel cycle emission rates can vary dramatically depending on the amount of additives, such as ethanol, and the source of the fuel components.

The RTP/SCS includes performance objectives to reduce per-capita delay while improving roadway safety. The RTP/SCS would help to reduce congestion by reducing vehicle hours of delay and increasing average network speed. If implemented, the Project would be consistent with the RTP/SCS in this regard, as it is anticipated to help to reduce congestion by reducing vehicle hours of delay and increasing average network speed. The Build Alternative also includes various measures, detailed below, that would reduce the Project's GHG emissions.

The EIR prepared for the RTP/SCS states that while increases in VMT over the planning period are contributing somewhat to the significant cumulative impact of global climate change, the Project's contribution would not be cumulatively considerable. MTC's RTP/SCS identifies four criteria related to the emissions of GHGs to determine if the RTP/SCS would have a potentially significant adverse impact.

1. Fail to reduce per capita passenger vehicle and light duty truck CO<sub>2</sub> emissions by 7 percent by 2020 and by 15 percent by 2035 as compared to 2005 baseline, per SB 375.
2. Result in a net increase in direct and indirect GHG emissions in 2040 when compared to existing conditions.
3. Substantially impede attainment of goals set forth in EO S-3-05 and EO B-16-2012.
4. Substantially conflict with any other applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

MTC, as part of their mitigation, commits to working with the Association of Bay Area Governments, the Bay Conservation and Development Commission, and the Bay Area Air Quality Management District (BAAQMD), through the Joint Policy Committee, to develop green construction policies and best management practices (BMPs) that will reduce impacts related to GHG emissions. Individual projects carried out as part of the RTP/SCS must consider adopting appropriate BMPs that would minimize or eliminate cumulatively considerable impacts related to climate change. BMPs may include using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet; using local building materials for at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials.

One of the main strategies in Caltrans' Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. Consistent with Caltrans requirements, a discussion of how the modal choice for the Project was made in the early planning phases and is included as part of this analysis. There were 18 initial interchange alternatives considered for reducing congestion and GHG emissions through increased efficiency of the local transportation system. Project alternatives were screened based on the ability of each to meet the Project's defined purpose and need, potential for environmental impacts, cost, and ability to provide adequate traffic operation improvements. Transportation Demand Management, Transportation System Management, and Mass Transit alternatives were considered but eliminated from further discussion because the Build Alternative already

includes measures to improve accessibility for other modes of travel (bicycle and pedestrian facilities) and would improve traffic signal coordination. Furthermore, implementation of other measures typically included as part of Transportation Demand Management and Transportation System Management alternatives, as well as a stand-alone Mass Transit alternative, would not meet the Project purpose and need.

### Construction Emissions

Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase, and their frequency and occurrence can be reduced through innovations in plans and specifications and better traffic management. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by the need for less maintenance and rehabilitation.

The Sacramento Metropolitan Air Quality Management District’s Road Construction Emissions Model (Version 7.1.5.1) was used to estimate CO<sub>2</sub> emissions from construction activities. The Road Construction Emissions Model does not include emission factors for CH<sub>4</sub> or N<sub>2</sub>O for off-road diesel equipment. Emissions of CH<sub>4</sub> and N<sub>2</sub>O from diesel-powered equipment were determined by scaling the CO<sub>2</sub> emissions quantified by the ratio of CH<sub>4</sub>/CO<sub>2</sub> (0.000056) and N<sub>2</sub>O/CO<sub>2</sub> (0.000025) (Climate Registry 2015).

Table 2.7-2 summarizes estimated GHG emissions generated by onsite construction equipment over the 12-month construction period. Measures to reduce construction emissions include maintenance of construction equipment and vehicles, limiting of construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions.

**Table 2.7-2. GHG Emissions from Construction of Project (metric tons per year)**

CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
971.1	0.05	0.02	977.8
CO <sub>2</sub> = carbon dioxide; CH <sub>4</sub> = methane; N <sub>2</sub> O = nitrous oxide; CO <sub>2</sub> e = carbon dioxide equivalent			

### 2.7.3.3 CEQA Conclusion

As discussed above, both the 2040 Build Alternative and No-Build Alternative scenarios show decreases in CO<sub>2</sub> emissions over existing levels. GHG emissions for the Build Alternative for both 2020 and 2040 are also lower than the future No-Build emissions (Table 2.7-1). While there are minor short-term construction-related GHG emissions, the operational analysis indicates the Project would result in a net decrease in GHG emissions (Table 2.7-2) that would ultimately offset these temporary increases in construction GHG emissions. It is

Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding the significance of the Project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the Project. These measures are outlined in the following section.

## 2.7.4 Greenhouse Gas Reduction Strategies

Figure 2.7-3. Mobility Pyramid



Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California, which targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in GHG emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO<sub>2</sub> reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements, as shown in Figure 2.7-3, *Mobility Pyramid*. **Error! Bookmark not defined.**

Caltrans is supporting efforts to reduce VMT by planning and implementing smart land use strategies: job/housing proximity, transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities but does not have local land use planning authority. Caltrans also assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, and light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and ARB.

Caltrans is also working towards enhancing the state's transportation planning process to respond to future challenges. Similar to requirements for RTPs under SB 375 (Steinberg 2008), SB 391 (Liu 2009) requires the state's long-range transportation plan to meet California's climate change goals under AB 32.

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs.

Table 2.7-3 summarizes Caltrans and other statewide efforts that it is implementing to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

**Table 2.7-3. Climate Change/Carbon Dioxide Reduction Strategies**

Strategy	Program	Partnership		Method/Process	Estimated CO <sub>2</sub> Savings Million Metric Tons	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System Deployment	Strategic Growth Plan	Caltrans	Regions	State Intelligent Transportation System; Congestion Management Plan	0.07	2.17
Mainstream Energy & Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, California Environmental Protection Agency, Programmatic Agreement, Air Resources Board (ARB), California Energy Commission		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement	0.0045	0.0065
				Biodiesel (B) 20		0.045
				B100		0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix	1.2	4.2
				25% fly ash cement mix > 50% fly ash/slag mix	0.36	3.6
Goods Movement	Office of Goods Movement	California Environmental Protection Agency, ARB, Business, Transportation and Housing Agency, Metropolitan Planning Organizations		Goods Movement Action Plan	Not Estimated	Not Estimated
<b>Total</b>					<b>2.72</b>	<b>18.18</b>



Caltrans Director's Policy 30 Climate Change (June 22, 2012) is intended to establish a policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)<sup>9</sup> provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce GHG emissions resulting from agency operations.

The following measures will also be included in the Project to reduce the GHG emissions and potential climate change impacts from the Project.

1. Landscaping reduces surface warming and, through photosynthesis, decreases CO<sub>2</sub>. The Project proposes replanting to the extent feasible where existing landscaping occurs. All areas of ground disturbance due to construction activities will receive permanent erosion control utilizing native seeds and plants. If trees cannot be replaced within the Project site, in-lieu fees will be paid to an appropriate fund so that trees can be planted elsewhere within City limits. These trees will help offset any potential CO<sub>2</sub> emissions increase.
2. According to Caltrans Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations for air quality restrictions. BAAQMD recommends idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, California Code of Regulations, Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points.

## 2.7.5 Adaptation Strategies

Adaptation strategies refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increased storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts on the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration, released its interagency task force progress report on October 28, 2011,<sup>10</sup> outlining the federal government's progress in expanding and

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<sup>9</sup> [http://www.dot.ca.gov/hq/tpp/offices/orip/climate\\_change/projects\\_and\\_studies.shtml](http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml)

<sup>10</sup> <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>

strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide level to develop strategies to cope with impacts on habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency was directed to coordinate with local, regional, state, and federal public and private entities to develop the California Climate Adaptation Strategy (December 2009),<sup>11</sup> which summarizes the best-known science on climate change impacts on California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08, which specifically asked the California Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health, Biodiversity and Habitat, Ocean and Coastal Resources, Water Management, Agriculture, Forestry, and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report<sup>12</sup> to recommend how California should plan for future sea level rise. The report was released in June 2012 and included the following.

- Relative sea level rise projections for California, Oregon, and Washington, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates.

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<sup>11</sup> <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

<sup>12</sup> *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: [http://www.nap.edu/catalog.php?record\\_id=13389](http://www.nap.edu/catalog.php?record_id=13389).

- The range of uncertainty in selected sea level rise projections.
- A synthesis of existing information on projected sea level rise impacts on state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- A discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team as well as Caltrans as a method to initiate action and discussion of potential risks to the state's infrastructure due to projected sea level rise. Subsequently, the Coastal Ocean Climate Action Team updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

All projects that have filed a Notice of Preparation as of the date of the EO S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The Project is outside the coastal zone and direct impacts on transportation facilities due to projected sea-level rise are not expected.

EO S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being

conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

## 2.8 Hazardous Waste/Materials

The information in this section is based on the *Initial Site Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This assessment was approved in January 2016. Please refer to the *Initial Site Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.8.1 Regulatory Setting

Hazardous materials including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include the following.

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean up of wastes that are below hazardous waste concentrations but could impact

ground and surface water quality. California regulations that address waste management and prevention and clean-up of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

## **2.8.2 Existing Conditions**

The presence and extent of hazardous materials at the Project site was determined by reviewing and evaluating the current physical setting, historical land uses, environmental records, and previous environmental investigations, as well as conducting a site reconnaissance survey. Hazardous materials considered for this analysis include the following.

- Aerially Deposited Lead
- Hazardous Materials Release Sites
- Agricultural Pesticides
- Naturally Occurring Asbestos
- Lead-Based Paint and Asbestos-Containing Material
- Drainage Swales and Catch Basins
- Yellow Thermoplastic/Paint Striping and Markings
- Asphalt and Portland-Cement Concrete Grindings

### **2.8.2.1 Aerially Deposited Lead**

Lead was gradually phased out of use as a gasoline additive beginning in 1973, and by the mid-1980s, leaded gasoline was much less prevalent. Before the 1970s, vehicles emitted approximately 75 percent of the lead consumed in leaded gasoline as particulate matter in exhaust. As a result, shallow soils within approximately 30 feet of the edge of pavement in highway corridors have the potential to be contaminated with aerially deposited lead from historical car emissions prior to the elimination of lead in gasoline.

Based on a review of historical aerial photographs, the intersections of US 101 and SR 237 with Mathilda Avenue were constructed in the late 1960s, before the full phase-out of lead in gasoline. Therefore, exposed shallow soils on the Project site within approximately 30 feet of the edge of pavement may have elevated levels of aerially deposited lead.

### 2.8.2.2 Hazardous Materials Release Sites

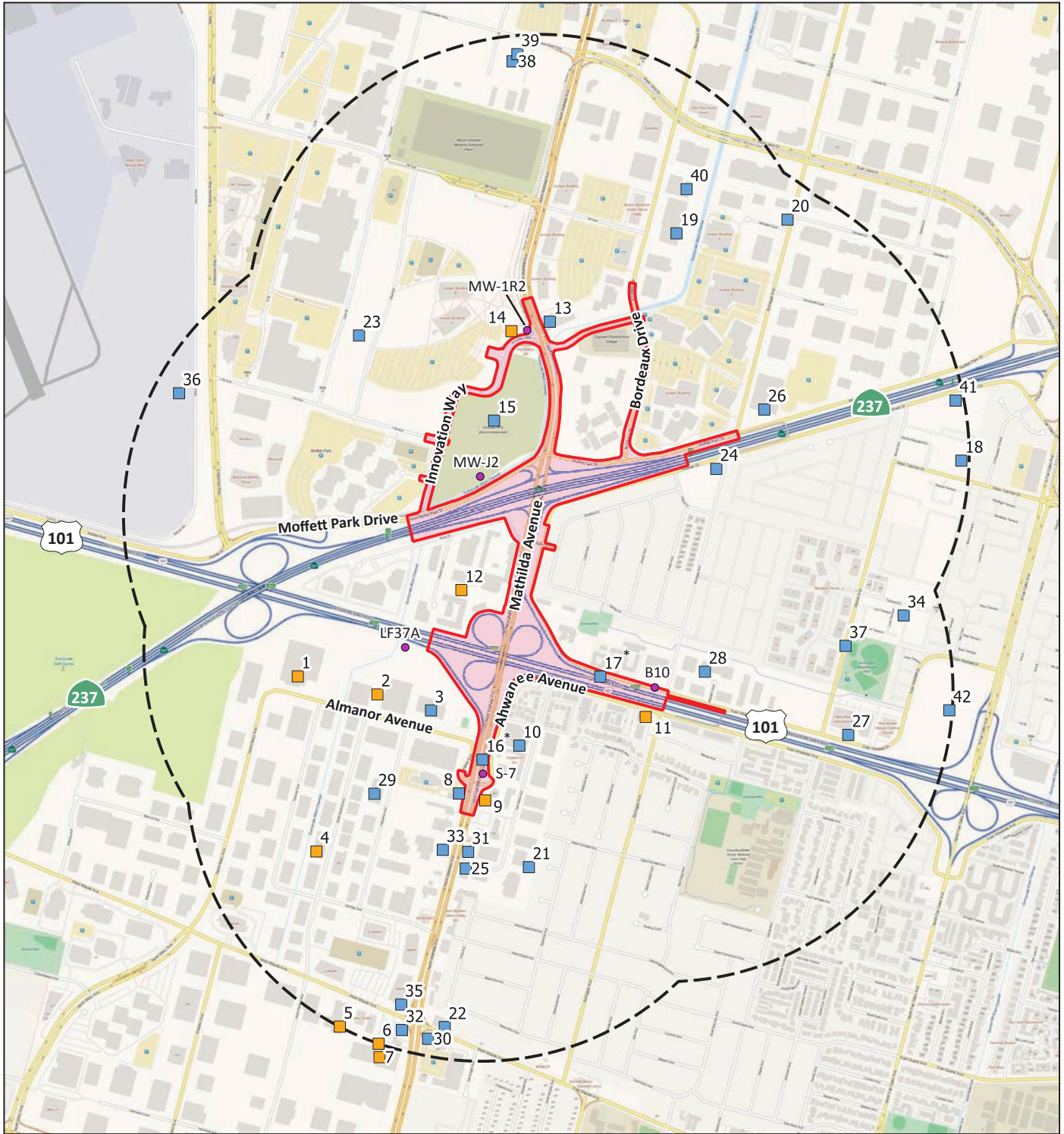
In accordance with ASTM 1527-13, the Initial Site Assessment for the Project reviewed environmental records to identify hazardous materials release sites within 1 mile of the Project. The environmental record sources reviewed were derived from the United States Coast Guard's *National Response Center database*, United States Environmental Protection Agency's *RCRAInfo* database, State Water Resources Control Board's *GeoTracker* database, and Department of Toxic Substances Control's *EnviroStor* database. Site information from each environmental record was imported into a Geographic Information System program to spatially analyze sites within the minimum search distances defined by ASTM E1527-13 relative to the boundary of the Project site.

The spatial analysis identified 42 hazardous materials release sites within 1 mile of the Project site; however, further review of site-specific information indicated that only 10 of the 42 hazardous materials release sites are adjacent to or hydrologically upgradient (south-southwest) of the Project site and may have contaminated groundwater that could potentially impact the Project. None of the 10 release sites of concern are located on parcels that would be acquired by the Project site. Six of the release sites are associated with a regional chlorinated solvent plume, three sites involve leaking underground storage tanks (LUST); and one site involves a release of solvents and metals. The 10 hazardous materials release sites of concern are summarized in Table 2.8-1 and shown on Figure 2.8-1.

**Table 2.8-1. Summary of Environmental Records for Hazardous Materials Release Sites with Potential to Impact the Project**

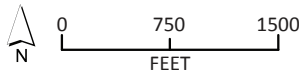
Site Name	Address	Type of Release	Status	Environmental Record Source	Corresponding ID Number on Figure 2.8-1
California Microwave	985 Almanor Ave, Sunnyvale	Regional chlorinated solvent plume	Open – Inactive	Cleanup Program Site	1
645/675 Almanor, et al.	645/675 Almanor Ave, Sunnyvale	Regional chlorinated solvent plume	Open – Verification Monitoring	Cleanup Program Site	2
Siemens Microelectronics Inc.	639 North Pastoria Ave, Sunnyvale	Regional chlorinated solvent plume	Open – Remediation	Cleanup Program Site	4
Eaton & Signetics	680 West Maude Ave, Sunnyvale	Regional chlorinated solvent plume	Open – Remediation	Cleanup Program Site	5
Zymos <sup>a</sup>	477 Mathilda Ave N, Sunnyvale	Regional chlorinated solvent plume	Open – Inactive; Needs Evaluation	Cleanup Program Site	6
Maxim Integrated Products Inc. <sup>a</sup>	477 N Mathilda Ave, Sunnyvale	Regional chlorinated solvent plume	Inactive – Needs Evaluation	Corrective Action	7
Shell	776 N Mathilda Ave, Sunnyvale	LUST	Completed – Case Closed	LUST Cleanup Site	9
Wolco Oil Co. (Borregas)	883 Borregas Ave, Sunnyvale	LUST	Completed – Case Closed	LUST Cleanup Site	11
Moffett Park Auto Center	1135 N Mathilda Ave, Sunnyvale	LUST	Completed – Case Closed	LUST Cleanup Site	14
Circo Inc.	940 Hamlin Court, Sunnyvale	Solvents and metals	Inactive – Needs Evaluation	Corrective Action	12
<p>Source: BASELINE Environmental Consulting 2015</p> <p>Notes:</p> <p>Site name, address, and status information (including spellings) are taken directly from the regulatory databases.</p> <p><sup>a</sup> Maxim Integrated Products Inc. is a former RCRA generator that is listed as an inactive Corrective Action site requiring investigation of potential hazardous materials releases. However, the site is also referred to as “Zymos,” which is currently being regulated by the San Francisco Bay Regional Water Quality Control Board. Therefore, Maxim Integrated Products and Zymos are considered the same site.</p>					





**Legend**

- Project Limits
- 0.5-mile Buffer
- Release Site with Potential Impact
- Release Site with No Impact
- Monitoring Well



\*The location of Sites 16 and 17 are approximate.  
 Base: MapQuest OpenStreetMap, 2015  
 Source: Release Sites (SWRCB, 2015; DTSC, 2015; and Center for Effective Government, 2015)

Graphics: 005221317/19/16

**Figure 2.8-1**  
**Hazardous Materials Release Sites**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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A co-mingled chlorinated solvent plume originating from the California Microwave, 645/675 Almanor, et al., Litton Applied Technology, Siemens Microelectronics Inc., Eaton & Signetics, Zymos, and Maxim Integrated Products Inc. is located near the Project site. The primary contaminants of concern are tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethene. The San Francisco Bay Regional Water Quality Control Board is currently overseeing groundwater investigation and cleanup activities at these sites. Depth to groundwater is approximately 7 to 15 feet below ground surface, and groundwater generally flows to the north-northeast. The full extent of the plume(s) has not been defined; therefore, it could potentially extend beneath the Project site at concentrations exceeding groundwater Environmental Screening Levels (ESLs).

Petroleum hydrocarbon releases from three LUSTs (Shell, Wolco Oil Co. [Borregos], and Moffett Park Auto Center) are adjacent to the Project site. The primary contaminants at all three sites include gasoline, benzene, toluene, ethylbenzene, total xylenes, and methyl tert-butyl ether. The Borregos site also includes diesel contamination from diesel fuel. The County of Santa Clara Department of Environmental Health issued closure letters for the Shell and Borregos sites in 2004 and the Moffett Park Auto Center in 2000. However, residual petroleum hydrocarbon contamination remained beneath each site, any of which could potentially extend beneath the Project site at concentrations exceeding groundwater ESLs.

In 1983, at the Circo Inc. site, concentrations of methylene chloride, trichloroethylene, zinc, and trans-1,2-dichloroethene were reported in a groundwater sample at levels exceeding groundwater ESLs. Analytical results suggest that a hazardous materials release occurred on the property, but based on review of the Department of Toxic Substances Control (2015) EnviroStor Database, no additional investigations have been conducted to determine the source and extent of groundwater contamination. Groundwater contaminated by the solvents and metals (if any) could potentially extend beneath the Project site at concentrations exceeding groundwater ESLs.

### **2.8.2.3 Agricultural Pesticides**

Before 1950, inorganic pesticides that contained elevated concentrations of inorganic toxins such as arsenic were commonly used in California agriculture. After 1950, organochlorine pesticides were commonly used in California agriculture until their ban in 1972. Arsenic from inorganic pesticides and residues from organochlorine pesticides from past uses have the potential to persist for many decades in shallow soils and can affect human health and the environment.

Because the Project site was used for agriculture as early as 1939, shallow soils beneath the Project site may be contaminated with arsenic and/or organochlorine pesticides. However, the mixing of soils during excavation and grading activities for construction of the existing roadway and highway alignments through the Project site in the late 1960s may have reduced the concentration of residual pesticides in soils (if any).

#### **2.8.2.4 Naturally Occurring Asbestos**

Naturally occurring asbestos occurs in ultramafic rock in California (California Department of Conservation 2015). Geologic mapping from the U.S. Geological Survey does not show any areas likely to contain ultramafic rock on the Project site. Based on U.S. Geological Survey mapping, naturally occurring asbestos in bedrock at the Project site is not a potential hazard during implementation of the Project. However, previous Caltrans projects in Santa Clara County have identified naturally occurring asbestos in soil imported for embankment fill. Therefore, asbestos could potentially be present in embankment fill materials on the Project site.

#### **2.8.2.5 Lead-Based Paint and Asbestos-containing Materials**

The US 101 overpass structure at the Project site may be coated with lead-based paint and/or asbestos-containing materials. Lead and asbestos are state-recognized carcinogens, and lead is a reproductive toxicant. Modification of the bridge barriers and sign structure on US 101 for the Project could pose a risk of releasing lead particles and asbestos fibers into the environment if present.

#### **2.8.2.6 Thermoplastic/Paint Striping**

Lead chromate has been used in yellow thermoplastic and yellow paint for traffic striping and pavement markers for many years and as recently as 1996 in Caltrans District 4 (where the Project is located). The residue that may be produced from yellow thermoplastic and yellow paint during road improvement activities may contain lead and chromium concentrations that could produce toxic fumes when heated. The debris produced during the removal of yellow thermoplastic and yellow paint may need to be disposed of as a California and/or federal hazardous waste if the concentrations of lead or chromium exceed applicable hazardous waste thresholds for total or soluble concentrations of those metals.

#### **2.8.2.7 Asphalt Cement and Portland Cement Grindings**

Grindings of asphalt concrete and Portland-cement concrete are alkaline with a relatively high pH and may contain metals and petroleum hydrocarbons that can impact storm water runoff and threaten surface water bodies.

#### **2.8.2.8 Drainage Swales and Catch Basins**

Metals deposited on roadway surfaces from automobile exhaust, tire wear, and brake pad wear can accumulate in storm water catch basins and drainage swales over time. Accordingly, sediments in catch basins and exposed soils in drainage swales on the Project site could contain elevated concentrations of metals and pose a risk to the environment, if disturbed.

## 2.8.3 Impact Analysis

### 2.8.3.1 No-Build Alternative

There would be no modification to existing facilities or changes in the existing environment under the No-Build Alternative. No impacts related to hazardous wastes and materials are anticipated.

### 2.8.3.2 Build Alternative

No operation-period impacts related to hazardous waste or materials are anticipated. Project construction activities could disturb existing hazardous materials in soil, groundwater, and/or roadway structures. Construction impacts related to hazardous wastes and materials would be less than significant with implementation of Avoidance and Minimization Measure HAZ-1, *Prepare Preliminary Site Investigation* and HAZ-2, *Prepare Construction Risk Management Plan*. The hazardous materials concerns applicable to the Project are listed in Table 2.8-2.

**Table 2.8-2. Summary of Hazardous Materials Concerns for the Project**

Hazardous Materials Concern	Media Affected	Primary Contaminants of Concern
Aerially Deposited Lead	Soil	Lead
Hazardous Materials Release Sites	Groundwater	Petroleum Hydrocarbons, Chlorinated Solvents, Methylene Chloride, and/or Metals
Agricultural Pesticides	Soil	Arsenic and Organochlorine Pesticides
Naturally Occurring Asbestos	Soil	Asbestos
Lead-Based Paint and Asbestos-Containing Material	Construction Material	Lead and Asbestos
Yellow Thermoplastic/Paint Striping and Markings	Roadway Structures	Lead and Chromium
Asphalt and Portland-Cement Concrete Grindings	Roadway Structures	Petroleum Hydrocarbons and Metals
Drainage Swales and Catch Basins	Soil	Metals

#### Aerially Deposited Lead

Exposed shallow soils on the Project site within approximately 30 feet of the edge of pavement may have elevated levels of aerially deposited lead. Construction activities such as excavation and grading could exacerbate the existing conditions, causing a health risk to the environment and construction workers.

#### Hazardous Materials Release Sites

Hazardous materials release sites are located within 0.5 mile of the Project site and could potentially extend beneath the Project site at concentrations exceeding groundwater ESLs. The depth to groundwater at the Project site ranges between 7 and 15 feet below ground

surface. Excavations for lighting, signals, utility relocations, smaller street signage, and the roadbed would be shallow and are not anticipated to displace potentially contaminated groundwater. Excavations for new overhead signs would require excavations up to 25 feet for the foundations. However, the pile foundations for the signs would be constructed using a cast-in-drill-hole method of construction, which would not require removal or disposal of groundwater. Nevertheless, in the unforeseen event that groundwater is disturbed, contaminants could be released into the environment.

### **Agricultural Pesticides**

Both inorganic pesticides and organochlorine pesticides were likely to have been used at the Project site. Arsenic and residues from organochlorine pesticides are likely to remain as contaminants in the soil. Construction activities such as excavation and grading could exacerbate the existing conditions, causing a health risk to the environment and to construction workers.

### **Naturally Occurring Asbestos**

Consistent with the description of natural occurring asbestos in Section 2.3, *Air Quality*, the disturbance of naturally occurring asbestos in embankment fill during construction activities (e.g., excavation, grading, soil stockpiling) could generate asbestos-containing dust and pose an inhalation hazard for construction workers and the public.

### **Lead-Based Paint and Asbestos-Containing Materials, Thermoplastic/Paint Striping, and Asphalt Cement and Portland Cement Grindings**

The Project includes demolition of roadway structures. Lead-based paint, asbestos-containing material, yellow thermoplastic/paint striping, asphalt and Portland cement grindings, and other hazardous materials could potentially be present in roadway structures that would be demolished.

### **Drainage Swales and Catch Basins**

Catch basins and drainage swales at the Project site could contain elevated levels of metals. The Project would involve excavation, grading, and relocation of these structures, causing a potential health risk to the environment and construction workers.

## 2.8.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be incorporated into the Project during final design and construction, as applicable, to reduce the effects of the impacts discussed above in Section 2.8.3 *Impact Analysis*.

### **Avoidance and Minimization Measure HAZ-1: Prepare Preliminary Site Investigation**

A Preliminary Site Investigation will be conducted prior to construction to investigate hazardous materials concerns related to soil, groundwater, and construction materials on the Project site. Additional investigation may be required to evaluate potential hazardous materials issues if concerns are identified during the Preliminary Site Investigation. All environmental investigations for the Project will be performed in accordance with a Workplan approved by Caltrans. The Workplan will include procedures for collecting and analyzing representative samples from the following areas on the Project site that could be disturbed during construction.

- Shallow exposed soils potentially impacted by aerially deposited lead within 30 feet of Mathilda Avenue and the SR 237 and US 101 on- and off-ramps.
- Groundwater potentially impacted by hazardous materials release sites.
- Shallow soils along the entire Project alignment potentially impacted by arsenic and organochlorine pesticides from former agriculture.
- Soil embankments near bridges and ramps potentially impacted by naturally occurring asbestos.
- Lead-based paint and asbestos-containing materials on the US 101 overpass structure.
- Yellow traffic stripes and pavement markings potentially containing lead and chromium.
- Shallow sediments in drainage swales and catch basins potentially impacted by metals from storm water runoff.

All environmental investigations for the Project will be provided to the construction contractor and any applicable subcontractors to incorporate into their Health and Safety and Hazard Communication programs.

### **Avoidance and Minimization Measure HAZ-2: Prepare Construction Risk Management Plan**

Construction of the Project will be conducted under a project-specific Construction Risk Management Plan (CRMP) to protect construction workers, the general public, and the environment from hazardous materials identified in the Preliminary Site Investigation and/or undocumented sources. The CRMP will incorporate the soil and groundwater analytical data from the Preliminary Site Investigation to ensure that soil and groundwater are stored,

managed, and disposed of in a manner protective of human health and the environment, and in accordance with applicable laws and regulations. To address potential groundwater contamination concerns, the CRMP will require all groundwater from dewatering of excavations, if any, to be stored in a tank(s) during construction activities and characterized prior to disposal or recycling. This would be in addition to the pre-characterization of groundwater quality during the Preliminary Site Investigation.

The CRMP will also address the possibility of encountering undocumented sources of contamination in the subsurface by including measures for identifying, testing, and managing soil and groundwater suspected of containing hazardous materials that have not previously been identified at the Project site. The CRMP will describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with state and federal worker safety regulations and designate personnel responsible for implementation of the CRMP.

In accordance with Caltrans Standard Special Provision 14-11.08, the CRMP will include a Lead Compliance Plan for managing soil with hazardous waste concentrations of aerially deposited lead (if any) based on the findings of the Preliminary Site Investigation. In accordance with Caltrans Standard Special Provision 14-11.12, the Lead Compliance Plan will also describe procedures for managing yellow paint striping and markings on existing roadways with either assumed or known hazardous waste concentrations of lead and/or chromium. The CRMP will also describe procedures for reusing asphalt concrete and Portland-cement concrete grindings on site in accordance with the Regional Water Quality Control Board's guidelines for Caltrans' projects or transporting off site for recycling or disposal.

The costs for special handling and disposal of potentially hazardous materials is estimated to be \$56,250. Sampling, testing, and analysis will be conducted during the final design phase and is estimated to have a duration of 2 months. Disposal of hazardous materials will be undertaken as part of Project construction and, depending on the amount of such materials present, will have an estimated duration ranging from several days to several weeks.



## 2.9 Hydrology and Water Quality

The information in this section is based on the *Water Quality Assessment Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project* and a *Summary of Floodplain Encroachment Technical Memorandum*. The report was approved in February 2016 and the memorandum was approved in December 2015. Please refer to the *Water Quality Assessment Report* and *Summary of Floodplain Encroachment Technical Memorandum* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.9.1 Regulatory Setting

#### 2.9.1.1 Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source<sup>1</sup> unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

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<sup>1</sup> A point source is any discrete conveyance such as a pipe or a human-made ditch.

## 2.9.1.2 National Pollutant Discharge Elimination System Program

### Municipal Separate Storm Sewer Systems

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water dischargers, including MS4s. The U.S. Environmental Protection Agency (U.S. EPA) defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. The State Water Resources Control Board (SWRCB) has identified Caltrans as an owner/operator of an MS4. Prior to 1999, individual NPDES permits were issued by the RWQCBs. On July 15, 1999, SWRCB issued a statewide permit (Order No. 99-06-DWQ) to regulate all discharges from Caltrans MS4s, maintenance facilities, and construction activities (State Water Resources Control Board 2016). This permit covers all Caltrans rights-of-way, properties, facilities, and activities. The SWRCB or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted. Caltrans' MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0077-DWQ (effective July 1, 2014) and Order No. 2015-0036-EXEC (effective April 7, 2015) has three basic requirements.

- Caltrans must comply with the requirements of the Construction General Permit (see Section 2.9.1.3).
- Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges.
- Caltrans' storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) best management plans (BMPs ) to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The Project would follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

### **2.9.1.3 Construction General Permit**

The Construction General Permit (Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012) was adopted on November 16, 2010, and became effective on February 14, 2011. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with *Caltrans Standard Specifications*, a Water Pollution Control Plan is necessary for projects with Disturbed Soil Area less than 1 acre.

### **2.9.1.4 San Francisco Bay Municipal Regional Permit**

The MS4 Phase I San Francisco Bay Region Municipal Regional Storm Water NPDES Permit No. CAS612008 (Order No. R2-2015-0049-DWQ) (San Francisco Bay MS4 or MRP), issued on November 19, 2015, became effective on January 1, 2016. Runoff from the Project would discharge to Caltrans' and the City's drainage systems, which are under the Caltrans' MS4 Permit and Urban Phase I MS4 Permit, respectively.

Provision C.3 of the San Francisco Bay MS4 Permit is for new development and redevelopment projects. It requires authorities to include appropriate source control, site design, and storm water treatment measures in new development and redevelopment projects to address both soluble and insoluble storm water runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. Based on project size and/or location, requirements include post-construction storm water treatment measures for most projects with 10,000 square feet or more of impervious surface and post-construction storm water quantity (flow-peak, volume, and duration) controls for projects in certain locations with 1 acre or more of impervious surface.

The Project, considered a Regulated Project under the Municipal Regional Permit, falls within the “Other Redevelopment Projects” category of Provision C.3, which is defined as “any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred.” These projects include those that create or replace 10,000 square feet or more of impervious surface.

### **2.9.1.5 San Francisco Bay RWQCB Basin Plan**

The Project is under the jurisdiction of the San Francisco Bay RWQCB. The RWQCB implements the San Francisco Bay Basin Water Quality Control Plan (2015) to regulate surface and groundwater quality in the region. The Plan lists beneficial uses and water quality objectives to protect those uses.

## **2.9.2 Existing Conditions**

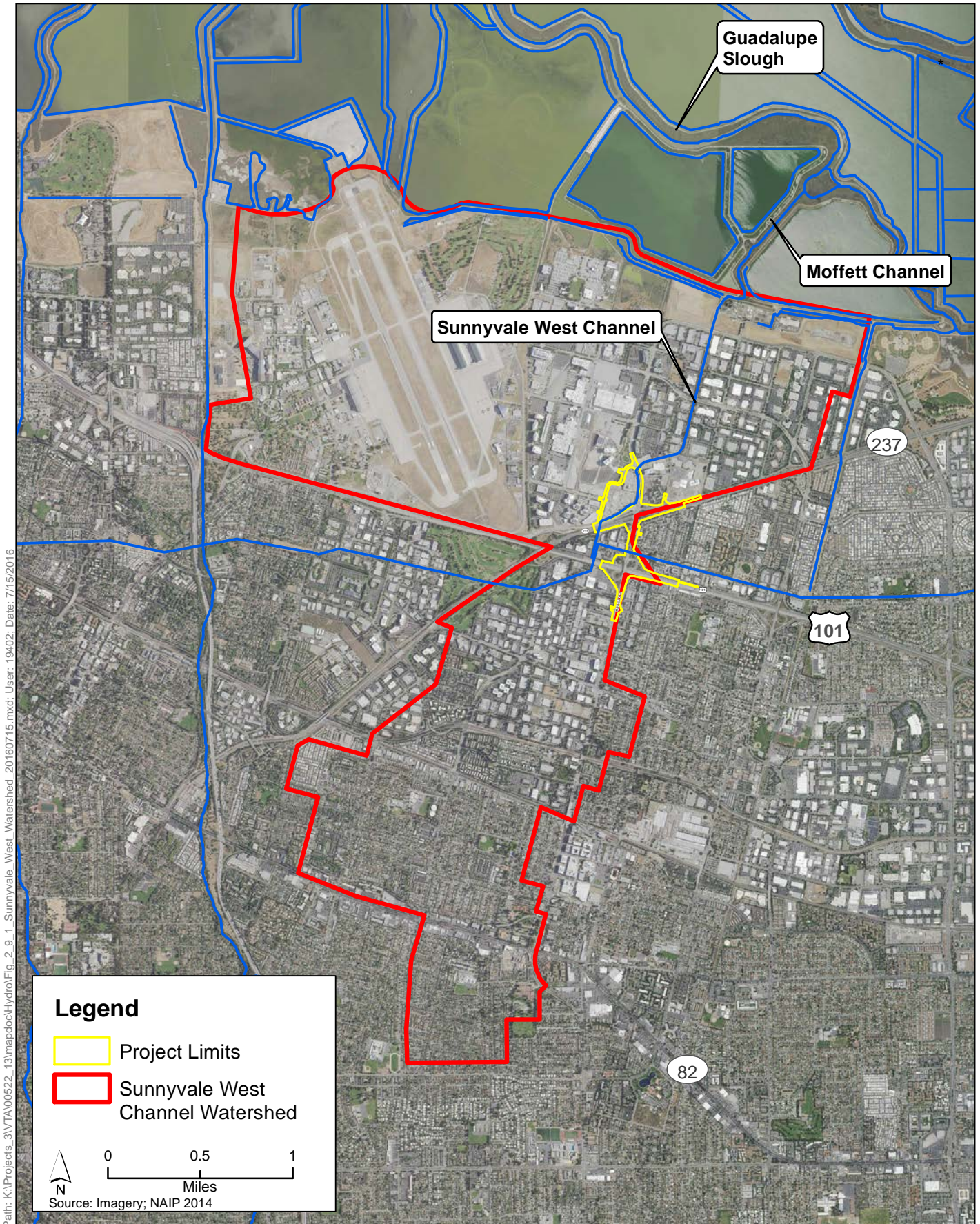
### **2.9.2.1 Local Setting**

#### **Surface Water**

The Project area is located within the Coyote Watershed (hydrologic unit code 18050003) and within the alluvial plain of the Sunnyvale West Watershed of the Santa Clara Basin (see Figure 2-9.1). No naturally occurring aquatic resources, such as wetlands or non-wetland waters, are present in the Project area. A concrete-lined flood control channel, the Sunnyvale West Channel, is culverted underneath SR 237 at approximately Post Mile 2.80 near Innovation Way and again at Mathilda Avenue about 100 feet south of Innovation Way, where it intersects with the Project area and eventually drains to Guadalupe Slough approximately 2 miles northeast of the Project area. Figure 2.9-1 shows waterways near the Project.

Runoff from the Project is expected to be collected by Caltrans’ and the City’s drainage systems, which eventually drain to the Sunnyvale West Channel. The channel is approximately 3 miles in length and originates at Maude Avenue as a concrete pipe culvert and becomes an earth-excavated channel downstream of Almanor Avenue to Mathilda Avenue. The channel flows northeast to Guadalupe Slough via Moffett Channel and ultimately drains to San Francisco Bay.

The general water quality objectives established for surface waters within the San Francisco Bay region include bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, taste and odors, temperature, toxicity, turbidity, and un-ionized ammonia. All urban creeks in the region are subject to a water quality attainment strategy and total maximum daily load for diazinon and pesticide-related toxicity. See the *Water Quality Assessment Report* for the Project for additional information.



**Figure 2.9-1**  
**Sunnyvale West Watershed**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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There are no impaired waters listed on the CWA 303(d) list within the Project limits.

## Groundwater

The Project area is located within the Santa Clara Valley subbasin (also known as the Coyote Valley Basin) of the larger Santa Clara Valley groundwater basin (Department of Water Resources Basin Number 2-9.02).

The water supply system in Santa Clara County includes groundwater found in aquifers and surface sources such as reservoirs and creeks. The City obtains its drinking water from eight local groundwater wells and from imported water. However, there are no drinking water reservoirs or recharge facilities within the Project limits (WRECO 2016a, 2016b). Based on regional topography and previously measured groundwater levels, groundwater is expected to flow north-northeast across the Project site (WRECO 2016a).

According to GeoTracker, an SWRCB database that tracks discharges of waste to land or unauthorized releases of hazardous substances, there are no leaking underground storage tank cleanup sites, and no history of soil contamination, within the Project site (State Water Resources Control Board 2016). See Section 2.8, *Hazardous Wastes/Materials*, for more information.

The “maintenance of existing high quality of groundwater” is the primary groundwater objective. General water quality objectives established for groundwater within the San Francisco Bay region include bacteria, organic and inorganic chemical constituents, radioactivity, and taste and odors. Additional objectives are established for municipal and agricultural supply.

The Santa Clara Groundwater Sub-basin has the following existing beneficial uses (San Francisco Bay RWQCB 2015).

- Existing municipal and domestic water supply (MUN)
- Potential industrial process water supply (PROC)
- Potential industrial service water supply (IND)
- Existing agricultural water supply (AGR)

Refer to the *Water Quality Assessment Report* for a detailed discussion of groundwater quality objectives.

## Flooding

As shown in Figure 2.9-2, the majority of the Project, including SR 237, US 101, and Mathilda Avenue within the Project limits, is not within the Federal Emergency Management Agency (FEMA) 100-year floodplain, but within the 500-year flood-hazard area (Zone X [Shaded]). However, the Sunnyvale West Channel is within the FEMA 100-year floodplain and is subject to tidal flooding from the Bay (Zone AE; Federal Emergency Management Agency 2009). The northern limit of the Project would extend into Zone AE; however, only

minor improvements are expected and no major construction is anticipated to occur in the area. Areas within Zone X (Shaded), the FEMA 100- to 500-year floodplain, are areas of moderate flood hazard. Areas within the 500-year flood-hazard area are subject to a 500-year flood, which means that the risk of flooding in any given year is 0.2 percent. Areas within the 100-year flood-hazard area (Zone AE) are subject to a 100-year flood, which means that the risk of flooding in any given year in the designated area is 1 percent.

The Santa Clara Valley Water District maintains the Sunnyvale West flood control channel as well as other flood control creeks and channels in the area. The Sunnyvale West Channel was built to contain a 1 percent annual chance flood. These channels, coupled with the City's storm drains, take the majority of surface run-off to the San Francisco Bay (City of Sunnyvale 2011).

### **2.9.3 Impact Analysis**

Project elements were compared with baseline conditions during construction and/or operations of the Project. Analysis focused on issues related to surface hydrology, flood hazards, groundwater supply, and surface and groundwater quality. Key construction-related impacts were identified and evaluated qualitatively based on the physical characteristics of the Project site and the magnitude, intensity, location, and duration of activities.

#### **2.9.3.1 No-Build Alternative**

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to hydrology or water quality are anticipated.

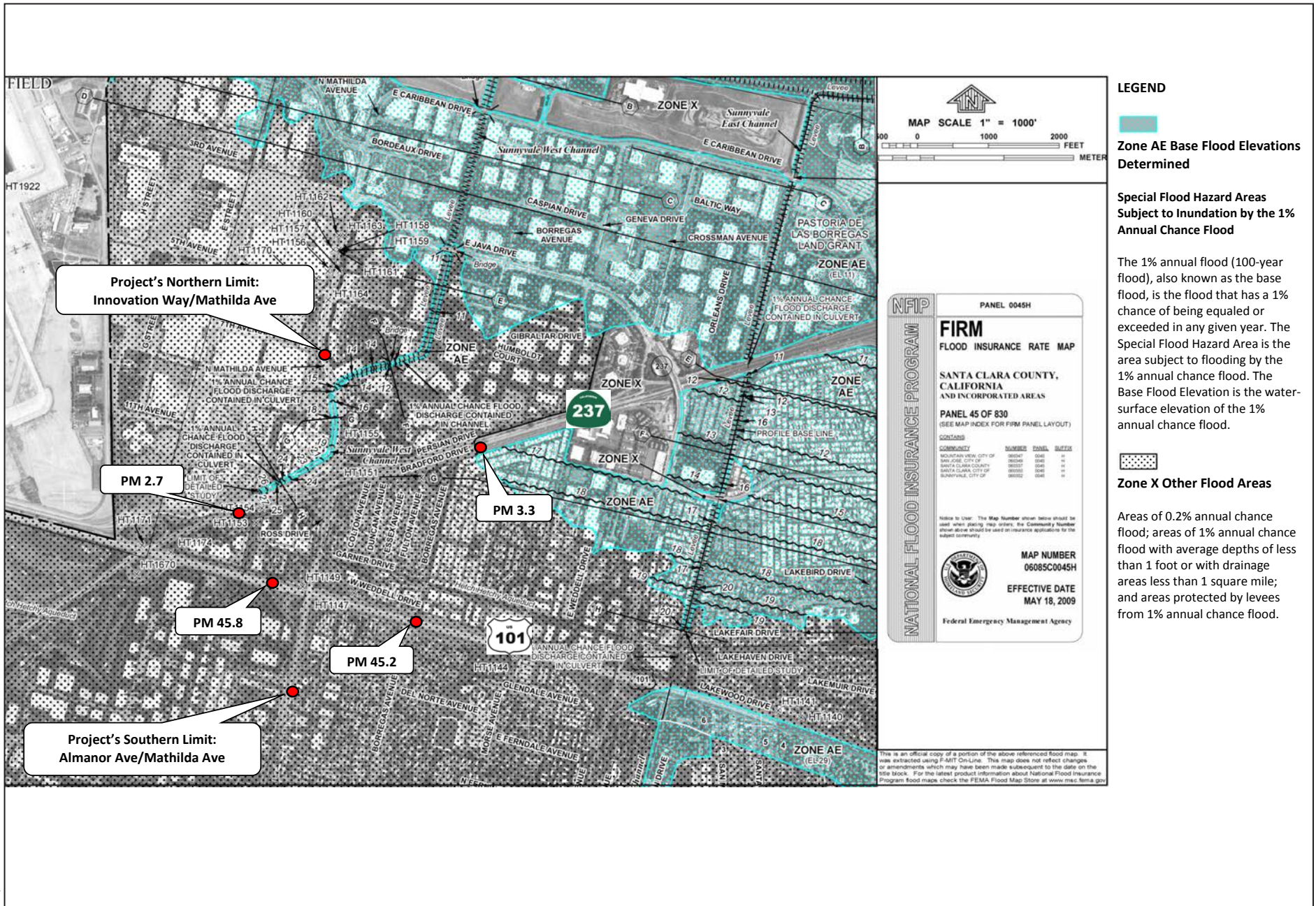
#### **2.9.3.2 Build Alternative**

##### **Water Quality and Waste Discharge Requirements**

###### **Operation**

Operation of new facilities would increase existing levels of pollutants (e.g., trash, oil, grease, pesticides) and introduce additional quantities to storm drains. Operation and maintenance activities of the Project would be similar to existing operation and maintenance activities, such as vehicle use and landscape maintenance. The Project would be required to comply with applicable City and Caltrans regulations, and the Municipal Regional Permit SCVURPPP C.3 Stormwater Technical Guidance. Table 2.9-1 shows that a total of 6.01 acres (261,796 square feet) of impervious cover would be added and reworked for the Build Alternative (WRECO 2016a). However, the Project's impacts related to water quality standards and/or compliance with waste discharge requirements would be less than significant with implementation of pollution prevention BMPs included in Avoidance and Minimization Measure WQ-1, *Implement Best Management Practices*. The Project would not impact any beneficial uses of local water bodies.





**Figure 2.9-2**  
FIRM for Santa Clara County, California, and Incorporated Areas  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Table 2.9-1. Disturbed Soil, Existing and Added Impervious, and Reworked Areas**

<b>Right-of-Way</b>	<b>Disturbed Soil Area (acre)</b>	<b>Existing Impervious Area (acre)</b>	<b>Added Impervious Area (acre)</b>	<b>Reworked Impervious Area (acre)</b>	<b>Added and Reworked Impervious Area (acre)</b>
<b>Build Alternative</b>					
Caltrans	20	45.5	2	4	6
City of Sunnyvale	0.011	4.5	0.01	0.001	0.011
Total	20.011	50	2.01	4.001	6.011
Source: WRECO 2016a					

**Construction**

Land-disturbing activities during construction and the placement of stockpiles within proximity to storm drain inlets would result in a temporary increase in sediment loads to Guadalupe Slough and ultimately South San Francisco Bay. All Project construction activities would be subject to existing regulatory requirements. Construction-related impacts on water quality would be less than significant with implementation of BMPs included in Avoidance and Minimization Measure WQ-1, *Implement Best Management Practices*.

**Water Supply and Groundwater Recharge**

**Operation**

The Project would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge because it would not increase groundwater demand or decrease groundwater recharge. Compared to the total watershed area (147,267 acres), the increase in impervious surface area would be minimal. As such, the Project’s operations-related impact on groundwater supplies and recharge would be less than significant.

**Construction**

Although dewatering may be necessary during Project construction, the groundwater beneath the Project site is not used for municipal water supply purposes. However, utilities installations and cross culvert extensions or modifications may require dewatering. Should dewatering occur, it would be conducted on a one-time or temporary basis during construction and would not result in a loss of quantity of water that would deplete groundwater supplies. Impacts on groundwater supplies from construction activities would be less than significant.

## Drainage, Runoff, and Flooding

### Operation

As shown in Table 2.9-1, the Project would result in the creation of 6.01 acres of additional and reworked impervious area for the Build Alternative. As a result, runoff over unpaved surfaces would increase, which would result in the direct discharge of sediments and other pollutants from the roadway to receiving waters. The Project would ultimately reduce the risk of flooding through the incorporation of storm water treatment facilities such as biofiltration strips and bioretention basins, protection of existing vegetation, and storm water infrastructure modifications. Impacts related to erosion, siltation, or flooding on or off site would be less than significant through adherence to the SWPPP and with implementation of BMPs included in Avoidance and Minimization Measure WQ-1, *Implement Best Management Practices*.

Potential short-term water quality impacts from storm water runoff from the Project site during construction may include the transport of pollutants to the Sunnyvale West Channel. Any storm water impacts would be minimized through proper implementation of BMPs, as discussed under Avoidance and Minimization Measure WQ-1, *Implement Best Management Practices*. As such, impacts related to creation or contribution of runoff water that exceeds the capacity of storm water drainage systems would be less than significant.

### Construction

Project construction activities would temporarily alter existing drainage patterns and would result in local (on site) and temporary erosion and siltation during the removal or modification of existing storm drains. However, if a storm drain is closed during construction, existing flows would be temporarily re-routed to another nearby storm drain. The temporary facilities would be designed to mimic existing drainage patterns. As previously described, the Project would implement a SWPPP to minimize the potential for erosion and sedimentation in nearby storm drains during construction. Construction impacts related to erosion, siltation, and flooding on and off site would be less than significant with implementation of BMPs included in Avoidance and Minimization Measure WQ-1, *Implement Best Management Practices*.

### Flood Hazards

As shown in Figure 2.9-2, the Project is within a 100- to 500-year floodplain, an area of moderate flood hazard, and is not subject to tidal flooding (Flood Zone X [Shaded]). However, the Sunnyvale West Channel is within the FEMA 100-year floodplain and subject to tidal flooding from the Bay (Zone AE). The northern limit of the Project would extend into Zone AE; however, only minor improvements are expected, and no roadway improvements or major construction are anticipated to occur in the 100-year floodplain. Impacts related to flood hazards would be less than significant.

## 2.9.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures will be incorporated into the Project during construction, as applicable, to reduce the effects of the impacts discussed in Section 2.9.3, *Impact Analysis*.

### **Avoidance and Minimization Measure WQ-1: Implement Best Management Practices**

The Project would implement standard Caltrans-approved BMPs to avoid and minimize temporary construction impacts and permanent operational impacts. Any storm water impacts would be addressed through proper implementation of approved design, pollution prevention, and permanent treatment BMPs. Minimum temporary control BMPs that would be necessary for the Project include soil stabilization, sediment controls such as temporary silt fence, and non-storm water management.

As required by the Construction General Permit, a SWPPP will be prepared and implemented prior to construction. The SWPPP is intended to address construction impacts, and must include elements related to erosion and sediment control, non-storm water management, post-construction storm water management, waste management, and disposal and other elements.

Permanent pollution prevention measures include both design pollution prevention BMPs and treatment BMPs. The following design pollution prevention BMPs would be incorporated into the Project design.

- Conserve natural areas, to the extent feasible, including existing trees, stream buffer areas, vegetation, and soils.
- Minimize the impervious footprint of the Project.
- Minimize disturbances to natural drainages.
- Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
- Implement landscape and soil-based BMPs such as compost-amended soils and vegetated strips and swales.
- Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers.
- Design all landscapes to comply with state, local, and Caltrans requirements.

In addition to avoidance and minimization measures and BMPs, regulatory requirements and compliance with NPDES and MS4 permits will ensure the Project design and engineering avoids potential impacts on hydrology, water quality, groundwater, and floodplains.

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## 2.10 Land Use and Recreation

The information in this section is based on the *Community Impact Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This assessment was approved in May 2016. Please refer to the *Community Impact Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.10.1 Existing Conditions

#### 2.10.1.1 Land Use

##### Existing Land Use

Within the City of Sunnyvale, Mathilda Avenue is a six-lane divided roadway between US 101 and SR 237. Mathilda Avenue is a moderately developed arterial roadway with commercial and industrial uses primarily west of the Project area and residential development primarily east of the Project area (refer to Figure 2.10-1). North of SR 237 and west of Mathilda Avenue is the former Onizuka Air Force Station (currently under development). Farther west of the Project area and adjacent to the SR 237/US 101 interchange is the Moffett Federal Airfield. North of SR 273 and east of Mathilda Avenue is the Moffett Place redevelopment area and the Sheraton Sunnyvale Hotel. South of the Project area are primarily commercial uses. The Project area is served by two VTA light rail train stations, Moffett Park and Lockheed Martin, which are located within the Project area and serve the business district north of SR 237. In addition, VTA operates a local bus service with four bus stops on Mathilda Avenue. Refer to Figure 2.10-2 for existing land uses within the Project area.

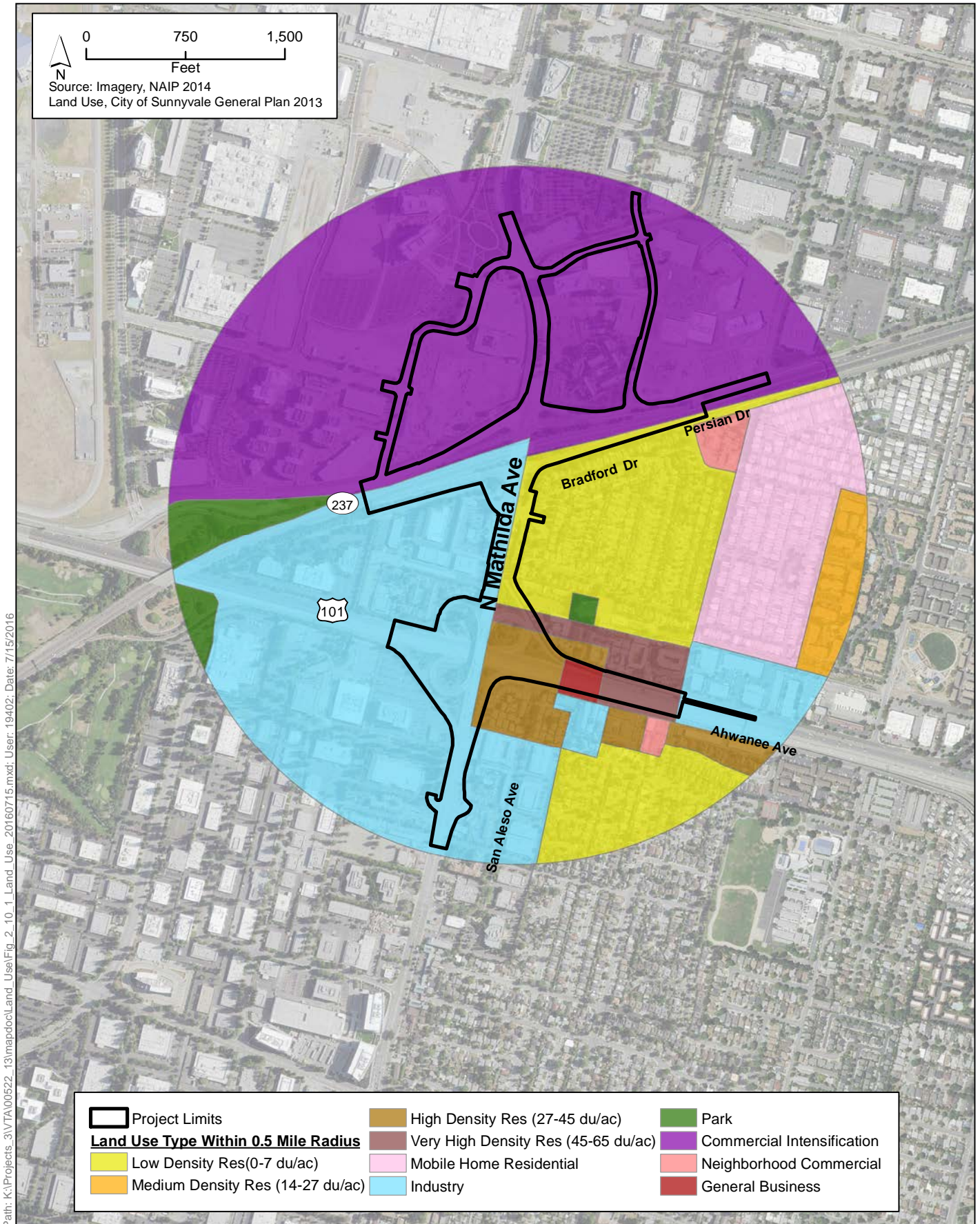
##### Future Land Use

The *City of Sunnyvale General Plan* (General Plan) was updated in July 2011 and guides the City's growth and change through 2025. Specifically, the purpose of the General Plan is to provide guiding goals, policies, and direction for physical development in the City so that the City continues to develop as a vibrant, innovative, and attractive community in which both residents and businesses can thrive. The General Plan designates a large portion of the Project area as Low Density Residential, High Density Residential, Industry, and Industrial Intensification. The General Plan designates the Project area as a potential growth area, including office, industrial, and mixed uses. Enhancements envisioned as part of the General Plan include gateway improvements at SR 237, US 101, and Mathilda Avenue at US 101. This may include distinctive landscaping, artwork, and unique signage to highlight boundaries and gateways.

The City prepared the *Moffett Park Specific Plan* in 2013. It includes a portion of the Project area, located north of SR 237 (City of Sunnyvale 2013). The purpose of this Specific Plan is to maximize Moffett Park development with corporate headquarters, office, and research/development facilities of high technology companies that will represent the next wave of economic growth in Silicon Valley. The Specific Plan also identifies three sub-districts that the City plans to enhance: MP-TOD (parcels within 0.25 mile of an existing light rail train station), MP-I (industrial areas beyond 0.25 mile of an existing transit station), and MP-C (support for commercial services). The Project area is within each of the sub-districts. Enhancements envisioned as part of the Specific Plan include additional arterial connections to the Specific Plan area, localized roadway improvements, and intersection improvements.

Table 2.10-1 and Figure 2.10-3 show current and planned development projects in the Project area. The predominant type of development currently taking place in the City is industrial/office campus development. In addition, several hotel projects are planned.

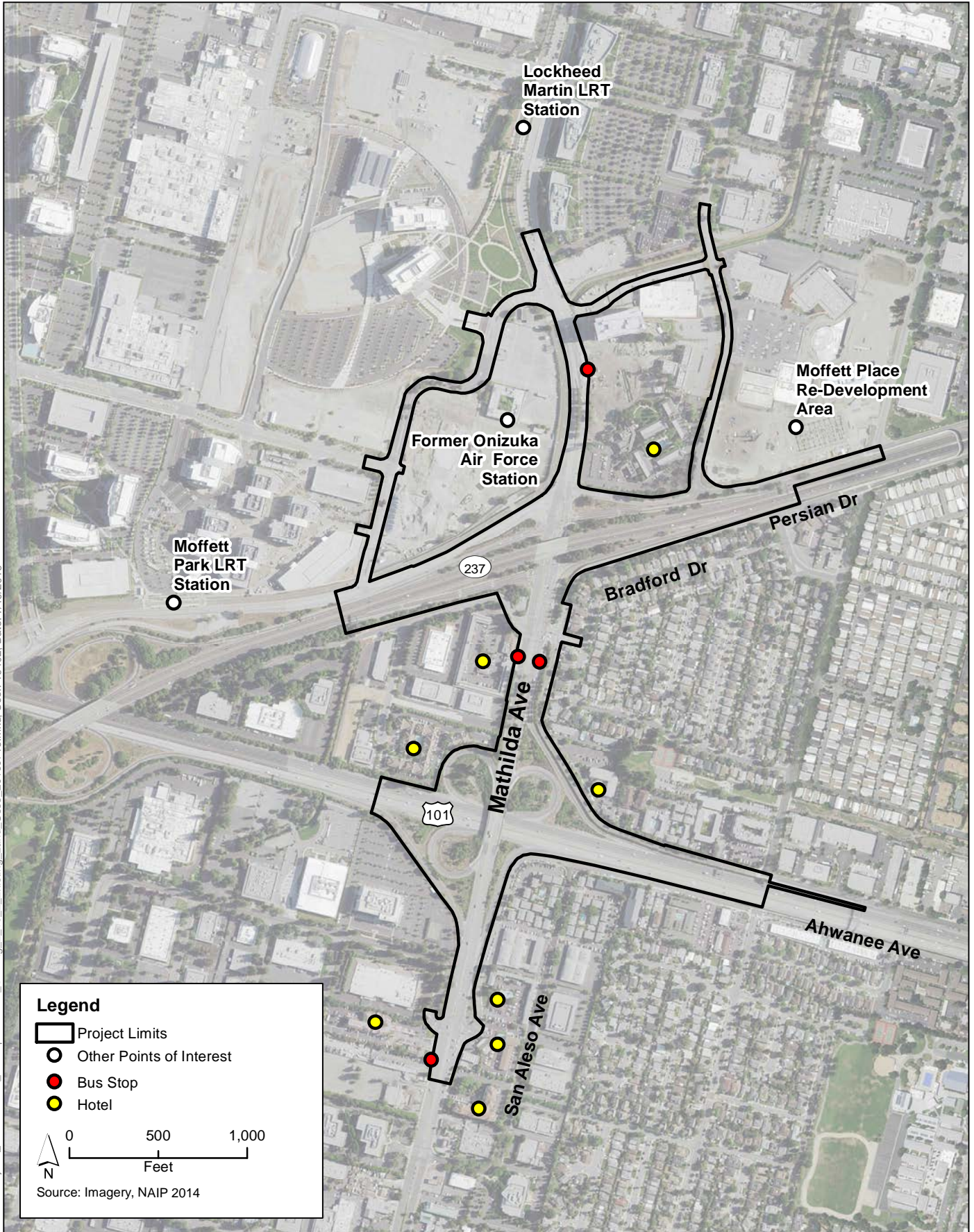




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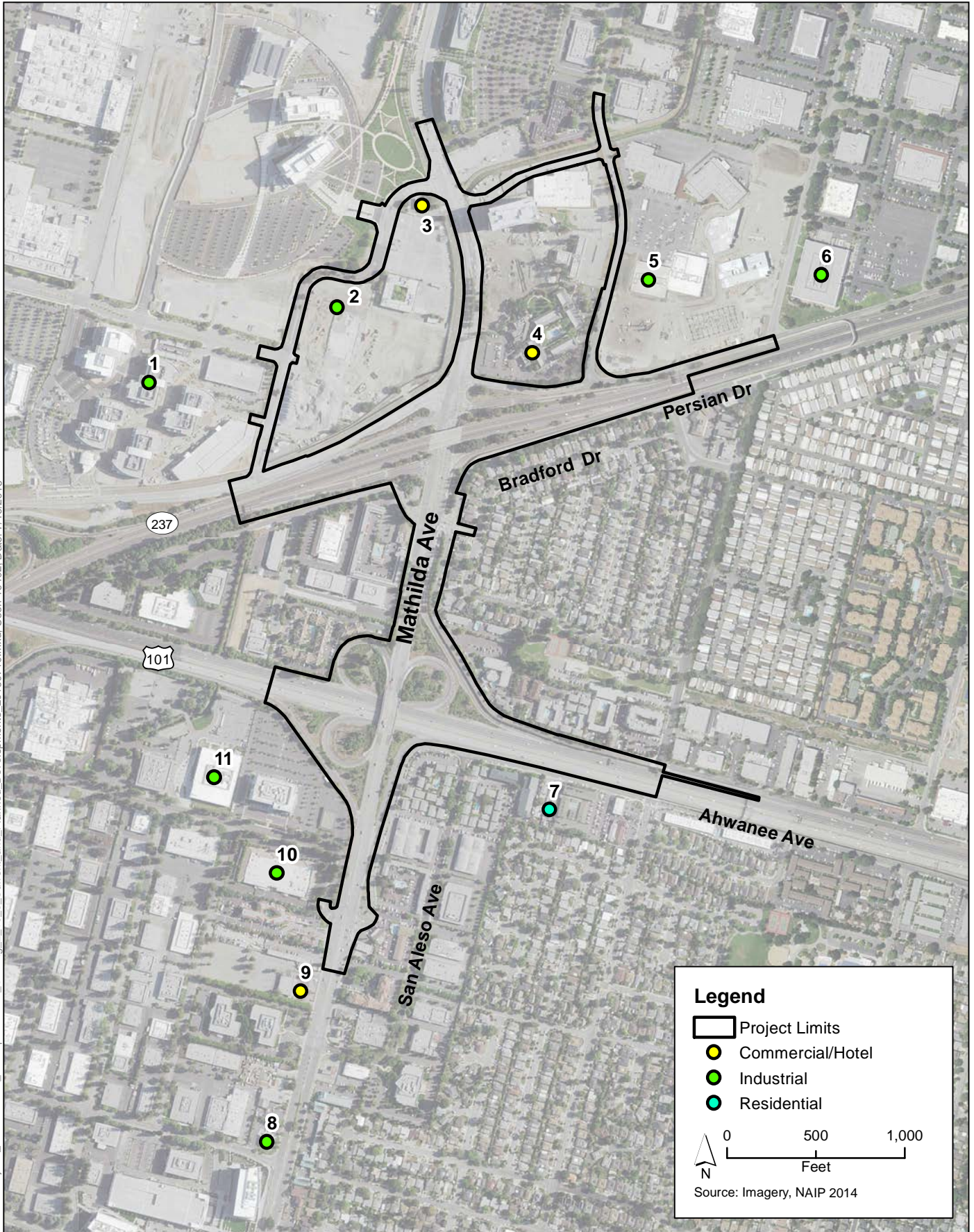
**Figure 2.10-1**  
**Study Area Land Uses**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Figure 2.10-2**  
**Existing Land Uses**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Figure 2-10.3**  
**Current and Planned Development Projects**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Table 2.10-1. Current and Planned Development Projects as of March 2016**

<b>Name of Project</b>	<b>Project Status</b>	<b>Project Location</b>	<b>Type of Project</b>	<b>Corresponding ID Number on Figure 2.10-3</b>
Sheraton Sunnyvale Hotel Expansion	Approved	1100 N. Mathilda Avenue	Commercial/Hotel: 139 net new rooms	4
201-225 Moffett Park Drive	Approved	215 Moffett Park Drive	Industrial: 248,460 square feet	6
Moffett Place	Under Construction	1152 Bordeaux Drive	Industrial: 1.77 million square feet	5
Google Ariba Campus Expansion	Under Construction	807 Eleventh Avenue	Industrial: 200,000 square feet	1
St. Jude Medical Expansion	Approved	645 Almanor Avenue	Industrial: 172,675 square feet	11
520 Almanor Avenue	Under Review	520 Almanor Avenue	Industrial: 207,200 square feet office; 4,000 square feet retail	10
210 W. Ahwanee Avenue	Under Review	210 W. Ahwanee Avenue	Residential: General Plan Amendment—change land use designation from Industrial to Medium Density Residential	7
Foothill De Anza Community College District at Onizuka	Under Construction	1070 Innovation Way	Industrial: 50,000 square feet	2
New Hotel/Former Fire Station Site	Under Review	1120 Innovation Way	Commercial/Hotel: 217 new rooms; 6,300 square feet retail	3
Hilton Garden Inn (Paladium Site)	Under Review	767 N. Mathilda Avenue	Commercial/Hotel: 238 new rooms	9
615 N. Mathilda Avenue; Two Office Buildings	Under Review	615 N. Mathilda Avenue	Industrial: 329,892 square feet	8
Source: City of Sunnyvale 2016				

### 2.10.1.2 Recreation

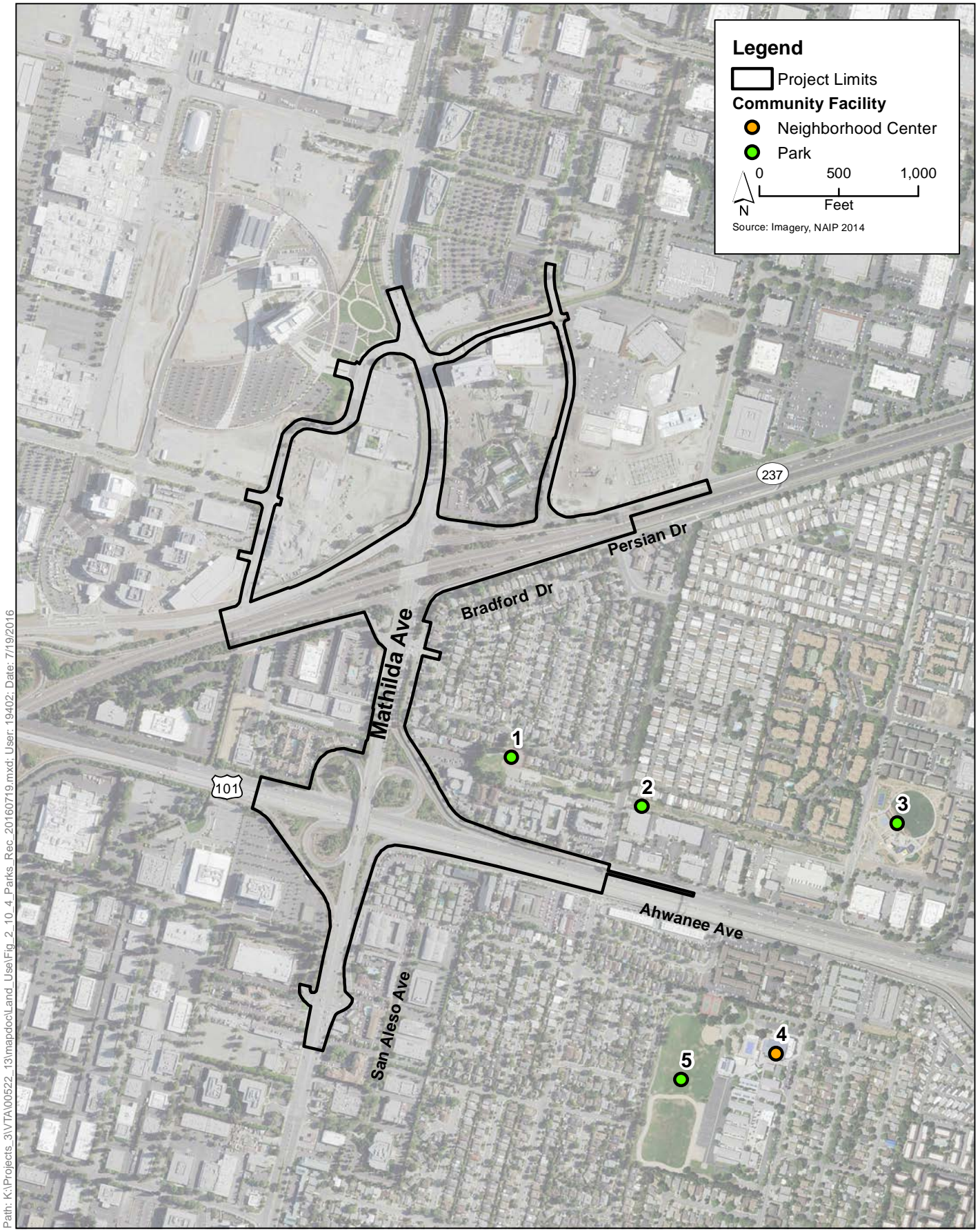
The City of Sunnyvale Neighborhood Parks and Open Space Management Program maintains 23 parks comprising over 476 acres, including 25 acres of athletic fields, 177 acres of parkland at Baylands Park, the Sunnyvale Golf Course, Sunken Gardens Nine-Hole Course, Baylands Park Wetlands, and the closed landfill property. It also has formal agreements for use and maintenance of 118 acres of school open space, primarily school athletic fields. Also included in the total open space acreage are 49 acres of public grounds, which include sites such as the orchards and open space surrounding the Community Center and Civic Center campuses (City of Sunnyvale 2015a).

There are a number of parks and recreational resources within 0.25 mile of the Project area, as identified in Table 2.10-2 and on Figure 2.10-4. All other parks within the City are located more than 0.25 mile from the Project site and are not anticipated to be affected by the Project. In addition, although the City of Sunnyvale Bicycle Map does not identify any portion of the Project as a dedicated bike lane, the portion of Mathilda Avenue in the Project area is identified as an advanced bicycle route, and bicycles do utilize the roadway (City of Sunnyvale 2005).

**Table 2.10-2. Project Area Parks and Recreational Resources**

<b>Park/Recreation Facility</b>	<b>Distance from Project Area (miles)<sup>a</sup></b>	<b>Corresponding Identification Number on Figure 2.10-4</b>
John W. Christian Greenbelt	0.05	2
Orchard Gardens Park	0.10	1
Columbia Park	0.15	5
Seven Seas Park	0.20	3
Columbia Neighborhood Center	0.20	4
Source: Google Earth Pro 2016		
<sup>a</sup> As measured from the nearest Project boundary.		

- John W. Christian Greenbelt is an 80-foot-wide, 2.7-mile-long greenbelt above the Hetch Hetchy Aqueduct. The greenbelt extends generally east-west and links Orchard Gardens Park to the east of the Project area and Fairwood Park on the Santa Clara border in Sunnyvale.
- Orchard Gardens Park is a 2-acre park with amenities including tennis courts, a full basketball court, children’s play area, toddler play area, restrooms barbecue pit, bicycle path, fitness equipment, and building rental opportunities (City of Sunnyvale 2015a).
- Columbia Park is a 15-acre park with a swimming pool, children’s play area, restrooms, lighted tennis courts, shuffleboard, and a volleyball court. The adjacent school property contains basketball courts, a par course, and a reservable multi-use field.
- Seven Seas Park was designed as a neighborhood park according to council-approved design guidelines and is intended to primarily serve the local community that is within



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**Figure 2.10-4**  
**Project Area Parks and Recreational Resources**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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walking or bicycle distance (City of Sunnyvale 2015a). The park features include a fenced dog park, two playgrounds, half basketball court, tennis court, spray pool, multi-use field, picnic tables, two barbecues, and restrooms.

- The Columbia Neighborhood Center provides social, recreational, and educational services on 25 acres for Sunnyvale residents. The Columbia Neighborhood Center includes a sport and service center building, Columbia Middle School, and the Sunnyvale Preschool Center. The Columbia Neighborhood Center is open to all community residents year round, 7 days a week, including evenings (City of Sunnyvale 2015b).

## **2.10.2 Consistency with Federal, State, Regional, and Local Plans and Programs**

The following discussion provides a list of plans and programs that are applicable to the Project. Refer to Table 2.10-3 for a consistency analysis between the Build Alternative and the No-Build Alternative for each plan or program.

### **2.10.2.1 Federal Statewide Transportation Improvement Program**

The Office of Federal Transportation Management Program is responsible for preparing and managing the Federal Statewide Transportation Improvement Program (FSTIP). The FSTIP is a 4-year statewide intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, the metropolitan plans, and the Federal Transportation Improvements Programs. The FSTIP is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations and the Regional Transportation Planning Agencies. The Project is included in the 2015 FSTIP (ID No. SCL130001) and is therefore consistent with the FSTIP.

### **2.10.2.2 Regional Transportation Plan**

The Metropolitan Transportation Commission (MTC) is the agency responsible for planning, coordinating, and financing transportation in the nine-county San Francisco Bay Area. The MTC is responsible for developing a program of projects for the Regional Transportation Plan (RTP), a master strategy for rail and bus transit expansion in the Bay Area.

*Plan Bay Area* (adopted July 18, 2013) serves as the 2040 RTP for the Bay Area region, as well as the region's Sustainable Communities Strategy as required under Senate Bill (SB) 375 (Association of Bay Area Governments and Metropolitan Transportation Commission 2013). The Sustainable Communities Strategy is by definition a combined land use and transportation plan. *Plan Bay Area* represents a transportation and land use blueprint of how the Bay Area addresses its transportation mobility and accessibility needs, land development, and greenhouse gas emissions reduction requirements through the year 2040. *Plan Bay Area* presents its purpose and goals, tracks trends, evaluates project performance, details financial assumptions and expenditures, profiles key investments, and sets forth actions for the region

to advocate and pursue over the next several years. The Project is included within *Plan Bay Area* (Project No. 240554) and is therefore consistent with the RTP.

### **2.10.2.3 Valley Transportation Plan**

As the Congestion Management Agency for Santa Clara County, VTA developed *Valley Transportation Plan 2040*, a countywide transportation plan that includes policies and programs for roadways, transit, Intelligent Transportation Systems, bicycle and pedestrian facilities, and land use (Santa Clara Valley Transportation Authority 2009). The goal of the *Valley Transportation Plan* is to “provide transportation facilities and services that support and enhance the county’s continued success by fostering a high quality of life for Santa Clara County’s residents and continued health of Santa Clara County’s economy.” The Project is identified in the VTA’s *Valley Transportation Plan 2040* under ID H43, and is therefore consistent with the *Valley Transportation Plan*.

### **2.10.2.4 Santa Clara Countywide Bicycle Plan**

The *Santa Clara Countywide Bicycle Plan* was adopted by VTA in 2008 and serves to guide the development of major bicycling facilities and improvements within Santa Clara County. The purpose of the Cross County Bicycle Corridor network is to provide continuous connections between Santa Clara County and adjacent counties, and to serve the major regional attractions in Santa Clara County. Bicycle and pedestrian improvements in the Project area would be consistent with the *Santa Clara Countywide Bicycle Plan*.

### **2.10.2.5 Countywide Trails Master Plan**

The Santa Clara County *Countywide Trails Master Plan Update* (Santa Clara County 1995) was developed by the Santa Clara County Parks and Recreation Department with the goal of directing the County’s trail implementation efforts. The plan proposed approximately 535 miles of off-street countywide trail routes and 120 miles of on-street bicycle routes within Santa Clara County. The Cross County Bicycle Corridor (*Santa Clara Countywide Bicycle Plan*) network incorporates all regional and subregional trails from the *Countywide Trails Master Plan*. Bicycle and pedestrian improvements in the Project area would be consistent with the *Countywide Trails Master Plan*.

### **2.10.2.6 Moffett Federal Airfield Comprehensive Land Use Plan**

The *Moffett Federal Airfield Comprehensive Land Use Plan* (Santa Clara County 2012) was developed and adopted by the Airport Land Use Commission and Santa Clara County to ensure that land uses surrounding Moffett Federal Airfield do not affect the airfield’s continued operation.

### 2.10.2.7 City of Sunnyvale General Plan

The following goals and policies from the *City of Sunnyvale General Plan, Land Use and Transportation Element* (City of Sunnyvale 2011) are applicable to the Project.

**Goal CC-12: Maximum access to recreation services, facilities, and amenities.** The City strives to maximize access to all of its services, facilities, and amenities.

**Policy LT-1.9:** Support flexible and appropriate alternative transportation modes and transportation system management measures that reduce reliance on the automobile and serve changing regional and citywide land use and transportation needs.

**Goal LT-4: Quality neighborhoods and districts.** Preserve and enhance the quality and character of the City's industrial, commercial, and residential neighborhoods by promoting land use patterns and related transportation opportunities that are supportive of the neighborhood concept.

**Policy LT-4.5:** Support a roadway system that protects internal residential areas from citywide and regional traffic.

**Policy LT-4.10:** Provide appropriate site access to commercial and office uses while preserving available road capacity.

**Goal LT-5. Effective, safe, pleasant, and convenient transportation.** Attain a transportation system that is effective, safe, pleasant, and convenient.

**Policy LT-5.5:** Support a variety of transportation modes.

**Policy LT-5.8:** Provide a safe and comfortable system of pedestrian and bicycle pathways.

**Policy LT-5.9:** Appropriate accommodations for motor vehicles, bicycles, and pedestrians shall be determined for city streets to increase the use of bicycles for transportation and to enhance the safety and efficiency of the overall street network for bicyclists, pedestrians, and motor vehicles.

**Policy LT-5.10:** All modes of transportation shall have safe access to city streets.

**Policy LT-5.20:** If street configurations do not meet minimum design and safety standards for all users, than standardization for all users shall be priority.

**Policy LT-5.21:** Safety considerations of all modes shall take priority over capacity considerations of any one mode.

The Project is included in the City's *Capital Improvement Program for Fiscal Year 2013/2014* as Project No. 826890, and is therefore consistent with the City's General Plan.

### 2.10.2.8 City of Sunnyvale Bicycle Plan

The City adopted the *Sunnyvale Bicycle Plan* in 2006 in order to continue the development of bike infrastructure, practices, and policies intended to provide a convenient transportation alternative to motor vehicles. The goals of the program include continued build-out of the bikeway network to facilitate commute and recreational trips, support of bicycle-friendly environments for City government and workplaces, and continuation of effective law enforcement.

The following goals and policies from the *Sunnyvale Bicycle Plan* (City of Sunnyvale 2006) are applicable to the Project.

**Policy BP.A1:** Facilitate safe, efficient, and convenient access of bicyclists to transit.

**Policy BP.A2:** Facilitate safe, efficient, and convenient access of student bicyclists to schools.

**Policy BP.A5:** Facilitate bicycling to workplaces.

**Policy BP.B4:** Ensure that the City's new and existing bikeways conform to the latest county, regional, state, and federal design standards and guidance.

Bicycle and pedestrian improvements in the Project area would be consistent with the *City of Sunnyvale Bicycle Plan*.

### 2.10.2.9 Moffett Park Specific Plan

The City adopted the *Moffett Park Specific Plan* (MPSP) in April 2004 and amended it in 2013 to facilitate and encourage development within the Moffett Park area. The MPSP sets forth goals and objectives for future development, provides community and design guidelines, specifies necessary infrastructure improvements, and establishes development standards. The MPSP encourages development such as corporate headquarters, office uses, and high technology research/development facilities.

The following Guiding Principles of the MPSP's Development Plan are applicable to the Project.

**Guiding Principle 7.0:** Enhance pedestrian accessibility.

**Guiding Principle 8.0:** Increase utilization of public transit through coordinated land use, transportation, and infrastructure planning.

The following land use objective of the MPSP's Development Plan is applicable to the Project.

**Objective LU-1:** Coordinate land use planning within Moffett Park with transportation planning.

The following circulation and transportation objectives of the MPSP's Development Plan are applicable to the Project.

**Objective CIR-2:** Provide for improved pedestrian and bicyclist mobility within the MPSP area.

**Objective CIR-4:** Ensure future Level of Service standards within the MPSP area do not exceed adopted citywide standards.

**Objective CIR-6:** Provide consistency with the citywide Transportation Strategic Program.

The Project is consistent with the guiding principles and objectives in the MPSP.

**Table 2.10-3. Consistency with State, Regional, and Local Plans and Programs**

Policy	Build Alternative	No-Project Alternative
<i>Plan Bay Area</i>		
	<p><b>Consistent.</b>            The Project is included in <i>Plan Bay Area</i>, and provides necessary infrastructure improvements for planned and expected community growth.</p>	<p><b>Not consistent.</b>            The Project is included in <i>Plan Bay Area</i>; therefore, the No-Build Alternative would not be consistent.</p>
<i>Valley Transportation Plan</i>		
	<p><b>Consistent.</b>            The Project is included in <i>Valley Transportation Plan</i>, and provides necessary infrastructure improvements for planned and expected community growth.</p>	<p><b>Not consistent.</b>            The Project is included in <i>Valley Transportation Plan</i>; therefore the No-Build Alternative would not be consistent.</p>
<i>Santa Clara Countywide Bicycle Plan</i>		
	<p><b>Consistent.</b>            Improvements to bicycle infrastructure included in the Project would be consistent with <i>Santa Clara Countywide Bicycle Plan</i>.</p>	<p><b>Not consistent.</b>            The No-Build Alternative would not facilitate safe bicycle travel through the area of the Proposed Project. Currently, the City advises that only experienced cyclists use Mathilda Avenue.</p>
<i>Countywide Trails Master Plan</i>		
	<p><b>Consistent.</b>            Bicycle and pedestrian improvements included as part of the Project would be consistent with the <i>Countywide Trails Master Plan</i>.</p>	<p><b>Consistent.</b>            The No-Build Alternative would not significantly affect the amount of on-street bicycle routes within Santa Clara County, and would thus be consistent.</p>

Policy	Build Alternative	No-Project Alternative
<b><i>Moffett Federal Airfield Comprehensive Land Use Plan</i></b>		
	<p><b>Consistent.</b>            The Project would not affect the airfield’s continued operation, and would therefore be consistent.</p>	<p><b>Consistent.</b>            The No-Project Alternative would not affect the airfield’s continued operation.</p>
<b><i>City of Sunnyvale General Plan</i></b>		
<p><i>Goal CC-12: Maximum access to recreation services, facilities, and amenities.</i></p>	<p><b>Consistent.</b>            The Project would provide increased accessibility at all local destinations.</p>	<p><b>Not consistent.</b>            The No-Build Alternative would not increase accessibility to the areas surrounding the Project.</p>
<p><i>Policy LT-1.9: Support flexible and appropriate alternative transportation modes and transportation system management measures that reduce reliance on the automobile and serve changing regional and citywide land use and transportation needs.</i></p>	<p><b>Consistent.</b>            Improvements and additions to bicycle and pedestrian infrastructure would reduce reliance on automobiles.</p>	<p><b>Not consistent.</b>            The No-Build Alternative would not provide improvements or additions to bicycle and pedestrian infrastructure. The No-Build Alternative would not reduce reliance on automobiles.</p>
<p><i>Goal LT-4: Quality neighborhoods and districts. Preserve and enhance the quality and character of the City’s industrial, commercial, and residential neighborhoods by promoting land use patterns and related transportation opportunities that are supportive of the neighborhood concept.</i>   <i>Policy LT-4.5: Support a roadway system that protects internal residential areas from citywide and regional traffic.</i></p>	<p><b>Consistent.</b>            The Project would preserve and enhance the quality and character of the surrounding Project area. The Project would provide roadway system improvements that would alleviate and protect internal residential areas from citywide or regional traffic.</p>	<p><b>Not consistent.</b>            The No-Build Alternative would preserve but would not enhance the quality and character of the surrounding Project area. The No-Build Alternative would not provide roadway system improvements that would protect internal residential areas from citywide or regional traffic.</p>

<b>Policy</b>	<b>Build Alternative</b>	<b>No-Project Alternative</b>
<p><i>Policy LT-4.10: Provide appropriate site access to commercial and office uses while preserving available road capacity.</i></p> <p><i>Goal LT-5. Effective, safe, pleasant, and convenient transportation. Attain a transportation system that is effective, safe, pleasant, and convenient.</i></p> <p><i>Policy LT-5.5: Support a variety of transportation modes.</i></p> <p><i>Policy LT-5.8: Provide a safe and comfortable system of pedestrian and bicycle pathways.</i></p> <p><i>Policy LT-5.9: Appropriate accommodations for motor vehicles, bicycles, and pedestrians shall be determined for city streets to increase the use of bicycles for transportation and to enhance the safety and efficiency of the overall street network for bicyclists, pedestrians, and motor vehicles.</i></p> <p><i>Policy LT-5.10: All modes of transportation shall have safe access to city streets.</i></p>	<p><b>Consistent.</b></p> <p>Roadway improvements associated with the Project would enhance transportation for vehicles, bicycles, and pedestrians. Pedestrians and cyclists would benefit from increased safety. The Project would provide enhanced access to commercial and office uses.</p>	<p><b>Not consistent.</b></p> <p>The No-Build Alternative would not provide roadway improvements that would enhance transportation for vehicles, bicycles, and pedestrians. Therefore, pedestrians and cyclists would not benefit from increased safety. The No-Build Alternative would not provide enhanced access to commercial and office uses.</p>
<p><i>Policy LT-5.20: If street configurations do not meet minimum design and safety standards for all users, than standardization for all users shall be priority.</i></p> <p><i>Policy LT-5.21: Safety considerations of all modes shall take priority over capacity considerations of any one mode.</i></p>	<p><b>Consistent.</b></p> <p>All street configurations would meet minimum design and safety standards. The Project would enhance safety for all users.</p>	<p><b>Not consistent.</b></p> <p>Currently, pedestrian and bicycle facilities through the Project area are discontinuous. The No-Build Alternative would continue to provide unsafe conditions for pedestrians and cyclists.</p>
<b>Moffett Park Specific Plan</b>		
<p><i>Guiding Principle 7.0: Enhance pedestrian accessibility.</i></p> <p><i>Objective CIR-2: Provide for improved pedestrian and bicyclist mobility within the MPSP area.</i></p>	<p><b>Consistent.</b></p> <p>Improvements to pedestrian and bicycle facilities would enhance mobility and accessibility to all local destinations.</p>	<p><b>Not consistent.</b></p> <p>The No-Build Alternative would not enhance pedestrian accessibility around the Project area.</p>
<p><i>Guiding Principle 8.0: Increase utilization of public transit through coordinated land use, transportation, and infrastructure planning.</i></p> <p><i>Objective LU-1: Coordinate land use planning within Moffett Park with transportation planning.</i></p>	<p><b>Consistent.</b></p> <p>The Project would provide coordinated transportation planning for vehicles, pedestrians, bicycles, and transit. Increased access to transit for bicycles and pedestrians would benefit transit utilization.</p>	<p><b>Not consistent.</b></p> <p>The No-Build Alternative would not provide coordinated transportation planning for vehicles, pedestrians, bicycles, and transit.</p>

<b>Policy</b>	<b>Build Alternative</b>	<b>No-Project Alternative</b>
<i>Objective CIR-4: Ensure future Level of Service standards within the MPSP area do not exceed adopted citywide standards.</i>	<b>Consistent.</b> The Project would improve Level of Service throughout the MPSP area.	<b>Not consistent.</b> Under the No-Build Alternative, Level of Service would continue to deteriorate as populations grow.
<i>Objective CIR-6: Provide consistency with the citywide Transportation Strategic Program.</i>	<b>Consistent.</b> The Project is included in the Transportation Strategic Program, therefore the Project would be consistent.	<b>Not consistent.</b> The Project is included in the Transportation Strategic Program; therefore, the No-Build Alternative would not be consistent.
<b>City of Sunnyvale Bicycle Plan</b>		
<i>Policy BP.A1: Facilitate safe, efficient, and convenient access of bicyclists to transit.</i> <i>Policy BP.A2: Facilitate safe, efficient, and convenient access of student bicyclists to schools.</i> <i>Policy BP.A5: Facilitate bicycling to workplaces.</i> <i>Policy BP.B4: Ensure that the City's new and existing bikeways conform to the latest county, regional, state, and federal design standards and guidance.</i>	<b>Consistent.</b> Enhancements to bicycle infrastructure, provided by the Project, would increase cyclist safety and decrease travel times by providing more direct routes.	<b>Not consistent.</b> The No-Build Alternative would not facilitate safe bicycle travel through the area of the Proposed Project. Currently, the City advises that only experienced cyclists use Mathilda Avenue.

### 2.10.2.10 Relocation and Real Property Acquisition

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.).

### 2.10.3 Impact Analysis

This section evaluates the potential impacts on land use and recreational facilities associated with both construction and operation of the Project. As discussed in Section 2.4, *Biological Resources*, there are no adopted habitat conservation plans or natural community conservation plans applicable to the Project site. Therefore, the Project would not conflict with an applicable habitat conservation plan or natural community conservation plan and this topic is not discussed further.

The *Community Impact Assessment* (ICF International 2016) followed the guidance provided in the *Caltrans Environmental Standard Environmental Reference* (Caltrans 2014) and the



Caltrans *Community Impact Assessment Standard Environmental Reference: Environmental Handbook Volume 4* (Caltrans 2011). Methods to determine impacts included review of local land use plans, existing and planned land uses and zoning, current development trends, past development trends, and state and local government plans and policies on land use.

### **2.10.3.1 No-Build Alternative**

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to land use and recreation are anticipated. However, in comparison to the Build Alternative, the No-Build Alternative would not support development and enhancement of transportation improvements in the Project area, including provision of bicycle/pedestrian facilities, safety, and accessibility to all travel modes.

### **2.10.3.2 Build Alternative**

#### **Division of an Established Community**

The Project would improve access and mobility along the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges. The Project does not include any features that would divide the existing community (such as construction of a barrier or roadway closure). As such, implementation of the Project would improve the existing community cohesion within the Project area. The Project includes implementation of a Traffic Management Plan (refer to Section 2.14, *Traffic/Transportation* and TRF-1: *Prepare a Transportation Management Plan*), to manage construction-related disruptions related to the operation of construction equipment in the Project area, partial and/or complete lane and ramp closures, and construction work conducted along sidewalks and pedestrian crossings. As such, implementation of the Project would have no impacts related to division of an established community.

#### **Consistency with State, Regional, and Local Plans and Programs**

As described above in Section 2.10.2, *Consistency with Federal, State, Regional, and Local Plans and Programs*, the Project would be consistent with all applicable land use plans and policies relevant to the Project.

#### **Relocation and Real Property Acquisition**

Under the Build-Alternative, the Project would require temporary construction easements of six properties, public access easements of two properties, partial acquisition of one property, and ownership transfer of three properties. The descriptions and locations of each property are found in Table 2.10-4. Any acquired property would be purchased at fair market value. Businesses would receive relocation assistance in accordance with Caltrans' RAP. This information is presented in this document in accordance with §15131 of the CEQA Guidelines.

**Table 2.10-4. Proposed Right-of-Way Acquisitions**

Assessor Parcel Number (APN)	Property Owner	Temporary Construction Easement (TCE) <sup>a</sup>	Public Access Easement <sup>b</sup>	Partial Acquisition	Ownership Transfer <sup>c</sup>
204-01-013	PSS Enterprises Inc. (Shell Station) 776 N. Mathilda Ave. Sunnyvale, CA 94085	1,600 square feet (sf)/ 0.036 acre (ac)	-	-	-
165-43-019	Burger King 773 N. Mathilda Ave. Sunnyvale, CA 94085	370 sf/0.008 ac	-	-	-
110-08-025	Pappas, Louis G and Effie 502 Ross Dr. Sunnyvale, CA 94089	324 sf/ 0.007 ac	-	-	-
110-27-025	W2005 New Century Hotel Portfolio LP (Sheraton Sunnyvale Hotel) 1108 N. Mathilda Ave. Sunnyvale, CA 94089	11,293 sf/ 0.259 ac	-	2,383 sf/ 0.055 ac	-
N/A Moffett Park Dr. East of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave. Sunnyvale, CA 94086	-	-	-	43,774 sf/ 1.005 ac
N/A Innovation Way	Foothill-De Anza Community College 12345 El Monte Road Los Altos Hills, CA 94022	170,875 sf/ 3.923 ac	170,875 sf/ 3.923 ac	-	-
N/A Innovation Way	Moffett Place LLC 1183 Borregas Ave. Sunnyvale, CA 94089	41,226 sf/ 0.946 ac	41,226 sf/ 0.946 ac	-	
N/A Moffett Park Dr. West of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave. Sunnyvale, CA 94086	-	-	-	4,798 sf/ 0.11 ac
N/A W. Weddell Dr. East of Mathilda Ave.	City of Sunnyvale 456 W. Olive Ave. Sunnyvale, CA 94086	-	-	-	1,322 sf/0.030 ac

<sup>a</sup> Square footages are subject to change during subsequent engineering phases.

<sup>b</sup> A public access easement allows the general public to use a street that passes through private property.

<sup>c</sup> A transfer of ownership of street or highway between the City and a state agency, pursuant to Section 83 of the California Streets and Highway Code.

Source: VTA Real Estate 2016.

## 2.10.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

## 2.11 Noise and Vibration

The information in this section is based on the *Noise Study Report for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This report was approved in April 2016. Please refer to the *Noise Study Report* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

Noise is measured in decibels (dB), which is a numerical expression of sound levels on a logarithmic scale. An A-weighted decibel (dBA) is the unit used to measure sound levels for a typical human ear. Thus, traffic noise impact analyses commonly use A-weighted decibels. Caltrans uses the 1-hour A-weighted equivalent sound level ( $L_{eq}$ ) to measure traffic noise, which is an average of A-weighted sound energy over a 1-hour period.

With regard to traffic-generated noise, noise levels rise as vehicle speeds, overall traffic volumes, and truck volumes increase. In general, a doubling of traffic results in a 3 dBA increase in noise at a nearby receptor, assuming a relatively homogeneous traffic composition (i.e., mainly passenger cars). The peak noise hour is typically not the peak commute hour due to lower operating speeds during the latter. The combination of volumes and speeds that produces the peak noise hour is that which is associated with level of service (LOS) C/D<sup>1</sup> (refer to Section 2.14, *Transportation/Traffic*, for a comprehensive description of LOS).

### 2.11.1 Regulatory Setting

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. For reader reference, Table 2.11-1 summarizes typical A-weighted sound levels associated with common activities. A sound change of less than 3 dB is just barely perceptible, and then only in the absence of other sounds.

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<sup>1</sup> Level of service or LOS is a qualitative measure of operating conditions within a traffic stream, and the perception by motorists and/or travelers. LOS C/D describes a traffic condition of vehicular congestion and delay (resulting in higher noise conditions compared to free-flowing traffic conditions).

**Table 2.11-1. Typical A-Weighted Sound Levels**

Common Outdoor Noise Source	Sound Level (dBA)	Common Indoor Noise Source
Jet flying at 1,000 feet	— 110 —	Rock band
Gas lawn mower at 3 feet	— 100 —	
Diesel truck at 50 feet at 50 mph	— 90 —	Food blender at 3 feet
Noisy urban area, daytime	— 80 —	Garbage disposal at 3 feet
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area	— 60 —	Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office
Quiet urban nighttime	— 40 —	Dishwasher in next room
Quiet suburban nighttime	— 30 —	Theater, large conference room (background)
Quiet rural nighttime	— 20 —	Library
	— 10 —	Bedroom at night
	— 0 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013a.

### 2.11.1.1 Operation

In accordance with Caltrans’ *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (Protocol) (Caltrans 2011), a noise impact occurs when the design year noise level with the project results in a substantial increase in noise level. Based on the State CEQA Guidelines, Caltrans identifies significant noise impacts if a substantial permanent increase in noise levels is predicted in the project vicinity above levels existing without the project.

### 2.11.1.2 Construction

The 2011 Protocol specifies the policies, procedures, and practices to be used for a noise analysis under CEQA. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase between existing conditions and project conditions, the number of residences affected, and the absolute noise level.

## 2.11.2 Existing Conditions

Land uses within the Project area consist of a mix of single- and multi-family residential uses, hotels, recreational areas, and commercial uses (including restaurants and offices). Single-family residences are located east of Mathilda Avenue, along West Weddell Drive and Persian Drive.

This existing conditions analysis focuses on locations with defined outdoor activity areas, such as residential backyards and common use areas at multi-family residences and hotels, outdoor recreational areas, or restaurant outdoor dining areas. Commercial buildings with no outdoor areas that are used frequently by tenants are not included. The locations of existing sound walls in the Project area are shown on Figure 2.11-1. Existing sound walls range from approximately 8 to 14 feet in height, and are constructed of concrete blocks or brick.

The primary source of noise that currently affects land uses in the Project area is traffic on the SR 237 and US 101 freeways, as well as traffic on Mathilda Avenue. Secondary sources of noise include traffic on other local residential streets, operations at commercial properties in the area (e.g., parking lot activities), day-to-day neighborhood noise such as landscaping activities, and distant aircraft flyovers.

In order to document the existing noise environment, short- and long-term noise measurements were conducted between December 8 and December 9, 2015. Noise measurements were taken in order to evaluate existing noise levels, assess potential Project-related noise impacts on the surrounding area, and identify the diurnal traffic noise patterns throughout a typical day/night cycle.

### 2.11.2.1 Short-Term Noise Measurements

Existing short-term noise levels were measured between 11:14 a.m. and 2:57 p.m. on Tuesday, December 8, 2015; and between 10:31 a.m. and 11:35 a.m. on Wednesday, December 9, 2015.

Short-term measurements were taken at nine sites: ST-1 through ST-9, as depicted on Figure 2.11-1. Measurements ST-2 and ST-6 were taken directly at areas of frequent human use. All other measurements were taken adjacent to areas of frequent human use associated with single- and multi-family residences, hotels, and a park. All measurements were taken at a height of 5 feet. At each location, one measurement of 15 minutes in duration was obtained.

The  $L_{eq}$  values collected during each measurement period (15 minutes in length) were automatically recorded with a digital integrating sound level meter and subsequently logged manually on field data sheets for each measurement location. Dominant noise sources observed and other relevant measurement conditions were also identified and logged manually on the field data sheets. In all cases, traffic noise was the dominant contributor to the measured noise levels. The results of the short-term noise measurements are provided in Table 2.11-2. As shown, measured noise levels varied from approximately 62 dBA  $L_{eq}$  at ST-6 to 69 dBA  $L_{eq}$  at ST-1 (when rounded to the nearest whole number).

**Table 2.11-2. Short-Term Sound Level Measurement Results**

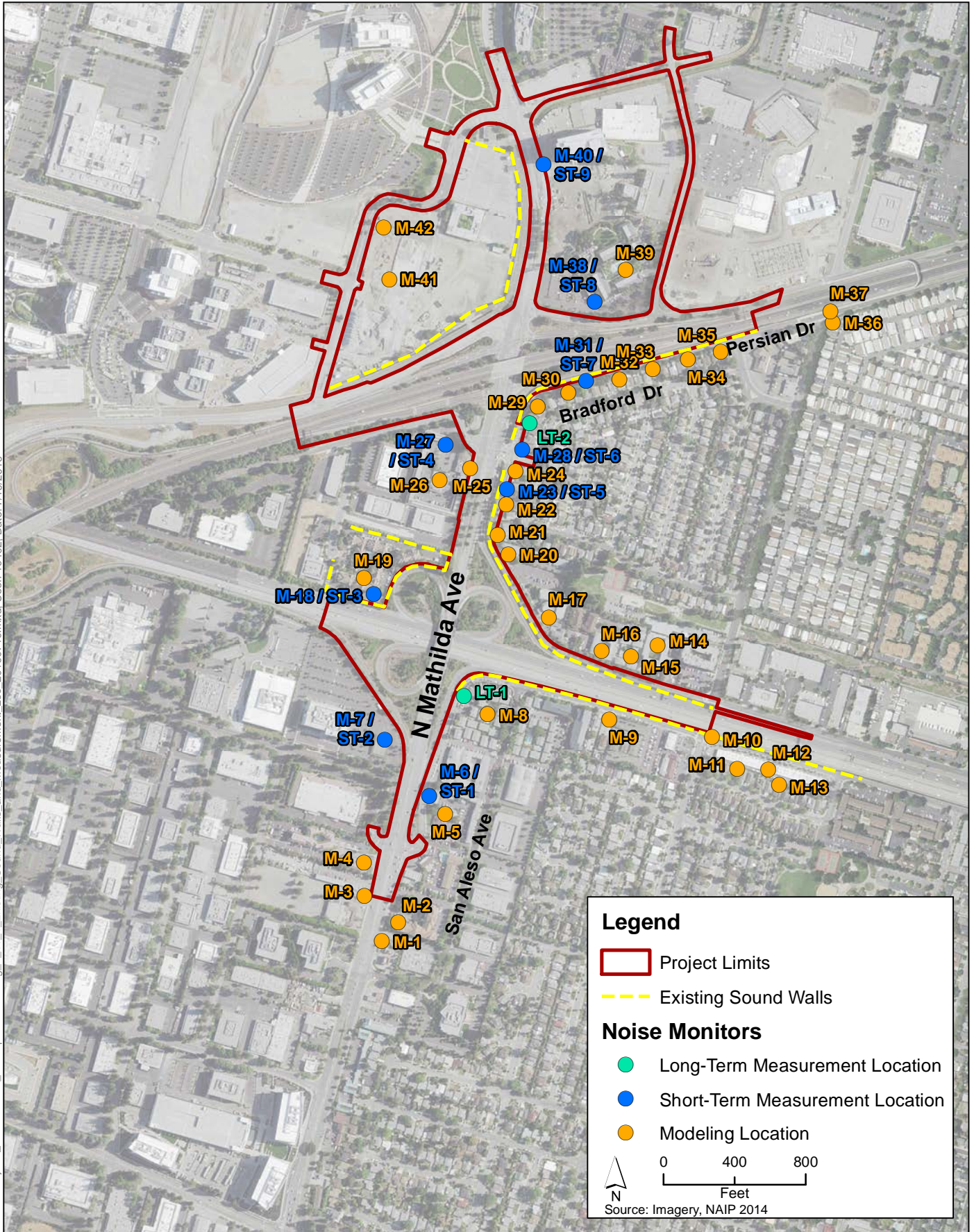
Location Number, Address, Description	Date, Time	Measured $L_{eq}$ , dBA
ST-1: 736 N. Mathilda Avenue; near hotel parking lot entrance	12/08/2015, 11:14 a.m.–11:29 a.m.	68.7
ST-2: 505 Almanor Avenue; at basketball court	12/08/2015, 11:14 a.m.–11:29 p.m.	64.3
ST-3: 900 Hamlin Court; in hotel parking lot	12/08/2015, 11:48 a.m.–12:03 p.m.	67.2
ST-4: 504 Ross Drive; in hotel parking lot	12/09/2015, 10:31 a.m.–10:46 a.m.	62.6
ST-5: 1039 Bradford Drive; along West Weddell Drive (behind residence)	12/08/2015, 1:57 p.m.–2:13 p.m.	64.0
ST-6: 1067 Bradford Drive; backyard of residence	12/08/2015, 1:57 p.m.–2:12 p.m.	61.5
ST-7: 297 Bradford Drive; along Persian Drive (behind residence)	12/08/2015, 2:57 p.m.–3:12 p.m.	65.1
ST-8: 1100 N. Mathilda Avenue; near hotel parking lot	12/08/2015, 2:57 p.m.–3:12 p.m.	64.3
ST-9: 1130 N. Mathilda Avenue; near parking lot	12/09/2015, 11:20 a.m.–11:35 a.m.	66.1

### 2.11.2.2 Long-Term Noise Measurements

Long-term measurements (i.e., measurements taken at 5-minute intervals for approximately 36 hours) were taken at two locations: LT-1 and LT-2 (shown in Figure 2.11-1). The LT-1 monitor was affixed to a telephone pole near the property line on the northwest corner of the 869 San Aleso Avenue apartment complex, approximately 200 feet south of the US 101 mainline. The LT-2 monitor was affixed to a telephone pole near the property line of the residence at 1087 Bradford Drive along Persian Drive, approximately 300 feet south of the SR 237 mainline. These locations were chosen for the following reasons: (1) they are located in areas of the alignment that would be most directly affected by the Project; (2) they were accessible without requiring access to private property; and (3) they were obscured from public view, which helped to minimize the risk of theft or tampering. The results of the long-term noise measurements are provided in Table 2.11-3.

**Table 2.11-3. Long-Term Sound Level Measurement Results**

Location Number, Description	Date, Time	Measured Noise Levels, dBA
		$L_{eq}$ Range <sup>a</sup>
LT-1: Near apartment complex at 893 San Aleso Avenue	12/08/2015, 12:00 a.m.–12/09/2015, 12:00 p.m.	Daytime: 66.4–71.3 Evening: 67.7–68.6 Nighttime: 59.2–69.9
LT-2: Along Persian Drive, behind residence at 1087 Bradford Drive	12/08/2015, 12:00 a.m.–12/09/2015, 12:00 p.m.	Daytime: 63.9–67.1 Evening: 62.8–65.3 Nighttime: 54.9–64.3
<sup>a</sup> Daytime indicates the range of hourly noise levels measured between 7:00 a.m. and 6:59 p.m. Evening indicates the range of hourly noise levels measured between 7:00 p.m. and 9:59 p.m. Nighttime indicates the range of hourly noise levels measured between 10:00 p.m. and 6:59 a.m.		



**Figure 2.11-1**  
**Existing Sound Walls and Measurement/Monitoring Locations**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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## 2.11.3 Impact Analysis

### 2.11.3.1 No-Build Alternative

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to noise and vibration are anticipated.

### 2.11.3.2 Build Alternative

#### Operation

Potential noise impacts associated with operational traffic were evaluated using the Federal Highway Administration's Traffic Noise Model, Version 2.5 (TNM 2.5) (Federal Highway Administration 2004). Key inputs for the traffic noise model were the locations of roadways, shielding features (e.g., topography and buildings), noise barriers, sensitive receivers, traffic volumes, traffic speeds, and traffic mix (i.e., percentage of automobiles, medium trucks, and heavy trucks).

In addition to the 9 short-term measurement locations, 21 additional modeled-only receiver locations were evaluated at various noise-sensitive land uses in the Project area, for a total of 30 modeled locations, under the following traffic conditions.

- Existing Year (2013)<sup>2</sup>
- Design Year (2040) No-Build
- Design Year (2040) Build

The primary source of traffic volumes used in the modeling was the Project-specific *Travel Demand Forecasting Memorandum* (Fehr & Peers 2016a). The traffic memorandum indicates that overall traffic volumes throughout the study area were generally higher during the AM peak hour (8:00 a.m.) than during the PM peak hour (5:00 p.m.). Therefore, all modeling of existing and Design Year (2040) traffic noise was based on AM peak hour traffic volumes. The traffic memorandum does not include vehicle mix information. Vehicle mix information for the US 101 and SR 237 mainlines and ramps was derived from annual average daily truck vehicle mix information provided in the Annual Average Daily Truck Traffic on the California State Highway System (Caltrans 2014). A vehicle mix of 96 percent automobiles, 2 percent medium trucks, and 2 percent heavy trucks was used for the US 101 mainline and ramps. A vehicle mix of 96 percent automobiles, 1 percent medium trucks (trucks with two axles), and 3 percent heavy trucks (trucks with three or more axles) was used for the SR 237 mainline and ramps. The Project traffic engineer provided a vehicle mix of 98 percent automobiles, 1 percent medium trucks, and 1 percent heavy trucks to be used for all local roadways (Fehr & Peers 2016b).

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<sup>2</sup> 2013 peak-hour traffic volumes were used for the Existing Year condition in order to be consistent with the Project-specific *Travel Demand Forecasting Memorandum* (Fehr & Peers 2016a).

In order to analyze impacts of the Project, traffic scenarios based on existing conditions or Project alternative/year of operation were modeled in TNM 2.5. Using the results of these analyses, it is possible to determine the effects of the Project by comparing (1) the existing noise levels to the Build Alternative noise levels and (2) the No-Build Alternative noise levels to the Build Alternative noise levels. The results of the TNM 2.5 modeling are included in Table 2.11-4. Modeling results are rounded to the nearest decibel before comparisons are made. An example would be a comparison between calculated sound levels of 64.4 and 64.5 dBA. The difference between these two values is 0.1 dB. However, after rounding, the difference is reported as 1 dB.

In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound would generally be perceived as barely detectable.

The increase in noise levels at noise-sensitive locations, relative to existing conditions, is predicted to be in the range of 0 to 2 dB under Build Alternative conditions. The increase in noise levels, relative to No-Build conditions, is predicted to be in the range of -1 dB (i.e., a 1 dB decrease) to 1 dB. This range represents a minimal (barely perceptible) increase, and therefore, no impact due to operational noise is anticipated.

**Table 2.11-4. Comparison of Measured and Modeled Sound Levels in the TNM 2.5 Model**

Receiver I.D.	Measurement Location	Land Use / Location of Measurement or Modeling Point	Address	Existing Noise Level L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level without Project, L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level with Project (Build Alternative), L <sub>eq(h)</sub> , dBA	Design Year (2040) (Build Alternative) Noise Level with Project minus No Project Conditions L <sub>eq(h)</sub> , dBA	Design Year (2040) (Build Alternative) Noise Level with Project minus Existing Conditions L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level without Project minus Existing Conditions L <sub>eq(h)</sub> , dBA
M-1	--	Commercial / Outdoor Seating Area	736 N. Mathilda Avenue	73	74	74	0	1	1
M-2	--	Hotel / Pool Area	748 N. Mathilda Avenue	66	67	67	0	1	1
M-3	--	Commercial / Outdoor Seating Area	769 N. Mathilda Avenue	63	64	64	0	1	1
M-4	--	Commercial / Outdoor Seating Area	773 N. Mathilda Avenue	67	69	69	0	2	2
M-5	--	Hotel / Pool Area	814 W. Ahwanee Avenue	63	64	64	0	1	1
M-6 <sup>3</sup>	ST-1	Hotel / Parking Lot Entrance	814 W. Ahwanee Avenue	71	73	72	-1	1	2
M-7	ST-2	Recreation / Basketball Court	505 Almanor Avenue	66	68	68	0	2	2
M-8	--	Multi-Family Residential / Pool Area	869 San Aleso Avenue	59	60	60	0	1	1
M-9 <sup>4</sup>	--	Proposed Future Residential Land Use	210 Ahwanee Avenue	66	66	66	0	0	0
M-10	--	Southern Edge of US 101 Pedestrian Overcrossing	--	68	69	69	0	1	1
M-11	--	Residential/Backyard	231 Alturas Avenue	62	63	63	0	1	1
M-12	--	Multi-Family Residential / Pool Area	874 Borregas Avenue	63	64	64	0	1	0
M-13	--	Residential / Backyard	255 Alturas Avenue	61	62	62	0	1	1
M-14	--	Multi-Family Residential / Pool Area	181 W. Weddell Drive	56	57	57	0	1	1
M-15	--	Multi-Family Residential / Pool Area	205 W. Weddell Drive	58	59	59	0	1	1
M-16	--	Multi-Family Residential / Pool Area	245 W. Weddell Drive	57	58	58	0	1	1
M-17	--	Hotel / Pool Area	940 W. Weddell Drive	60	61	61	0	1	1
M-18 <sup>4</sup>	ST-3	Hotel / Parking Lot	900 Hamlin Court	68	69	69	0	1	1
M-19	--	Hotel / Outdoor Recreation Area	900 Hamlin Court	60	61	61	0	1	1
M-20	--	Residential / Patio	962 W. Weddell Drive	60	61	61	0	1	1
M-21	--	Residential / Backyard	970 W. Weddell Drive	63	64	64	0	1	1
M-22	--	Residential / Backyard	1015 Bradford Drive	62	64	64	0	2	2
M-23	ST-5	Residential / Sidewalk Along W. Weddell Drive (Behind Residence)	1039 Bradford Drive	64	65	65	0	1	1
M-24	--	Residential / Backyard	1055 Bradford Drive	63	64	64	0	1	1
M-25	--	Commercial / Outdoor Seating Area	502 Ross Drive	67	68	68	0	1	1
M-26	--	Hotel / Pool Area	504 Ross Drive	59	61	61	0	2	2
M-27 <sup>4</sup>	ST-4	Hotel / Parking Lot	504 Ross Drive	65	66	66	0	1	1
M-28	ST-6	Residential / Backyard	1067 Bradford Drive	64	65	66	1	2	1
M-29	--	Residential / Backyard	1099 Bradford Drive	68	69	69	0	1	1
M-30	--	Residential / Backyard	333 Bradford Drive	65	67	67	0	2	2
M-31 <sup>4</sup>	ST-7	Residential / Along Persian Drive (Behind Residence)	297 Bradford Drive	66	67	67	0	1	1
M-32	--	Residential / Backyard	267 Bradford Drive	66	68	68	0	2	2
M-33	--	Residential / Backyard	227 Bradford Drive	65	66	66	0	1	1

<sup>3</sup> Modeling location is not representative of a noise-sensitive land use.

<sup>4</sup> Modeling location represents future noise-sensitive land use.

Receiver I.D.	Measurement Location	Land Use / Location of Measurement or Modeling Point	Address	Existing Noise Level L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level without Project, L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level with Project (Build Alternative), L <sub>eq(h)</sub> , dBA	Design Year (2040) (Build Alternative) Noise Level with Project minus No Project Conditions L <sub>eq(h)</sub> , dBA	Design Year (2040) (Build Alternative) Noise Level with Project minus Existing Conditions L <sub>eq(h)</sub> , dBA	Design Year (2040) Noise Level without Project minus Existing Conditions L <sub>eq(h)</sub> , dBA
M-34	--	Residential / Backyard	199 Bradford Drive	65	66	66	0	1	1
M-35	--	Residential / Backyard	145 Bradford Drive	65	66	66	0	1	1
M-36	--	Residential / Backyard	At corner of Persian Drive and Borregas Avenue	60	61	61	0	1	1
M-37	--	Southern edge of SR 237 Pedestrian Overcrossing	--	66	68	68	0	2	2
M-38 <sup>4</sup>	ST-8	Hotel / Parking Lot	1100 N. Mathilda Avenue	68	69	69	0	1	1
M-39	--	Hotel / Pool Area	1100 N. Mathilda Avenue	61	62	62	0	1	1
M-40 <sup>4</sup>	ST-9	Commercial / Parking Lot	1130 N. Mathilda Avenue	68	70	70	0	2	2
M-41 <sup>5</sup>	--	Future Site of Foothill College Sunnyvale Center / Future Outdoor Seating Area	1070 Innovation Way	61	62	62	0	1	1
M-42	--	Future Site of Foothill College Sunnyvale Center / Potential Future Outdoor Seating or Recreation Area	1070 Innovation Way	59	61	61	0	2	2

## Construction

### Noise

Noise associated with construction is considered to result in a significant impact if it conflicts with the Caltrans Standard Specification Section 14-8.02, *Noise Control*, which requires the following.

- Do not exceed 86 dBA  $L_{max}$  at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Construction activities are expected to begin in early 2018 and last approximately 12 months. Table 2.11-5 summarizes noise levels produced by typical construction equipment that is likely to be used for the Project. The metric used to assess construction noise is the maximum noise level ( $L_{max}$ ), which describes the highest 1-second noise level. Therefore, the maximum noise level experienced at a receptor is typically dominated by the single noisiest piece of construction equipment being used. The resulting noise levels at nearby receptors will vary depending on the distance between the location of the noise source and the location of the receptor. Construction equipment is expected to generate noise levels ranging from 77 to 90 dBA at a distance of 50 feet, and noise produced by construction equipment would be reduced at a rate of about 6 dB per doubling of distance.

**Table 2.11-5. Construction Equipment Noise**

Equipment	$L_{max}$ at 50 feet (dBA, slow)
Crawler Tractor	84
Mounted Impact Hammer (Hoe Ram)	90
Excavator	81
Grader	85
Roller	80
Rubber Tired Loader	79
Scraper	84
Backhoe	78
Generator	81
Air Compressor	78
Plate Compactor	83
Pump	81
Paver	77

Source: Federal Highway Administration 2006.

During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. As indicated in Table 2.11-5, construction noise levels could exceed Caltrans' standard of 86 dBA  $L_{max}$  at 50 feet

from the job site when occurring between 9 p.m. and 6 a.m. Therefore, noise from construction activities may cause a significant impact. Avoidance and Minimization Measure NV-1, *Implement Noise-Reducing Construction Practices*, would reduce this impact to a less-than-significant level.

**Vibration**

Caltrans provides vibration guidelines in its publication *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013b). The manual defines two different types of potential vibration impacts: (1) building damage potential and (2) annoyance potential.

Construction-related vibration was analyzed using data and modeling methodologies provided by Caltrans’ *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013b), which provides typical vibration source levels for various types of construction equipment, as well as methods for estimating the increase in groundborne vibration over distance. Table 2.11-6 provides the peak particle velocity (PPV)<sup>5</sup> levels of worst-case construction equipment expected to be used by the Project; the levels are provided for a reference distance of 25 feet. Vibration from typical heavy construction equipment operation that would be used during Project construction ranges from 0.089 to 0.24 inches per second PPV at 25 feet from the source of activity. The attenuation<sup>6</sup> equations from the guidance manual were used to estimate the change in PPV levels over distance.

**Table 2.11-6. Construction Equipment Vibration Levels**

Equipment Item	Reference PPV at 25 feet, inches/second <sup>a</sup>
Hydraulic breaker	0.24
Vibratory roller	0.21
Large bulldozer <sup>b</sup>	0.089
<sup>a</sup> Obtained from Caltrans 2013b. <sup>b</sup> Considered representative of other heavy earthmoving equipment such as excavators, graders, and backhoes. PPV = peak particle velocity	

Heavy construction equipment has the potential to produce groundborne vibration levels that may be distinctly perceptible to people in the surrounding area, or may cause structural damage to nearby structures.

Using the reference vibration data presented in Table 2.11-6 and attenuation from the Caltrans’ *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013b), the minimum distance that different types of construction equipment will need to be from applicable land uses in order for vibration impacts to be less than significant was calculated. This information is provided in Table 2.11-7.

<sup>5</sup> The rate or velocity (in inches per second) at which particles move is the commonly accepted descriptor of vibration amplitude, referred to as peak particle velocity (PPV).

<sup>6</sup> Attenuation is the decrease in energy of sound levels through a medium.

**Table 2.11-7. Minimum Required Distance for Vibratory Construction Equipment**

Equipment Type	Minimum distance construction equipment must be from a given land use in order to be below threshold... (feet)		
	...for structural damage to older residential structures (0.3 PPV, inches/second)	...for structural damage to commercial structures (0.5 PPV, inches/second)	...for annoyance at existing residences (0.1 PPV, inches/second)
Hydraulic Breaker	22	15	50
Vibratory Roller	20	13	45
Large Bulldozer <sup>a</sup>	10	<10	23

<sup>a</sup> Considered representative of other heavy earthmoving equipment such as excavators, graders, backhoes, etc.  
 PPV = peak particle velocity

Because residences and other structures could be located within 50 feet of active construction areas this impact is considered to be significant. Implementation of Avoidance and Minimization Measure NV-2, *Implement Vibration-Reducing Construction Measures to Limit Groundborne Vibration at Nearby Structures and Residences*, would reduce this impact to a less-than-significant level.

## 2.11.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be incorporated into the Project during construction, as applicable, to reduce the effects of the impacts discussed above in Section 2.11.3, *Impact Analysis*.

### Avoidance and Minimization Measure NV-1: Implement Noise-Reducing Construction Practices

The contractor will implement the following measures during construction.

- Noise-generating construction activities will be limited to the hours of 6 a.m. to 9 p.m., where feasible. In the event that noise-generating construction activity is required to occur outside of these time restrictions, noise from construction activities will not exceed 86 dBA L<sub>max</sub> at 50 feet from the job site.
- All construction equipment and vehicles using internal combustion engines will be equipped with manufacturer-recommended mufflers, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification.
- All mobile or fixed construction equipment used on the Project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of Project activity.
- All construction equipment will be properly maintained. (Poor maintenance of equipment may cause excessive noise levels.)

- All construction equipment will be operated only when necessary and will be switched off when not in use.
- Construction employees will be trained in the proper operation and use of the equipment. (Careless or improper operation or inappropriate use of equipment can increase noise levels. Poor loading, unloading, excavation, and hauling techniques are examples of how a lack of adequate guidance and training may lead to increased noise levels.)
- Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas will be located as far as practicable from noise-sensitive receptors.
- Construction site speed limits will be established and enforced during the construction period.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- To minimize potential public objections to unavoidable noise, the contractor will maintain good communication with the surrounding community regarding the schedule, duration, and progress of the construction. Notification will be provided advising that there will be loud noise associated with the construction and providing a telephone contact number for affected parties to ask questions and report any unexpected noise levels. The onsite construction supervisor will have the responsibility and authority to receive and resolve noise complaints.

**Avoidance and Minimization Measure NV-2: Implement Vibration-Reducing Construction Measures to Limit Groundborne Vibration at Nearby Structures and Residences**

The contractor will implement vibration-reducing measures to limit groundborne vibration from construction activity. To reduce the potential for damage, vibration at commercial structures will be limited to 0.5 inches/second PPV. To reduce the potential for annoyance, vibration at occupied residential buildings will be limited to 0.1 inches/second PPV. Measures that can be implemented to limit vibration include, but are not limited to, the following.

- Locating vibration-generating equipment as far as feasible from nearby buildings.
- Using lower energy settings on equipment where feasible.
- Employing alternative equipment or methods to limit groundborne vibration. This could include the use of expansive demolition agents<sup>7</sup> in place of pavement breakers or smaller equipment.

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<sup>7</sup> Construction methods that are an alternative to impact pavement breaker/explosive techniques, that break apart roadways with reduced noise, ground vibration, and dust. Typically, it is a powder that when mixed with water is poured into drilled holes to create cracks.



Prior to initiation of construction the contractor will prepare a vibration control plan that will summarize equipment to be used on the Project site and the methods that will be used to ensure the vibration does not exceed the specified limits. The plan will also include a description of the methods that will be used to monitor groundborne vibration to ensure that vibration limits are not exceeded.

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## 2.12 Population and Housing

The information in this section is based on the *Community Impact Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This report was approved in May 2016. Please refer to the *Community Impact Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.12.1 Regulatory Setting

There are no relevant federal or state regulations applicable to population and housing. The following local regulations and plans are relevant to the Project.

The following goal and policies from the *City of Sunnyvale General Plan, Housing Element* (City of Sunnyvale 2014) are applicable to the Project. For a discussion of General Plan goals and policies relevant to land use and recreation, refer to Section 2.10, *Land Use and Recreation*.

**Goal F.** Maintain sustainable neighborhoods with quality housing, infrastructure, and open space that fosters neighborhood character and the health of residents.

**Policy F.2.** Promote neighborhood vitality by providing adequate community facilities, infrastructure, landscaping and open space, parking, and public health and safety within new and existing neighborhoods.

**Policy F.3.** Continue a high quality of maintenance for public streets, rights-of-way, and recreational areas, and provide safe and accessible pedestrian, bike, and transit linkages (accessibility) between jobs, residences, transportation hubs, and goods and services.

### 2.12.2 Existing Conditions

#### 2.12.2.1 Population

The City was incorporated in 1912. The 2014 population of the City was 145,921, and the 2014 population of Santa Clara County (County) was 1,841,569 (American Community Survey 2014). According to Association of Bay Area Governments projections for the 20-year period from 2020 to 2040, the City's population is expected to increase by 34.5 percent to 194,300 with an average growth of 5.6 percent every 5 years. Table 2.12-1 presents the anticipated growth for both the City and County.

**Table 2.12-1. Sunnyvale and Santa Clara County Population Growth Projections  
2010–2040**

Year	City of Sunnyvale Population	Percent Change		Santa Clara County Population	Percent Change	
		Incremental	Cumulative		Incremental	Cumulative
2010	140,081	--	--	1,781,642	--	--
2015 <sup>a</sup>	148,400	5.9%	5.9%	1,877,700	5.4%	5.4%
2020	156,800	5.7%	11.9%	1,977,900	5.3%	11.0%
2025	165,500	5.5%	18.1%	2,080,600	5.2%	16.8%
2030	174,700	5.6%	24.7%	2,188,500	5.2%	22.8%
2035	184,300	5.5%	31.6%	2,303,500	5.3%	29.3%
2040	194,300	5.4%	38.7%	2,423,500	5.2%	36.0%

Source: Association of Bay Area Governments 2013  
<sup>a</sup> 2015 population figures cited here are projections from Association of Bay Area Governments. The latest population data available through the U.S. Census Bureau, American Community Survey is for 2014 and is 145,921 for the City of Sunnyvale and 1,841,569 for Santa Clara County.

### 2.12.2.2 Housing

In 2014, there were 56,620 housing units in the City (Table 2.12-2). This is an approximately 6.1 percent increase from 2010. Approximately 95.8 percent of these housing units were occupied in 2014, compared with 98.4 percent in 2010. In the County, there were 640,439 housing units in 2014 and 631,920 housing units in 2010. Approximately 95.9 percent of these housing units were occupied in 2014, compared to 95.6 percent in 2010.

**Table 2.12-2. Sunnyvale and Santa Clara County Housing Units 2010, 2014**

	2010	2014
<b>City of Sunnyvale</b>		
Total Housing Units	53,384	56,620
Increase in Housing Units	--	6.1%
Occupied Housing Units	52,539	54,267
Change in Occupied Housing Units	-	+3.3%
Percent Occupied	98.4%	95.8%
<b>Santa Clara County</b>		
Total Housing Units	631,920	640,439
Increase in Housing Units	--	1.3%
Occupied Housing Units	604,204	614,714
Change in Occupied Housing Units	--	+1.7%
Percent Occupied	95.6%	95.9%

Source: U.S. Census Bureau 2010; American Community Survey 2014

In 2015, there were an estimated 56,560 households in the City (Association of Bay Area Governments 2013). The number of households in the City increased by approximately 5.9 percent between 2010 and 2015. The number of households in the County increased by approximately 5.8 percent between 2010 and 2015. As shown in Table 2.12-3, the Association of Bay Area Governments projects that the number of households in the City will increase by approximately 36.4 percent by 2040, with an average increase of approximately 5.3 percent every 5 years.

The average household size in the City was 2.62 people in 2010 and 2015. The household size in the City is projected to stay at 2.62 persons per household through 2020. The average household size in the County was 2.95 people in 2010 and 2.94 people in 2015. The average household size for the County is projected to decrease to 2.93 persons per household by 2020 (Association of Bay Area Governments 2013).

**Table 2.12-3. Sunnyvale and Santa Clara County Household Growth Projections 2010–2040**

Year	City of Sunnyvale <sup>a</sup> Households	Percent Change <sup>b</sup>		Santa Clara County Households	Percent Change	
		Incremental	Cumulative		Incremental	Cumulative
2010	53,384	--	--	604,204	--	--
2015	56,560	5.9%	5.9%	639,160	5.8%	5.8%
2020	59,840	5.8%	12.0%	675,670	5.7%	11.8%
2025	62,970	5.2%	18.0%	710,610	5.2%	17.6%
2030	66,290	5.3%	24.2%	747,070	5.1%	23.6%
2035	69,490	4.8%	30.2%	782,120	4.7%	29.4%
2040	72,800	4.8%	36.4%	818,400	4.6%	35.5%

Source: Association of Bay Area Governments 2013.

<sup>a</sup> Association of Bay Area Government’s household growth projections include the City of Sunnyvale’s sphere of influence, which consists of a portion of Moffett Federal Airfield. The sphere of influence is used to account for household growth outside of the City’s jurisdictional boundary.

<sup>b</sup> Incremental percent change values are based on the difference in the number of households for each subsequent year. Therefore, between 2020 and 2025, the projected number of households in the City of Sunnyvale shows an increase of 3,130 households, or a 5.2 percent incremental percent change. Cumulative percent change values are based on the difference between the projected number of households in a projection year and the number of households in year 2010. Therefore, in 2025, the projected number of households in the City of Sunnyvale shows an increase of 9,586 households compared to 2010, or an approximately 18 percent cumulative percent change. All calculations are rounded to the nearest tenth of a point.

Note: The latest available U.S. Census Bureau data for households is for 2010.

### 2.12.2.3 Employment

The Association of Bay Area Governments estimates that the number of jobs in the County will grow from 926,270 jobs in 2010 to 1,229,520 jobs in 2040, an increase of approximately 32.7 percent. The number of jobs in the City is projected to increase by approximately 26.5 percent, from 74,840 jobs in 2010 to 101,390 jobs in 2040. Table 2.12-4 summarizes the

projected 5-year incremental increases in jobs in the City and County from 2010 to 2040. Approximately 8 percent of the jobs in the County are located in the City. This trend is projected to continue until 2040.

Since 2010, the City has had more jobs than employed residents (Table 2.12-4), which means that some employees working in the City live elsewhere and are commuting to the City. The County also has more jobs than employed residents. This trend is expected to continue through 2040. By 2020, the City is projected to have 89,490 jobs and 83,000 employed residents, a ratio of 1.08 jobs for every employed resident. This ratio is expected to remain between 1.03 and 1.08 until 2040.

**Table 2.12-4. Sunnyvale and Santa Clara County Jobs and Employed Resident Projections 2010–2040**

	2010	2015	2020	2025	2030	2035	2040
<b>City of Sunnyvale<sup>a</sup></b>							
Total Jobs	74,840	81,880	89,490	91,720	94,210	97,630	101,390
Employed Residents	68,300	75,360	83,000	86,150	89,450	93,650	97,980
Jobs per Employed Resident	1.09	1.09	1.08	1.06	1.05	1.04	1.03
<b>Santa Clara County</b>							
Total Jobs	926,270	1,003,780	1,091,270	1,118,320	1,147,020	1,187,010	1,229,520
Employed Residents	802,030	881,770	968,790	1,003,550	1,039,330	1,085,880	1,133,950
Jobs per Employed Resident	1.15	1.14	1.13	1.11	1.10	1.09	1.08
Source: Association of Bay Area Governments 2013							
<sup>a</sup> Association of Bay Area Governments employment projections include the City of Sunnyvale’s sphere of influence, which consists of a portion of Moffett Federal Airfield. The sphere of influence is used to account for employment outside of the City’s jurisdictional boundary.							

## 2.12.3 Impact Analysis

Methods used to determine impacts on population and housing included researching existing and estimated population and housing trends within the City and County.

### 2.12.3.1 No-Build Alternative

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. No impacts related to population and housing are anticipated.

### 2.12.3.2 Build Alternative

The Project involves improvements to portions of Mathilda Avenue primarily within existing public rights-of-way and would not result in the displacement of any existing people, housing, or businesses. Access to any housing or businesses in the Project area would be maintained at all times throughout the construction and operation of the Project. As no new

homes or businesses would be constructed as part of the Project, it would not *directly* induce population growth. Construction-related employment can *indirectly* induce population growth by bringing new workers to an area. However, construction employment opportunities for the Project would be temporary (1 year), and would likely be filled by construction workers already residing in the City or neighboring areas. As such, no impacts related to population and housing are anticipated.

#### **2.12.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, and/or mitigation measures are required.

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## 2.13 Public Services and Utilities

The information in this section is based on the *Community Impact Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This assessment was approved in May 2016. Please refer to the *Community Impact Assessment* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.13.1 Regulatory Setting

There are no federal or state regulations or plans applicable to public services and utilities.

#### 2.13.1.1 City of Sunnyvale General Plan

The following goals and policies from the *City of Sunnyvale's General Plan* (City of Sunnyvale 2011a) are applicable to the Project.

##### Public Services

**Policy SN-3.5:** Facilitate the safe movement of pedestrians, bicyclists, and vehicles.

##### Utilities

**Goal EM-2:** Water Conservation. Promote more efficient use of the City's water resources to reduce the demands placed on the City's water supplies.

**Policy EM-2.1:** Lower overall water demand through the effective use of water conservation programs in the residential, commercial, industrial, and landscaping arenas.

#### 2.13.1.2 Urban Water Management Plan

In March 1989, in response to a third year of a continuing drought, the Santa Clara Valley Water District announced a supply reduction of 25 percent. All water retailers and cities in Santa Clara County were asked to implement plans to achieve the 25 percent reduction for the remainder of 1989. Thus, the City developed a water shortage contingency plan that includes mandatory (and voluntary) water use restrictions, rate block adjustment, and approaches for enforcement associated with each stage of anticipated reduction. These plans apply mandatory prohibitions to potable water usage at City golf courses, City parks, City streetscape trees and landscaping, and public safety. The water shortage contingency plan is included in the City's *2010 Urban Water Management Plan* (City of Sunnyvale 2011b), which addresses supply and demand projections for the next 25 years within the City.

## 2.13.2 Existing Conditions

### 2.13.2.1 Public Services

The following information on existing public services is drawn from the *Moffett Park Specific Plan* (City of Sunnyvale 2013) as it is applicable to this Project. Figure 2.13-1 identifies the location of the public services described.

#### **Public Safety**

The Sunnyvale Department of Public Safety provides fully integrated public safety services including Police, Fire, and Emergency Medical Services. Public Safety Officers are assigned to a specific bureau (Police or Fire), but can be called upon to provide cross-bureau services on a daily basis. As such, all officers are required to be fully trained in all three disciplines. The cross-functional service model extends into the Communications Center, where dispatchers are trained in all three disciplines; this allows for a single point of contact and immediate assistance upon receipt of a 911 call. In addition, the Sunnyvale Department of Public Safety provides other services such as Fire Prevention, Animal Control, Vehicle Abatement, Crime Prevention, Neighborhood Resource Program, Records Unit, and Neighborhood Preservation. All of these services are provided through a professional staff of over 283 full-time employees and volunteers (City of Sunnyvale 2015).

#### **Fire Protection Services**

The Sunnyvale Department of Public Safety Fire Services provides fire protection services to the Project area. There are three fire stations (of the six fire stations within the City of Sunnyvale) that would serve the Project area. Currently, Station 5 would provide the primary fire protection service to the Project area, with Stations 1 and 6 providing auxiliary support when needed. Station 5 is located at 1210 Bordeaux Drive, approximately 0.15 mile north of the northern Project boundary on Bordeaux Drive. The station is equipped with one fire engine (Engine 45), one 100-foot ladder truck, a Mobile Emergency Operations Center, a tactical firing range, and a training classroom. The station is staffed with one Lieutenant and five Public Safety Officers (Kilpatrick 2016). Other than Sunnyvale Fire Station #5, there are no emergency service provider facilities located within 0.5 mile of the Project area. Table 2.13-1 lists the City's emergency service providers and their proximity to the Project area.

**Table 2.13-1. Emergency Service Facilities**

Facility Name	Address	Distance from the Project Area
<b>Police</b>		
Department of Public Safety – Sunnyvale Police Department	700 All American Way	1.6 miles
<b>Fire</b>		
Sunnyvale Fire Station #1	171 N. Mathilda Avenue	1.0 mile
Sunnyvale Fire Station #2	795 E. Arques Avenue	1.3 miles
Sunnyvale Fire Station #3	910 Ticonderoga Drive	3.0 miles
Sunnyvale Fire Station #4	996 S. Wolfe Road	2.8 miles
Sunnyvale Fire Station #5	1210 Bordeaux Drive	0.15 mile
Sunnyvale Fire Station #6	1282 N. Lawrence Station Road	1.7 miles
Source: City of Sunnyvale 2015a.		

The Department of Public Safety has the following response time goals.

1. Emergency Events will be responded to within 5 minutes, 42 seconds or less from dispatch to on-scene arrival for 92 percent of emergency events.
2. Fire Events will be responded to within 6 minutes, 14 seconds or less from dispatch to on-scene arrival by fire apparatus for 86 percent of emergency events.
3. EMS Events will be responded to within 5 minutes, 42 seconds or less from dispatch to on-scene arrival for 92 percent of EMS emergency events.

### **Law Enforcement Services**

Public Safety services for the Project site include police protection by the City of Sunnyvale Police and Technical Services Bureau. The Police Department serves approximately 24 square miles and a population of approximately 148,000 residents (City of Sunnyvale 2015a). The location of the Public Safety office that would serve the Project area is 700 All America Way, approximately 2 miles away from the Project, near Mathilda Avenue and El Camino Real. The Police Department has 88 sworn officers and lieutenants who provide patrol services to the City (City of Sunnyvale 2015b). The average response times to 911 calls within the City are recorded by “emergency” or “urgent.” The average response time for emergency calls is 4 minutes, 41 seconds. The average response time for urgent calls is 5 minutes, 54 seconds.

The California Highway Patrol has jurisdiction over US 101 and SR 237 for matters involving both traffic and emergency services. The San Jose California Highway Patrol office, located at 2020 Junction Avenue, San Jose, California, serves the Project site.

## 2.13.2.2 Public Utilities

This section describes the existing utilities within the Project area. The Project area contains a number of utility lines that serve the surrounding residents and businesses. These utilities include electric and gas lines, telephone service lines, internet service lines, and cable television lines.

### Water Service

Water service in the Project area is provided by the Santa Clara Valley Water District and the City of Sunnyvale Public Works Department (a City water line is located within the Project site). The main sources of water for the City include: groundwater and local surface water from eight operating wells, the City of San Francisco's Public Utility Commission's Hetch Hetchy Aqueduct system, Sunol Valley water supply, and recycled water. The County also receives water from the State Water Project and the Central Valley Project from the United States Bureau of Reclamation, including water from the Sacramento River Delta, Anderson Lake, and San Luis Reservoir. This water is conveyed through a series of aqueducts to the Rinconada Water Treatment Plant in Los Gatos, then to the Sunnyvale area through their West Valley transmission main (City of Sunnyvale 2015c).

### Wastewater Facilities and Service

The Project area is located within the City of Sunnyvale Environmental Services Department wastewater service area which serves a population of approximately 140,000 over 25 square miles. The sewer system consists of 283 miles of gravity sewers, five sewer lift (pump) stations, and over 2 miles of sewer force mains. The sewer mains range in size from 6 to 42 inches in diameter. Service is provided to all Sunnyvale residents, and to a portion of the City of Cupertino (Rancho Rinconada area).

The Donald M. Somers Water Pollution Control Plant provides wastewater treatment for the City of Sunnyvale. The plant is designed to treat an average of 29.5 million gallons of wastewater per day. Currently, the plant treats an average dry weather effluent flow of approximately 14.5 million gallons of wastewater per day, well within the plant capacity.

The existing sewer mains on the Project site are maintained by the City. There is an existing City 8-inch recycled water line along the current alignment of Moffett Park Drive, east of Mathilda Avenue.

### Electricity and Natural Gas

The Project area contains overhead electric and communications lines and underground electric, gas, communications, and fiber optic lines. Natural gas and electric power are supplied to the Project area through Pacific Gas & Electric (PG&E). A 21-kilovolt overhead electrical line, a 12-kilovolt underground electrical line, and a 6-inch underground gas line all pass through the Project area. Additionally, a major PG&E gas transmission line passes through the Project area along SR 237.

## Communications Systems

Telephone and data transmission (cable and internet) within the Project area is provided by American Telephone and Telegraph (AT&T), Verizon telecommunication service, Level 3 Communications, and Comcast cable and internet service.

### 2.13.3 Impact Analysis

The *Community Impact Assessment* prepared for the Project follows guidance in the Caltrans *Community Impact Assessment Standard Environmental Reference: Environmental Handbook Volume 4* (Caltrans 2011). Methods to determine impacts included identifying utilities and public services in the Project area through review of information on websites related to local planning agencies, public works departments, utility companies, public service providers, and police and fire departments.

#### 2.13.3.1 No-Build Alternative

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment. In comparison to congestion and queuing conditions under the Build Alternative, anticipated changes in response times for fire, police, and emergency services under the No-Build Alternative would be negligible. As such, no impacts related to public services or utilities are anticipated.

#### 2.13.3.2 Build Alternative

##### Public Services

Fire, police, and emergency services would indirectly benefit from the Project in that, by reducing peak commute period congestion, vehicle response times would be reduced. The Project would not sever or alter traffic patterns in the vicinity of Sunnyvale Fire Station #5. All existing access between local streets and freeways would be maintained and improved.

Further, to the extent that the Project would reduce congestion and queuing, both peak hour travel times and emergency response times may improve. The Project would implement a Transportation Management Plan (TMP) (see Section 2.14, *Traffic/Transportation*, TRF-1: *Prepare a Transportation Management Plan*) during construction that would inform community agencies, such as the fire department, of the times and locations of upcoming construction, signage in and approaching the Project area, and incident management for traffic control in the vicinity of construction activities. All construction activities would be coordinated with the Sunnyvale Public Safety Department to ensure that police, fire, and emergency services would be unaffected. As such, there would be no impacts related to public services.

## **Public Utilities**

The Project would include utility relocations, as necessary, to construct roadway improvements. The Project would require the relocation of Verizon telecommunication lines and a City 8-inch recycled water line along the current alignment of Moffett Park Drive east of Mathilda Avenue. The Project would also require adjustments to three PG&E electrical pole wires to accommodate ramp modifications at the US 101/Mathilda Avenue interchange. Utility covers, such as manhole covers, would be adjusted to grade in areas of pavement rehabilitation.

Utility work would not result in the disruption of utility services in the Project area because existing lines would not be disconnected prior to the relocated utility lines being in place. Relocated utility lines would be located as close as possible to existing conditions and would not be located closer to any residences, schools, or other sensitive receptors. As such, there would be no construction impacts related to public utilities.

### **2.13.4 Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, and/or mitigation measures are required.

## 2.14 Transportation/Traffic

The information in this section is based on the *Traffic Operation Analysis Report (TOAR) for the Mathilda Avenue Improvements at SR 237 and US 101 Project*. This assessment was approved in June 2016. Please refer to the *TOAR* in Appendix G, *Technical Studies*, for a detailed discussion of the information contained in this section.

### 2.14.1 Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [U.S.C.] 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

VTA and Caltrans are committed to carrying out the ADA by building transportation facilities that provide equal access for all persons such that the same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

### 2.14.2 Methodology

#### 2.14.2.1 Current and Forecast Traffic Analysis

Traffic forecasts were based on applications of the Santa Clara VTA Travel Demand Model and validated within the Project area. The VTA Travel Demand Model is an analysis tool that is used to develop forecasts of future traffic volumes on freeways and local streets within Santa Clara County based on planned and programmed future land use development, transportation projects, and growth in the region. Use of a countywide travel demand model to develop future traffic forecasts is consistent with the analysis approach used for other Caltrans projects in the Bay Area. The VTA model includes Year 2013, 2018, and 2040

scenarios consistent with the land use projections in *Plan Bay Area* and regional roadway improvements included in the Valley Transportation Plan (VTP) 2040.

The land use assumptions in the VTA model include Association of Bay Area Governments regional growth projections under 2020 and 2040.

Local street, ramp, and freeway mainline traffic counts were collected between 2013 and 2015. Based on the data collected, local street AM and PM peak hours are between 8:00 – 9:00 a.m. and 5:00 – 6:00 p.m., respectively.

### 2.14.2.2 Corridor Measures of Effectiveness and Level of Service

The system-wide performance was evaluated using the following Measures of Effectiveness (MOEs):

- **Vehicle Miles of Travel** – is a measure of the total vehicle throughput of the corridor. This measure takes into consideration the actual volume served versus the demand and the trip lengths of those vehicles and travelers.
- **Average Travel Time** – is a measure of the time it takes (on average) to travel from one end of a corridor to the other during the peak period. The travel time calculation considers the average delay throughout the corridor, vehicle queues, and friction caused by merging vehicles.
- **Average Travel Speed** – is directly related to average travel time and the corridor length.
- **Vehicle Hours of Delay** – is the total amount of delay incurred for all vehicles during the peak period because of congestion and demand exceeding the capacity of the freeway.
- **Maximum Individual Vehicle Delay** – is the maximum delay in minutes experienced by an individual driver during the peak hour relative to driving the corridor under free-flow conditions. In addition to system-wide performance.

In addition to system-wide performance, Level of Service (LOS) was used as a qualitative measure of traffic operations for intersections and freeway segments. LOS generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, comfort and convenience, and safety. See Table 2.14-1 for an overview of the LOS definitions for signalized and unsignalized intersections and Table 2.14-2 for freeway segments. Study intersections and freeway segments were evaluated for AM and PM peak hours.



**Table 2.14-1. Intersection Level of Service Definitions**

Level of Service	Signalized Intersection Control Delay (seconds/vehicle) <sup>a</sup>	Unsignalized Intersection Control Delay (seconds/vehicle) <sup>a</sup>	General Description
A	0–10.0	0–10.0	Little to no congestion or delays.
B	10.1–20.0	10.1–15.0	Limited congestion. Short delays.
C	20.1–35.0	15.1–25.0	Some congestion with average delays.
D	35.1–55.0	25.1–35.0	Significant congestion and delays.
E	55.1–80.0	35.1–50.0	Severe congestion and delays. Operate at capacity.
F	> 80.0	> 50.0	Total breakdown with extreme delays.

Source: 2010 Highway Capacity Model, Transportation Research Board 2010.  
<sup>a</sup> Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay.

**Table 2.14-2. Freeway Level of Service Definitions**

Level of Service	Description	Basic Mainline Segment Density Criteria <sup>a</sup>
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11.0
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11.0–18.0
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18.0–26.0
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26.0–35.0
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35.0–45.0
F	Represents a breakdown in flow.	> 45.0

Source: 2010 Highway Capacity Manual.  
<sup>a</sup> Density in passenger cars per mile per lane.

## 2.14.3 Existing Conditions

This section describes the existing conditions related to traffic and transportation in the Project area.

The TOAR study area was developed in consultation with VTA, City of Sunnyvale, and Caltrans staff and is intended to capture the local and regional traffic effects of the Project. The TOAR study area includes Mathilda Avenue between Almanor-Ahwanee Avenue and Fifth Avenue, including the interchanges at SR 237 and US 101. Figure 2.14-1 illustrates the TOAR study area, which is generally locally bounded by Fifth Avenue to the north and

Almanor-Ahwanee Avenue to the south, and regionally bounded between Fair Oaks Avenue to the east, and Ellis Street and Maude Avenue to the west.

### 2.14.3.1 Existing Roadway Network

**Mathilda Avenue** is primarily a north-south six-lane divided arterial serving the downtown Sunnyvale area and Caltrain to the south and an expanding high-tech business community to the north. Within the Project area, Mathilda Avenue serves as the main access to the residential communities on the east side of Mathilda Avenue and the only access to the landlocked area contained within the US 101/SR 237/Mathilda Avenue triangle with access through Ross Drive. Within the Project area, sidewalks are located along the entire east side of Mathilda Avenue and on the west side of Mathilda Avenue north of Moffett Park Drive. There are no bicycle facilities on Mathilda Avenue within the Project area.

**SR 237** is an east-west freeway/highway that connects the City of Mountain View with the City of Milpitas. Within the Project area, the SR 237 freeway provides two mixed-flow lanes in each direction and one additional auxiliary lane in each direction between US 101 and Mathilda Avenue. In addition, a High Occupancy Vehicle (HOV) lane is provided east of Mathilda Avenue in the eastbound direction and turns into an Express Lane to the east of the Zanker Road overpass.

**US 101** is primarily a north-south freeway that regionally connects San Francisco to San Jose. Within the Project area, US 101 provides three mixed-flow lane plus one HOV lane in each direction, while an auxiliary lane is also provided in the southbound direction between SR 237 and Mathilda Avenue.

**Innovation Way** is a north-south road serving the development in the northwest area of the Mathilda Avenue/SR 237 interchange. It connects Mathilda Avenue with West Moffett Park Drive and has two lanes in each direction. Bicycle facilities are not provided on Innovation Way. Sidewalks are provided for pedestrians along both sides of Innovation Way at the Mathilda Avenue intersection.

**Moffett Park Drive** runs parallel to SR 237 on the north side of the freeway. West of Mathilda Avenue, Moffett Park Drive has two lanes in each direction and runs parallel to the VTA light rail transit (LRT) tracks. Moffett Park Drive has one lane in each direction east of Mathilda Avenue. There are generally no bicycle or pedestrian facilities on Moffett Park Drive throughout the Project area; however, Class II bicycle lanes are present on Moffett Park Drive east of Bordeaux Drive.

**Ross Drive** is a two-lane, undivided local street that provides the only access to businesses that lie within the US 101/SR 237/Mathilda Avenue triangle. On the east side of Mathilda Avenue, Ross Drive provides access to a large residential area where there are buffered sidewalks throughout the development and crosswalks at stop-controlled intersections. There are no existing bicycle facilities on the east side of Ross Drive. The west side of Ross Drive does not provide any pedestrian or bicycle facilities.



**Figure 2.14-1**  
**Traffic Study Area**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

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**Almanor Avenue** is a two-lane street that runs parallel to US 101 connecting Mathilda Avenue to North Mary Avenue. There are no bicycle facilities along Almanor Avenue, and pedestrian facilities are limited to the west/south side of the roadway.

**Ahwanee Avenue** is two-lane arterial that runs parallel to US 101 connecting Mathilda Avenue to Fair Oaks Avenue. There are no bicycle facilities along Ahwanee Avenue, and pedestrian facilities are limited to the east/south side of the roadway.

**Bordeaux Drive** is a two-lane, undivided local street that provides connection between Moffett Park Drive and Mathilda Avenue. A two-way left-turn lane is provided between Moffett Park Drive and West Java Drive. There are no pedestrian facilities along Bordeaux Drive. While there is a shoulder that can accommodate bicyclists, it is not defined as a Class II bicycle facility.

### **2.14.3.2 Existing Transit Service and Facilities**

A number of transit services operate within the Project area, including LRT service, bus service, Caltrain, and shuttle services. Transit facilities include the Lockheed Martin and the Moffett Park LRT stations, which are on the Mountain View to Winchester Avenue LRT line (Line 902) operated by VTA. Figure 2.14-2 shows the existing transit service near the Project site, which is described in the TOAR.

### **2.14.3.3 Existing and Planned Bicycle and Pedestrian Facilities**

The Project area includes bicycle (lanes and paths) and pedestrian facilities (sidewalks, crosswalks, and pedestrian signals) on Mathilda Avenue, Moffett Park Drive, and intersecting streets.

#### **Bicycle Facilities**

Figure 2.14-3 shows the location of existing bicycle facilities within the Project area. Two Borregas Avenue Pedestrian Overcrossings (POCs) are located approximately 0.3 mile east of Mathilda Avenue and cross SR 237 and US 101. The POCs allow bicycle and pedestrian travel in the north-south direction and are part of the Wolfe Road/Borregas Avenue Corridor (Cross County Bicycle Corridor [CCBC] No. 09).

Bicyclists are permitted to ride on all local streets in the City of Sunnyvale. There are no bicycle facilities on Mathilda Avenue within the Project limits, and bicyclists must share the road with vehicles. The City of Sunnyvale recommends Mathilda Avenue be used by advanced bicyclists who are capable of riding on major roadways with high traffic volumes.

Just north of the Project site, a signed on-street bicycle route is designated on Mathilda Avenue between Innovation Way and Bordeaux Drive. Bicycle routes are designated by signs or pavement markings for shared use with pedestrians or motor vehicles, but have no separated bike right-of-way or lane striping. Bicycle routes serve either to provide continuity to other bicycle facilities or designate preferred routes through high demand corridors.

Moffett Park Drive is an important east-west regional bicycle route (CCBC No. 6). Bicycle lanes are provided in both directions east of Bordeaux Drive and west of Innovation Way. Bicycle lanes will be installed on Innovation Way between Moffett Park Drive and Bordeaux Drive as part of the De Anza Community College development on the east side of Innovation Way. Bicycle lanes are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes are generally 5 to 6 feet wide and have special lane markings, pavement legends, and signage.

Santa Clara Valley Water District is constructing a new trail system along the north side of the Sunnyvale West Channel beginning just north of the Mathilda Avenue/Innovation Way intersection and continuing downstream toward the Bay as part of the Sunnyvale West Channel Flood Control Project. Construction is scheduled to begin in Summer 2017.

### **Pedestrian Facilities**

Existing pedestrian facilities include sidewalks, crosswalks, curb ramps, and pedestrian signals. There is a continuous sidewalk with crosswalks at each roadway crossing along the east side of Mathilda Avenue within the Project limits. The sidewalk is discontinuous at several locations along the west side of Mathilda Avenue; that is, there are no sidewalk and crosswalks between Almanor Avenue and the southbound US 101 loop on-ramp and between the northbound US 101 loop off-ramp and Moffett Park Drive. Narrow sidewalks are provided on both sides of the US 101 overcrossing and separated from traffic by a concrete barrier.

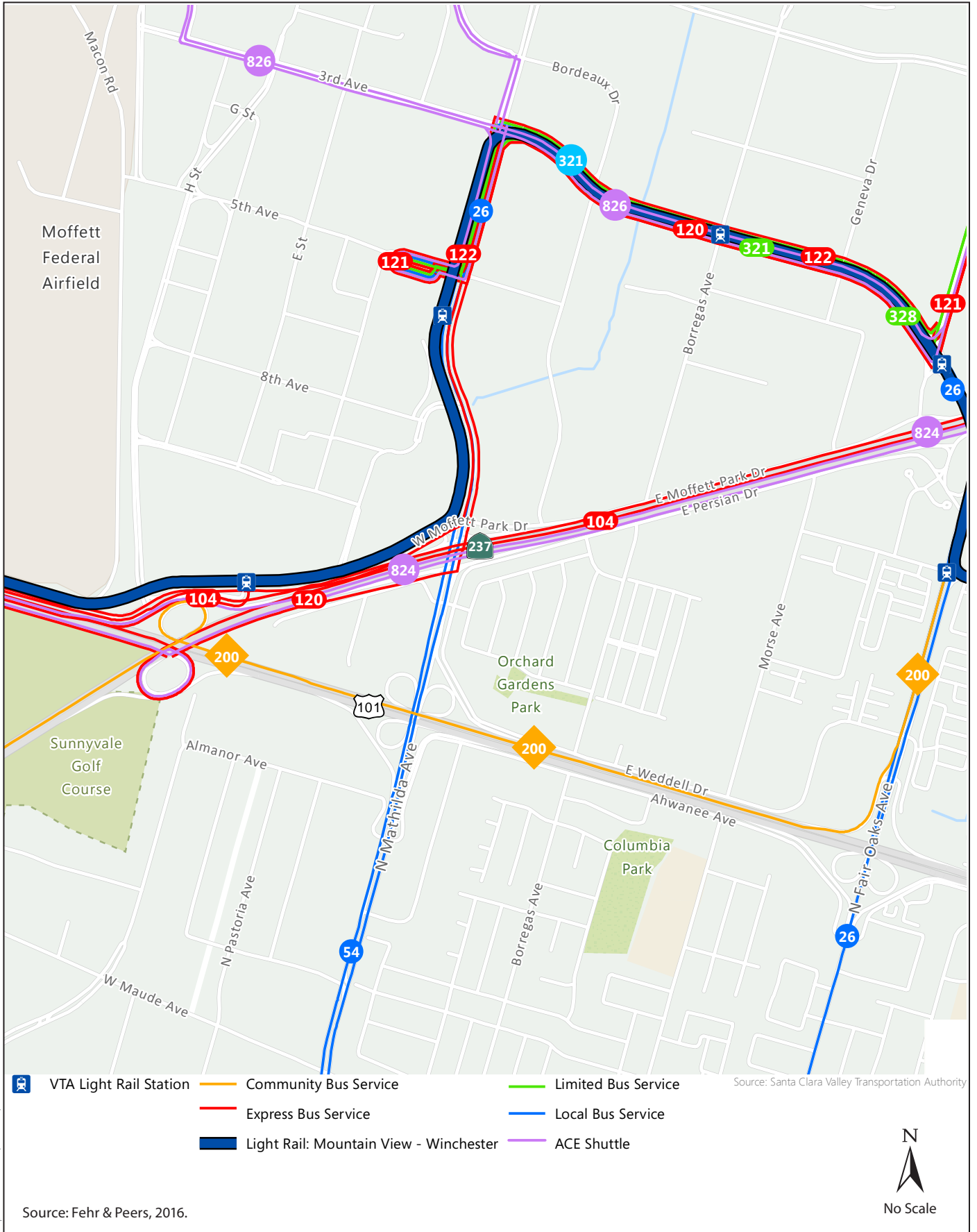
There are sidewalks along both sides of Innovation Way between Moffett Park Drive and 11<sup>th</sup> Avenue and between the Juniper Networks Driveway and Mathilda Avenue. There also are sidewalks along the east side of Innovation Way between 11<sup>th</sup> Avenue and the Juniper Networks Driveway. There is no sidewalk on Moffett Park Drive west of Bordeaux Drive and on Ross Drive west of Mathilda Avenue.

#### **2.14.3.4 Existing Traffic Conditions**

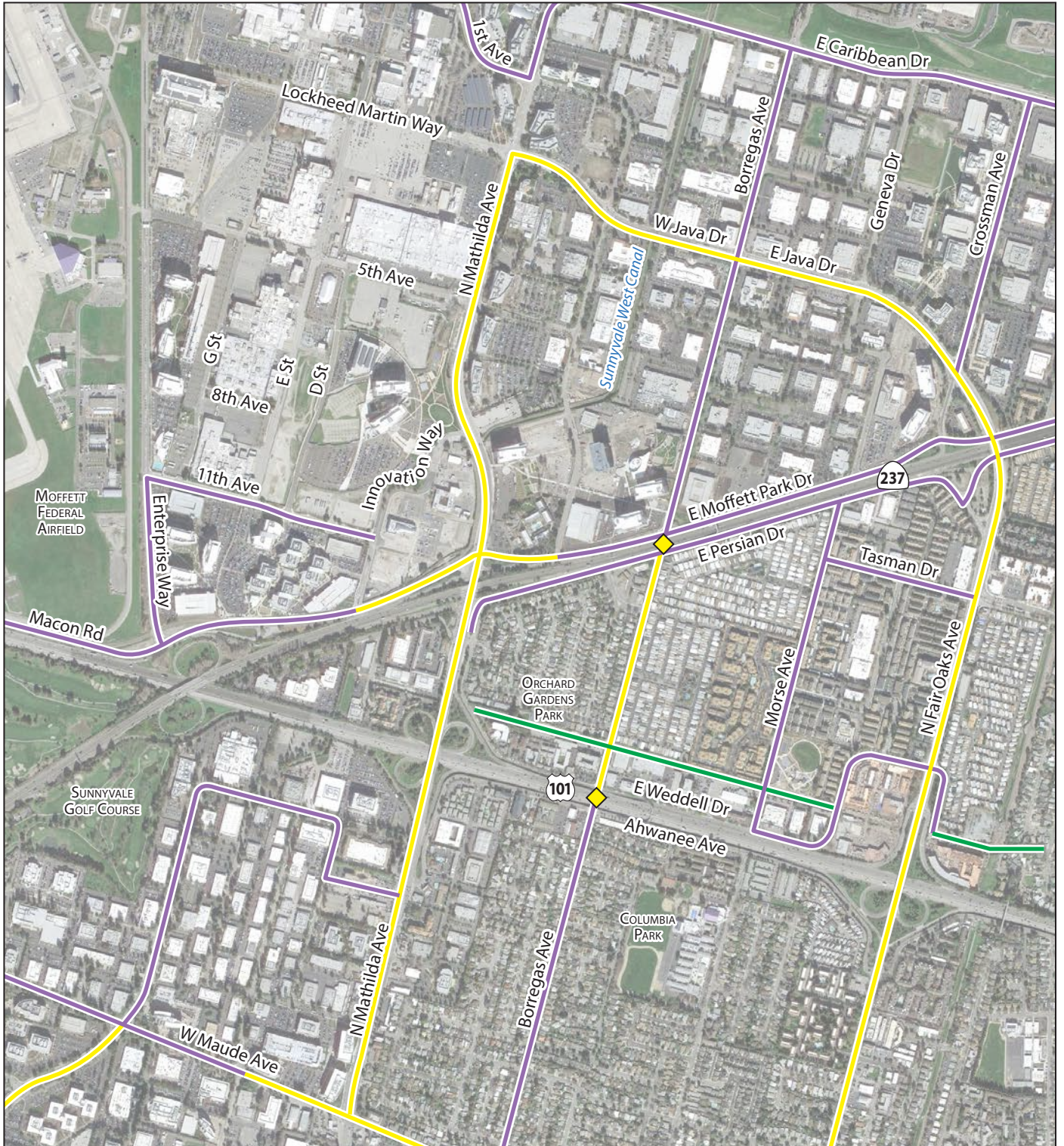
Existing 2013 AM and PM peak hour volumes, intersection controls, and lane configurations for the study intersections are shown in Table 2.14-3 and Figure 2.14-4a. US 101 existing mainline and ramp peak period demand forecast volumes are shown on Figures 2.14-5 and 2.14-6 for AM and PM peak hours, respectively. SR 237 mainline and ramp peak period demand volumes are shown on Figures 2.14-7 and 2.14-8 for AM and PM peak hours, respectively. Existing traffic conditions, described in Tables 2.14-3 through 2.14-7 have been combined with 2018 and 2040 Build scenarios (discussed in Section 2.14.4, *Impacts Analysis*) for comparison purposes.

### **Local Roadways and Ramp Termini**





Existing intersection traffic operations were evaluated for the 13 study intersections shown in Figure 2.14-1 and Table 2.14-3. As shown in the Table 2.14-3, the following intersection

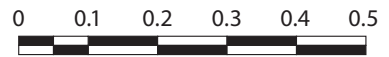


**Figure 2.14-2**  
**Existing Transit Service**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project



**Legend**

-  Bicycle/Pedestrian Bridge
-  Class I Bicycle Path
-  Class II Bicycle Lane
-  Class III Bicycle Route



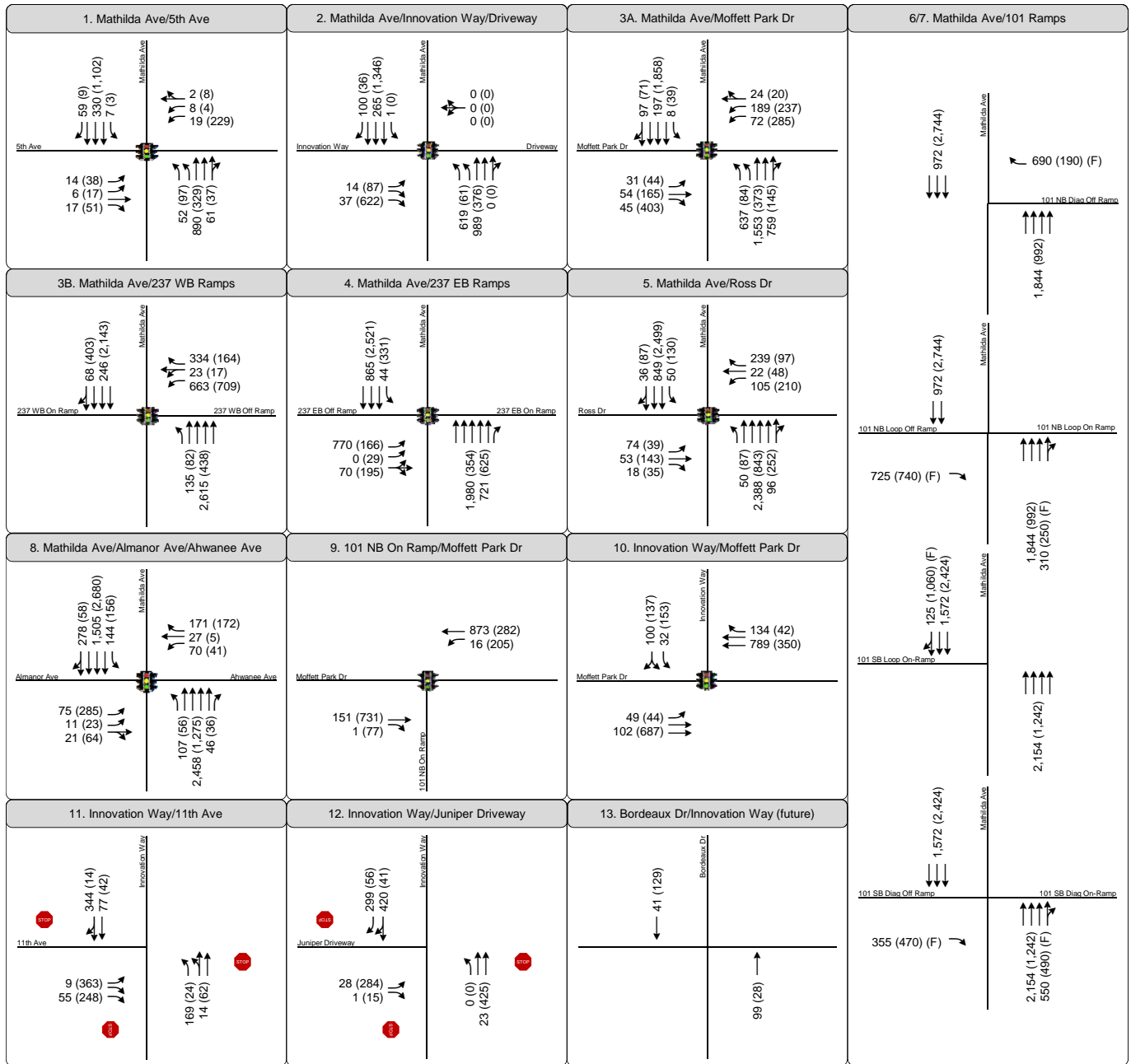
Miles

Image: Google Inc. 2016. Google Earth Pro, Version 7.1.  
Mountain View, CA. Accessed: 7-11-2016.

Graphics: 00522.13 (7-12-2016).tm

**Figure 2.14-3**  
**Existing Bicycle Facilities**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

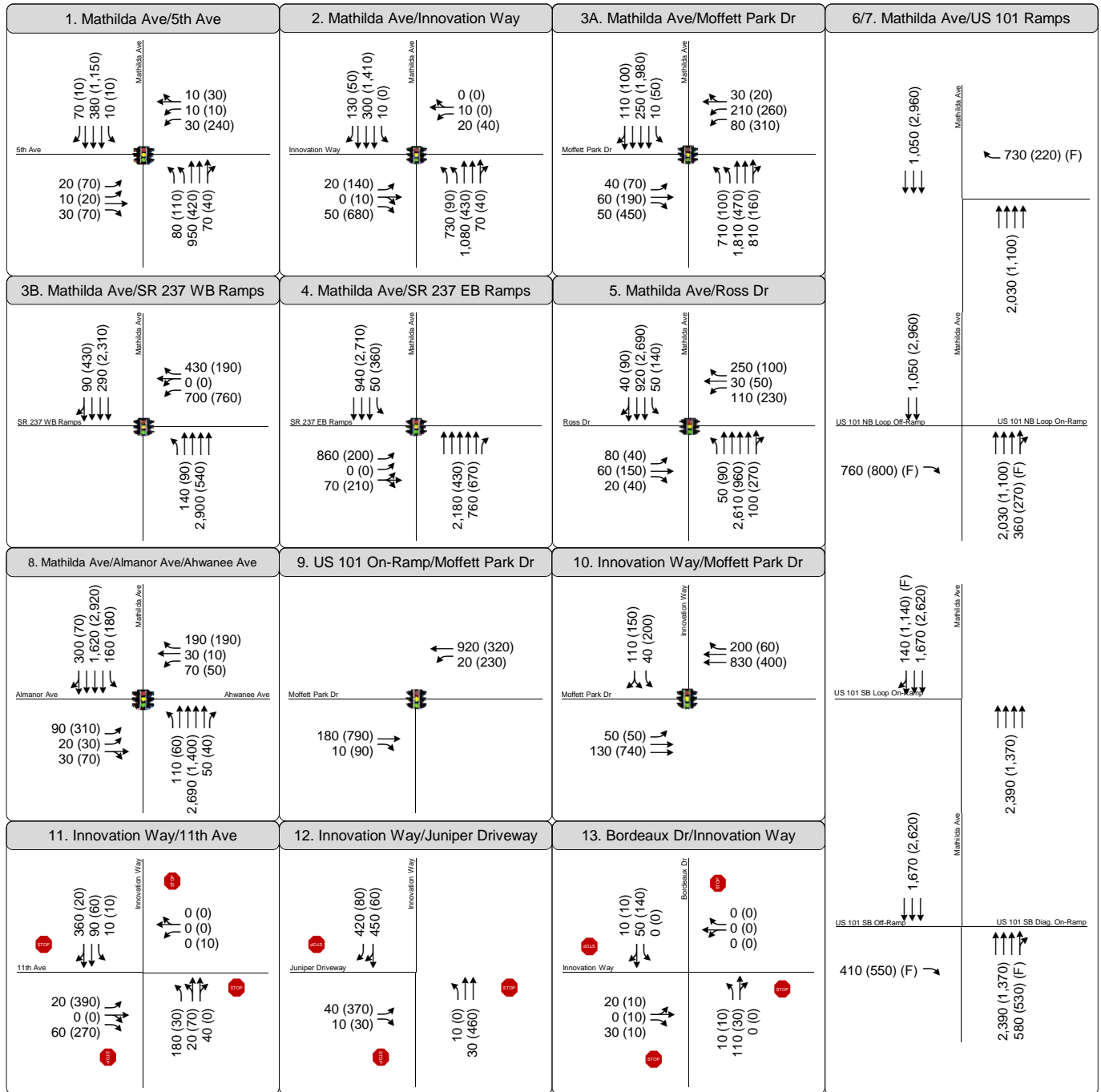




## (##) - AM(PM) Peak Hour Demand Volumes  
(F) - Unsignalized (free) Movement

Source: Fehr & Peers, 2016.

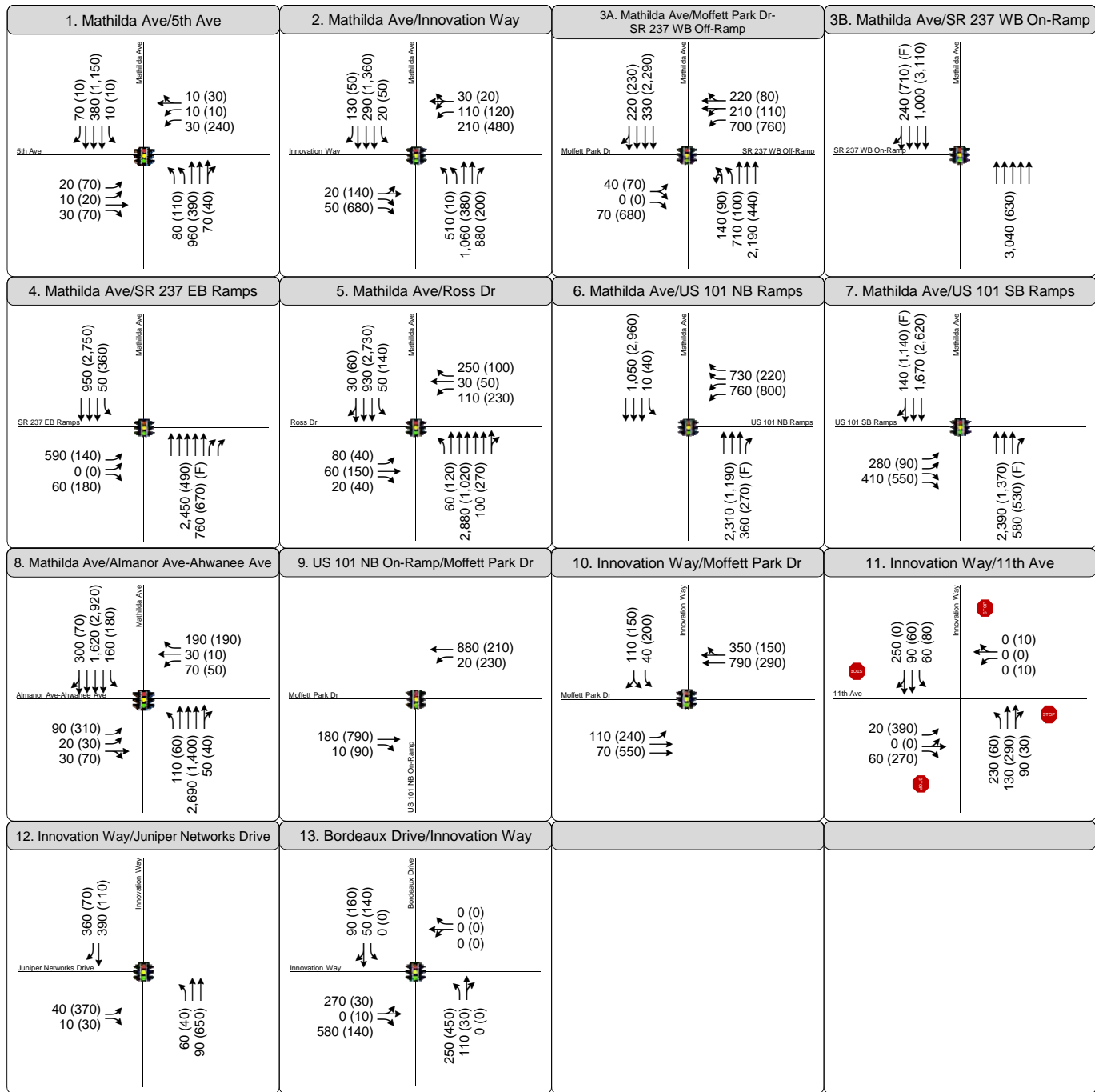
**Figure 2.14-4a**  
**Existing (2013) Intersection Demand Peak Hour Volumes and Lane Configurations**  
Mathilda Avenue Improvements at SR 237 and US 101 Project



## (##) - AM(PM) Peak Hour Demand Volumes  
(F) - Unsignalized (free) Movement

Source: Fehr & Peers, 2016.

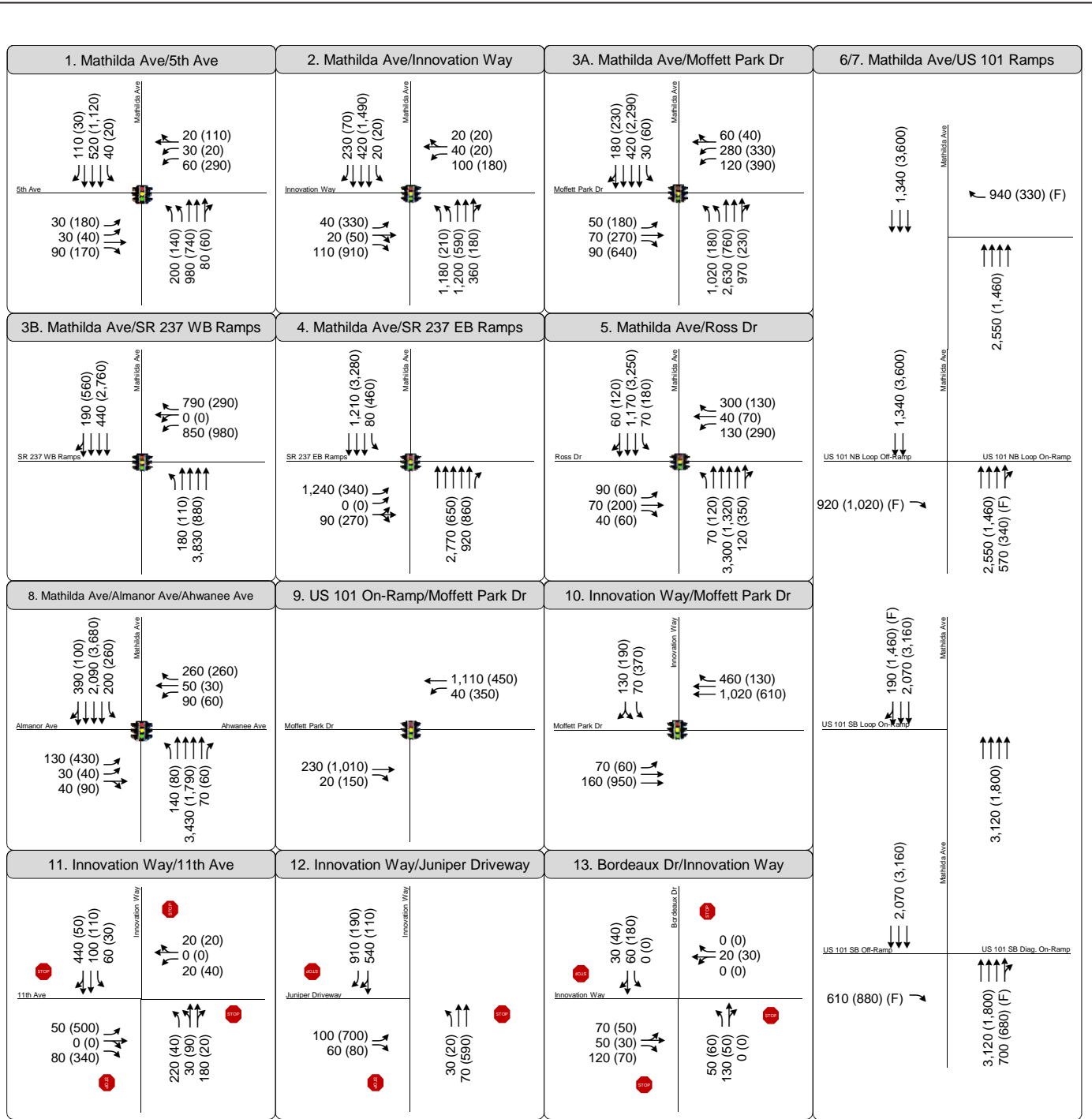
**Figure 2.14-4b**  
**No Build (2018) Intersection Demand Peak Hour Volumes and Lane Configurations**  
**Mathilda Avenue Improvements at SR 237 and US 101 Project**



## (##) - AM(PM) Peak Hour Demand Volumes  
(F) - Unsignalized (free) Movement

Source: Fehr & Peers, 2016.

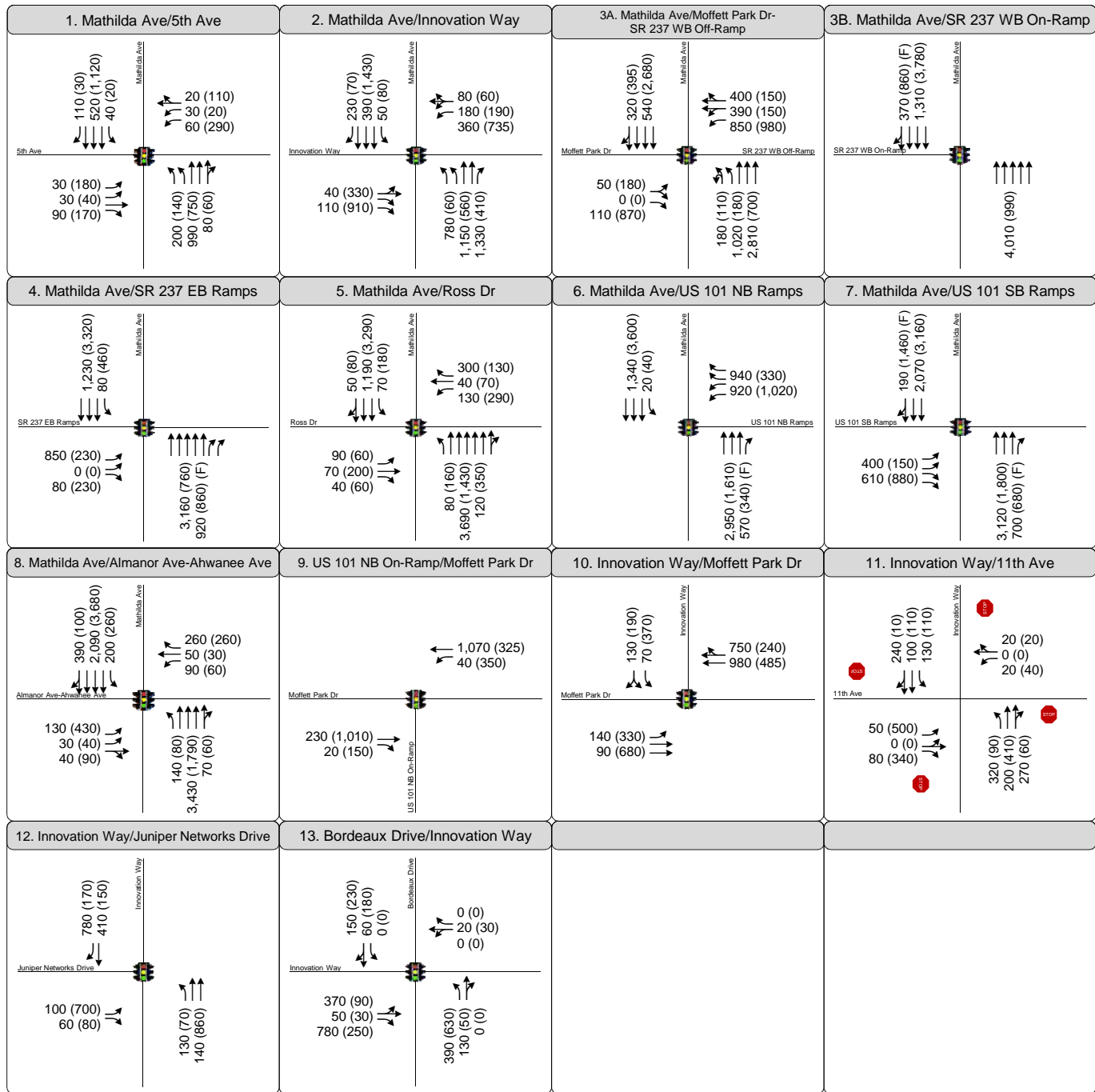
**Figure 2.14-4c**  
**Build Alternative (2018) Intersection Demand Peak Hour Volumes and Lane Configurations**  
Mathilda Avenue Improvements at SR 237 and US 101 Project



## (##) - AM(PM) Peak Hour Demand Volumes  
(F) - Unsignalized (free) Movement

Source: Fehr & Peers, 2016.

**Figure 2.14-4d**  
**No Build (2040) Intersection Demand Peak Hour Volumes and Lane Configurations**  
**Mathilda Avenue Improvements at SR 237 and US 101 Project**

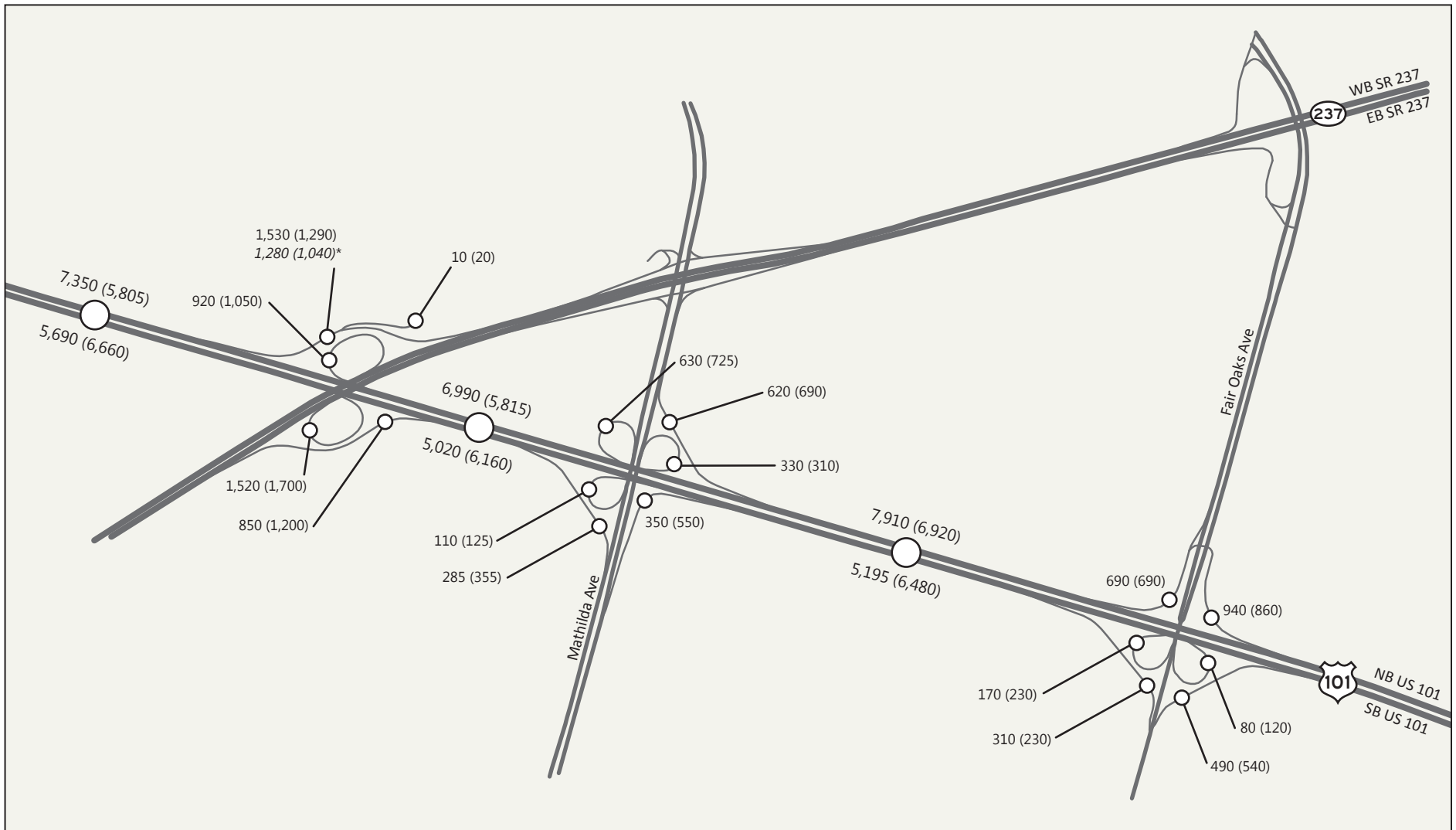


## (##) - AM(PM) Peak Hour Demand Volumes  
(F) - Unsignalized (free) Movement

Source: Fehr & Peers, 2016.

**Figure 2.14-4e**  
**Build Alternative (2040) Intersection Demand Peak Hour Volumes and Lane Configurations**  
Mathilda Avenue Improvements at SR 237 and US 101 Project

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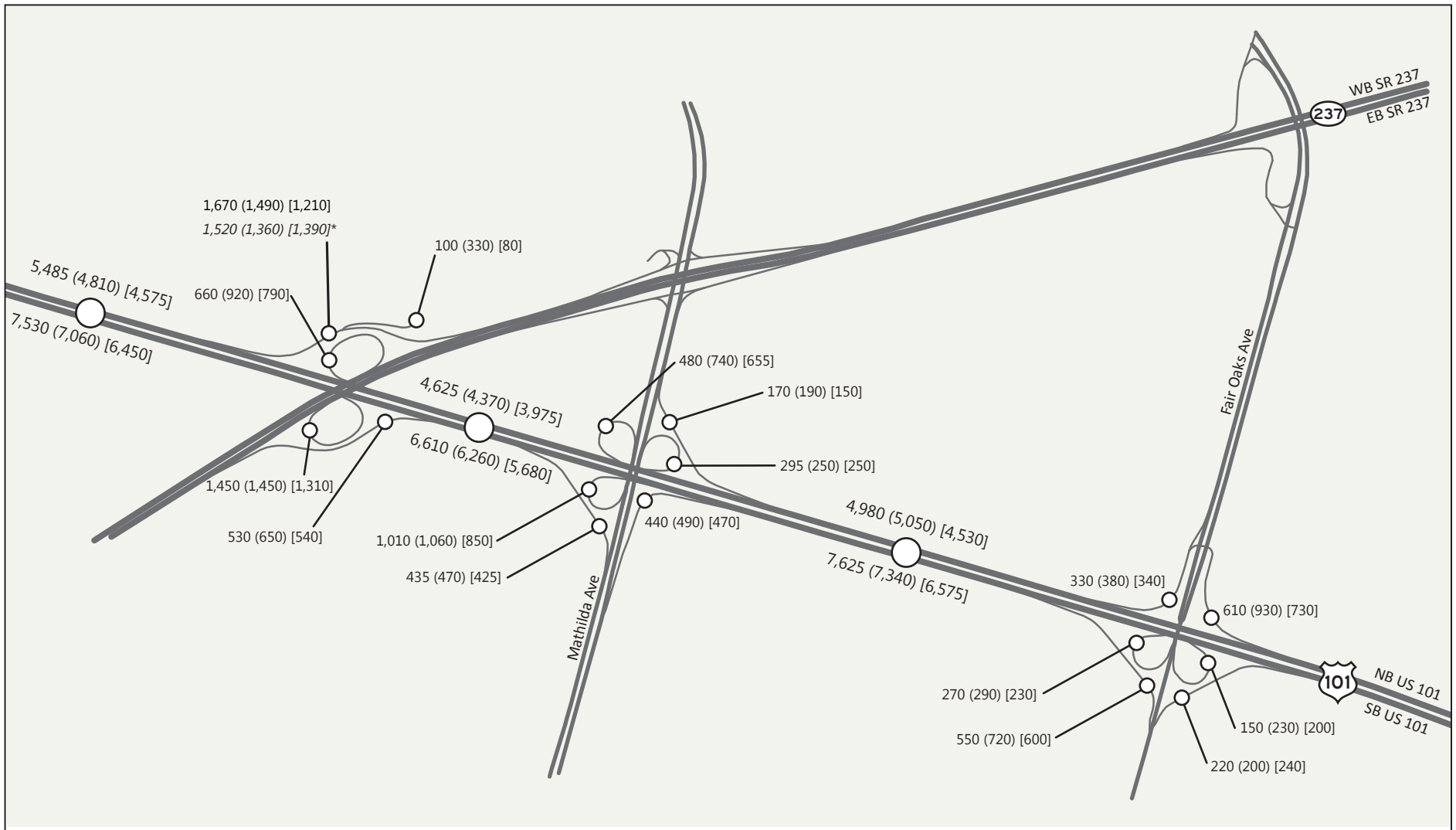
○ 7:00 AM (8:00 AM) Segment/Ramp Volume Location

\* The constrained on-ramp demand is shown in italics and reflects the condition that not all of the off-ramp unconstrained demand is delivered downstream due to congestion.

Source: Fehr & Peers, 2016.



**Figure 2.14-5**  
**Existing (2013) AM Peak Period US 101 Demand Volumes**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project



○ 4:00 PM (5:00 PM) [6:00 PM] Segment/Ramp Volume Location

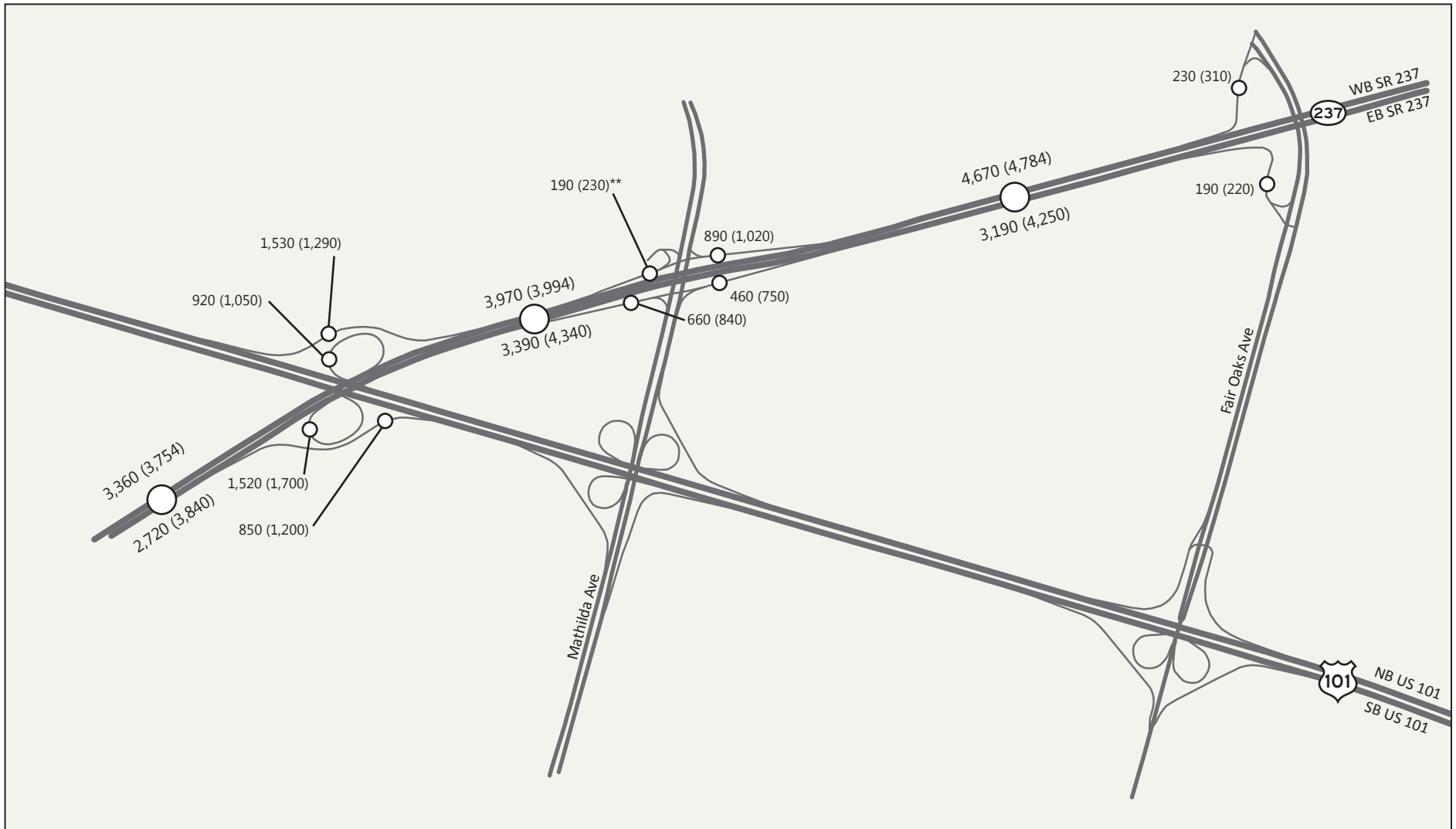
\* The constrained on-ramp demand is shown in italics and reflects the condition that not all of the off-ramp unconstrained demand is delivered downstream due to congestion.

Source: Fehr & Peers, 2016.



**Figure 2.14-6**  
**Existing (2013) PM Peak Period US 101 Demand Volumes**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project





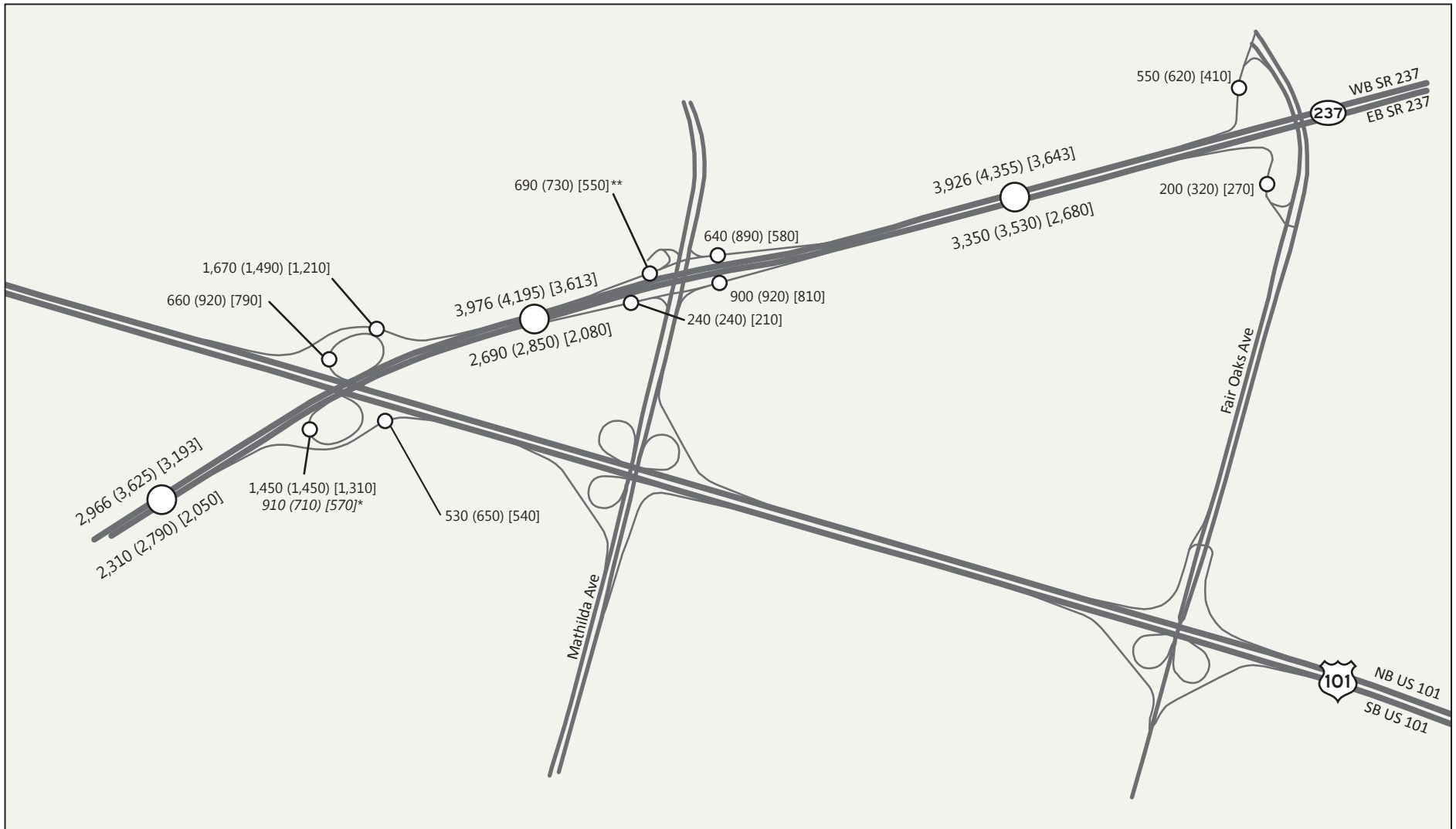
○ 7:00 AM (8:00 AM) Segment/Ramp Volume Location

\*\* Ramp volume may not match ramp terminal intersection due to slip ramp form Moffett Park Drive.

Source: Fehr & Peers, 2016.



**Figure 2.14-7**  
**Existing (2013) AM Peak Period SR 237 Demand Volumes**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project



○ 4:00 PM (5:00 PM) [6:00 PM] Segment/Ramp Volume Location

\* The constrained on-ramp demand is shown in italics and reflects the condition that not all of the off-ramp unconstrained demand is delivered downstream due to congestion.

\*\* Ramp volume may not match ramp terminal intersection due to slip ramp from Moffett Park Drive.

Source: Fehr & Peers, 2016.



**Figure 2.14-8**  
**Existing (2013) PM Peak Period SR 237 Demand Volumes**  
 Mathilda Avenue Improvements at SR 237 and US 101 Project

operations on Mathilda Avenue are currently performing at LOS F during the peak hours in the Existing (2013) condition:

- Mathilda Avenue/Fifth Avenue – in the PM peak hour.
- Mathilda Avenue/Innovation Way – in the PM peak hour.
- Mathilda Avenue/Moffett Park Drive/Westbound 237 – in the AM and PM peak hours.
- Mathilda Avenue/Ross Drive – in the AM peak hour.
- Innovation Way/Juniper Network Driveway – in the PM peak hour.

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**Table 2.14-3. Existing, 2018, and 2040 Peak Hour Intersection Analysis**

			2013 Existing			2018 No-Build			2018 Build			2040 No-Build			2040 Build		
Intersection		Traffic Control <sup>a</sup>	Peak Hour <sup>b</sup>	Delay <sup>c</sup>	LOS	Delay <sup>c</sup>	LOS	% Demand Served <sup>d</sup>	Delay <sup>c</sup>	LOS	% Demand Served <sup>d</sup>	Delay <sup>c</sup>	LOS	% Demand Served <sup>d</sup>	Delay <sup>c</sup>	LOS	% Demand Served <sup>d</sup>
1	Mathilda Avenue / Fifth Avenue <sup>e</sup>	Signal	AM PM	14.8 <b>112.4</b>	B F	17.4 <b>227.0</b>	B F	87.8 <b>85.7</b>	17.1 <b>238.1</b>	B F	97.5 <b>79.8</b>	33.5 <b>&gt;300</b>	C F	77.7 <b>63.3</b>	25.3 <b>&gt;300</b>	C F	84.9 <b>66.9</b>
2	Mathilda Avenue / Innovation Way <sup>e</sup>	Signal	AM PM	20.6 <b>168.9</b>	C F	42.1 <b>206.1</b>	D F	83.5 <b>79.9</b>	44.1 <b>218.4</b>	D F	98.7 <b>77.0</b>	<b>116.9</b> <b>222.0</b>	F F	<b>67.2</b> <b>59.0</b>	<b>88.9</b> <b>220.9</b>	F F	<b>79.2</b> <b>56.8</b>
3	Mathilda Avenue / Moffett Park Drive / SR 237 Westbound Ramps	Signal	AM PM	<b>131.0</b> <b>286.7</b>	F F	<b>&gt;300</b> <b>&gt;300</b>	F F	<b>80.5</b> <b>82.9</b>	53.1 <b>197.8</b>	D F	98.2 <b>81.7</b>	<b>&gt;300</b> <b>&gt;300</b>	F F	<b>63.3</b> <b>65.0</b>	<b>81.4</b> <b>221.4</b>	F F	<b>79.7</b> <b>62.5</b>
4	Mathilda Avenue / SR 237 Eastbound Ramps	Signal	AM PM	30.1 20.3	C B	<b>116.3</b> 19.4	F B	<b>78.1</b> 84.3	28.7 29.0	C C	97.2 85.9	<b>257.7</b> 25.0	F C	<b>59.7</b> 67.6	<b>142.3</b> 46.5	F D	<b>76.9</b> 68.4
5	Mathilda Avenue / Ross Drive	Signal	AM PM	<b>94.6</b> 46.7	F D	<b>285.7</b> <b>141.4</b>	F F	<b>74.6</b> <b>84.3</b>	31.6 46.9	C D	97.7 88.2	<b>&gt;300</b> <b>200.0</b>	F F	<b>55.3</b> <b>67.1</b>	76.0 <b>148.3</b>	E F	80.6 <b>71.2</b>
6	Mathilda Avenue / US 101 Northbound Ramps (Project)	Slip Ramp (Signal)*	AM PM	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	47.2 47.8	D D	98.2 90.3	N/A N/A	N/A N/A	N/A N/A	<b>87.9</b> <b>112.6</b>	F F	<b>81.1</b> <b>74.1</b>
7	Mathilda Avenue / US 101 Southbound Ramps (Project)	Slip Ramp (Signal)*	AM PM	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	20.7 11.1	C B	97.8 91.7	N/A N/A	N/A N/A	N/A N/A	42.0 29.0	D C	79.6 78.3
8	Mathilda Avenue / Almanor Avenue-Ahwanee Avenue	Signal	AM PM	52.3 48.8	D D	<b>&gt;300</b> <b>139.9</b>	F F	<b>82.3</b> <b>87.3</b>	<b>83.1</b> 34.9	F C	<b>97.6</b> 94.3	<b>&gt;300</b> <b>&gt;300</b>	F F	<b>62.3</b> <b>67.9</b>	<b>&gt;300</b> 71.5	F E	<b>78.6</b> 83.9
9	US 101 Northbound On-Ramp / Moffett Park Drive	Signal	AM PM	4.6 65.6	A E	3.9 63.0	A E	86.8 80.0	5.7 8.7	A A	98.8 93.3	3.4 64.3	A E	75.2 61.4	4.9 <b>85.4</b>	A F	85.5 <b>61.1</b>
10	Innovation Way / Moffett Park Drive <sup>e</sup>	Signal	AM PM	12.4 <b>81.5</b>	B F	13.7 <b>190.5</b>	B F	85.7 <b>78.4</b>	19.2 <b>90.7</b>	B F	99.5 <b>87.6</b>	14.2 <b>245.4</b>	B F	73.6 <b>60.8</b>	24.8 <b>273.7</b>	C F	83.6 <b>59.2</b>
11	Innovation Way / Eleventh Avenue <sup>f</sup>	AWSC (Signal)*	AM PM	7.7 6.8	A A	10.5 <b>144.4</b>	B F	85.0 <b>89.8</b>	11.8 <b>61.7</b>	B F	98.5 <b>88.3</b>	10.4 <b>&gt;300</b>	B F	75.6 <b>59.2</b>	10.9 <b>&gt;300</b>	B F	85.1 <b>57.7</b>
12	Innovation Way / Juniper Networks Driveway	AWSC (Signal)*	AM PM	11.9 <b>120.6</b>	B F	14.0 <b>&gt;300</b>	B F	83.3 <b>72.8</b>	14.7 <b>227.0</b>	B F	100.0 <b>87.0</b>	34.2 <b>&gt;300</b>	D F	69.7 <b>50.3</b>	31.4 <b>&gt;300</b>	D F	84.5 <b>52.0</b>
13	Bordeaux Drive / Innovation Way (future)	AWSC (Signal)*	AM PM	N/A N/A	N/A N/A	3.2 13.5	A B	100.0 100.0	12.7 <b>&gt;300</b>	B F	99.1 <b>61.1</b>	4.7 <b>7.1</b>	A A	100.0 <b>65.0</b>	<b>130.2</b> <b>&gt;300</b>	F F	<b>75.5</b> <b>39.3</b>
Total Vehicle Hours of Delay (hours)						<b>AM - 1,319</b> <b>PM - 1,504</b>			<b>AM - 493</b> <b>PM - 1,285</b>			AM - 2,989 PM - 3,830			AM - 1,948 PM - 3,130		
Network-wide Percent Demand Served						<b>AM - 89.0%</b> <b>PM - 85.8%</b>			<b>AM - 99.3%</b> <b>PM - 89.9%</b>			AM - 79.9% PM - 70.6%			AM - 88.3% PM - 77.8%		

Source: Fehr & Peers 2016.

Results in **bold** represent unacceptable levels of service, N/A=not applicable.

\* Traffic control type in parenthesis indicates traffic control under Build Conditions (only presented if Build Conditions differs from No-Build Conditions).

<sup>a</sup>Signal = signalized intersection; AWSC = all-way stop-controlled intersection; Slip Ramp = uncontrolled intersection.

<sup>b</sup>AM = morning peak hour, PM = evening peak hour.

<sup>c</sup>Average control delay in seconds.

<sup>d</sup>Modeled traffic volumes expressed as a ratio of **demand** traffic volume. For example: 100% indicates all demand is served.

<sup>e</sup>These intersections are coordinated with a light-rail crossing. Under Year 2018 and Year 2040, headway in each direction is assumed to increase from 15 minutes to 12 minutes in each direction based on the VTA light-rail efficiency project currently underway. The route from Mountain View to East San Jose is assumed to be complete in 2040, and operates with 15-minute headways.

<sup>f</sup>This intersection is signalized under Build Conditions and is coordinated with a light rail crossing.

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Extended queues, indicating high peak period travel demand, have been observed at all intersections along Mathilda Avenue between Almanor Avenue/Ahwanee Avenue and Innovation Way. The most substantial delays occur at the Mathilda Avenue/Moffett Park Drive intersection during both AM and PM peak hours with queues spilling back to adjacent intersections. Regional growth and new local development, combined with closely spaced signalized intersections and inadequate storage for queuing vehicles, have resulted in the heavy traffic congestion experienced on Mathilda Avenue during both peak periods.

Travel times along the Mathilda Avenue corridor through the Project area are summarized in Table 2.14-4.

**Table 2.14-4. Existing, 2018, and 2040 Mathilda Avenue Travel Times<sup>a</sup>**

Direction	Peak Hour	Free flow Travel Time(s) <sup>b</sup>	No-Build		Build	
			Congested Travel Time(s)	Delay(s)	Congested Travel Time(s)	Delay(s)
<i>Existing</i>						
Mathilda Avenue Northbound	AM	116.2	395.9	279.7	N/A	N/A
	PM	116.2	310.5	194.3		
Mathilda Avenue Southbound	AM	116.2	339.6	223.4	N/A	N/A
	PM	116.2	835.2	719.0		
<i>Year 2018</i>						
Mathilda Avenue Northbound	AM	116.2	737.8	621.6	346.7	230.5
	PM	116.2	736.2	620.0	341.6	225.4
Mathilda Avenue Southbound	AM	116.2	432.8	316.6	399.2	283.0
	PM	116.2	1056.0	939.8	1124.3	1008.1
<i>Year 2040</i>						
Mathilda Avenue Northbound	AM	116.2	983.3	867.1	577.3	461.1
	PM	116.2	952.6	836.4	605.3	489.1
Mathilda Avenue Southbound	AM	116.2	954.3	838.1	437.7	321.5
	PM	116.2	1458.5	1342.3	1304.9	1188.7
Source: Fehr & Peers 2016. <sup>a</sup> Travel time runs begin north of the San Aleso Avenue intersection and end south of the Lockheed Martin Way-Java Drive intersection (approximately 1.44 miles). <sup>b</sup> Free flow speed is calculated assuming a travel speed of 45 miles per hour.						

## Freeway Mainline Operations Analysis

The following freeway mainline segments were analyzed:

1. US 101 between Ellis Street and Fair Oaks Avenue.
2. SR 237 between Fair Oaks Avenue and Maude Avenue.

The existing operating conditions for US 101 and SR 237 were analyzed and are presented in Table 2.14-5 for US 101 and Table 2.14-6 for SR 237.

In the northbound direction of US 101, traffic was observed to be in congestion throughout the mainline. In the AM peak period, a bottleneck was observed north of the Ellis Street interchange, and the congestion extended to south of the Lawrence Expressway interchange.

In the southbound direction of US 101, traffic was observed to be in congestion throughout the mainline. In the PM peak period, a bottleneck existed south of the study segments (at the US 101/Lawrence Expressway interchange and the US 101/De La Cruz Boulevard interchange), and congestion was observed to spill back throughout the study segments but dissipated after the PM peak period.

On eastbound SR 237, in the AM peak period, there was little to no congestion throughout the study segments, but congestion occurred in the westbound direction at the US 101 interchange. Westbound congestion at US 101 is directly attributed to the northbound US 101 merge spilling back onto the 237 auxiliary lane. In addition, westbound SR 237 vehicles continuing past the US 101 interchange continued to travel slowly due to the very limited merging distance from the US 101 northbound loop on-ramp.

In the PM peak period, the SR 237 eastbound mixed-flow lanes and HOV lane were observed to flow with minimal congestion. The westbound direction continued to see congestion on the US 101 northbound ramps that backed up to around the Mathilda Avenue ramps.

The weaving analysis for the freeway segments within the study area was performed using the Leisch Method<sup>1</sup>. Auxiliary lanes are provided intermittently along US 101 and SR 237 in both directions within the study area. Table 2.14-7 summarizes the existing peak hour mainline weaving operations at locations that provide an auxiliary lane. As shown, weave sections operate between LOS B and LOS F. Existing system-wide MOEs for the AM and PM peak periods for US 101 and SR 237 are presented in Table 2.14-7.

The highest vehicle miles traveled and average travel time occurs on southbound US 101 during the PM peak period. The average travel speed is 13 miles per hour (mph), and over 1,600 hours of vehicle delay occur during the PM peak period.

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<sup>1</sup> The Leisch Method is one of the methodologies accepted by Caltrans for the analysis of freeway weaving sections.



**Table 2.14-5. Existing, 2018, and 2040 US 101 Peak Hour Level of Service**

Segment	Type	Existing		Year 2018				Year 2040			
		Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	No-Build		Build		No-Build		Build	
				Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM
<i>US 101 Northbound<sup>b</sup></i>											
Fair Oaks Off-Ramp	Diverge	75.4/25.8	F/C	74.0/26.2 (29.7/11.6)	F/D (D/B)	73.7/26.2 (29.7/11.6)	F/D (D/B)	80.3/38.6* (14.2/6.7)	F/F (B/A)	78.7/45.0* (14.2/6.7)	F/F (B/A)
Fair Oaks Off-Ramp to Fair Oaks On-Ramp	Basic	68.1/21.5	F/C	67.9/21.8 (22.0/9.8)	F/C (C/A)	67.5/21.8 (22.0/9.8)	F/C (C/A)	72.5/49.3* (12.8/5.7)	F/F (B/A)	70.9/54.8* (12.8/5.7)	F/F (B/A)
Fair Oaks On-Ramp	Merge	53.8/23.4	F/C	51.6/24.2 (26.4/10.3)	F/C (D/A)	51.9/24.2 (26.4/10.3)	F/C (D/A)	50.8/58.1* (13.7/6.1)	F/F (B/A)	49.6/62.4 (13.7/6.1)	F/F (B/A)
Fair Oaks On-Ramp to Mathilda Northbound Off Ramp	Basic	55.6/23.4	F/C	54.3/24.2 (26.4/10.3)	F/C (D/A)	54.7/24.2 (26.4/10.3)	F/C (D/A)	53.7/66.7* (13.7/6.1)	F/F (B/A)	52.4/71.0 (13.7/6.1)	F/F (B/A)
Mathilda Northbound Off-Ramp	Diverge	57.3/23.4	F/C	54.9/17.8 (26.4/10.3)	F/B (D/A)	55.8/17.8 (26.4/10.3)	F/B (D/A)	54.6/74.1 (13.7/6.1)	F/F (B/A)	57.0/85.3 (13.7/6.1)	F/F (B/A)
Mathilda Northbound Off-Ramp to Mathilda Northbound On-Ramp	Basic	61.4/22.5	F/C	59.9/23.0 (21.8/9.9)	F/C (C/A)	65.6/19.2 (20.1/8.4)	F/C (C/A)	59.4/87.9 (12.8/5.8)	F/F (B/A)	62.7/119.8 (12.0/4.8)	F/F (B/A)
Mathilda Northbound On-Ramp	Merge	61.3/23.8	F/C	59.9/24.2 (24.1/10.1)	F/C (C/A)	65.6/20.4 (20.9/8.8)	F/C (C/A)	59.9/89.3 (13.0/5.9)	F/F (B/A)	62.9/123.1 (12.3/5.1)	F/F (B/A)
Mathilda Northbound On-Ramp to Mathilda Southbound Off-Ramp <sup>d</sup>	Basic	61.5/23.8	F/C	60.7/24.2 (24.1/10.1)	F/C (C/A)	66.8/20.4 (20.9/8.8)	F/C (C/A)	60.5/90.7 (13.0/5.9)	F/F (B/A)	63.9/126.0 (12.3/5.1)	F/F (B/A)
Mathilda Southbound Off-Ramp <sup>e</sup>	Diverge	61.7/23.8	F/C	59.5/24.3 (24.1/10.1)	F/C (C/A)	N/A	N/A	59.3/88.0 (13.0/5.9)	F/F (B/A)	N/A	N/A
Mathilda Southbound Off-Ramp to SR 237 Westbound Off-Ramp <sup>e</sup>	Basic	66.1/20.3	F/C	65.0/20.1 (20.7/8.7)	F/C (C/A)	N/A	N/A	64.4/116.4 (12.2/5.0)	F/F (B/A)	N/A	N/A
SR 237 Westbound Off-Ramp	Diverge	70.1/20.3	F/C	66.5/18.9* (20.7/8.7)	F/F (C/A)	70.0/37.8* (20.9/8.8)	F/F (C/A)	65.0/131.1 (12.2/5.0)	F/F (B/A)	66.0/149.0 (12.3/5.1)	F/F (B/A)
SR 237 Westbound Off-Ramp to SR 237 Westbound On-Ramp	Basic	82.2/13.6	F/F	81.1/38.1* (18.1/7.0)	F/F (C/A)	85.1/64.8 (18.4/7.2)	F/F (C/A)	80.3/198.9 (10.5/4.0)	F/F (A/A)	81.7/220.9 (10.6/4.1)	F/F (A/A)
SR 237 Westbound On-Ramp	Merge	74.3/35.8	F/F	68.4/53.8 (22.0/10.4)	F/F (C/A)	70.7/73.1 (24.2/10.5)	F/F (C/A)	68.3/154.9 (12.5/5.8)	F/F (B/A)	69.3/156.8 (12.6/5.9)	F/F (B/A)
SR 237 Westbound On-Ramp to Ellis	Basic	76.9/59.8	F/F	75.8/72.2 (22.0/10.4)	F/F (C/A)	78.4/92.3 (24.2/10.5)	F/F (C/A)	75.7/169.8 (12.5/5.8)	F/F (B/A)	76.7/170.1 (12.6/5.9)	F/F (B/A)

Segment	Type	Existing		Year 2018				Year 2040			
		Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	No-Build		Build		No-Build		Build	
				Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM
<i>US 101 Southbound<sup>c</sup></i>											
Ellis On-Ramp to SR 237 Eastbound Off-Ramp	Weave	23.8/ <b>107.4</b>	C/F	18.8/ <b>84.5</b> (15.2/24.7)	C/F (B/C)	18.8/ <b>88.0</b> (15.2/24.7)	C/F (B/C)	21.3/ <b>112.7</b> (8.5/13.9)	C/F (A/B)	21.3/ <b>117.4</b> (8.5/13.9)	C/F (A/B)
SR 237 Eastbound Off-Ramp	Diverge	23.8/ <b>91.7</b>	C/F	18.8/ <b>71.7</b> (15.2/24.7)	C/F (B/C)	18.8/ <b>75.9</b> (15.2/24.7)	C/F (B/C)	21.3/ <b>95.6</b> (8.5/13.9)	C/F (A/B)	21.3/ <b>101.4</b> (8.5/13.9)	C/F (A/B)
SR 237 Eastbound Off-Ramp to SR 237 Eastbound On-Ramp	Basic	17.0/ <b>158.2</b>	B/F	17.9/ <b>145.2</b> (11.0/18.0)	B/F (A/B)	18.8/ <b>146.6</b> (11.5/18.3)	C/F (B/C)	18.6/ <b>172.6</b> (5.7/10.8)	C/F (A/A)	19.8/ <b>174.6</b> (6.0/11.0)	C/F (A/B)
SR 237 Eastbound On-Ramp	Merge	15.7/ <b>181.7</b>	B/F	16.4/ <b>111.5</b> (13.0/19.5)	B/F (B/C)	17.1/ <b>114.4</b> (13.4/19.9)	B/F (B/C)	17.4/ <b>139.3</b> (6.9/11.8)	B/F (A/B)	18.3/ <b>146.9</b> (7.2/12.0)	C/F (A/B)
SR 237 Eastbound On-Ramp to Mathilda Off-Ramp	Weave	15.7/ <b>186.2</b>	B/F	16.4/ <b>115.6</b> (13.0/19.5)	B/F (B/C)	17.1/ <b>118.9</b> (13.4/19.9)	B/F (B/C)	17.4/ <b>144.8</b> (6.9/11.8)	B/F (A/B)	18.3/ <b>152.2</b> (7.2/12.0)	C/F (A/B)
Mathilda Off-Ramp	Diverge	15.7/ <b>182.8</b>	B/F	16.4/ <b>111.6</b> (13.0/19.5)	B/F (B/C)	17.1/ <b>114.3</b> (13.4/19.9)	B/F (B/C)	17.4/ <b>138.7</b> (6.9/11.8)	B/F (A/B)	18.3/ <b>145.0</b> (7.2/12.0)	C/F (A/B)
Mathilda Off-Ramp to Mathilda Southbound On-Ramp	Basic	19.6/ <b>151.4</b>	C/F	20.5/ <b>143.0</b> (12.3/18.0)	C/F (B/C)	20.5/ <b>145.7</b> (12.3/18.2)	C/F (B/C)	21.2/ <b>170.2</b> (6.5/10.7)	C/F (A/A)	21.2/ <b>177.3</b> (6.5/10.7)	C/F (A/A)
Mathilda Southbound On-Ramp	Merge	20.1/ <b>109.5</b>	C/F	20.9/ <b>97.9</b> (12.6/20.7)	C/F (B/C)	20.9/ <b>103.2</b> (12.6/20.7)	C/F (B/C)	21.7/ <b>122.2</b> (6.6/12.1)	C/F (A/B)	21.7/ <b>135.0</b> (6.6/11.9)	C/F (A/B)
Mathilda Northbound On-Ramp	Merge	21.7/ <b>97.7</b>	C/F	22.1/ <b>87.9</b> (13.3/21.9)	C/F (B/C)	22.8/ <b>88.0</b> (13.5/22.1)	C/F (B/C)	23.0/ <b>116.4</b> (6.9/12.7)	C/F (A/B)	23.6/ <b>114.9</b> (7.0/12.8)	C/F (A/B)
Mathilda Northbound On-Ramp to Fair Oaks Southbound Off-Ramp	Basic	21.7/ <b>102.6</b>	C/F	22.1/ <b>92.2</b> (13.3/21.9)	C/F (B/C)	22.7/ <b>93.3</b> (13.5/22.1)	C/F (B/C)	23.0/ <b>120.4</b> (6.9/12.7)	C/F (A/B)	23.5/ <b>121.4</b> (7.0/12.8)	C/F (A/B)
Fair Oaks Southbound Off-Ramp	Diverge	21.7/ <b>97.1</b>	C/F	22.1/ <b>86.5</b> (13.3/21.9)	C/F (B/C)	22.7/ <b>87.6</b> (13.5/22.1)	C/F (B/C)	23.0/ <b>115.0</b> (6.9/12.7)	C/F (A/B)	23.6/ <b>115.9</b> (7.0/12.8)	C/F (A/B)
Fair Oaks Southbound Off-Ramp to Fair Oaks Southbound On-Ramp	Basic	20.2/ <b>128.7</b>	C/F	20.8/ <b>119.0</b> (12.7/20.3)	C/F (B/C)	21.1/ <b>119.8</b> (12.9/20.6)	C/F (B/C)	21.4/ <b>143.1</b> (6.6/11.9)	C/F (A/B)	21.8/ <b>144.0</b> (6.8/12.1)	C/F (A/B)
Fair Oaks Southbound On-Ramp	Merge	15.7/ <b>171.8</b>	B/F	16.2/ <b>88.7</b> (13.2/21.2)	B/F (B/C)	16.5/ <b>89.4</b> (13.4/21.5)	B/F (B/C)	16.8/ <b>107.3</b> (6.9/12.4)	B/F (A/B)	17.2/ <b>108.0</b> (7.1/12.6)	B/F (A/B)
Fair Oaks Northbound Off-Ramp	Diverge	15.7/ <b>172.9</b>	B/F	16.2/ <b>89.8</b> (13.2/21.2)	B/F (B/C)	16.5/ <b>90.5</b> (13.4/21.5)	B/F (B/C)	16.8/ <b>108.8</b> (6.9/12.4)	B/F (A/B)	17.2/ <b>109.4</b> (7.1/12.6)	B/F (A/B)

Segment	Type	Existing		Year 2018				Year 2040			
		Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	No-Build		Build		No-Build		Build	
				Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM	Density <sup>a</sup> AM/PM	LOS <sup>b</sup> AM/PM
Fair Oaks Northbound Off-Ramp to Fair Oaks Northbound On-Ramp	Basic	20.6/ <b>126.8</b>	C/F	21.2/ <b>116.9</b> (13.0/20.7)	C/F (B/C)	21.6/ <b>117.6</b> (13.3/21.0)	C/F (B/C)	22.0/ <b>139.8</b> (6.8/12.2)	C/F (A/B)	22.7/ <b>140.7</b> (7.0/12.3)	C/F (A/B)
Fair Oaks Northbound On-Ramp	Merge	22.8/ <b>117.5</b>	C/F	23.8/ <b>107.2</b> (14.4/21.4)	C/F (B/C)	24.3/ <b>107.9</b> (14.6/21.6)	C/F (B/C)	25.5/ <b>128.3</b> (7.6/12.6)	C/F (A/B)	26.2/ <b>129.1</b> (7.8/12.7)	D/F (A/B)

Source: Fehr & Peers 2016.

**Bold** font indicates LOS F conditions. Locations marked with an asterisk (\*) designate the end of bottleneck congestion. A segment may be designated LOS F even if the density is below the LOS F threshold if any portion of the segment is in queue.

Merge, diverge, and weave segments were not calculated differently from basic segments. All results are based on the density produced from the peak period mainline analysis (FREQ). Weaving segments are further evaluated in the Mainline Weaving Analysis section of the TOAR. Refer to the TOAR for # of lanes by segment and year.

<sup>a</sup> Density and LOS results shown as: mixed-flow lanes (express lane).

<sup>b</sup> The AM peak hour for northbound US 101 occurs between 7:00 a.m. and 8:00 a.m. The PM peak hour for northbound US 101 occurs between 5:00 p.m. and 6:00 p.m.

<sup>c</sup> The AM peak hour for southbound US 101 occurs between 7:00 a.m. and 8:00 a.m. The PM peak hour for southbound US 101 occurs between 5:00 p.m. and 6:00 p.m.

<sup>d</sup> Due to the closure of the US 101 northbound loop off-ramp to southbound Mathilda Avenue, this freeway segment is assumed to extend from the Mathilda Avenue loop on-ramp to SR 237 westbound off-ramp.

<sup>e</sup> These segments do not exist under the Build Alternative due to the closure of the US 101 northbound loop off-ramp to southbound Mathilda Avenue.

**Table 2.14-6. Existing, 2018, and 2040 SR 237 Peak Hour Level of Service**

Segment	Type	Existing		Year 2018				Year 2040			
		Density <sup>a</sup> AM/PM	LOS AM/PM	No-Build		Build		No-Build		Build	
				Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM
<i>SR 237 Westbound<sup>b</sup></i>											
Lawrence On-Ramp to Crossman On-Ramp	Basic	23.0/19.2	C/B	41.7/29.5 (19.3/10)	D/D (C/A)	54.6/30.4 (19.3/10)	D/D (C/A)	<b>94.6/110.8</b> (22.7/12.0)	F/F (C/B)	<b>94.6/110.8</b> (22.7/12.0)	F/F (C/B)
Crossman On-Ramp	Merge	24.5/22.1	C/C	55.2/45.5 (19.3/10)	D/E (C/A)	<b>62.5/46.2</b> (19.3/10)	F/E (C/A)	38.2/38.3 (23.6/12.8)	E/E (C/B)	38.2/38.3 (23.6/12.8)	E/E (C/B)
Crossman On-Ramp to Mathilda Off-Ramp	Basic	24.5/ <b>47.9</b>	C/F	<b>65.0/50.9</b> (19.3/20)	F/E (C/A)	<b>71.2/51.5</b> (19.3/10)	F/E (C/A)	37.3/37.6 (23.6/12.8)	E/E (C/B)	37.3/37.7 (23.6/12.8)	E/E (C/B)
Mathilda Off-Ramp	Diverge	27.1/ <b>55.0</b>	C/F	<b>57.1/47.4</b>	F/D	<b>60.8/48.1</b>	F/D	21.2/21.2 (23.6/12.8)	C/C (C/B)	21.2/21.3 (23.6/12.8)	C/C (C/B)
Mathilda Off-Ramp to Mathilda On-Ramp	Basic	40.4/ <b>84.4</b>	E/F	<b>69.7/72.7</b>	F/F	<b>73.4/73.2</b>	F/F	25.6/24.4 (19.1/10.0)	C/C (C/A)	25.6/24.4 (19.1/10.0)	C/C (C/A)
Mathilda On-Ramp to US 101 Northbound Off-Ramp	Weave	<b>48.4/53.3</b>	F/F	<b>56.0/73.0</b>	F/F	<b>56.4/73.5</b>	F/F	17.8/18.8 (19.6/10.7)	B/C (C/A)	17.9/18.8 (19.6/10.6)	B/C (C/A)
US 101 Northbound Off-Ramp to US 101 Northbound On-Ramp	Basic	18.5/19.4	B/B	18.5/19.2	C/C	18.5/19.4	C/C	17.8/17.7 (13.7/7.3)	B/B (B/A)	18.0/17.5 (13.87/7.2)	B/B (B/A)
US 101 Northbound On-Ramp	Merge	26.7/28.2	C/D	23.5/25.9	C/C	23.4/26.1	C/D	22.1/24.4 (15.9/9.3)	C/C (B/A)	22.3/24.2 (16.1/9.1)	C/C (B/A)
Maude Off-Ramp	Diverge	26.7/28.2	C/D	23.5/25.9	C/C	23.4/26.1	C/D	22.1/24.4 (15.9/9.3)	C/C (B/A)	22.3/24.2 (16.1/9.1)	C/C (B/A)
<i>SR 237 Eastbound<sup>c</sup></i>											
Maude On-Ramp to US 101 Southbound Off-Ramp	Weave	19.7/14.3	C/B	22.0/ <b>81.9</b>	C/F	22.0/ <b>36.8</b> *	C/F	20.9/ <b>127.7</b> (19.4/16.0)	C/F (C/B)	20.6/ <b>115.3</b> (19.5/16.0)	C/F (C/B)
US 101 Southbound Off-Ramp to US 101 Southbound On-Ramp	Basic	20.3/16.5	C/B	22.7/ <b>129.6</b>	C/F	22.8/ <b>88.4</b>	C/F	21.6/ <b>183.3</b> (13.8/13.0)	C/F (B/B)	21.0/ <b>164.3</b> (13.7/13.0)	C/F (B/B)
US 101 Southbound On-Ramp	Merge	22.3/14.6	C/B	28.9/ <b>75.4</b>	D/F	23.9/ <b>61.0</b>	C/F	22.9/ <b>145.4</b> (20.6/17.1)	C/F (C/B)	22.5/ <b>136.6</b> (20.5/16.8)	C/F (C/B)
US 101 Southbound On-Ramp to Mathilda Off-Ramp	Basic	22.3/14.6	C/B	28.9/ <b>79.3</b>	D/F	23.9/ <b>68.7</b>	C/F	22.9/ <b>161.1</b> (20.6/17.1)	C/F (C/B)	22.5/ <b>158.2</b> (20.5/16.8)	C/F (C/B)
Mathilda Off-Ramp	Diverge	22.3/14.6	C/B	28.9/ <b>83.3</b>	D/F	23.9/ <b>76.5</b>	C/F	22.9/ <b>157.8</b> (20.6/17.1)	C/F (C/B)	22.5/ <b>159.6</b> (20.5/16.8)	C/F (C/B)

Segment	Type	Existing		Year 2018				Year 2040			
		Density <sup>a</sup> AM/PM	LOS AM/PM	No-Build		Build		No-Build		Build	
				Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM	Density <sup>a</sup> AM/PM	LOS AM/PM
Mathilda Off-Ramp to Mathilda On-Ramp	Basic	29.0/20.1	D/C	34.5/ <b>129.4</b>	D/F	34.5/ <b>109.0</b>	D/F	26.9/ <b>171.8</b> (17.9/16.0)	D/F (B/B)	28.9/ <b>169.3</b> (18.5/15.9)	D/F (C/B)
Mathilda On-Ramp	Merge	38.7/29.4	E/D	23.5/ <b>105.4</b>	C/F	24.7/ <b>88.8</b>	C/F	19.8/ <b>144.0</b> (19.7/18.5)	C/F (C/C)	21.7/ <b>137.7</b> (21.2/18.7)	C/F (C/C)
Mathilda On-Ramp to Persian Off-Ramp	Basic	33.3/22.2	D/C	18.4/ <b>102.2</b> (15.5/13.1)	C/F (B/B)	19.3/ <b>81.5</b> (16.4/11.3 )	C/F (b/B)	19.8/ <b>107.9</b> (19.7/18.5)	C/F (C/C)	21.7/ <b>102.4</b> (21.2/18.7)	C/F (C/C)
Persian Off-Ramp to Lawrence	Basic	32.5/19.6	D/C	25.7/ <b>147.5</b> (15.5/13.1)	C/F (B/B)	27.4/ <b>116.3</b> (16.4/11.3 )	D/F (b/B)	27.8/ <b>148.6</b> (18.9/18.0)	D/F (C/B)	32.0/ <b>142.8</b> (20.3/18.0)	D/F (C/C)

Source: Fehr & Peers 2016.

**Bold** font indicates LOS F conditions. Locations marked with an asterisk (\*) designate the end of bottleneck congestion. A segment may be designated LOS F even if the density is below the LOS F threshold if any portion of the segment is in queue.

Merge, diverge, and weave segments were not calculated differently from basic segments. All results are based on the density produced from FREQ. Weaving segments are further evaluated in the Mainline Weaving Analysis section of the TOAR. Refer to the TOAR for # of lanes by segment and year.

<sup>a</sup> Density and LOS results shown as: mixed-flow lanes (express lane).

<sup>b</sup> The AM peak hour for westbound SR 237 occurs between 7:00 a.m. and 8:00 a.m. The PM peak hour for westbound SR 237 occurs between 5:00 p.m. and 6:00 p.m.

<sup>c</sup> The AM peak hour for eastbound SR 237 occurs between 8:00 a.m. and 9:00 a.m. The PM peak hour for eastbound SR 237 occurs between 5:00 p.m. and 6:00 p.m.

**Table 2.14-7. Existing, 2018, and 2040 Peak Period Measures of Effectiveness**

Scenario	Measure of Effectiveness	Peak Hour	Existing	Year 2018			Year 2040		
				No-Build	Build		No-Build	Build	
					Results	% Change		Results	% Change
US 101 Northbound	Vehicle Miles of Travel (vehicle-miles)	AM PM	20,110 24,630	25,070 30,250	24,530 29,860	-2.2% -1.3%	25,810 32,500	25,530 31,660	-1.1% -2.7%
	Average Travel Time (min:sec)	AM PM	06:25 02:52	6:37 3:40	7:20 4:54	9.8% 25.2%	6:36 10:11	7:04 11:05	6.6% 8.1%
	Average Travel Speed (mph)	AM PM	20 45	19.6 35.3	17.7 26.4	-10.7% -33.7%	19.6 12.7	18.3 11.7	-7.1% -8.5%
	Mainline Vehicle Delay (vehicle-hours)	AM PM	662 160	672 314	763 527	11.9% 40.4%	660 1,562	730 1,703	9.6% 8.3%
	Maximum Individual Vehicle Delay (min:sec)	AM PM	04:30 01:18	4:48 3:10	5:36 5:45	14.3% 44.9%	4:40 14:32	5:19 15:43	12.2% 7.5%
US 101 Southbound	Vehicle Miles of Travel (vehicle-miles)	AM PM	17,800 28,150	24,090 36,350	24,590 36,330	2.0% -0.1%	23,650 35,910	24,380 35,760	3.0% -0.4%
	Average Travel Time (min:sec)	AM PM	02:07 09:29	2:02 9:10	2:03 9:17	0.8% 1.3%	1:59 11:16	2:01 11:33	1.7% 2.5%
	Average Travel Speed (mph)	AM PM	60 13	62.0 13.8	61.5 13.6	-0.8% -1.5%	63.6 11.2	62.5 10.9	-1.8% -2.8%
	Mainline Vehicle Delay (vehicle-hours)	AM PM	24 1,695	17 1569	21 1595	19.0% 1.6%	8 1,906	12 1,946	33.3% 2.1%
	Maximum Individual Vehicle Delay (min:sec)	AM PM	00:11 08:16	0:10 8:08	0:13 8:16	23.1% 1.6%	0:05 9:55	0:06 10:05	16.7% 1.7%
SR 237 Westbound	Vehicle Miles of Travel (vehicle-miles)	AM PM	18,560 23,060	19,800 25,210	19,600 25,240	-1.0% 0.1%	20,030 27,300	20,090 27,230	0.3% -0.3%
	Average Travel Time (min:sec)	AM PM	02:22 02:49	3:46 2:53	4:02 2:54	6.6% 0.6%	2:33 3:01	2:33 3:01	0.0% 0.0%
	Average Travel Speed (mph)	AM PM	56 47	35.6 46.5	33.3 46.3	-6.9% -0.4%	52.6 44.5	52.6 44.5	0.0% 0.0%
	Mainline Vehicle Delay (vehicle-hours)	AM PM	41 136	220 142	240 152	8.3% 6.6%	110 163	110 163	0.0% 0.0%
	Maximum Individual Vehicle Delay (min:sec)	AM PM	00:25 01:37	1:58 1:32	2:08 1:34	7.8% 2.1%	0:32 1:05	0:32 1:05	0.0% 0.0%

Scenario	Measure of Effectiveness	Peak Hour	Existing	Year 2018			Year 2040		
				No-Build	Build		No-Build	Build	
					Results	% Change		Results	% Change
SR 237 Eastbound	Vehicle Miles of Travel (vehicle-miles)	AM PM	17,650 20,720	16,200 19,740	16,400 21,020	1.3% 6.1%	19,060 22,020	20,050 22,820	4.9% 3.5%
	Average Travel Time (min:sec)	AM	02:08	2:13	2:12	-0.8%	2:10	2:12	1.5%
		PM	02:06	9:32	8:04	-18.2%	14:31	13:22	-8.6%
	Average Travel Speed (mph)	AM	62	60.4	60.9	0.8%	61.8	60.9	-1.5%
		PM	63	14.1	16.6	15.1%	9.2	10.0	-8.0%
Mainline Vehicle Delay (vehicle-hours)	AM	12	20	17	-16.3%	14	17	20.0%	
	PM	11	1124	751	-49.5%	1,497	1,441	-3.9%	
Maximum Individual Vehicle Delay (min:sec)	AM	00:10	0:13	0:10	-20.0%	0:07	0:10	30.0%	
	PM	00:04	11:28	7:10	-60.0%	18:41	17:49	-4.9%	

Source: Fehr & Peers 2016.

## 2.14.4 Impact Analysis

This section evaluates the potential impacts on traffic/transportation associated with the No-Build and Build conditions for both Opening Year 2018 and Design Year 2040.

The traffic operations analysis results for all study scenarios, which were combined for comparison purposes, were presented in the section tables as follows:

- Table 2.14-3 – study intersection peak hour delay and LOS summary.
- Table 2.14-4 – Mathilda Avenue travel times.
- Table 2.14-5 – US 101 mainline peak hour LOS summary.
- Table 2.14-6 – SR 237 mainline peak hour LOS summary.
- Table 2.14-7 – US 101 and SR 237 mainline peak period network MOEs for both directions.
- Table 2.14-8 – 2018 and 2040 Innovation Way travel times.

For the queuing analysis and results, refer to the TOAR. The following describes the traffic operational impacts for the No-Build Alternative and the Build Alternative compared to the No-Build Alternative under Opening Year 2018 and Design Year 2040 conditions.

### 2.14.4.1 Opening Year 2018

#### Local Roadway and Ramp Termini Operations

##### No-Build Alternative

In general, peak hour traffic volumes are highest on Mathilda Avenue at the US 101 and SR 237 interchanges, and the highest traffic volumes occur in the vicinity of the Ahwanee Avenue /Almanor Avenue intersection.

Most study intersections along Mathilda Avenue are anticipated to operate at LOS F during one or both peak hours (see Table 2.14-3). The percent demand served is on average 89 and 86 percent during the AM and PM peak hours, respectively, which is indicative of the projected traffic demand exceeding the capacity of the roadway system. The total vehicle hours of delay are estimated to be over 1,300 in the AM peak hour and over 1,500 in the PM peak hour. On opening day, Innovation Way is assumed to extend from its current terminus at Mathilda Avenue to Bordeaux Drive as part of the Moffett Place development.

##### Build Alternative

Under the Build Alternative, peak hour traffic volumes on Mathilda Avenue would be similar to the No-Build Alternative with the exception of the segments between Moffett Park Drive and Innovation Way and between the US 101 and SR 237 interchanges due to the shift of



traffic from eastbound 237 to southbound 101. Some additional traffic would be routed between Mathilda Avenue and Moffett Park Drive via Bordeaux Drive and Innovation Way.

The Build Alternative would improve traffic conditions at most of the study intersections. However, some would continue to operate under congested conditions, similar to the No-Build Alternative. During the AM peak hour the total vehicle hours of delay would be reduced from 1,319 to 493 (63 percent reduction compared to No-Build) and from 1,504 to 1,285 (15 percent reduction compared to No-Build) during the PM hour (see Table 2.14-3). Overall, the Build Alternative would provide a net reduction of 1,045 vehicle hours of delay during the AM and PM peak hours compared to No-Build conditions. Under the Build Alternative, an additional demand of approximately 10 percent in the AM hour and 4 percent in the PM hour would be served. The Build Alternative would also reduce queuing on local streets and freeway ramps. While conditions would improve during the PM peak hour under the Build Alternative, the Moffett Park Drive and SR 237 ramp terminal intersections would continue to act as a bottleneck for southbound traffic along Mathilda Avenue and eastbound traffic along Moffett Park Drive.

Table 2.14-4 presents the average travel times and delays along the Mathilda Avenue corridor under both alternatives. The Build Alternative would reduce the average travel time and increase the average travel speed along Mathilda Avenue. However, the PM peak hour travel times along southbound Mathilda Avenue would increase due to the increase in queue backups on southbound Mathilda Avenue north of Moffett Park Drive and Innovation Way. Nevertheless, the overall system-wide delay would still decrease compared to the No-Build Alternative.

Congestion at the US 101 and SR 237 interchanges on Mathilda Avenue for the No-Build Alternative is anticipated to result in traffic backing up onto the freeway mainlines during the AM and PM peak hours, but the Build Alternative would improve ramp operations and result in little to no vehicle queue spillback onto the freeway mainlines.

The capacity enhancements at the intersections on Mathilda Avenue and the realignment of freeway ramps proposed under the Build Alternative would improve traffic operations and reduce vehicle queue lengths compared to the No-Build Alternative conditions.

Table 2.14-8 presents the average travel times and delays along Innovation Way under both alternatives. The redistribution of traffic to this corridor under the Build Alternative supports the implementation of a signal at the Innovation Way and Juniper Networks Driveway to optimize capacity at the Mathilda Avenue and Innovation Way intersection. The City of Sunnyvale will monitor traffic volumes and operations at this intersection to determine when this signal would be installed by the City. Due to the implementation of a signal at Innovation Way and Juniper Networks Driveway, the average travel time and delay along Innovation Way generally decreases when compared to No-Build Alternative conditions.

**Table 2.14-8. Year 2018 and 2040 Innovation Way Travel Times<sup>a</sup>**

Direction	Peak Hour	Free flow Travel Time (s) <sup>b</sup>	Year 2018				Year 2040			
			No-Build		Build		No-Build		Build	
			Congested Travel Time(s)	Delay(s)	Congested Travel Time(s)	Delay(s)	Congested Travel Time(s)	Delay(s)	Congested Travel Time(s)	Delay(s)
Innovation Way Northbound	AM	81.5	86.2	4.7	97.9	16.4	395.3	313.8	143.7	62.2
	PM	81.5	524.4	442.9	290.5	209.0	787.9	706.4	264.3	182.8
Innovation Way Southbound	AM	81.5	112.7	31.2	110.5	29.0	129.4	47.9	124.1	42.6
	PM	81.5	404.9	323.4	389.2	207.7	634.7	553.2	664.1	582.6

Source: Fehr & Peers 2016.  
<sup>a</sup> Travel time runs begin at the Mathilda Avenue intersection and end at the Moffett Park Drive intersection (approximately 0.42 mile).  
<sup>b</sup> Free flow speed is calculated assuming a travel speed of 25 miles per hour.

## Freeway Mainline Operations

### No-Build Alternative

Tables 2.14-5 and 2.14-6 summarize the peak hour traffic operation results on US 101 and SR 237. The existing HOV lanes in both directions along US 101 and SR 237 are assumed to be converted to express lanes by Year 2018 as part of a separate project. Ramp metering is assumed to be installed at all on-ramps and an HOV bypass lane is assumed to be installed on the Mathilda Avenue on-ramp to SR 237 eastbound as part of a separate project.

For the No-Build Alternative, congestion at the US 101/Mathilda Avenue and SR 237/Mathilda Avenue interchanges is anticipated to result in vehicle spillback onto the freeway mainlines during the AM and PM peak hours. Freeway mainline operations would result in mostly LOS F conditions throughout the Project area.

### Build Alternative

For the Build Alternative, ramp operations would be improved in Year 2018 and result in little to no vehicle spillback onto the freeway mainlines. There would be a slight decrease in congestion on SR 237 eastbound between the US 101 southbound on-ramp and the Mathilda Avenue off-ramp due to the shift in traffic from the SR 237 eastbound off-ramp at Mathilda Avenue to the new US 101 southbound off-ramp movement to Mathilda Avenue northbound. This shift in traffic would also result in a slight increase in congestion on US 101 southbound between the SR 237 eastbound off-ramp and the Mathilda Avenue off-ramp, and have a minor change to the LOS, as shown in Table 2.14-6. However, the Build Alternative is not anticipated to substantially change the freeway LOS and would have a negligible effect on freeway congestion levels during peak hours.

The Build Alternative would eliminate the short, non-standard weaving segment on northbound US 101 between the on-ramp from northbound Mathilda Avenue and the off-

ramp to southbound Mathilda Avenue. Removing weaving sections would eliminate speed differentials along US 101.

### **Freeway System Performance**

System-wide MOEs during both peak periods for the US 101 and SR 237 corridors within the Project limits are presented in Table 2.14-8. MOEs including average travel time and average speed are the most effective indicators as they relate directly to travelers' experience along the US 101 and SR 237 corridors.

#### **No-Build Alternative**

By Year 2018, average travel speeds on US 101 and eastbound SR 237 fall below 20 mph in the peak directions during the AM and PM peak periods. On westbound SR 237, average travel speeds fall to 35 mph during the AM peak period.

#### **Build Alternative**

Average travel speeds and mainline vehicle delays are similar to the No-Build Alternative, indicating that the Build Alternative would have little to no effect on the overall freeway system performance along the US 101 and SR 237 corridors within the Project area.

## **2.14.4.2 Design Year 2040**

### **Local Roadway and Ramp Termini Operations**

#### **No-Build Alternative**

Under the No-Build Alternative the majority of study intersections along Mathilda Avenue are anticipated to operate at LOS F conditions during both peak hours (see Table 2.14-3). This would result in a low percent of vehicle demand being served during both peak hours (80 and 70 percent during the AM and PM peak hours, respectively), which is indicative of the projected traffic demand exceeding the capacity of the roadway system. The total vehicle hours of delay are estimated to be over 2,900 in the AM peak hour and over 3,800 in the PM peak hour.

By Year 2040, the AM peak hour volume is forecasted to be 3,640 vehicles per hour (vph) on Mathilda Avenue northbound near Almanor Avenue-Ahwanee Avenue and 4,040 vph during the PM peak in the southbound direction. Corresponding traffic volumes near the Innovation Way intersection in the northbound direction in the AM peak hour and southbound direction in the PM peak hour are forecasted to be 2,740 and 1,580 vph, respectively.

Under the No-Build Alternative, Innovation Way is assumed to extend from its current terminus at Mathilda Avenue to Bordeaux Drive as part of the Moffett Place development. By Year 2040, the Mary Avenue extension from Mary Avenue south of the SR 237/US 101 interchange north to E Street is assumed to be constructed as part of a separate project.

## **Build Alternative**

The Build Alternative would improve traffic conditions at most of the study intersections. However, some would continue to operate under congested conditions, similar to the No-Build Alternative, for at least one peak hour. During the AM peak hour the total vehicle hours of delay would be reduced to approximately 1,900 (35 percent reduction) and to approximately 3,100 (18 percent reduction) during the PM peak hour. The reduction in overall vehicle hours of delay for the AM and PM peak hours indicates the Build Alternative would provide an overall benefit to the traffic operations in the Project area compared to the No-Build Alternative.

As a result of closing Moffett Park Drive between Mathilda Avenue and Bordeaux Drive, an additional 520 vph would be shifted to northbound Mathilda Avenue in the AM peak hour, and an additional 495 vph would be shifted to southbound Mathilda Avenue in the PM peak hour between the Moffett Park Drive/SR 237 westbound off-ramp and Innovation Way by Year 2040.

As shown in Table 2.14-3, the overall percent demand served through local intersections along the Mathilda Avenue corridor and at nearby study intersections increases by approximately 8 and 7 percent in the AM and PM peak hours, respectively, under the Build Alternative.

Queue spillback is anticipated to continue to occur at some off-ramps during peak hours, but would be substantially less than under the No-Build Alternative. On local streets, overall queuing would be reduced along Mathilda Avenue in both directions. The closure of Moffett Park Drive between Bordeaux Drive and Mathilda Avenue would shift the queuing from Moffett Park Drive to Innovation Way and Bordeaux Drive on the east side of Mathilda Avenue.

As shown in Table 2.14-4, the Build Alternative would reduce the average travel time and increase the average travel speed along Mathilda Avenue.

As shown in Table 2.14-8, under the Build Alternative, delays would decrease on northbound Innovation Way during both peak hours. In the southbound direction, travel times would remain relatively unchanged in the AM peak hour and slightly increase in the PM peak hour due to the increase in volume resulting from the closure of Moffett Park Drive on the east side of Mathilda Avenue.

## **Freeway Mainline Operations**

### **No-Build Alternative**

As shown in Tables 2.14-5 and 2.14-6, freeway operations under the No-Build Alternative would continue to result in mostly LOS F conditions in peak commute directions throughout the Project area.

The new express lanes along SR 237 will be extended to west of the US 101 interchange. On US 101, an additional express lane, for a total of two lanes, will be added by Year 2040. Under the No-Build Alternative, the SR 237 westbound bottleneck moves upstream to the Fair Oaks Avenue on-ramp, and congestion on the mixed-flow lanes worsens.

### **Build Alternative**

The Build Alternative is not anticipated to add additional bottlenecks to the freeway. However, the capacity enhancement at Mathilda Avenue would increase the on-ramp throughput, resulting in an increase in queuing along eastbound SR 237 in the PM peak hour. The SR 237 eastbound weaving section between US 101 and the Mathilda Avenue off-ramp would improve from LOS E to LOS D in the PM peak hour under the Build Alternative. In addition, the SR 237 westbound weaving section between the Mathilda Avenue on-ramp and US 101 is anticipated to improve from LOS F to LOS E in the PM peak hour. The US 101 southbound weaving section between SR 237 and the Mathilda Avenue off-ramp would decrease from an LOS C to LOS E in the PM peak hour due to the shift in traffic associated with the full access interchange at US 101 and Mathilda Avenue.

## **Freeway System Performance**

### **No-Build Alternative**

System-wide MOEs during both peak hours for the US 101 and SR 237 corridors within the Project limits are presented in Table 2.14-7.

The highest mainline vehicle delay occurs on southbound US 101 during the PM peak hour. For the No-Build Alternative, the average travel speed on southbound US 101 is reduced to 11 mph compared to Year 2018. The vehicle delay increases to over 1,900 hours on southbound US 101 and approximately 1,500 hours on eastbound SR 237 in the PM peak hour.

### **Build Alternative**

With the implementation of a full-access interchange at US 101 and Mathilda Avenue, there would be a shift in some vehicular traffic from SR 237 to US 101. Consequently, travel time, delay, and maximum individual delay would increase slightly along US 101 southbound and decrease along SR 237 eastbound. The US 101 northbound results show an increase in travel time and mainline vehicle delay with the Build Alternative due to the increase in the demand served at the ramp terminal intersection, which in turn results in additional Mathilda Avenue traffic entering northbound US 101 during peak hours.

## **Bicycle and Pedestrian Facilities**

### **No-Build Alternative**

Under the No-Build Alternative, no pedestrian and bicycle facility improvements included in the Project would be implemented.

### **Build Alternative**

The Build Alternative would enhance pedestrian and bicycle facilities in the corridor, including along Mathilda Avenue and Moffett Park Drive. The following improvements to bicycle and pedestrian conditions would be included:

- New pedestrian and bicycle facilities
  - New east–west Class I trail on Moffett Park Drive between Borregas Avenue and Innovation Way.
  - Class II bicycle lanes on Mathilda Avenue.
- Controlled and more convenient pedestrian crossings
  - Elimination of uncontrolled ramp movements and construction of tee-intersections for US 101 off-ramps to Mathilda Avenue.
  - Crosswalks with optimum crossing distance and pedestrian refuges where applicable.
  - Enhanced pavement delineation and signing treatments.
- Improved bike circulation and connectivity
  - Improved bicycle connections between Mathilda Avenue and Moffett Park Drive.
- Improvements to increase ADA access
  - New accessible curb ramps conforming to ADA guidelines.
  - Pedestrian countdown signals at new or modified intersections.
  - Pushbutton-integrated accessible pedestrian signals.

### **2.14.4.3 Impact Summary**

#### **No-Build Alternative**

Under the No-Build Alternative, there would be no modification to existing facilities or changes in the existing environment other than the Mary Avenue extension, Innovation Way extension, and express lane conversion as described under the Opening Year 2018 and Design Year 2040, No-Build Alternative, discussions above. Under the No-Build Alternative, traffic/transportation in the Project area is anticipated to worsen, with increased congestion (increases in travel time and delays), and vehicle queue spillback onto the freeway mainlines. Bicycle and pedestrian facilities in the corridor would remain unimproved, resulting in a conflict with adopted policies, plans, and programs regarding public transit, bicycle, and

pedestrian facilities, decreasing the performance safety of these facilities. Furthermore, degradation of traffic operations is expected to cause inadequate emergency access and delay transit service.

## **Build Alternative**

### **Operation**

While multiple intersections would be operating at LOS F (as shown in Table 2.14-4), the Build Alternative would not be the cause of these conditions because the No-Build Alternative would also be operating at an equal or worse LOS. In most cases, the Build Alternative would result in a reduction in average travel time and an increase in average travel speed on Mathilda Avenue. An overall reduction in peak hour delay, queueing on local streets, and freeway ramps would also occur under the Build Alternative. The Build Alternative would increase the percent of peak hour traffic served through local intersections along Mathilda Avenue and at nearby study intersections.

### **Construction**

During construction of the Project, vehicular, bicycle, and pedestrian circulation would be maintained in each direction (using detours and temporary signs, as required). Temporary lane and ramp closures would be required when low traffic volumes occur to construct specific items of work such as placement of temporary concrete barriers. Work would be conducted along the roadways, sidewalks, and pedestrian crossings. Implementation of Avoidance and Minimization Measure TRF-1, *Prepare a Transportation Management Plan*, would reduce temporary impacts on traffic, transit users, bicycles, and pedestrians to a less-than-significant level.

## **2.14.5 Avoidance, Minimization, and/or Mitigation Measures**

### **Avoidance and Minimization Measure TRF-1: Prepare a Transportation Management Plan**

A Transportation Management Plan (TMP) will be prepared to ensure efficient movement of local and regional traffic during construction. The TMP will provide for public outreach to inform community agencies, such as the fire department, and the public of the times and locations of upcoming construction, signage in and approaching the Project area, and incident management for traffic control in the vicinity of construction activities.

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## 2.15 Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the Project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts on resources in the Project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the Project, such as changes in community character, traffic patterns, housing availability, and employment.

State CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the State CEQA Guidelines.

### 2.15.1 Approach to Cumulative Impact Analysis

In a cumulative impacts analysis, the identification of “past, present, and reasonably foreseeable future actions” can utilize either the “list approach” or the “adopted plan” approach. The list approach identifies specific projects in the vicinity, typically provided by a local planning department. The adopted plan approach relies on a general plan or transportation plan or other planning document, which by definition accounts for cumulative growth in a defined area. Depending on the resource area discussed, this analysis uses a combination of the list approach and the adopted plan approach.

The discussion below addresses resource areas where the Project would result in an impact and where, therefore, there is a potential for a cumulative impact. Resources areas not affected by the Project are not discussed because, by definition, no cumulative impact could occur. Examples of the latter include (but not limited to): farmlands/timberlands, land use and recreation, and mineral resources.

The cumulative analysis for the Project takes into consideration the other ongoing projects and plans in the same geographic area as the Project, as well as planned land uses and transportation and transit projects identified in the City and County general plans and policy documents.

Table 2.15-1 lists the projects and plans that were included in the cumulative analysis for the Project. The projects listed have been included in this analysis because they are within 0.25 mile of the Project area or could affect transportation and traffic circulation within the Project area. Projects identified with an asterisk (\*) are shown in Figure 2.10-3, *Current and Planned Development Projects*, in Section 2.10, *Land Use and Recreation*.

**Table 2.15-1. Projects Considered for Potential Cumulative Impacts**

Jurisdiction	Project Title	Estimated Construction Schedule	Location relative to the Project (miles)
<b>Transportation Projects Planned</b>			
City of Sunnyvale	Innovation Way Extension	Under construction; unknown completion date	Within Project area
Santa Clara County	Lawrence Expressway Ramp Improvements at SR 237	Expressway Plan 2040 Study in progress, construction 2020+	1.30 miles
Santa Clara County	Central Expressway Auxiliary Lanes	Expressway Plan 2040 Study in progress, construction 2020+	0.75 mile
VTA	SR 237 Express Lanes	Mid-2017 thru late 2018	Within Project area
VTA	SR 85 and US 101 Express Lanes	2018 thru 2020	Within Project area
VTA	VTA's Freeway Performance Initiative: All freeway ramps metered on US 101 and SR 237 (includes widening of SR 237 eastbound on-ramp at Mathilda Avenue to two lanes)	Studies and design in progress, unknown construction start	Within Project area
VTA	Stevens Creek Bus Rapid Transit	Unknown construction start	5 miles from Stevens Creek Boulevard/De Anza Boulevard stop
VTA	El Camino Bus Rapid Transit	Unknown construction start	1.85 miles from Hollenbeck Avenue/El Camino Real stop
VTA	VTA's Next Network Implementation	Goes into effect in July 2017	Within Project area
VTA/BART	BART Extension, Fremont Station to Berryessa Station	Under construction; complete in 2018	8.25 miles to Berryessa Station
VTA/BART	BART Extension, Berryessa Station thru downtown San Jose to Santa Clara	2020 thru 2025	10 miles to Berryessa Station
Caltrain	Caltrain Electrification	2018 through 2026	6 miles to Santa Clara Station
<b>Land Development in the Vicinity and Adjacent to the Project Right-of-Way</b>			
City of Sunnyvale	City of Sunnyvale: Moffett Park Specific Plan, Amended	Ongoing, 2020+	Within Project area

<b>Jurisdiction</b>	<b>Project Title</b>	<b>Estimated Construction Schedule</b>	<b>Location relative to the Project (miles)</b>
City of Sunnyvale	Onizuka Air Force Station Local Redevelopment Authority Amended Redevelopment Plan	Ongoing	Within Project area
City of Sunnyvale	Moffett Towers II: 215 Moffett Park Drive*	Under construction; unknown completion date	0.12 mile
City of Sunnyvale	Foothill De Anza Community College: 1070 Innovation Way*	Under construction; complete in Fall 2016	Within Project area
City of Sunnyvale	Sheraton Sunnyvale Hotel Expansion: 1100 N. Mathilda Avenue*	Approved by Planning Commission on December 8, 2014; unknown construction start	Within Project area
City of Sunnyvale	Old Fire Station #5 Site/New Hotel at 1120 Innovation Way*	Under Planning Commission review; unknown construction start	Within Project area
City of Sunnyvale	Hilton Garden Inn Development at 767 N. Mathilda Avenue*	Under Planning Commission review; unknown construction start	0.05 mile
City of Sunnyvale	Moffett Place Campus: 1152 Bordeaux Drive*	Under Construction; unknown completion date	Within Project area
City of Sunnyvale	Google Ariba Campus Expansion: 807 Eleventh Avenue*	Under Construction; unknown completion date	0.01 mile
City of Sunnyvale	Reconstruct Office Building at 520 Almanor Avenue*	Under Planning Commission review; unknown construction date	0.01 mile
City of Sunnyvale	Two New Office Buildings at 615 N. Mathilda Avenue*	Under Planning Commission review; unknown construction date	0.21 mile
City of Sunnyvale	Peery Park Specific Plan	Draft EIR in preparation, estimate Spring 2016 release	Within Project area
City of Sunnyvale	General Plan Amendment: Rezone 210 W. Awhanee Avenue from Industrial to Residential High Density*	Under Planning Commission review; unknown construction date	0.01 mile
City of Sunnyvale	St. Jude Medical Facility Expansion: 645 Almanor Avenue*	Approved by City Council on March 25, 2014; unknown construction date	0.15 mile

Jurisdiction	Project Title	Estimated Construction Schedule	Location relative to the Project (miles)
Sources: Association of Bay Area Governments and Metropolitan Transportation Commission 2013; City of Sunnyvale 2016a, 2016b; Santa Clara Valley Transportation Authority 2016a, 2016b, 2016c, 2016d			
* Shown in Figure 2.10-3, <i>Current and Planned Development Projects</i>			
VTA = Santa Clara Valley Transportation Authority, SR = State Route, BART = Bay Area Rapid Transit			

## 2.15.2 Cumulative Impact Contributions

The discussion below addresses resource areas where the Project would result in an impact, and where, therefore, there is a potential for a cumulative impact. Environmental resource areas included in Section 2.1, *Introduction*, Table 2.1-1 are not included in this section. Furthermore, for this analysis, where evaluation of Project impacts was found to have no impact or be less than significant with incorporation of avoidance, minimization, and/or mitigation measures, and potential cumulative impacts would be localized to only the Project area (i.e., cultural resources, hazards, and hydrology), cumulative impacts are not anticipated to occur, and no further discussion is included.

### 2.15.2.1 Aesthetics

The cumulative area for aesthetics is identified as the area within 0.5 mile of the Project limits. This area is where Project-related changes could result in cumulatively substantial impacts on aesthetics.

As described in Section 2.2, *Aesthetics*, most of the proposed Project elements are modifications to existing features. Construction of Project facilities would require the removal of existing vegetation. Project facilities would be visible to adjacent residents, businesses, and users of SR 237 and US 101. During construction, there is potential for visual impacts due to the presence of construction equipment and stock pilings for the Project as well as other nearby large-scale development and transportation projects. However, construction visual impacts are temporary and short-term in nature. Therefore, the Project's contributions would not be cumulatively considerable. Other planned development and transportation projects would alter the existing visual character of the Project area in the long term.

The Project would alter the existing visual landscape, degrade the visual quality of the Project area, and negatively affect highway users and highway neighbors. Future development and roadway improvements also would add to ambient atmospheric light and glare in the area by infilling unlit areas with lit buildings and roadways. Implementation of Avoidance and Minimization Measures AES-1 through AES-5, identified in Section 2.2, would ensure that the Project's cumulative impact on visual resources, including introduction of light and glare, would not be cumulatively considerable.

### **2.15.2.2 Air Quality**

The cumulative area for air quality is identified as the San Francisco Bay Area Air Basin, which is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This area is where Project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in emissions of air pollutants.

As described in Section 2.3, *Air Quality*, construction of the Project would result in less-than-significant impacts on criteria pollutants.

With implementation of the Avoidance and Minimization Measures AQ-1 and AQ-2, identified in Section 2.3, the Project's impacts on air quality are not expected to be cumulatively considerable.

### **2.15.2.3 Biological Resources**

The cumulative area for biological resources is identified as the northern region of the south bay. This area is where Project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial biological resources impacts.

As described in Section 2.4, *Biological Resources*, the Project would have less-than-significant impacts on nesting birds and raptors, tree removal, and invasive species. The Project would have no impact on Riparian Habitat/Sensitive Natural Communities, Wildlife Corridors, or Habitat Conservation Plans/Natural Community Conservation Plans.

With implementation of Avoidance and Minimization Measures BIO-1 through BIO-3, identified in Section 2.4, the Project's impacts on biological resources are not expected to be cumulatively considerable.

### **2.15.2.4 Greenhouse Gas Emissions**

The cumulative area for greenhouse gas emissions is identified as the San Francisco Bay Area Air Basin, which is within the jurisdiction of BAAQMD. According to the BAAQMD CEQA Guidelines, any project that would individually have a significant GHG impact would also have a cumulatively considerable GHG impact. This cumulative area is where Project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in greenhouse gas emissions.

As stated in Section 2.7, *Greenhouse Gas Emissions*, an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the

contributions of all other sources of GHG.<sup>1</sup> In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (State CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the Project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

As discussed in Section 2.7, both the No-Build Alternative and the 2040 Build Alternative show decreases in CO<sub>2</sub> emissions over existing levels; the Build Alternative GHG emissions for both 2018 and 2040 are also lower than the future No-Build emissions. While there are minor short-term construction-related GHG emissions, the operational analysis indicates the Project would result in a net decrease in GHG emissions that would ultimately offset the temporary increases in construction GHG emissions. It is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding the significance of a project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures (refer to Section 2.7.4, *Greenhouse Gas Reduction Strategies*) to help reduce the potential effects of the Project.

### 2.15.2.5 Noise and Vibration

The cumulative area for noise and vibration is identified as any planned development that could affect sensitive receptors within 1,000 feet of the Project limits. This area is where project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in noise and vibration.

#### Noise

Construction of the Project is expected to begin in 2018 and last for approximately 12 months. The cumulative projects listed in Table 2.15-1 that have construction activities scheduled for 2018 within 1,000 feet of the Project area include the Sheraton Sunnyvale Hotel Expansion at 1100 N. Mathilda Avenue, the SR 237 Express Lanes project, and the SR 85 and US 101 Express Lanes project. Construction activities for these projects could coincide with those of the proposed Project. All other cumulative /projects that have construction activities scheduled in 2018 are farther than 1,000 feet from the Project limits. Construction of cumulative projects farther than 1,000 feet from the Project site have not been analyzed because the noise levels would be significantly reduced by both the distance and shielding effects of intervening buildings. In the event that construction of the Sheraton

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<sup>1</sup> This approach is supported by the Association of Environmental Professionals: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: *The CEQA Guide*, April 2011) and the US Forest Service (*Climate Change Considerations in Project Level NEPA Analysis*, July 13, 2009).

Sunnyvale Hotel Expansion coincides with construction of the proposed Project, it is possible that it could increase overall construction noise levels at nearby sensitive receptors.

As detailed in Section 2.11, *Noise and Vibration*, construction noise impacts for the Project would be less than significant with implementation of Avoidance and Minimization Measure NV-1. Assuming the construction methods and equipment used for the Sheraton Sunnyvale Hotel Expansion are similar to those identified for the Project, then noise levels could be increased by approximately 3 decibels (due to a doubling of the number of sources). However, cumulative projects would be required to comply with mandatory noise regulations to keep construction noise levels at an acceptable level. In addition, cumulative projects would be required to implement any noise mitigation that may be required under CEQA. Therefore, cumulative future increases in noise would not be substantial, and the Project's contribution to noise would not be cumulatively considerable.

## **Vibration**

Impacts related to vibration are typically limited to construction activities. Cumulative projects could contribute to a cumulatively significant vibration impact, but only if located close to the Project site. The only cumulative projects that have construction activities scheduled for 2018 within 1,000 feet of the Project area are the Sheraton Sunnyvale Hotel Expansion at 1100 N. Mathilda Avenue, the SR 237 Express Lanes project, and the SR 85 and US 101 Express Lanes project. It is not anticipated that construction activities associated with the Sheraton Hotel Expansion would use vibration-intensive equipment (e.g., pile drivers, vibratory rollers, etc.), and therefore the vibration impact would not be cumulatively considerable. In addition, it is not anticipated that at any given time construction activities for the SR 237 Express Lanes Project or SR 85 and US 101 Express Lanes project would be occurring in the vicinity of the proposed Project site. Therefore, vibration impacts are not expected to be cumulatively considerable with incorporation of Avoidance and Minimization Measure NV-2, identified in Section 2.11, *Noise and Vibration*.

### **2.15.2.6 Transportation/Traffic**

The cumulative area for transportation/traffic is identified as all the intersections that were examined for the Project (shown in Figure 2.14-1). This area is where Project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in transportation/traffic impacts.

Other projects in the area may be under construction at the same time as the Project. To the extent that construction periods overlap, there is a potential for cumulative local traffic impacts from multiple project detours and lane reductions to occur simultaneously in and adjacent to the Project area, potentially resulting in deterioration of traffic operations on roadways. The City, County, and Caltrans would coordinate the timing of Project detours and lane closures with other projects' construction activities to minimize cumulative traffic impacts. With incorporation of Avoidance and Minimization Measure TRF-1, identified in Section 2.14, *Transportation/Traffic*, the Project would have less-than-significant short-term

impacts on traffic/transportation; therefore, the Project's contribution would not be cumulatively considerable.

The cumulative traffic analysis for the Project is based on future traffic conditions in the Year 2018 and Year 2040, which accounts for future development in the Project area and General Plan build out. The future year VTA model used in the analysis reflects regional land use projections consistent with ABAG projections, as well as roadway network improvements contained in *Plan Bay Area 2040*. Future traffic conditions are expected to further deteriorate the US 101 and SR 237 mainlines, as well as key intersections by Year 2040 (refer to the No-Build Alternative discussion in Section 2.14). The Project would improve future traffic operations on Mathilda Avenue and the freeway ramps at several intersections within the Project area. The Project also would improve traffic operations and reduce vehicle queue lengths by enhancing the capacity at intersections on Mathilda Avenue and realigning the ramps. Thus, the Project would not contribute to a cumulative impact related to local roadway and ramp operations.

US 101 and SR 237 mainline operations are expected to be similar with or without the Project and would result in mostly LOS F conditions throughout the Project area. With the implementation of a full-access interchange at US 101 and Mathilda Avenue, there would be a decrease in congestion on SR 237 eastbound between the US 101 southbound on-ramp and Mathilda Avenue off-ramp and a slight increase on US 101 southbound between the SR 237 eastbound on-ramp and Mathilda Avenue off-ramp. This shift in traffic would have a negligible effect on peak hour freeway congestion levels. Overall, the Project would result in an improvement in intersection operations, as well as an improvement in mainline operations by preventing off-ramp queues spilling back onto the mainline. As such, the Project's contribution to traffic would not be cumulatively considerable.



## **3.1 Determining Significance under CEQA**

The Project is subject to CEQA. As such, this chapter includes the following discussions.

- Significance of Impacts
- Mandatory Findings of Significance
- Growth-Inducing Impacts

State CEQA Guidelines Section 15143 provides that an environmental impact report (EIR) must focus on the significant effects on the environment, discussing the effects with “...emphasis in proportion to their severity and probability of occurrence.” Resources that were determined to not have potential for adverse impacts were identified in Section 2.1 of Chapter 2, *Environmental Setting, Impacts and Avoidance, Minimization and/or Mitigation Measures*. Resources that were evaluated to determine if adverse impacts would occur are discussed in Sections 2.2 through 2.15; these sections discuss resources for which it was determined that the Project would have no impact or a less-than-significant impact. A summary of the impact determinations and associated avoidance and minimization measures are included in Table ES-1 of the *Executive Summary*.

## **3.2 Significance of Impacts**

### **3.2.1 No Impacts**

Refer to Chapter 2, *Environmental Setting, Impacts, and Avoidance, Minimization and/or Mitigation Measures* for a discussion of resources for which there would be no impact as a result of the Project. These include the following topical areas.

- Cultural Resources (Section 2.5)
- Land Use (Section 2.10)
- Population and Housing (Section 2.12)
- Public Services and Utilities (Section 2.13)

### 3.2.2 Less-than-Significant Impacts

Based on the analysis completed for this EIR, which is discussed in Chapter 2, the Project would result in less-than-significant environmental impacts in the following topical areas.

- Aesthetics (Section 2.2)
- Air Quality (Section 2.3)
- Biological Resources (Section 2.4)
- Geology, Soils, and Seismicity (Section 2.6)
- Greenhouse Gas Emissions (Section 2.7)
- Hazardous Waste/Materials (Section 2.8)
- Hydrology and Water Quality (Section 2.9)
- Noise and Vibration (Section 2.11)
- Transportation/Traffic (Section 2.14)

### 3.2.3 Unavoidable Significant Environmental Impacts

Section 21067 of CEQA and Sections 15126(b) and 15126.2(b) 15126.2 (b) of the State CEQA Guidelines require that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Furthermore, where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the Project is being proposed, notwithstanding their effect, should also be described.

Sections 2.2 through 2.15 of this EIR discuss impacts considered less-than-significant and the avoidance, minimization, and/or mitigation measures that would avoid or reduce these impacts. There are no significant or significant and unavoidable impacts associated with the Project.

## 3.3 Mandatory Findings of Significance

Under State CEQA Guidelines Section 15065(a), a finding of significance is required if a project “has the potential to substantially degrade the quality of the environment.” In practice, this is the same standard as a significant effect on the environment, which is defined in Section 15382 of the State CEQA Guidelines as “a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.” This EIR, in its entirety, addresses and discloses potential environmental effects associated with construction and operations-related activities of the Project, including direct, indirect, and cumulative impacts.

Pursuant to State CEQA Guidelines Section 15065(a), an EIR must be prepared if a project may have a significant effect on the environment where any of the conditions occur as outlined in Section XVIII, Mandatory Findings of Significance, of the CEQA Checklist (Appendix A).

An EIR has been prepared for the Project, which fully addresses all of the Mandatory Findings of Significance, as described.

*a) The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species . . . or eliminate important examples of major periods of California history or prehistory.*

As discussed in Section 2.4, *Biological Resources*, the Project does not have the potential to impact riparian habitat, sensitive natural communities, wetlands, or an adopted Habitat Conservation Plan/Natural Community Conservation Plan. The Project would have a less-than-significant impact on nesting birds and raptors, tree removal, and invasive species with the implementation of avoidance and minimization measures.

*b) The project has possible environmental effects which are individually limited but cumulatively considerable. . . .*

Cumulative impacts are discussed in Section 2.15, *Cumulative Impacts*, and have been found to be less than significant.

*c) The environmental effects of the project will cause substantial adverse effects on human beings, either directly or indirectly.*

Potential direct and indirect impacts that result from the Project are discussed in detail in Sections 2.2 through 2.15 and summarized in Table ES-1. These impacts have been found to be less than significant.

## 3.4 Growth-Inducing Impacts

State CEQA Guidelines Section 15126.2(d) requires an EIR to address the growth-inducing effects of a project. A project is considered growth inducing if it has the potential to directly or indirectly foster economic or population growth or the construction of new housing. The State CEQA Guidelines do not require projects to examine the indirect consequences or secondary impacts that may occur as a result of a proposed project.

The Project could have an effect on growth by providing enhanced access to the surrounding business and industrial areas. The analysis in this section focuses on whether the Project would directly or indirectly induce economic, population, or housing growth within the surrounding area.

Transportation projects have the potential for multiple growth-inducing effects.

Improvements in transportation infrastructure are likely to support growth by reducing travel

times and improving accessibility to employment opportunities throughout the region. Social, economic, and technological changes within the City of Sunnyvale and the region influence growth rates and patterns. In addition, all city and county governments regulate population growth and economic development through zoning, land use plans, policies, and decisions on specific development proposals. By implementing the Project and therefore enhancing access to the surrounding area, the Project would serve local transportation needs and accommodate future development.

### 3.4.1 Growth Inducement Analysis

The current regional transportation plan prepared by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments is *Plan Bay Area*, which identifies long-range transportation planning efforts intertwined with regional housing, jobs, and land use projections for the San Francisco Bay Area. The MTC and Association of Bay Area Governments project that between 2010 and 2040, the nine-county Bay Area will add 1.1 million jobs, 2.1 million people, and 660,000 homes, for a total of 4.5 million jobs, 9.3 million people, and 3.4 million homes (Association of Bay Area Governments and Metropolitan Transportation Commission 2013). Future growth into 2040 is largely anticipated in the Project region, and the City of Sunnyvale is one of the many cities accounting for housing growth and job growth between 2010 and 2040 (Association of Bay Area Governments 2013).

The Project is a transportation improvement project aimed at enhancing the mobility and reducing the congestion of an existing transit corridor. The Project is designed to serve the current and planned growth in population, housing, and employment in the Project vicinity. This Project would not have significant growth-inducing effects because it intends to serve current and future growth both locally and regionally, which has already surpassed the capacity of the existing transportation network.

#### 3.4.1.1 Direct Growth Inducement in the Project Corridor

An increase in the amount of development in the vicinity of the Project has resulted in additional traffic congestion. Most of the land surrounding the Project corridor is already developed, or consists of approved or planned projects. These projects are undergoing or have undergone consistency analysis with the appropriate local jurisdictions' plans, policies, and strategies. No new homes or businesses are proposed as part of the Project. Therefore, the Project would not directly induce substantial population or housing growth beyond what is currently planned.

The Project would result in the creation of temporary construction-related employment; however, as the Project construction schedule is expected to last 12 months, workers would likely be drawn from within Santa Clara County and from neighboring areas and, as a result, the Project would not directly induce substantial population or housing growth. In addition, the Project area is already anticipated to receive a substantial increase in population and

employment by 2040, as indicated in the *City of Sunnyvale General Plan* (City of Sunnyvale 2011) and the *Moffett Park Specific Plan* (City of Sunnyvale 2013). Implementation of the Project would improve the area by providing mobility options, alleviating congestion, and by supporting development consistent with local plans.

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## 4.1 Introduction

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners to determine the necessary scope of environmental documentation, the level of analysis required, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this Project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings, interagency coordination meetings, a scoping meeting, and a presentation to the VTA Bicycle and Pedestrian Committee. This chapter summarizes efforts to fully identify, address, and resolve Project-related issues through early and continuing coordination. While every effort is made to address public and agency concerns expressed during scoping and the development of the Project, in some cases, due to physical or environmental constraints, safety issues, or for other reasons, it is not possible to incorporate suggestions related to the design, construction, or operation of the Project.

## 4.2 Notice of Preparation and Scoping Process

Caltrans circulated a Notice of Preparation of an Environmental Impact Report/Environmental Assessment<sup>1</sup> to local, regional, state, and federal agencies on August 18, 2015, and the 30-day scoping period was between August 18, 2015, and September 16, 2015.

Caltrans held an Environmental Scoping Meeting in the Staff Lounge of Columbia Middle School, 739 Morse Avenue, Sunnyvale, California, 94085, on August 27, 2015.

Approximately 4,600 notices for the scoping meeting were mailed to residences and businesses within a 0.25-mile radius of the Project. VTA staff hand-distributed public meeting flyers to businesses along Mathilda Avenue from Almanor Avenue to Innovation Way and posted notices in the City of Sunnyvale Public Library. VTA posted the public meeting notice on the VTA website, VTA Headways Blog, VTA Twitter feed, and VTA Facebook page, in addition to sending the meeting notice to local media outlets. Notices were published in five newspapers (*Sunnyvale Sun*, *Viet Nam Daily*, *Philippines Today*, *Sing Tao*

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<sup>1</sup> An Environmental Assessment is prepared in accordance with the National Environmental Policy Act (NEPA) to determine if a federal action will have significant impact on the environment. An Environmental Assessment was originally proposed for the Mathilda Avenue Improvements Project; however, later in the Project development process, it was determined that no federal funding would be pursued to construct the Project and that no federal approvals or environmental permits were needed. As a result, the Project sponsors and the CEQA lead agency determined no NEPA compliance would be pursued.

*Daily*, *Korea Daily Times*, and *El Observador*). A Project factsheet was translated in five languages (Spanish, Chinese, Vietnamese, Korean, and Tagalog) and posted on the Project website. An email notification about the scoping meeting was sent to agencies, organizations, and individual stakeholders. The meeting notice was published in VTA's August Take-One passenger newsletter. Approximately 37 people attended the scoping meeting.

Twenty-one public comments were received during the 30-day scoping period, which ended on September 16, 2015. These comments from members of the public and/or local jurisdictions included the following:

- General safety concerns about pedestrian and bicycle access.
- Concern about impeding company bus traffic.
- Concern about long traffic signal cycles and too many stoplights.
- Concern about air quality from traffic congestion.
- Support of VTA increasing bus and light rail train transit options.
- A request to submit a Complete Streets checklist.
- A request not to close Moffett Park Drive.
- Concern that closing the Moffett Park Drive connection would force bicyclists onto SR 237.

Refer to Appendix H, *Notice of Preparation and Newspaper Advertisements* in this document, for a copy of the Notice of Preparation and newspaper advertisements.

## 4.3 Circulation, Review, and Comment on the Draft Environmental Document

Caltrans circulated the Draft EIR for public review and comment for a 45-day period from August 12, 2016, to September 26, 2016. All of the public officials, agencies, and organizations listed in Chapter 6 received either printed or electronic copies of the document or mailers with information about the public meeting. In addition, approximately 5,648 postcards for the public meeting were mailed to residences and businesses within a 0.25-mile radius of the Project corridor. VTA staff distributed public meeting flyers to businesses along Mathilda Avenue from Almanor Avenue to Innovation Way. VTA posted the public meeting notice on the VTA website, VTA Headways Blog, VTA Twitter feed, and VTA Facebook page. An email notification about the public meeting was sent to agencies, organizations, and individual stakeholders. Copies of the Draft EIR and related technical studies were available for review at the Caltrans District 4 office, VTA, and the Sunnyvale Public Library (665 W. Olive Avenue, Sunnyvale, CA 94086).

The Notice of Availability was placed in the following English-language newspaper *Sunnyvale Sun* (August 12, 2016), and in the following foreign-language newspapers on the



following days *Viet Nam Daily* (August 12, 2016), *Philippines Today* (August 17, 2016), *News for Chinese* (August 15, 2016), *Korea Daily Times* (August 17, 2016), and *El Observador* (August 12, 2016). Refer to Appendix I, *Notice of Availability and Newspaper Advertisements*, in this document, for a copy of the Notice of Availability and newspaper advertisements. An email notification about the public meeting was sent to agencies, organizations, and individual stakeholders.

A Public Meeting was held on August 30, 2016 at Columbia Middle School, located at 739 Morse Ave Sunnyvale, California 94085. The meeting was attended by Caltrans staff, City of Sunnyvale elected officials and staff, VTA staff, consultants, and members of the public. A Project factsheet and comments/speaker cards were available in six languages (English, Spanish, Chinese, Vietnamese, Korean, and Tagalog) and posted on the Project website. The meeting was two hours long and included an open house featuring exhibits and Project corridor maps, a presentation of the Draft EIR findings, a public comment period, and resumption of the open house. A court reporter and a journalist from *Sunnyvale Sun* were each present during the public meeting. Elected officials present at the public meeting included City of Sunnyvale Mayor Glenn Hendricks and City of Sunnyvale Councilmember Jim Davis. In addition, staff member from Santa Clara County Supervisor Dave Cortese's office and staff member from California State Assembly member Rich Gordon's office were in attendance. Approximately 55 members of the public attended the meeting.

A total of 17 public comments were submitted during the comment period by postal mail, e-mail, and comment cards collected at the public meeting. These comments from members of the public and/or local jurisdictions included the following:

- Traffic operations during construction of the Project.
- Traffic signalization, redistribution, and LOS.
- Construction emissions and mitigation.
- Bicycle lane widths and dashed roadway striping.
- Right-of-way acquisitions.
- Motor vehicle speed along Mathilda Avenue.

Refer to Appendix F, *Response to Comments* in this document, for a list of comments and responses.

## 4.4 Agency/Committee Consultation and Coordination

VTA and the City of Sunnyvale have conducted partnership meetings throughout the environmental process to address local issues. Meeting participants included key City staff and key VTA representatives from the Environmental, Planning, Public Affairs, and

Engineering departments. The purpose of these meetings is to ensure ongoing communication and coordination with VTA and the City.

Members from the Project Development Team presented a conceptual design of the Project to the Sunnyvale City Council on June 10, 2014. The meeting was attended by Sunnyvale City Councilmembers, City of Sunnyvale staff, VTA, WMH Corporation, and members of the public.

Comments from the public at this meeting included the following:

- A request to incorporate Complete Streets concepts into design.
- Concern about long traffic signal cycles with the diverging diamond interchange alternative.
- A request for more details on accommodation of bicycles.
- Concern about construction impacts on businesses near Mathilda Avenue and US 101.
- Support of the alternatives presented.

The VTA Bicycle and Pedestrian Committee received a presentation on the Project on October 7, 2015.

Comments from the Committee at this meeting included the following:

- The Project as a high priority for the City.
- Potential construction impacts of the improvements on US 101 and SR 237.
- Bicycle lane design.
- Bicycle facility at Moffett Park.
- Adding a lane reduction option as part of the Environmental Impact Report.
- Bicycle access across Mathilda Avenue.
- VTA and Caltrans meet on a regular basis to coordinate the development of the Project and to address any questions or issues related to Project design, construction, and planned operation.

## 4.5 Native American Consultation

Native American consultation under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52), was conducted by Caltrans and VTA. On March 11, 2015 ICF contacted the Native American Heritage Commission (NAHC) and requested a search of the Sacred Lands File, as well as a list of individuals who might have information or interest in the project. The NAHC replied on March 26, 2015 with negative search results and a list of 11 individuals. These individuals were not contacted at the time due to continuing discussion of Project details amongst VTA and Caltrans. The March 11,

2015 fax sent to the NAHC and the March 26, 2015 NAHC response with 11 individuals are included in the Historic Resources Compliance Report (HRCR).

In December 2015, ICF submitted an additional request form to the NAHC requesting a CEQA Tribal Consultation List (AB 52). During the interim, Caltrans provided a list of six Native American contacts (listed below) that might have information pertinent to this Project, or have concerns regarding the proposed actions.

- Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
- Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band
- Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
- Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Andrew Galvan, The Ohlone Indian Tribe
- Katherine Erolinda Perez

A letter and map were sent to all six contacts on December 21, 2015. The letters described the Project and requested participation in the identification and protection of cultural resources, sacred lands or other heritage sites within the project area. In addition, follow-up phone calls were made to all six individuals. The letters and calls are included in the HRCR.

VTA contacted all six individuals on February 10, 2016. Ms. Zwierlein recommended an archaeologist be contacted right away if any new cultural resources are discovered. Ms. Perez stated that it appears all investigations are complete and she is okay with the project proceeding. Ms. Sayers stated that she had no comments or concerns. Mr. Lopez stated the project is outside of his jurisdiction. Ms. Cambra stated that, if any cultural material is uncovered, it should be left to the Native American Tribe to remove. She asks to be updated regularly throughout the duration of the project. A detailed message was left for Mr. Galvan on February 10 and February 12.

The NAHC responded to ICFs CEQA Tribal Consultation Request on February 9, 2016. The NAHC provided a list of five individuals that might have information pertinent to this Project, or have concerns regarding the proposed actions. This list corroborates the list previously provided by Caltrans, with the exception of Ms. Perez.

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## 5.1 California Department of Transportation

Dina El-Tawansy	Project Manager	Office of Program/Project Management
Jamie Le Dent	Branch Chief	Office of Environmental Analysis
Elizabeth White	Associate Environmental Planner	Office of Environmental Analysis
Melanie Hunt	Associate Environmental Planner	Office of Environmental Analysis
Emily Chen	Environmental Planner	Office of Environmental Analysis
Shiang Yang	Branch Chief	Office of Environmental Engineering
Greg Currey	Associate Transportation Planner	Office of Transit and Community Planning
Gregory Pera	Branch Chief	Office of Biological Sciences and Permits
Erik Schwab	Associate District Biologist	Office of Biological Sciences and Permits
Kimberly White	Branch Chief	Office of Landscape Architecture
Noah Stewart	Branch Chief, Architectural History	Office of Cultural Resource Studies
Kathryn Rose	Branch Chief, Archaeology	Office of Cultural Resource Studies
Douglas Bright	Architectural Historian	Office of Cultural Resource Studies
Jennifer Blake	Archaeologist	Office of Cultural Resource Studies
Norman Gonsalves	Branch Chief	Office of Water Quality
Yuanzheng Ge	Branch Chief	Office of Hydraulic Engineering
Chris Risdén	Branch Chief	Office of Geotechnical Design - West
Matthew Gaffney	Engineering Geologist	Office of Geotechnical Design - West
Ray Boyer	Branch Chief	Office of Environmental Engineering
Sindhu Kurup	Branch Chief	Office of Design
Daniel Mulugeta	Transportation Engineer	Office of Design
Paul Ma	District Branch Chief	Traffic Operations and Technology

## 5.2 Santa Clara Valley Transportation Authority

Ann Calnan	Manager of Environmental Programs and Resources Management
Samantha Swan	Senior Environmental Planner
Christina Jaworski	Senior Environmental Planner
Lani Lee Ho	Environmental Planner III
Julia Nelson	Environmental Planner I
Robert Furber	Environmental Planner
Gene Gonzalo	Highway Program Manager
Sajeeni DeAlwis-Mima	Project Manager
David Kobayashi	Senior Transportation Engineer

## 5.3 City of Sunnyvale

Manuel Pineda	Public Works Director
Shahid Abbas	Traffic and Transportation Manager

## 5.4 WMH Corporation

Tim Lee	Project Manager
Sean Charles	Senior Project Manager
Steve Loupe	Project Engineer
Heather Anderson	Senior Staff Engineer
Raleigh Jinks	Senior Staff Engineer

### 5.4.1 ICF International

#### 5.4.1.1 EIR Project Management

Mike Davis	Project Director
Christine Fukasawa	Senior Project Manager
Karin Boulter	Project Manager
Ashley McBride	Deputy Project Manager

### 5.4.1.2 EIR and Technical Analyses

Aesthetics	Jennifer Stock
Air Quality	Shannon Hatcher, Darrin Trageser
Biological Resources	Eric Christensen, Amy May, Angela Alcala, Leslie Allen, Matt Ricketts
Cultural Resources	Ed Yarborough, Lily Henry Roberts, Aisha Fike, Joanne Grant
Geology, Soils, and Seismicity	Diana Roberts, Gary Clendenin, Terry Rivasplata
Greenhouse Gas Emissions	Shannon Hatcher, Darrin Trageser
Hazardous Waste/Materials	Diana Roberts, Gary Clendenin, Terry Rivasplata
Hydrology and Water Quality	Katrina Sukola, Laura Rocha
Land Use and Recreation	Liza Farr, Karin Bouler, Shilpa Trisal
Noise and Vibration	Eric Moskus, Peter Hardie, Dave Buehler
Paleontology	Diana Roberts, Karin Bouler, James Allen
Population and Housing	Liza Farr, Ashley McBride, Karin Bouler, Shilpa Trisal
Public Services and Utilities	Liza Farr, Ashley McBride, Karin Bouler, Shilpa Trisal
Traffic/Transportation	Daniela Sanaryan, Karin Bouler
Cumulative Impacts	All technical authors, Karin Bouler
Other CEQA-Required Conclusions	Liza Farr, Patrick Maley, Karin Bouler
Comments and Coordination	Liza Farr, Karin Bouler, Shilpa Trisal
Distribution List	Patrick Maley, Karin Bouler
Editing/Document Production	Ariana Marquis, Kenneth Cherry, Anthony Ha, Patrick Maley, Liza Farr, Annie Pham
Photosimulations	Tim Messick
GIS/Graphics	Sacha Selim

## **5.4.2 BASELINE Environmental Consulting**

### **5.4.2.1 Preliminary Geological Assessment and Initial Site Assessment**

Bruce Abelli-Amen	Principal
Patrick Sutton	Environmental Scientist III

## **5.4.3 Fehr and Peers**

### **5.4.3.1 Traffic Operations Analysis Report**

Matt Haynes	Principal
Eddie Barrios	Senior Associate
Ashley Brooks	Transportation Engineer

## **5.4.4 WRECO**

### **5.4.4.1 Water Quality Assessment Report and Summary Floodplain Encroachment Report**

Analette Ochoa	Senior Associate
Sonia Leung	Associate Engineer
Kathryn Stelljes	Environmental Scientist



## 6.1 Introduction

The Draft Environmental Impact Report (EIR) was distributed to the following officials, agencies, and organizations. Distribution of the Draft EIR included hard copy, electronic media, reference to the web site in which the document is available, or a combination of these. In addition to the following list, stakeholders, community groups, businesses, and interested persons on the Project mailing list were notified of the availability of this document and public meetings as described in Chapter 4.0, *Comments and Coordination*.

### 6.1.1 Public Officials

California Senator Dianne Feinstein  
United States Senate  
One Post Street, Suite 2450  
San Francisco, CA 94104

California Senator Barbara Boxer  
United States Senate  
70 Washington Street, Suite 203  
Oakland, CA 94609

California Senator Jerry Hill  
1528 South El Camino Real, Suite #303  
San Mateo, CA 94402

California Senator Jim Beall  
2105 South Bascom Avenue  
Campbell, CA 95008

California Assemblymember Evan Low  
California State Assembly, District 28  
20111 Stevens Creek, Suite 220  
Cupertino, CA 95014

California Assemblymember Richard Gordon  
5050 El Camino Real, Suite 117  
Los Altos, CA 94022

Congressman Mike Honda  
United States Congress, District 17  
900 Lafayette Street, Suite 206  
Santa Clara, CA 95050

Councilmember Jim Davis  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

Councilmember Jim Griffith  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

Councilmember Pat Meyering  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

Councilmember Tara Martin-Milius  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

Mayor Glenn Hendricks  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

Santa Clara County  
Supervisor Dave Cortese, District 3

70 West Hedding Street, 10th Floor  
San Jose, CA 95110

Vice Mayor Gustav Larsson  
City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

VTA Board Member Jeannie Bruins  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Magdalena Carrasco  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Manh Nguyen  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Rose Herrera  
3331 North First Street  
San Jose, CA 95134

VTA Alternate Board Member John McAlister  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Jason Baker  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Perry Woodward  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Jose Esteves  
3331 North First Street  
San Jose, CA 95134

VTA Alternate Board Member Dave Cortese  
3331 North First Street  
San Jose, CA 95134

Santa Clara County  
Supervisor Joe Simitian, District 5

70 West Hedding Street, 10th Floor  
San Jose, CA 95110

VTA Board Member Cindy Chavez  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Johnny Khamis  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Magdalena Carrasco  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Raul Peralez  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Sam Liccardo  
3331 North First Street  
San Jose, CA 95134

VTA Alternate Board Member Howard Miller  
3331 North First Street  
San Jose, CA 95134

VTA Alternate Board Member Larry Carr  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Glenn Hendricks  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Teresa O'Neill  
3331 North First Street  
San Jose, CA 95134

VTA Board Member Ken Yeager  
3331 North First Street  
San Jose, CA 95134

## 6.1.2 State Agencies

California Air Resources Board  
1001 "I" Street  
Sacramento, CA 95814

California Department of Conservation  
801 K Street  
Sacramento, CA 95814

California Department of General Services  
Environmental Services Section  
505 Van Ness Avenue  
San Francisco, CA 94102

California Department of Fish and Wildlife  
1740 North Market Boulevard  
Sacramento, CA 95834

California Department of Housing and  
Community Development  
2020 West El Camino Avenue  
Sacramento, CA 95833

California Department of Parks and Recreation  
1416 9th Street  
Sacramento, CA 95814

California Department of Resources  
Recycling  
1001 I Street  
Sacramento, CA 95814

California Department of Parks and Recreation  
- Office of Historic Preservation  
1725 23rd Street #100  
Sacramento, CA 95816

California Department of Toxic Substances  
Control  
9211 Oakdale Avenue  
Chatsworth, CA 91311

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

California Environmental Protection Agency  
1001 I Street  
Sacramento, CA 95812

California Highway Patrol  
2020 Junction Avenue  
San Jose, CA 95131

California Office of Planning & Research  
1400 10th Street  
Sacramento, CA 95814

California State Water Resources Control  
Board  
P.O. Box 100  
Sacramento, CA 95812-0100

California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

California Transportation Commission  
1120 North Street  
Sacramento, CA 95814

California State Lands Commission  
750 Alfred Nobel Drive # 201  
Hercules, CA 94547

Native American Heritage Commission  
1550 Harbor Boulevard, Suite 100 West  
Sacramento, CA 95691

San Francisco Regional Water Quality  
Control District  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

### 6.1.3 Regional Agencies

Association of Bay Area Governments  
375 Beale Street #700  
San Francisco, CA 94105

Bay Area Air Quality Management District  
375 Beale Street #600  
San Francisco, CA 94105

Metropolitan Transportation Commission  
375 Beale Street  
San Francisco, CA 94105

### 6.1.4 Local Agencies

City of Sunnyvale  
456 West Olive Avenue  
Sunnyvale, CA 94086

County of Santa Clara  
70 West Hedding Street  
San Jose, CA 95110

Santa Clara County Historical Heritage  
Commission  
70 West Hedding Street  
San Jose, CA 95110

Santa Clara County Parks and Recreation  
298 Garden Hill Drive  
Los Gatos, CA 95032

Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA 95110

### 6.1.5 Organizations

Birdland Association

Braly Corners Neighborhood Association

Canary Drive Neighborhood Association

Charles Street 100 Neighborhood Association

Cherry Chase Neighborhood Association

Cherry Orchard Neighbors Association

Cherryhill Neighborhood Association

Cumberland South Neighborhood Association

Cumberland West Neighborhood Association

Gavello Glen Neighborhood Association

Heritage District Neighborhood Association

Historic Preservation Society of Santa Clara  
1889 Market Street  
Santa Clara, CA 95050

Lakewood Village Neighborhood Association

Lowlanders Neighborhood Association

Moffett Park Business Group  
PO Box 60995  
Sunnyvale, CA 94088-0995

Morse Park Neighborhood Association

Nimitz Neighborhood Community Communications and Advocacy Association	Ortega Park Neighborhood Association
Pacific Gas & Electric Company 111 Almaden Boulevard San Jose, CA 95113	Panama Park Neighborhood Association
Ponderosa Park Neighborhood Association	Preservation Action Council of San Jose 72 North 5th Street San Jose, CA 95112
Raynor Park Neighborhood Association	San Miguel Neighbors Association
Santa Clara Chamber of Commerce 1850 Warburton Avenue Santa Clara, CA 95050	Santa Clara Valley Audubon Society 22221 McClellan Rd Cupertino, CA 95014
Santa Clara Valley Habitat Agency 535 Alkire Avenue Morgan Hill, CA 95037	Sierra Club Loma Prieta Chapter 3921 E Bayshore Rd Palo Alto, CA 94303
Silicon Valley Bicycle Coalition 96 North 3rd Street, Suite 375 San Jose, CA 95109	Silicon Valley Leadership Group 2001 Gateway Place #101E San Jose, CA 95110
Stevens Creek Neighbors	Stowell Orchard
Stratford Gardens Neighborhood Association	SunnyArts
Sunnyvale Downtown Association 260 S Sunnyvale Avenue #4 Sunnyvale, CA 94086	Sunnyvale Neighbors of Arbor Including La Linda (SNAIL)
Sunnyvale West Neighborhood Association	Transform 436 14th Street, Suite 600 Oakland, CA 94612
Washington Park Neighborhood Association	West Valley Neighborhood Association
Wisteria Terrace Neighborhood Association	Wrightmont Corners Neighborhood Association

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## 1 Proposed Project

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## 2 Environmental Setting, Impacts, and Avoidance, Minimization and/or Mitigation Measures

### 2.2 Aesthetics

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# Appendix A

## CEQA Checklist

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# CEQA Environmental Checklist

04-SCL-237/101

2.7-3.3/45.2-45.8

04-4H2900

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Supporting documentation of all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapters 2 and 3 of this Environmental Impact Report (EIR). Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapters 2 and 3.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**IV. BIOLOGICAL RESOURCES:** Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**V. CULTURAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**VI. GEOLOGY AND SOILS:** Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IX. HYDROLOGY AND WATER QUALITY:** Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**X. LAND USE AND PLANNING:** Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XI. MINERAL RESOURCES:** Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XII. NOISE:** Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIII. POPULATION AND HOUSING:** Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XV. RECREATION:**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVII. UTILITIES AND SERVICE SYSTEMS:** Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**Appendix B**  
Title VI Policy Statement

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**DEPARTMENT OF TRANSPORTATION**

OFFICE OF THE DIRECTOR  
P.O. BOX 942873, MS-49  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-5266  
FAX (916) 654-6608  
TTY 711  
www.dot.ca.gov



*Flex your power!  
Be energy efficient!*

March 2013

**NON-DISCRIMINATION  
POLICY STATEMENT**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: [http://www.dot.ca.gov/hq/bep/title\\_vi/t6\\_violated.htm](http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm).

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

A handwritten signature in blue ink, appearing to read "Malcolm Dougherty".

MALCOLM DOUGHERTY  
Director

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**Appendix C**  
Environmental Commitments Record

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**ENVIRONMENTAL COMMITMENTS RECORD (ECR)**

Mathilda Avenue Improvements at SR 237 and US 101 Project  
04-SCL-237 PM 2.7/3.3; SCL-101 PM 45.2/45.8

EA 04-4H2900  
Project ID No. 0413000204

This is a list of the environmental commitments which will be implemented prior to and/or during construction of the Mathilda Avenue Improvements at SR 237 and US 101 Project. Caltrans has developed construction contract standards that include the Standard Specifications, Standard Plans, Standard Special Provisions, Standard Bid Items, Notice to Bidders, and Bid Book. The Project would be constructed according to Caltrans construction contract standards. Commitments not listed in the Standard Specifications or Standard Plans that the construction contractor is responsible for implementing would be included in the Special Provisions and Project Plans.

TIMING/PHASE	COMMITMENT	SOURCE	SPECIAL PROVISION	RESPONSIBLE STAFF	TASK COMPLETED		COMMENTS
					Initial	Date	
<i>Aesthetics</i>							
Prior to construction	AES-2: Incorporate Bioretention Basins in Planting Design	Visual Impact Assessment (VIA)		Resident Engineer (RE)/Caltrans (CT) Landscape Architect			
Prior to construction	AES-3: Implement Aesthetic Treatments on Bridge Barriers, Sound Walls, and Retaining Walls	VIA		RE/CT Landscape Architect			
Prior to construction	AES-4: Apply Minimum Lighting Standards	VIA		RE/CT Landscape Architect			
During construction	AES-5: Minimize Fugitive Light from Portable Sources Used for Construction	VIA		RE			
Post construction	AES-1: Restore Highway Planting	VIA		VTA Project Manager (PM)/CT PM/CT			

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)**

Mathilda Avenue Improvements at SR 237 and US 101 Project  
04-SCL-237 PM 2.7/3.3; SCL-101 PM 45.2/45.8

EA 04-4H2900  
Project ID No. 0413000204

TIMING/PHASE	COMMITMENT	SOURCE	SPECIAL PROVISION	RESPONSIBLE STAFF	TASK COMPLETED		COMMENTS
					Initial	Date	
				Landscape Architect			
<i>Air Quality</i>							
During construction	AQ-1: Implement California Department of Transportation Standard Specification Section 14	Air Quality Study Report		RE			
During construction	AQ-2: Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust	Air Quality Study Report		RE			
<i>Biological Resources</i>							
During construction	BIO-1: Implement Nesting Bird Avoidance Measures	Natural Environment Study – Minimal Impact (NES-MI)		RE/CT Biology/VTA			
During construction; post construction	BIO-2: Implement Tree Avoidance, Minimization, or Replacement	NES-MI		RE/CT Biology/VTA			
Prior to construction; during	BIO-3: Minimize the Introduction and	NES-MI		RE/CT Biology/VTA			

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)**

Mathilda Avenue Improvements at SR 237 and US 101 Project  
04-SCL-237 PM 2.7/3.3; SCL-101 PM 45.2/45.8

EA 04-4H2900  
Project ID No. 0413000204

TIMING/PHASE	COMMITMENT	SOURCE	SPECIAL PROVISION	RESPONSIBLE STAFF	TASK COMPLETED		COMMENTS
					Initial	Date	
construction; post construction	Spread of Invasive Species						
<i>Cultural Resources</i>							
During construction	CUL-1: Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities	Historic Resources Compliance Report (HRCR)		VTA/RE			
During construction	CUL-2: Stop Work if Human Remains are Encountered During Ground-Disturbing Activities	(HRCR)	CA PRC Section 5097.98	VTA/RE			
During construction	CUL-3: Conduct Protocol and Procedures for Encountering Paleontological Resources	Paleontological Identification Report		VTA/RE			
<i>Hazardous Wastes/Materials</i>							
Prior to construction	HAZ-1: Prepare Preliminary Site Investigation	Initial Site Assessment		VTA/RE/CT			
During construction	HAZ-2: Prepare Construction Risk Management Plan	Initial Site Assessment	Caltrans Standard Special Provisions 14-	VTA/RE/CT			

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)**

Mathilda Avenue Improvements at SR 237 and US 101 Project  
04-SCL-237 PM 2.7/3.3; SCL-101 PM 45.2/45.8

EA 04-4H2900  
Project ID No. 0413000204

TIMING/PHASE	COMMITMENT	SOURCE	SPECIAL PROVISION	RESPONSIBLE STAFF	TASK COMPLETED		COMMENTS
					Initial	Date	
			11.08 and 14-11.12				
<b><i>Hydrology and Water Quality</i></b>							
During construction	WQ-1: Implement Best Management Practices	Water Quality Assessment Report		RE			
<b><i>Noise and Vibration</i></b>							
During construction	NV-1: Implement Noise-Reducing Construction Practices	Noise Study Report		RE			
<b><i>Transportation/Traffic</i></b>							
Prior to construction	TRF: Prepare a Transportation Management Plan	Traffic Operation Analysis Report (TOAR)		RE/VTA/CT/City of Sunnyvale			

# Appendix D

## Biological Database Queries

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**Appendix D.1 – California Native Plant Society's  
Inventory of Rare and Endangered Plants of California**

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## Plant List

8 matches found. [Click on scientific name for details](#)

### Search Criteria

Found in Quad 37122D1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<a href="#">Androsace elongata ssp. acuta</a>	California androsace	Primulaceae	annual herb	4.2	S3S4	G5?T3T4
<a href="#">Astragalus tener var. tener</a>	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
<a href="#">Centromadia parryi ssp. congdonii</a>	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G3T2
<a href="#">Chloropyron maritimum ssp. palustre</a>	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
<a href="#">Clarkia concinna ssp. automixa</a>	Santa Clara red ribbons	Onagraceae	annual herb	4.3	S3	G5?T3
<a href="#">Eryngium aristulatum var. hooveri</a>	Hoover's button-celery	Apiaceae	annual / perennial herb	1B.1	S1	G5T1
<a href="#">Stuckenia filiformis ssp. alpina</a>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	2B.2	S3	G5T5
<a href="#">Suaeda californica</a>	California seablite	Chenopodiaceae	perennial evergreen shrub	1B.1	S1	G1

### Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 24 October 2016].

#### Search the Inventory

[Simple Search](#)

[Advanced Search](#)

[Glossary](#)

#### Information

[About the Inventory](#)

[About the Rare Plant Program](#)

[CNPS Home Page](#)

[About CNPS](#)

[Join CNPS](#)

#### Contributors

[The Calflora Database](#)

[The California Lichen Society](#)

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**Appendix D.2 – California Natural Diversity Database  
Records Search for the U.S. Geological Survey 7.5-minute  
Mountain View Quadrangle**

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CALIFORNIA DEPARTMENT OF  
**FISH and WILDLIFE** *RareFind*

## Query Summary:

Quad IS (Mountain View (3712241))

Print

Close

## CNDDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Antrozous pallidus</i>	pallid bat	Mammals	AMACC10010	405	1	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	Dicots	PDFAB0F8R1	65	1	None	None	G2T2	S2	1B.2	null	Alkali playa, Valley & foothill grassland, Vernal pool, Wetland
<i>Athene cucularia</i>	burrowing owl	Birds	ABNSB10010	1904	15	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
<i>Bombus occidentalis</i>	western bumble bee	Insects	llHYM24250	282	1	None	None	G2G3	S1	null	USFS_S-Sensitive, XERCES_III-Imperiled	null
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	Dicots	PDAST4R0P1	93	3	None	None	G3T2	S2	1B.1	BLM_S-Sensitive, SB_RSABG-Rancho Santa Ana Botanic Garden	Valley & foothill grassland
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Birds	ABNNB03031	124	1	Threatened	None	G3T3	S2S3	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Great Basin standing waters, Sand shore, Wetland
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty bird's-beak	Dicots	PDSCR0J0C3	68	2	None	None	G4?T2	S2	1B.2	BLM_S-Sensitive	Marsh & swamp, Salt marsh, Wetland
<i>Circus cyaneus</i>	northern harrier	Birds	ABNKC11010	48	3	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Coastal scrub, Great Basin grassland, Marsh & swamp, Riparian scrub, Valley & foothill grassland, Wetland

<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Mammals	AMACC08010	624	1	None	Candidate Threatened	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
<i>Egretta thula</i>	snowy egret	Birds	ABNGA06030	16	1	None	None	G5	S4	null	IUCN_LC-Least Concern	Marsh & swamp, Meadow & seep, Riparian forest, Riparian woodland, Wetland
<i>Emys marmorata</i>	western pond turtle	Reptiles	ARAAD02030	1188	1	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
<i>Eryngium aristulatum</i> var. <i>hooveri</i>	Hoover's button-celery	Dicots	PDAP10Z043	16	1	None	None	G5T1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Vernal pool, Wetland
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	Birds	ABPBX1201A	111	6	None	None	G5T3	S3	null	CDFW_SSC-Species of Special Concern, USFWS_BCC-Birds of Conservation Concern	Marsh & swamp
<i>Lasiurus cinereus</i>	hoary bat	Mammals	AMACC05030	235	1	None	None	G5	S4	null	IUCN_LC-Least Concern, WBWG_M-Medium Priority	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest
<i>Laterallus jamaicensis coturniculus</i>	California black rail	Birds	ABNME03041	243	3	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_NT-Near Threatened, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland



Melospiza melodia pusillula	Alameda song sparrow	Birds	ABPBXA301S	38	6	None	None	G5T2?	S2S3	null	CDFW_SSC-Species of Special Concern, USFWS_BCC-Birds of Conservation Concern	Salt marsh
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	2	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Rallus longirostris obsoletus	California clapper rail	Birds	ABNME05016	98	10	Endangered	Endangered	G5T1	S1	null	CDFW_FP-Fully Protected, NABCI_RWL-Red Watch List	Brackish marsh, Marsh & swamp, Salt marsh, Wetland
Reithrodontomys raviventris	salt-marsh harvest mouse	Mammals	AMAFF02040	144	13	Endangered	Endangered	G1G2	S1S2	null	CDFW_FP-Fully Protected, IUCN_EN-Endangered	Marsh & swamp, Wetland
Rynchops niger	black skimmer	Birds	ABNNM14010	7	1	None	None	G5	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, NABCI_YWL-Yellow Watch List, USFWS_BCC-Birds of Conservation Concern	Alkali playa, Sand shore
Sorex vagrans halicoetes	salt-marsh wandering shrew	Mammals	AMABA01071	12	3	None	None	G5T1	S1	null	CDFW_SSC-Species of Special Concern	Marsh & swamp, Wetland
Spirinchus thaleichthys	longfin smelt	Fish	AFCHB03010	45	1	Candidate	Threatened	G5	S1	null	CDFW_SSC-Species of Special Concern	Aquatic, Estuary
Sternula antillarum browni	California least tern	Birds	ABNNM08103	68	2	Endangered	Endangered	G4T2T3Q	S2	null	CDFW_FP-Fully Protected, NABCI_RWL-Red Watch List	Alkali playa, Wetland
Suaeda californica	California seablite	Dicots	PDCHE0P020	18	1	Endangered	None	G1	S1	1B.1	null	Freshwater marsh, Marsh & swamp, Wetland
Tryonia imitator	mimic tryonia (=California brackishwater snail)	Mollusks	IMGASJ7040	39	1	None	None	G2	S2	null	IUCN_DD-Data Deficient	Aquatic, Brackish marsh, Estuary, Lagoon, Marsh & swamp, Salt marsh, Wetland

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**Appendix D.3 – U.S. Fish and Wildlife Official Species List  
for the Mathilda Avenue Improvements Project**

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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office

FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605

SACRAMENTO, CA 95825

PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2017-SLI-0149

October 24, 2016

Event Code: 08ESMF00-2017-E-00235

Project Name: Mathilda 237/US 101 Improvement Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Mathilda 237/US 101 Improvement Project

## Official Species List

**Provided by:**

Sacramento Fish and Wildlife Office  
FEDERAL BUILDING  
2800 COTTAGE WAY, ROOM W-2605  
SACRAMENTO, CA 95825  
(916) 414-6600

**Consultation Code:** 08ESMF00-2017-SLI-0149

**Event Code:** 08ESMF00-2017-E-00235

**Project Type:** TRANSPORTATION

**Project Name:** Mathilda 237/US 101 Improvement Project

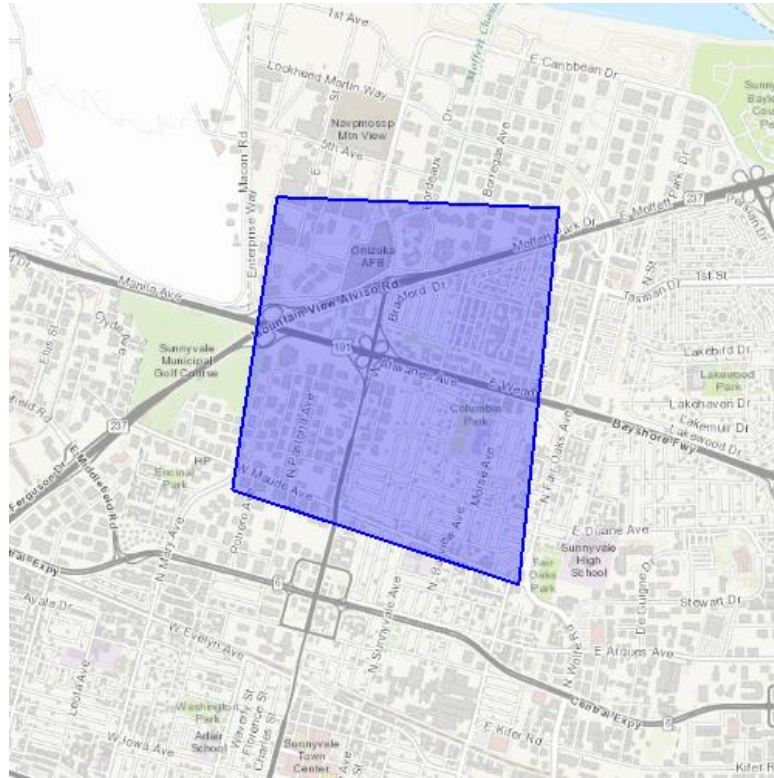
**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Mathilda 237/US 101 Improvement Project

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-122.03493118286133 37.40848269947895, -122.01347351074219 37.40780092202727, -122.01656341552734 37.38502599108882, -122.03836441040039 37.39075446941084, -122.03493118286133 37.40848269947895)))

**Project Counties:** Santa Clara, CA





United States Department of Interior  
Fish and Wildlife Service

Project name: Mathilda 237/US 101 Improvement Project

## Endangered Species Act Species List

There are a total of 12 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	Status	Has Critical Habitat	Condition(s)
California red-legged frog ( <i>Rana draytonii</i> ) Population: Wherever found	Threatened	Final designated	
California tiger Salamander ( <i>Ambystoma californiense</i> ) Population: U.S.A. (Central CA DPS)	Threatened	Final designated	
<b>Birds</b>			
California Clapper rail ( <i>Rallus longirostris obsoletus</i> ) Population: Wherever found	Endangered		
California Least tern ( <i>Sterna antillarum browni</i> ) Population: Wherever found	Endangered		
western snowy plover ( <i>Charadrius nivosus ssp. nivosus</i> ) Population: Pacific Coast population DPS&U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast)	Threatened	Final designated	
<b>Crustaceans</b>			



United States Department of Interior  
Fish and Wildlife Service

Project name: Mathilda 237/US 101 Improvement Project

Vernal Pool tadpole shrimp ( <i>Lepidurus packardii</i> ) Population: Wherever found	Endangered	Final designated	
<b>Fishes</b>			
Delta smelt ( <i>Hypomesus transpacificus</i> ) Population: Wherever found	Threatened	Final designated	
steelhead ( <i>Oncorhynchus (=salmo) mykiss</i> ) Population: Northern California DPS	Threatened		
<b>Flowering Plants</b>			
California seablite ( <i>Suaeda californica</i> ) Population: Wherever found	Endangered		
<b>Insects</b>			
Bay Checkerspot butterfly ( <i>Euphydryas editha bayensis</i> ) Population: Wherever found	Threatened	Final designated	
San Bruno Elfin butterfly ( <i>Callophrys mossii bayensis</i> ) Population: Wherever found	Endangered		
<b>Mammals</b>			
Salt Marsh Harvest mouse ( <i>Reithrodontomys raviventris</i> ) Population: wherever found	Endangered		



United States Department of Interior  
Fish and Wildlife Service

Project name: Mathilda 237/US 101 Improvement Project

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.

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## **Appendix E**

### **Build Alternative 2 (Diverging Diamond Interchange)**

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## **Build Alternative 2 (Diverging Diamond Interchange)**

As part of Project development, the Project Development Team (PDT) agreed to eliminate Build Alternative 2 (Diverging Diamond Interchange (DDI)) due to safety concerns. Build Alternative 2 proposed to realign and widen the existing westbound SR 237 ramps and close Moffett Park Drive (West) at Mathilda Avenue, and modify the SR 237/Mathilda Avenue Interchange to provide a DDI configuration. This alternative was proposed to provide free left turns for ramp movements and additional storage between ramp termini.

CEQA provides three specific factors that may be used to eliminate an alternative from detailed consideration in an EIR. These include failure to meet most of the basic Project objectives, infeasibility, or inability to avoid significant environmental impacts. As part of the preliminary engineering studies conducted during project development, the PDT eliminated following issues were identified to support withdrawing Build Alternative 2 from further consideration based on safety considerations.

### **Safety**

#### **Proximity of Local Street and Ramp Intersections**

For the DDI configuration, the Ross Drive and Moffett Park Drive (West) intersections are more closely spaced with the SR 237 ramp intersections compared to the existing condition. Traffic entering or exiting Ross Drive or Moffett Park Drive (West) through the DDI facility may have to traverse multiple lanes over short distances to make turning movements. This would increase the potential for side swipe or rear-end type collisions. Where intersections are closely spaced, traffic operations are often inhibited by short weave distance, storage lengths, and signal phasing. In addition it is difficult to provide proper signing and delineation.

#### **Lane Width**

The DDI layout incorporates small curve radii (less than 200 feet) at the crossover intersection due to the close proximity of local street intersections and the SR 237/Mathilda Avenue Undercrossing structure. DDI design guidelines recommend 15-foot-wide lanes at the crossover locations to ensure large trucks do not encroach into adjacent lanes. This is referred to as “off-tracking.” Due to width restrictions at the SR 237/Mathilda Avenue Undercrossing, narrower lane widths are required (11 to 12 feet) which would increase the potential for side swipe type collisions.

## **Location of Vehicles Stopped at the DDI Crossover Intersections**

DDI design guidelines recommend vehicles proceed through the crossover intersections of the DDI on a tangent (straight path). Due to the close proximity of local street intersections and the SR 237/Mathilda Avenue Undercrossing structure, the “stop bar” where vehicles stop for a red light at the crossover intersections would be located within a curved alignment. Consequently, stopped vehicles would not be aligned with the receiving lane on the opposite side of the crossover intersection. This would result in motorist confusion and increase the potential for side swipe type collisions or wrong-way movements.

## **Crossover Angle**

DDI design guidelines recommend the angle of the crossover intersections should be 45 degrees. Due to the close proximity of local street intersections and the SR 237/Mathilda Avenue Undercrossing structure, a crossover intersection angle of only 40 degrees is attainable. DDIs that have been built with crossover intersection angles of 40 degrees or less have exhibited higher percentages of wrong-way movements compared to those with crossover angles of 45 degrees.

## **Stopping Sight Distance**

Sight distance for traffic traveling through the crossover intersections at “free-flow” speeds would be impeded by the SR 237/Mathilda Avenue Undercrossing bridge columns and abutment walls. This would increase the potential for rear-end type collisions.

## **Bicycle and Pedestrian Access**

The combination of small curve radii and narrow lanes through the DDI crossover intersections, would result in vehicles (especially large trucks) “off-tracking” into shoulder areas. This raises safety concerns for bicyclists using the DDI facility. Pedestrian access through the DDI facility is counter-intuitive. For example, pedestrians using the sidewalk on the west side of Mathilda Avenue would need to cross four lanes of traffic into a center walkway that passes under the SR 237/Mathilda Undercrossing structure adjacent to the bridge columns, then cross back over four lanes of traffic to continue along the west side sidewalk. This circuitous route for pedestrians through the DDI facility is expected to raise safety concerns and deter usage, especially for pedestrians with disabilities.



# **Appendix F**

## **Response to Comments**

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## APPENDIX F RESPONSE TO COMMENTS

This document contains responses to comments on the Mathilda Avenue Improvements at SR 237 and US 101 Project Draft Environmental Impact Report (EIR). The comment letters and responses to the comments are incorporated into the Final EIR by reference.

The original comment letters, the public hearing transcript, and public hearing comment cards are organized to precede individual comments responses, in their entirety. Comment letters are organized by “L#-X” with “L” representing it is a letter, “#” representing the letter number and “X” representing individual letter comments. Public hearing comments (transcript and comment cards) are organized by “PHX” with “PH” representing it is a public hearing comment and “X” representing the individual public hearing comments. The copies of the letters, public hearing comments, and public hearing comment cards are not included in this document’s page numbering.

<b>Letter #</b>	<b>Letter Author</b>
L1	Bay Area Air Quality Management District
L2	Google
L3	Juniper Networks, Inc.
L4	Foothill-De Anza Community College District
L5	Tim Oey
L6	Anonymous
L7	Lidia Marchioni
L8	Alex Price
L9	Falene Moya
L10	Angela Korab
L11	Adina Levin
L12	Edwina Johnson
L13	Anonymous
L14	Norman Robb
L15	Jennifer Hoffmann
L16	Jim Stallman
PH1-3	C. Wallin
PH4-5	Kevin Jackson
PH6-10	Phyllis Freeman
PH11	City of Sunnyvale Mayor Glenn Hendricks
PH12-13	Phyllis Freeman
PH14-15	Judi Richards
PH16	Del Hanson
PH17	Robert Neff
PH18	Keith Mitchell
PH19	Georgina Aubin
PH20	Mark Aubin

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# Letter 1 Bay Area Air Quality Management District



September 26, 2016

## BAY AREA AIR QUALITY MANAGEMENT DISTRICT

VTA Environmental Programs and Resources Management  
Attn: Lani Ho, Environmental Planner III  
3331 North First Street, Bldg. B-2  
San Jose, CA 95134-1927

Subject: Draft Environmental Impact Report (EIR) for the Mathilda Avenue Improvements at SR 237 and US 101 Project

**ALAMEDA COUNTY**  
Tom Bates  
Scott Haggerty  
Rebecca Kaplan  
Nate Miley

**CONTRA COSTA COUNTY**  
John Gioia  
David Hudson  
(Secretary)  
Karen Mitchoff  
Mark Ross

**MARIN COUNTY**  
Katie Rice

**NAPA COUNTY**  
Brad Wagenknecht

**SAN FRANCISCO COUNTY**  
John Avalos  
Edwin M. Lee  
Eric Mar  
(Chair)

**SAN MATEO COUNTY**  
David J. Canepa  
Carole Groom  
Warren Slocum

**SANTA CLARA COUNTY**  
Cindy Chavez  
Liz Kniss  
(Vice-Chair)  
Jan Pepper  
Rod G. Sinks

**SOLANO COUNTY**  
James Spering  
Osby Davis

**SONOMA COUNTY**  
Teresa Barrett  
Shirlee Zane

Jack P. Broadbent  
EXECUTIVE OFFICER/APCO

Connect with the  
Bay Area Air District:



Dear Ms. Ho,

Bay Area Air Quality Management District (Air District) staff appreciates the opportunity to review the Draft EIR for the Mathilda Avenue Improvements at SR 237 and US 101 Project (Project), which is a joint Project between VTA, Caltrans, and the City of Sunnyvale, with Caltrans as the Lead Agency. This Project consists primarily of improvements to the interchanges between Mathilda Avenue and SR 237 and US 101 to relieve traffic congestion. Bicycle improvements along Mathilda Avenue are proposed as part of the project, as well as the creation of a new Class 1 bike path to replace Moffett Park Drive between Bordeaux Drive and Mathilda Avenue.

The Air District commends the project proponents for the incorporation of bicycle improvements in the Project, and particularly for improving bicycle connections in the area. Air quality will be improved by reducing congestion and vehicle miles traveled through increased use of the bicycle facilities.

Air District staff is concerned that the Project's construction emissions of nitrogen oxides (NO<sub>x</sub>) will result in significant short-term air quality impacts, which could have impacts on human health. The Project's estimated daily emissions are calculated to be 96 lb of NO<sub>x</sub>, well over the 54 lb/day NO<sub>x</sub> threshold which is referenced in the DEIR. The San Francisco Bay Area Air Basin is currently a non-attainment area for ground-level ozone, which is formed from ozone precursors including NO<sub>x</sub>. Ground-level ozone is a criteria pollutant under both the Federal and the California Clean Air Acts. In addition, the Federal ozone standard was recently lowered to 70 parts per billion, which will make it more difficult for the Bay Area to attain this health-based standard and which also makes it even more important for projects to reduce emissions when feasible measures exist to do so.

Staff appreciates the information provided in discussions with VTA staff and agrees that each lead agency has the discretion to adopt its own significance thresholds or basis for making a determination of significance, based on substantial evidence. Further, we understand that Caltrans, as lead agency for this project, has applied its Standard Environmental Reference (SER), which gives the internal project development team the responsibility of determining significance

L1-1

L1-2

under CEQA. However, the Draft EIR does not identify any basis for determining significance other than the 54 lb/day threshold, which it states is only “for reference.”

Air District staff recommends that the Draft EIR explain the rationale for determining that the Project’s construction emissions of 96 lb/day of NO<sub>x</sub> is a less than significant effect, and discuss the facts and substantial evidence supporting that determination. CEQA Guidelines Section 15064(f) states that the “decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency.” Caltrans’ SER places the responsibility for identifying the appropriate basis for a significance determination on the internal project development team, but does not eliminate CEQA’s requirement for this determination. Air District staff believes that the Project’s Draft EIR does not provide justification or the substantial evidence needed to support a determination that the NO<sub>x</sub> emissions are less than significant.

L1-3

Further, the Draft EIR states that mitigation measures AQ-1 and AQ-2 “would ensure that air quality impacts from construction activities are less than significant.” (p. 2.3-15) However, the Air Quality Study Report prepared for the project does not quantify the reduction in emissions due to these mitigation measures, but only states that they “would help to minimize air quality impacts from construction activities.” (p. 52) To determine whether the mitigation measures would, in fact, reduce the emissions to a less than significant level as concluded in the Draft EIR, project emissions need to be quantified with the mitigation measures in place and compared with the Lead Agency’s threshold of significance, once that threshold has been identified.

L1-4

Given the levels of NO<sub>x</sub> that will be produced during construction of this project, Air District staff recommends the following mitigation measure be implemented to reduce significant air quality impacts:

AQ-3: Construction contracts shall require the use of Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type as certified by the California Air Resources Board. For reference, Tier 4 engines automatically meet this requirement.

L1-5

AQ-4: Idling time shall be limited to no more than two minutes.

Air District staff also recommends that the Project plant additional trees in order to mitigate the loss of greenhouse gas sequestration due to the removal of existing trees. Caltrans, as Lead Agency, has determined pursuant to CEQA Guidelines Section 15145 that “it is too speculative to make a determination regarding the significance of the Project’s direct impact and its contribution on the cumulative scale to climate change.” However, Caltrans has further stated that the agency “is firmly committed to implementing measures to help reduce the potential effects of the Project.” (p. 2.7-10) To accomplish this goal, Air District staff recommends that the number of trees planted in the project area exceed the number of trees being removed in order to further improve carbon sequestration and reduce greenhouse gases, in accordance with State goals. Co-benefits could be achieved by planting trees between SR 237 and the proposed Class 1 bicycle lane, and between the highways and other adjacent land uses in order to filter air and improve air quality for users of the bike lane and adjacent land uses.

L1-6

Air District staff is available to assist the project proponents in addressing these comments. For more information, or if you have any questions, please contact Karen Kristiansson, Principal Planner, at (415) 749-4753 or via email at [kkristiansson@baaqmd.gov](mailto:kkristiansson@baaqmd.gov).

Sincerely,



foc Jean Roggenkamp  
Deputy Executive Officer

cc: Director Cindy Chavez  
Director Liz Kniss  
Director Jan Pepper  
Director Rod G. Sinks  
Caltrans District 4 Director Bijan Sartipi

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## RESPONSE TO LETTER #1 (BAAQMD)

### L1-1 Response:

This comment is acknowledged and included in the Project record.

### L1-2 Response:

As an agency statewide, Caltrans has not developed air quality thresholds of significance for CEQA because the significance of an effect may vary depending on the context and intensity of the effects when taking into account the environmental setting of the proposed Project. Table 2.3-7, *Worst-Case Construction Emissions Estimates (pounds per day)*, in the EIR, shows construction-related nitrogen oxide (NO<sub>x</sub>) emissions, which were estimated at 96 pounds per day during the grading/excavation phase. The Bay Area Air Quality Management District (BAAQMD) threshold for NO<sub>x</sub> emissions provided for reference is 54 pounds per day. The estimate of 96 pounds per day was conservative and based on worst-case assumptions (i.e., assuming all equipment would be operating at the same time through the entire working day). It is unlikely that this worst-case level of emissions would be replicated throughout the construction period on a daily basis. Actual emissions could be less than those forecasted in the worst-case scenario based off of typical construction practices.

### L1-3 Response:

Refer to Response L1-2, above. The Project's estimated construction emissions of 96 pounds per day of NO<sub>x</sub> were determined to be less-than-significant because any increases in NO<sub>x</sub> would be temporary and localized. During construction, Avoidance and Minimization Measure AQ-1, *Implement California Department of Transportation Standard Specifications*, would be implemented to lessen air quality impacts. Further clarification regarding Caltrans Standard Specifications (California Department of Transportation 2015) have been added to Section 2.3.4, *Air Quality: Avoidance, Minimization, and/or Mitigation Measures* in the Final EIR. Caltrans Standard Specification Section 7-1.02C Emissions Reduction requires the contractor to submit a certification stating that the contractor is aware of emissions reduction regulations being mandated by the California Air Resources Board (ARB), the contractor will comply with such regulations before commencing the performance of the work, and the contractor will maintain compliance throughout the duration of the contract. Section 14-9.02 requires construction activities to comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statutes provided in Government Code Section 11017 (Public Contract Code §10231). In the long-term, operational impacts from NO<sub>x</sub> were anticipated to be reduced with Project implementation. The Project would result in a reduction of 7 lbs/day of NO<sub>x</sub> emissions in both 2018 and 2040 when compared to the No-Build Alternative. Long-term effects of the Project would include beneficial impacts to air quality associated with reduced criteria pollutant emissions due to reduced congestion and vehicle miles traveled.

### L1-4 Response:

The measures stated in Section 2.3.4, *Air Quality: Avoidance, Minimization, and/or Mitigation Measures* in the EIR, are avoidance and minimization measures to lessen a project's potential impacts and only potentially significant impacts would include mitigation per CEQA. Refer to Responses L1-1 through L1-3, above. Caltrans has not developed air quality thresholds of

significance for CEQA, but instead reviews projects based on the context and intensity of the effects at that location. Avoidance and Minimization Measure AQ-1, *Implement California Department of Transportation Standard Specifications*, and Avoidance and Minimization Measure AQ-2, *Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust* (as described in Section 2.3.4), are required due to Caltrans Standard Specification requirements and would lessen air quality impacts. Quantification by Caltrans of the reduction in emissions (due to the implementation of avoidance and minimization measures) is not required or warranted for this Project.

**L1-5 Response:**

Refer to Responses L1-1 through L1-3 on page 3. Air quality impacts related to construction emissions for this Project are considered less than significant; as such, no mitigation for air quality impacts is required. The Project would implement Avoidance and Minimization Measures AQ-1, *Implement California Department of Transportation Standard Specifications* and AQ-2, *Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust* (described in Section 2.3.4 *Air Quality: Avoidance, Minimization, and/or Mitigation Measures*, in the EIR) to lessen air quality impacts.

Separate responses are provided below for each mitigation measure that was recommended in the comment letter.

1. AQ-3<sup>1</sup>: The Project will implement Caltrans Standard Specification Section 7-1.02C which requires the contractor to comply with ARB mandated emissions reduction regulations before commencing the performance of the work and throughout the duration of the project construction.

All crews and contractors would have to comply with ARB's In-Use Off-road Diesel Vehicle Regulation (Off-Road Regulation). The Off-Road Regulation's requirements that are currently in effect include:

- Report vehicles subject to the off-road regulation to ARB through the Diesel Off-road Online Reporting System (DOORS);
- Label applicable vehicles on both sides with an Equipment Identification Number (EIN);
- Update the fleet in DOORS within 30 days of buying or selling a vehicle;
- Include certain disclosure language about the Off-Road Regulation when selling a vehicle subject to the Off-Road Regulation;
- Do not idle a vehicle subject to the Off-Road Regulation for over 5 minutes unless necessary;
- Have a written fleet idling policy (for medium and large fleets only); and
- Complete annual reporting, including submission of a Responsible Official Affirmation of Reporting (ROAR); large fleets must report annually from 2012 to 2023, medium fleets from 2016 to 2023, and small fleets from 2018 to 2028.

In addition to the reporting, labeling and other requirements that are currently in effect, the Off-Road Regulation includes annual emissions performance requirements. The emissions performance requirements begin on these dates:

- July 1, 2014, for large fleets;
- January 1, 2017, for medium fleets; and
- January 1, 2019, for small fleets.

To meet annual emissions performance requirements, fleets will have to either meet fleet average emissions targets or meet Best Available Control Technology (BACT) requirements. In general, if a fleet does not meet the fleet average emissions targets, then it must meet BACT requirements until it meets the fleet average targets.

In addition, effective January 1, 2014, for large and medium fleets, and January 1, 2016 for small fleets, a fleet may not add any vehicle with a Tier 1 or Tier 0 engine. The engine tier must be Tier 2 or higher.

All crews and contractors would also have to comply with ARB's On-road Heavy-Duty Diesel Vehicles (In-Use) Regulation. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter (PM) filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015.

The regulation applies to nearly all privately and federally-owned diesel fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.

2. AQ-4<sup>2</sup>: As described in the previous response, no vehicles or engines subject to the Off-Road Regulation may idle for more than 5 consecutive minutes.

Implementation of mitigation measures AQ-3<sup>1</sup> and AQ-4,<sup>2</sup> as recommended by the BAAQMD, is not required or warranted since air quality impacts associated with the Project are less than significant.

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<sup>1</sup> AQ-3: Construction contracts shall require the use of Tier 2 or higher engines and the most effective Verified Diesel Emission Control Strategies available for the engine type as certified by the California Air Resources Board. For reference, Tier 4 engines automatically meet this requirement.

<sup>2</sup> AQ-4: Idling time shall be limited to no more than two minutes.

**L1-6 Response:**

The Project includes tree replacements which would address potential impacts to aesthetics and biological resources. Avoidance and Minimization Measure AES-1, *Restore Highway Planting*, and Avoidance and Minimization Measure AES-2, *Incorporate Bioretention Basins in Planting Design*, in Section 2.2.4, *Aesthetics: Avoidance, Minimization, and/or Mitigation Measures* in the EIR, addresses replacement and new plantings in the Project area. In Section 2.4, *Biological Resources*, 626 trees were identified in the Project area. These trees occur within the landscaped land cover type and consist mostly of non-native species. As stated in Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, in Section 2.4.4, *Biological Resources: Avoidance, Minimization, and/or Mitigation Measures* in the EIR, damage to or removal of trees would be avoided by the Project to the maximum extent practicable. Various replacement ratios are provided in this avoidance and minimization measure based on the type and size of tree. Implementation of AES-1 and BIO-2 may result in a greater number of trees being replaced on site than removed, depending on the replacement ratio and location (tree replacement ratios, as described in Section 2.4.4 range from 1:1 to 3:1). While these measures are specific to aesthetics and biological resources, tree replacement and other plantings would also address loss of greenhouse gas sequestration. Caltrans acknowledges the recommendation to plant trees between SR 237 and the proposed Class I bicycle path. The landscaping plan, including replacement tree planting locations, will be determined during the final design phase.

1600 Amphitheatre Parkway  
Mountain View, California 94043

Tel: 650.253.0000  
www.google.com

September 26, 2016

VTA Environmental Programs and Resources Management  
Attn: Lani Ho  
3331 North First Street, Bldg. B-2  
San Jose, CA 95134-1927

**RE: Mathilda Avenue Improvements at SR 237 and US 101 - Draft EIR Comments**

These comments are in response to the Draft Environmental Impact Report (EIR) for the Mathilda Avenue Improvements at State Route (SR 237) and U.S. Route 101 (US 101) (Project). Google currently occupies a number of buildings in the vicinity the Project, including its Tech Corners Campus at 803 11th Avenue, Sunnyvale and will shortly be moving into new campus buildings in the Moffett Place project in Sunnyvale.

Google appreciates the opportunity to share its comments and concerns with regards to the EIR. Google is in support of the Project and recognizes the need for significant traffic improvements and reduced traffic congestion along Mathilda Avenue and at the interchanges with SR 237 and US 101. The improved mobility for all travel modes along the corridor will benefit not only motor vehicles, but will also provide improvements for transit, bicyclists and pedestrians. Upgrades to sidewalks and crosswalks will improve safety for pedestrians between nearby transit services and local destinations, and the addition of bike lane facilities along the corridor will reduce gaps in the bicycle network, improve bicycle safety and increase the attractiveness of bicycling as an alternative non-auto dependent travel mode.

L2-1

As recognized by the EIR, significant regional growth, new local development projects, and an inefficient roadway network, all result in substantial traffic congestion during peak times, a situation that is exacerbated in the future. Therefore Google is eager for the project to move forward to improve conditions for all travel modes. Although Google is in support of the Project, we do have comments that we would like to be addressed in the Final EIR.

**Transportation and Traffic - Section 2.14 and subsequent Traffic Operations Analysis Report (TOR) and Appendices**

The EIR states that the project consists of “*Closure of Moffett Park Drive between Bordeaux Drive and Mathilda Avenue and shifting of traffic to Bordeaux and Innovation Way.*” The intersection of Mathilda Avenue and Innovation Way under the No Build 2018 scenario is operating at LOS F 206.1 seconds of delay during the PM peak hour. With the additional 580 trips from the closure and redistribution of traffic under the Build 1 Alternative, the average

L2-2

intersection control delay only increases by a relatively small amount for an intersection that is already significantly over capacity and includes a significant increase in traffic on the westbound approach. We are concerned that the implications of the closure of Moffett Park Drive, and the resulting reassignment of traffic to Innovation Way may be underestimated. Specifically, we are concerned that the Project will have a Significant Impact at the intersection of Mathilda Avenue and Innovation Way.

L2-2  
Cont.

### **Bicycle & Pedestria Facility Design Improvements - Executive Summary - Figures ES-1a through ES-1c**

The following comments are provided as design improvements, that Google would like to see considered as part of the final design, to improve safety conditions for bicyclists. The comments are based upon a review of the concept plans (Figures ES-1a through ES-1c).

Recommendations were developed following review of the California Manual on Uniform Traffic Control Devices (CA MUTCD), California Highway Design Manual (CA HDM), and VTA Bicycle Technical Guidelines (VTA BTG). The following design modifications to the Build Alternative are suggested in order to improve safety:

- **Bike Lane Merge Striping** - *Per CA MUTCD 9C.04 (36)*, prior to an intersection where a right turn is allowed from a through travel lane, the bike lane must receive dashed striping to indicate where motorists are expected to merge into the bike lane prior to making a right turn. Dashed striping should be between 50 feet and 200 feet in distance. Given the design speed on Mathilda Avenue, longer dashed sections are more appropriate. The following intersections are in need of dashed bike lanes.
  - Mathilda Avenue at Almanor Avenue, southbound
  - Mathilda Avenue at Hwy 101 S on-ramp, southbound
  - Mathilda Avenue at Moffett Park Drive, southbound
  - Mathilda Avenue at Hwy 101 N on-ramp, northbound - provide dashed striping at start of receiving bike lane on the left side of the on-ramp trap lane
  - Mathilda Avenue at Innovation Way, northbound
- **Pedestrian Crossing Improvements** - The crossing of the Hwy 101 S on-ramp from Mathilda Avenue northbound should have pedestrian signal heads coordinated with the traffic signal at Almanor Avenue. Due to the complexity of the intersection and length between the on-ramp pedestrian crossing and the south end of the intersection, it will be crucial for pedestrian safety to provide clear direction to pedestrians when crossing the on-ramp at the marked crossing.
- **Sidewalk Improvements** - *Per the CA HDM 105.2*, the sidewalks throughout this project must be a minimum of 6' wide. The sidewalk extending north from the Hwy 101 S on-ramp along northbound Mathilda Avenue appears to travel approximately 400 feet with no separation between the Mathilda Avenue travel lanes on the west and the Hwy 101 S on-ramp lanes on the east. Such a length of sidewalk, with vehicle traffic on both

L2-3

L2-4

L2-5

sides of it traveling at 40 mph or greater, does not create a conducive pedestrian environment. If at all possible, the design should attempt to widen the sidewalk to at least 8' and/or incorporate physical separation elements between the sidewalk and one or both of the travel lanes.

L2-5  
Cont.

- **Bike Lane Intersection Improvements** - CA MUTCD figure 9C-103(CA) provides guidance for bike lane striping through intersections. Dashed bike lanes through intersections are recommended when the position of a bike lane moves laterally within the roadway, or when complex intersection movements create greater potential for bicycle/vehicle conflicts. Providing bike lane dashed striping through an intersection can both guide bicyclists in their path of travel while at the same time alerting drivers to the presence of bicyclists as cross-traffic. Dashed bike lane striping for lateral movements of the bike lane should only be applied when the bike lane does not merge across lanes of traffic.

- Mathilda Avenue at Hwy 101 N interchange, northbound - provide dashed bike lanes across the intersection to guide bicyclists laterally, as an additional travel lane is introduced to Mathilda Ave north of the intersection.
- Mathilda Avenue approaching Ross Dr, northbound - provide dashed bike lane striping across location where vehicle lane merges across bike lane to provide dedicated on-ramp lanes to Hwy 237 and turn lanes to Ross Dr. Per CA MUTCD 9B.05 optional guidance, install "Begin right turn lane, yield to bikes" sign R4-4 to indicate merging zone and that drivers must yield to through-traveling bicycles.
- Mathilda Avenue at Moffett Park Drive, southbound - provide dashed bike lane striping through intersection to laterally position bicycles to the southbound receiving bike lanes as well as to better alert eastbound drivers on Moffett Park Drive to the presence of bicycle cross-traffic while they attempt to access the on-ramp for Hwy 237 W.

L2-6

- **Class I Accommodation** - More detail is needed for the proposed Class I multi-use path facility on Moffett Park Drive from Mathilda Avenue to Innovation Way. Given that the Class I facility is immediately adjacent to the street, some sort of physical separation to improve the comfort and utility of the facility is warranted (*per CA HDM 1003.1(7)*). Any vertical element separating the Class I facility from the roadway must have a 2' lateral clearance from the travel space of the Class I facility, with paint striping delineating the effective edge of the Class I traveled way (*per CA HDM 1003.1(3)*). Further consideration is needed at the intersection of Moffett Park Drive and Innovation Way in two regards. First, turning movements need to be modeled for vehicles turning right from Moffett Park Drive onto Innovation Way, especially for large transit vehicles, to ensure it does not conflict with the terminus of the Class I facility. Second, further design consideration needs to be given to the transition from the westbound bike lane on Moffett Park Drive to the Class I facility on the north side of the street. As Moffett Park Drive has the dominant signal phase at this intersection, westbound bicyclists will need a space to safely queue at the proposed crossing while waiting for the signal to change.

L2-7

L2-8

1600 Amphitheatre Parkway  
Mountain View, California 94043

Tel: 650.253.0000  
www.google.com

- **Bicycle Through Lane at T-Intersection** - Consider the installation of a continuous green bicycle signal head on Mathilda Avenue northbound at the southbound on-ramp/off-ramp couplet to Hwy 101 S. The bike lane's alignment does not conflict with any of the potential signal phases or vehicle movements through this intersection, so bicycle travel, in theory, should not need to be controlled in the northbound direction.

L2-9

Sincerely,

Jeral Poskey  
Project Executive  
Google, Inc



## RESPONSE TO LETTER #2 (GOOGLE)

### L2-1 Response:

This comment is acknowledged and included in the Project record.

### L2-2 Response:

The reallocated traffic to Innovation Way from Mathilda Avenue was accurately estimated in the EIR. As described in Section 2.14.4.1, *Opening Year 2018*, in the EIR, the vehicle queue under the Year 2018 No Build PM peak hour from the Mathilda Avenue/Moffett Park Drive southbound through movement regularly extends northward past the Mathilda Avenue/Innovation Way intersection. This results in substantial vehicle queue spillback and high average vehicle delays at the Mathilda Avenue/Innovation Way intersection. Under the Build Alternative, closing the westbound approach to the Mathilda Avenue/Moffett Park Drive intersection would allow signal green time at that intersection to be reallocated and increased for southbound through movement, reducing the effects of southbound vehicle queuing on Mathilda Avenue and benefitting vehicle operations at the Mathilda Avenue/Innovation Way intersection. Even though additional vehicle traffic would be added to the Mathilda Avenue/Innovation Way intersection under the Build Alternative as a result of closing Moffett Park Drive between Bordeaux Drive and Mathilda Avenue to vehicular traffic, the Build Alternative would implement several signal improvements compared to No Build conditions. These improvements are described in Section 1.3.5, *Comparison of Alternatives*. Improvements at the Mathilda Avenue/Innovation Way intersection, including overlapping right-turn phases on the eastbound and northbound approaches<sup>3</sup> and a lane reconfiguration on the northbound approach, would help reduce delay for heavy traffic movements. Therefore, vehicle delay at the Mathilda Avenue/Innovation Way intersection as a result of the Project would not result in a significant impact.

### L2-3 Response:

Separate responses are provided below for each location where design modifications (per CA MUTCD 9C.04[36]) were suggested

1. Mathilda Avenue at Almanor Avenue, southbound - Extension of dashed lines will be considered in final design.
2. Mathilda Avenue at Hwy 101 S on-ramp, southbound - Extension of dashed lines will be considered in final design.
3. Mathilda Avenue at Moffett Park Drive, southbound - Extension of dashed lines will be considered in final design.
4. Mathilda Avenue at Highway 101 N on-ramp, northbound - Dashed striping at start of receiving bicycle lane on northbound Mathilda Avenue at northbound US 101 on-ramp will be considered in final design. Refer to Figure 1-5a, *Build Alternative*, in the EIR for dashed striping at this location

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<sup>3</sup> A vehicle overlap is a specific operation of a traffic signal controller where a signal indication can be provided with a continuous green through multiple timed phases. Overlapping right-turn phases refers to the situation where there is a dedicated right-turn lane that is signalized with a right-turn arrow that can continue flowing during other signal operations (e.g., through traffic or through left turns).

5. Mathilda Avenue at Innovation Way, northbound - Dashed lines will be considered in final design.

**L2-4 Response:**

The pedestrian crossing signals at the southbound US 101 on-ramp on northbound Mathilda Avenue would be synchronized with the traffic signals at the Mathilda Avenue/Almanor Avenue-Ahwanee Avenue intersection.

**L2-5 Response:**

The sidewalks throughout the Project will be a minimum of 6 feet in width where feasible. The text in Section 1.3.1.2, *Bicycle and Pedestrian Facilities*, has been revised in the Final EIR to include the minimum sidewalk width. A railing or wider sidewalk will be considered during the final design phase to increase the separation between pedestrians and traffic on the section of sidewalk between northbound Mathilda Avenue and the southbound US 101 on-ramp. As shown in Figure 1-5b, *Build Alternative*, in the EIR, the sidewalk at this location will also be separated from traffic lanes by shoulders on the southbound US 101 on-ramp and northbound Mathilda Avenue.

**L2-6 Response:**

Separate responses are provided below for each location where design modifications (per CA MUTCD 9C-103[CA]) were suggested.

1. Mathilda Avenue at Hwy 101 N interchange, northbound - Bicyclists using northbound Mathilda Avenue at the northbound US 101 ramps intersection would move right after the northbound loop on-ramp to access the bicycle lane north of the intersection. Dashed striping will be considered in final design.
2. Mathilda Avenue approaching Ross Dr. northbound - Dashed bicycle lane striping and signage will be considered during the final design at the location where the two right-turn lanes that provide dedicated access to the eastbound SR 237 on-ramp and to Ross Drive cross the bicycle lane.
3. Mathilda Avenue at Moffett Park Dr. southbound - During the final design phase, informational signage and bicycle lane striping will be considered to guide bicyclists using southbound Mathilda Avenue through the Moffett Park Drive and westbound SR 237 on-ramp intersection.

**L2-7 Response:<sup>4</sup>**

A concrete barrier is proposed to separate users on the Class I bicycle path from vehicular traffic on Moffett Park Drive. There would be a 2 foot lateral clearance between the concrete barrier and the edge of the path.

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<sup>4</sup> Subsequent contact with the L2 letter author (October 25, 2016 via email) indicated a revision to the original comment (L2-6 for this EIR), replacing “westbound” in the following sentence with “eastbound.”

“Second, further design consideration needs to be given to the transition from the eastbound bike plan on Moffett Park Drive to the Class I facility on the north side of the street. As Moffett Park Drive has the dominant signal phase at this intersection, westbound bicyclists will need a space to safely queue at the proposed crossing while waiting for the signal to change.”

**L2-8 Response:**

The design of the Class I bicycle path terminus at the intersection of Moffett Park Drive and Innovation Way will be refined during the final design phase to transition bicyclists to the existing Class II bicycle lanes on Moffett Park Drive, located east of Innovation Way, to avoid conflicts with traffic movements to and from Innovation Way. The stop bar on westbound Moffett Park Drive at Innovation Way would be shifted to the east to accommodate vehicles turning right from Moffett Park Drive onto Innovation Way. Figure 1-5, *Build Alternative*, in the EIR shows a revised configuration of intersection striping to show the general intent to avoid a conflict between turning vehicles and the terminus of the Class I bicycle path.

For the transition from the westbound bicycle lane on Moffett Park Drive to the Class I facility on the north side of the street, it is assumed the commenter means the transition from the eastbound bicycle lane to the Class I facility on the north side of the street. The design of the Class I bicycle path terminus at the intersection of Moffett Park Drive and Innovation Way will be refined during the final design phase to safely transition bicyclists from the eastbound bicycle lane on Moffett Park Drive to the Class I facility on the north side of the street and to avoid conflicts with traffic turning movements to and from Innovation Way. Figure 1-5 has been revised to show how eastbound bicyclists will have space to safely queue at the proposed crossing while waiting for the signal to change.

**L2-9 Response:**

During the final design phase, continuous access for bicyclists on northbound Mathilda Avenue passing through the southbound US 101 ramps intersection will be considered.

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September 26, 2016

Santa Clara Valley Transportation Authority  
Environmental Programs and Resources Management

Attn: Lani Lee Ho  
3331 North First Street, Building B-2  
San Jose, California 95134  
[MathildaAve@vta.org](mailto:MathildaAve@vta.org)

Re: Mathilda Avenue Improvements at SR 237 and US 101 Project Draft EIR

Dear Transportation Agency:

Juniper Networks, Inc. (Juniper) appreciates the efforts of the Transportation Authority and Caltrans to improve traffic conditions around the Mathilda Avenue freeway intersections. Juniper has been a tenant and land owner in the Moffett Business Park since 1999 residing in several buildings on Mathilda very close to the SR237 underpass and would like to comment on the August 2016 Draft Environmental Impact Report.

Signalization of Innovation Way/Juniper Networks Intersection. Section 2.14.4.1 states that the project warrants a signal at the intersection of Innovation Way and the Juniper Networks Driveway. However, it is notable that a signal at that location is not included in the Roadway Improvements section of the Executive Summary (p. ES-3) and is otherwise seldom mentioned, so it is not clear that its construction is an integral part of the project. Similarly, completion of the Innovation Way/Mathilda Avenue intersection involves more than the signal modification indicated in the DEIR, and its design is not addressed in the Moffett Park EIR. We suggest that the EIR clarify the full scope of the improvements needed for the overall traffic plan to perform as intended, and identify responsibilities for needed improvements that may be outside the scope of the project itself, if applicable.

L3-1

Traffic Mitigation Measures during Construction. We request that the Transportation Authority and Caltrans confer with the District in the development of the Transportation Management Plan to minimize traffic disruptions during construction (Section 2.14.5). Because the redistribution of traffic to Innovation Way by the closure of Moffett Park Drive north of Mathilda, the District is particularly concerned with the scheduling of improvements at Innovation Way/Juniper Networks and Innovation Way/Mathilda Avenue intersections that would directly affect the Education Center's accessibility and operations during construction.

L3-2

Additional items for consideration:

1. The planned increase of traffic on private roads and the potential impact.
2. The alignment of the proposed improvements on Innovation Drive and the current approved Development Agreement requirements.

L3-3

L3-4

Thank you for the opportunity to comment on the planned improvements.

Sincerely,

Troy Ward  
Sr. Director REWS  
Juniper Networks, Inc.  
(408) 936-1893

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## RESPONSE TO LETTER #3 (JUNIPER NETWORKS)

### L3-1 Response:

As described in Section 1.3.1.1, *Roadway Improvements*, in the EIR, the Project's traffic analysis of projected travel times indicated that signalization of the Innovation Way and the Juniper Networks driveway intersection is a warranted improvement. The signal will be installed by the City of Sunnyvale at a later date. The City of Sunnyvale will monitor traffic volumes and operations at this intersection to determine when this signal would be installed.

### L3-2 Response:

A detailed Transportation Management Plan for construction-period traffic impacts will be developed during the Project's final design phase in coordination with the City of Sunnyvale, VTA, and Caltrans. The existing number of lanes on all roadways in the Project area would be maintained during peak periods. Any lane closures required for specific construction activities would occur during off-peak or nighttime hours. Improvements on Innovation Way would be constructed prior to permanent closure of Moffett Park Drive between Mathilda Avenue and Bordeaux Drive to vehicular traffic. During the construction phase, affected property owners, including Juniper Networks, would be notified in advance of construction activity. Vehicular and pedestrian access to properties would be maintained at all times, unless otherwise indicated by the property owner.

### L3-3 Response:

As shown in Section 2.14, *Transportation/Traffic*, Figure 2.14-4a, *Existing (2013) Intersection Demand Peak-Hour Volumes and Lane Configurations*, and Figure 2.14-4b, *No Build (2018) Intersection Demand Peak-Hour Volumes and Lane Configurations*, in the EIR, show that traffic volumes increase from existing conditions to No Build 2018 conditions on eastbound Innovation Way, a private road, at the Juniper Networks driveway during the PM peak hour period by up to 546 vehicles per hour (an increase of 77 percent). The primary source of this change is attributed to the proposed land use changes in the surrounding Project area. Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*, and Figure 2.14-4c, *Build Alternative (2018) Intersection Demand Peak-Hour Volumes and Lane Configurations*, show that this intersection continues to operate at LOS F in 2018 under both the No Build and Build conditions. Under the 2018 Build condition, the Project proposes to signalize this intersection, which reduces the intersection delay by more than 24 percent (from >300 seconds to 227 seconds) compared to the 2018 No Build condition. The City of Sunnyvale will monitor traffic volumes and operations at this intersection to determine when this signal would be installed.

Figures 2.14-4a through 2.14-4c show that traffic volumes increase in 2018 from the No Build to Build conditions on Innovation Way east of the Mathilda Avenue intersection during the AM and PM peak hour periods. The increase on eastbound Innovation Way is up to 820 vehicles per hour during the AM peak hour period, and up to 560 vehicles per hour in the PM peak hour period. The primary source of this change is attributed to the closure of Moffett Park Drive between Bordeaux Drive and Mathilda Avenue and the traffic shifted to Innovation Way. Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*, and Figure 2.14-4c show that the intersection of Innovation Way and Mathilda Avenue operates at LOS F in 2018 under both the No Build and Build conditions. In the 2018 Build condition, the Project proposes to reduce

delays at this intersection by optimizing the signal timing, implementing minor striping changes, and providing new signals at the intersection of Innovation Way and Bordeaux Drive.

**L3-4 Response:**

The Project includes improvements on Innovation Way to address changes in traffic patterns caused by the Project (refer to Responses L3-1 and L3-3 on page 11 for further details on proposed improvements on Innovation Way by the Project). The Project improvements on Innovation Way would be consistent with any approved agreements with the City of Sunnyvale.





**FOOTHILL-DE ANZA  
Community College District**

**12345 El Monte Road  
Los Altos Hills, CA 94022**

September 22, 2016

Santa Clara Valley Transportation Authority  
Environmental Programs and Resources Management  
Attn: Lani Lee Ho  
3331 North First Street, Building B-2  
San Jose, California 95134  
[MathildaAve@vta.org](mailto:MathildaAve@vta.org)

Re: Mathilda Avenue Improvements at SR 237 and US 101 Project Draft EIR

Dear Transportation Agency:

The Foothill-De Anza Community College District (District) appreciates the efforts of the Transportation Authority and Caltrans to improve traffic conditions around the Mathilda Avenue freeway intersections. As the District is opening its new Foothill College Sunnyvale Center (Education Center), located at the corner of Innovation Way and 11<sup>th</sup> Avenue, we have a keen interest in traffic in the area and would like to comment on the Draft Environmental Impact Report.

Right-of-Way Acquisitions. Paragraph 1.3.1.12 and Table 1.1 indicate that the District will need to grant a temporary construction easement of 170,875 square feet and a Public Access Easement of the same area. The District has already granted to the City of Sunnyvale a Public Access Easement of 38,395 square feet, consisting of the District's portion of Innovation Way, so we are puzzled by the 170,875 square foot area. Similarly, the scope of the project improvements and description of construction does not appear to require temporary use of the District's property. Since the property is now fully developed and in daily use, the District takes exception to its use for construction-related activities.

L4-1

Signalization of Innovation Way/Juniper Networks Intersection. Section 2.14.4.1 states that the project warrants a signal at the intersection of Innovation Way and the Juniper Networks Driveway. However, it is notable that a signal at that location is not included in the Roadway Improvements section of the Executive Summary (p. ES-3) and is otherwise seldom mentioned, so it is not clear that its construction is an integral part of the project. Similarly, completion of the Innovation Way/Mathilda Avenue intersection involves more than the signal modification indicated in the DEIR, and its design is not addressed in the Moffett Park EIR. We suggest that the EIR clarify the full scope of the

L4-2

improvements needed for the overall traffic plan to perform as intended, and identify responsibilities for needed improvements that may be outside the scope of the project itself, if applicable.

L4-2  
Cont.

Intersection of Innovation Way/11<sup>th</sup> Avenue. Table 2.14-3 indicates that under the build condition, this intersection, which is the main entry to the Education Center, will change from a Level of Service (LOS) of A to an LOS of F at peak hours. While much of the Education Center's traffic will not occur during peak hours, the magnitude of this change is of concern to the District. We would request that alternative traffic flow solutions are considered that would not reduce the intersection grade from A to F at peak hours.

L4-3

Traffic Mitigation Measures during Construction. We request that the Transportation Authority and Caltrans confer with the District in the development of the Transportation Management Plan to minimize traffic disruptions during construction (Section 2.14.5). Because the redistribution of traffic to Innovation Way by the closure of Moffett Park Drive north of Mathilda, the District is particularly concerned with the scheduling of improvements at Innovation Way/Juniper Networks and Innovation Way/Mathilda Avenue intersections that would directly affect the Education Center's accessibility and operations during construction.

L4-4

Thank you for the opportunity to comment on the planned improvements.

Sincerely,



Kevin McElroy  
Vice Chancellor, Business Services  
Foothill-De Anza Community College District  
12345 El Monte Road  
Los Altos Hills, CA 94022  
[mcelroykevin@fhda.edu](mailto:mcelroykevin@fhda.edu)  
(650) 949-6201  
[www.fhda.edu](http://www.fhda.edu)

## **RESPONSE TO LETTER #4 (FOOTHILL-DEANZA COMMUNITY COLLEGE DISTRICT)**

### **L4-1 Response:**

The Project will not need to acquire a Public Access Easement as the Foothill-DeAnza Community College District has previously granted one to the City of Sunnyvale. Refer to Chapter 1, *Proposed Project*, and Table 1-1, *Proposed Right-of-Way Acquisitions*.

Additionally, the temporary construction easement needed for proposed construction activities within the portion of Innovation Way owned by Foothill-DeAnza Community College District would have an area of 38,395 square feet. The area of 170,875 square feet was an overestimation. These activities involve the restriping of the 11th Avenue intersection area.

### **L4-2 Response:**

Refer to Response L3-1 on page 11 as it relates to the signalization of the Innovation Way and the Juniper Networks driveway intersection.

### **L4-3 Response:**

Section 2.14.4.1, *Opening Year 2018*, and Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*, in the EIR, shows a change in PM peak hour LOS at the Innovation Way/11th Avenue intersection from LOS A under existing conditions to LOS F in future 2018 No Build conditions. The primary source of the change in LOS from the existing conditions to the future 2018 No Build conditions is attributed to the proposed land use changes in the surrounding Project area. This intersection continues to operate at LOS F in future 2018 (and 2040) conditions under both the No Build and Build Alternatives. In the 2018 Build Alternative, the Project proposes some minor striping at this intersection to reduce the intersection delay by more than 55 percent (from 144 seconds to 62 seconds). During the AM peak hour, the intersection operates at LOS B or better in future 2018 (and 2040) conditions under both the No Build and Build Alternatives.

### **L4-4 Response:**

Refer to Response L3-2 on page 11 as it relates to the Traffic Management Plan. Vehicular and pedestrian access to the property would be maintained at all times, unless otherwise indicated by the property owner.

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**Ho, Lani Lee**

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**From:** [REDACTED]  
**Sent:** Monday, August 15, 2016 12:07 AM  
**To:** MathildaAve  
**Cc:** Kevin Jackson; Carol Shariat  
**Subject:** Multi-use path Mathilde to Bordeaux? Or Mathilde to Borregas?  
**Attachments:** NOA\_Public\_Meeting\_Notice.pdf

In the current draft EIR posted at <http://www.vta.org/mathildaimprovements>:

The text of the EIR says the new bike path is along Moffet Park Drive from Innovation Way across Mathilde (with light) to Bordeaux (multi-use according to the current text) but looks like it actually goes to Borregas to connect to the bike/ped bridge there (based on the map drawings). The text does not mention any changes between Bordeaux and Borregas. Which is correct: the multiple text references just to Bordeaux or the multiple map references that continue the path to Borregas?

L5-1

Thanks!

Cheers,  
Tim Oey  
Commissioner on Sunnyvale BPAC

----- Forwarded Message -----

**Subject:** Mathilda Avenue Improvements at SR 237 and US 101 Project - Notice of Availability of Draft EIR and Public Meeting  
**Date:** Fri, 12 Aug 2016 22:56:34 +0000  
**From:** MathildaAve <[MathildaAve@vta.org](mailto:MathildaAve@vta.org)>

Enclosed for your information is the Notice of Availability of a Draft Environmental Impact Report (EIR) for the Mathilda Avenue Improvements at SR 237 and US 101 Project located in the City of Sunnyvale. This Notice and the Draft EIR is posted on the project webpage: <http://www.vta.org/mathildaimprovements>

The 45-day public review period for the Draft EIR begins today, August 12, 2016. The deadline for receiving comments on the project is 5:00 p.m. on September 26, 2016. Comments can be sent by email to [MathildaAve@vta.org](mailto:MathildaAve@vta.org) or by mail to:

Santa Clara Valley Transportation Authority  
Environmental Programs and Resources Management

Attn: Lani Ho

3331 North First Street, Bldg. B-2

San Jose, CA 95134-1927

A public meeting will be held on Tuesday, August 30, 2016, from 6:00 p.m. to 8:00 p.m. at the Columbia Middle School, Multi-Purpose Room, at 739 Morse Avenue in the City of Sunnyvale. Please review the attached materials for more information.

If you are not the correct contact person for this notice, or you wish to add people to the e-mail list, please respond to this e-mail with the information.

Thank you.

**RESPONSE TO LETTER #5 (TIM OEY)****L5-1 Response:**

The figure references to Borregas Avenue in the EIR are correct and text in Section 1.3.1.2, *Bicycle and Pedestrian Facilities*, has been revised in the Final EIR. The Class I bicycle path extends to the SR 237/Borregas Avenue pedestrian overcrossing touchdown, as shown on Figure 1-5a, *Build Alternative*, in Section 1.3, *Project Description*.

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**Ho, Lani Lee**

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**From:** Chu, Maily  
**Sent:** Wednesday, August 17, 2016 8:52 AM  
**To:** 'ilikeguns@comcast.net'  
**Cc:** MathildaAve  
**Subject:** Mathilda Ave Comment

Thank you for your comment.

Thank you for your interest in the Mathilda Avenue Improvements at SR 237 and US 101 Project. The public review period for the Draft Environmental Impact Report (EIR) is August 12 to September 26, 2016. Comments received during the public review period will be responded to in the Final EIR. Release of the Final EIR is anticipated in Early 2017.

A public meeting will be held on Tuesday, August 30, 2016, from 6:00 p.m. to 8:00 p.m. at the Columbia Middle School, Multi-Purpose Room, at 739 Morse Avenue in the City of Sunnyvale.

For more information regarding the proposed Project, please visit us on the web at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements).

**Comment:**

Adding two signals at Mathilda and 101 is going to make my daily commute from Sunnyvale to EB237 and back, faster? I'll bet you it won't. The only way to get through Sunnyvale on Mathilda now while making a reasonable number of the timed signals is to drive 10 mph over the posted speed limit during the morning commute.

L6-1

***Maily Chu***

Planning & Capital Projects Coordinator  
Valley Transportation Authority  
3331 N. 1st Street, Bldg. B/2  
San Jose, CA 95134  
408.321.5525

 Thank you for considering the environmental impact of printing emails.

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## RESPONSE TO LETTER #6 (ANONYMOUS)

### L6-1 Response:

Section 1.2.2.1, *Roadway Deficiencies*, in the EIR states “...*Uncontrolled ramp movements at the US 101 interchange ramps at Mathilda Avenue and their proximity to signalized intersections (Ross Drive and Almanor Avenue/Ahwanee Avenue) provide limited distance for traffic to move into the desired lane of travel. This is further exacerbated by queues during peak periods at adjacent signalized intersections. Furthermore, the distribution of queues across available travel lanes is uneven, as some turning movement volumes are heavier than others...*”

The existing queuing and congestion at these intersections north and south of the US 101 interchange are attributed to the uncontrolled flow of traffic from the off-ramps. The Project would address operational issues through signalization of the ramp termini as described in Section 1.3, *Project Description*. Signalization of these ramp termini would improve the flow of traffic approaching the Almanor Avenue-Ahwanee Avenue and Ross Drive intersections. The signal timing at these new signalized intersections would be coordinated with the adjacent signals north and south of the interchange with the goal of minimizing queuing and congestion at the US 101/Mathilda Avenue intersections, and progressing traffic along the Mathilda Avenue corridor. Signalization would allow left turn movements from the southbound US 101 diagonal on-ramp to Mathilda Avenue to continue northward on Mathilda Avenue.

As described in Section 2.14.4.2, *Design Year 2040*, and shown Table 2.14-4, *Existing, 2018, and 2040 Mathilda Avenue Travel Times*, the Build Alternative would reduce travel time on Mathilda Avenue by up to 54 percent. Additional benefits include operational improvements at the Mathilda Avenue/Almanor Avenue-Ahwanee Avenue intersection with a reduction in delay of 104.7 seconds per vehicle and an LOS reduction from F to C as shown in Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*. These improvements are attributed to the additional capacity on southbound Mathilda Avenue provided by three continuous lanes from Ross Drive through the US 101 interchange.

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**Ho, Lani Lee**

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**From:** Lidia Marchioni [REDACTED]  
**Sent:** Friday, August 19, 2016 2:07 PM  
**To:** MathildaAve  
**Subject:** Comments on Mathilda Avenue Improvements at SR 237 and US 101

Hello

I am against the proposed removal of the existing 101 S Mathilda off ramp and replacing it with a single off ramp. Putting a traffic light and creating an intersection on a stretch of a road that's currently nicely flowing even in heavy traffic is counter productive. It is sure to add commute time to everyone going through the intersection, creating more congestion. The effects of this one change will be opposite of the stated project's purpose: "to improve traffic operations on Mathilda Avenue through the US 101 and SR 237 interchanges". It will be a costly deterioration of the Mathilda/101 intersection.

L7-1

It is great to see improvements to the 237/Mathilda intersection. It is currently hard to cross, specifically for bikers following Moffet Park Drive. However, I'm against adding a bike lane to Mathilda Avenue. We should keep bikers off the high traffic, fast roads. Let's keep those roads fast and flowing. It is unsafe and puts an additional burden on the already heavy traffic. There should be a separate under or overpass connecting Bay shore and downtown, that's not too far from Mathilda. Thus I support a west-side bike corridor into Moffett Park west of Mathilda and would like to see it as part of this improvement proposal. I would like to see alternatives for connecting areas North of 237 with downtown, other than adding a bike lane to Mathilda Ave.

L7-2

Regards  
Lidia

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## RESPONSE TO LETTER #7 (LIDIA MARCHIONI)

### L7-1 Response:

As described in Section 2.14.3.4, *Existing Traffic Conditions*, in the EIR, the Mathilda Avenue/Ahwanee Avenue-Almanor Avenue intersection is predicted to experience congestion in the PM peak hour under the 2018 No Build Alternative, and is anticipated to operate at LOS F, with delay as high 139.9 seconds per vehicle. Congestion at this intersection primarily results from vehicles exiting from the southbound US 101 diagonal on-ramp to Mathilda Avenue, continuing southward on Mathilda Avenue. The Project improves the operations at this intersection by reducing delay by 104.7 seconds per vehicles and improving the LOS from F to C as shown in Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*. The improved LOS at the Mathilda Avenue/Ahwanee Avenue-Almanor Avenue intersection is achieved through the following actions:

- Allowing left turn movements from the southbound US 101 diagonal on-ramp to Mathilda Avenue to continue northward on Mathilda Avenue.
- Installing the proposed traffic signal at the terminus of the southbound US 101 diagonal off-ramp of the Mathilda Avenue/US 101 interchange to improve flow of traffic at that interchange.

The signalization of the ramp termini at the US 101 interchange would provide other positive benefits such as a reduction in travel time by as much as 54 percent on the Mathilda Avenue corridor as described in Section 2.14.4.2, *Design Year 2040*, and Table 2.14-4, *Existing, 2018, and 2040 Mathilda Avenue Travel Times*. This reduction would be achieved through the following proposed improvements:

- Signalizing the ramp termini, which would improve the flow of traffic approaching the Almanor Avenue-Ahwanee Avenue and Ross Drive intersections. The signal timing at these new signalized intersections would be coordinated with the adjacent signals north and south of interchange with the goal of minimizing queuing and congestion at the subject intersections, and progressing traffic along the Mathilda Avenue corridor.
- Eliminating a short heavy volume weave section on southbound Mathilda Avenue between the southbound US 101 loop on-ramp and northbound US 101 loop off-ramp by removing the northbound US 101 loop off-ramp and providing this movement on the northbound US 101 diagonal off-ramp.
- Adding additional capacity on southbound Mathilda Avenue by providing three continuous lanes from the Ross Drive intersection through the US 101 interchange.

### L7-2 Response:

Bicycle and pedestrian accommodation on Mathilda Avenue is a requirement of Caltrans, VTA, and City of Sunnyvale policies. Bicyclists are legally permitted to use Mathilda Avenue, and those that currently choose to travel on Mathilda Avenue either use the sidewalk or share the outside lane with motor vehicles. In accordance with the Project's purpose of improving mobility for all travel modes including bicycles, the addition of bicycle lanes are proposed along Mathilda Avenue. A bicycle-pedestrian bridge over US 101 and SR 237 is located a third of a mile east of the Project area along Borregas Avenue. This bridge provides low-stress accommodations, but due to its distance from the Project corridor, it is not a convenient alternative for bicyclists on

Mathilda Avenue. The Project maintains and, in one case, increases the number of travel lanes along the Project corridor. Therefore, the proposed bicycle lanes along Mathilda Avenue do not negatively impact traffic flow.

A separate bicycle and pedestrian crossing connecting the Bayshore area with downtown Sunnyvale is outside the scope of this Project.



**Ho, Lani Lee**

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**From:** Alex Price [REDACTED]  
**Sent:** Saturday, August 20, 2016 9:41 AM  
**To:** MathildaAve  
**Subject:** Bike Lanes in general

To Whom it may concern.

I have noticed that the municipalities that be are taking away driving lanes and taking away parking from Sunnyvale streets. Meanwhile there are seemingly over a thousand high density housing units going up. It seems counter intuitive to increase housing density and reduce parking and vehicle flow. The issue needs to be looked at from a utilitarian aspect... the greatest amount of happiness/convenience for the most people. If 200 bicyclists per day are being accommodated and thousands of motor vehicle travelers are inconvenienced, not to mention the amount of pollution from cars sitting in stop and go traffic, then there is something seriously wrong with your logic. | L8-1  
| L8-2

The building of Levi Stadium without the solution of transporting people efficiently to and from the venue is an example of not thinking through the processes and the effects of the process on the surrounding communities and transportation. The VTA line being tragically slow was not a solution. The Caltrain station being too far away for people to walk, is a dead end unless a connector to the stadium is created. Perhaps a "ski resort like gondola" from caltrain to the stadium would be a possible solution since it would not effect ground transportation and parking in local neighborhoods. | L8-3

Sincerely,

Alex Price

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## RESPONSE TO LETTER #8 (ALEX PRICE)

### L8-1 Response:

Section 1.2.1, *Purpose*, in the EIR, describes the primary purpose of the Project as improving traffic operations on Mathilda Avenue through the US 101 and SR 237 interchanges (from Almanor Avenue/Ahwanee Avenue to Innovation Way). Project objectives also include improving mobility for all travel modes in the area including motor vehicles, transit, bicycles, and pedestrians. The Project would not remove any driving lanes, with the exception of closure of Moffett Park Drive between Bordeaux Drive and Mathilda Avenue where traffic would shift to Bordeaux Drive and Innovation Way, as described in Section 1.3.1.1, *Roadway Improvements*. The Project improvements focus on the Mathilda Avenue corridor and US 101 and SR 237 interchange connections. System-wide improvements and housing development within the Project area are outside the scope of the Project.

### L8-2 Response:

Potential impacts related to air quality are discussed in Section 2.3, *Air Quality*. The analysis in the EIR concluded that air quality impacts from the Project would be less than significant (refer to page ES-6 and Table 2.3-4). Section 1.2, *Statement of Project Purpose and Need*, describes that the primary purpose and need of the Project is to improve traffic operations on Mathilda Avenue through the US 101 and SR 237 interchanges. System-wide improvements within the Project area are outside the scope of the Project.

### L8-3 Response:

Traffic impacts related to the construction of Levi Stadium and potential improvements to transit service, including VTA light rail and Caltrain, are outside the scope of this Project. For a list of planned transit improvements in the region, refer to Santa Clara Valley Transportation Plan 2040.

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## Letter 9 Moya, Falene

Ho, Lani Lee

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**From:** Falene Moya [REDACTED]  
**Sent:** Saturday, August 20, 2016 4:00 PM  
**To:** MathildaAve  
**Subject:** Bike issues on Mathilda

How much bike traffic is really on Mathilda? Is this totally for safety? Is it to encourage more bicycle commuting? Has a study been done and if so when, what exactly was the study regarding? What is the major consideration for this decision?

L9-1

The impact to the traffic and frustration for drivers are also an important factor. Road rage is a VERY REAL issue. People are spending so much of their life either going or coming to work. Often living closer, and in this valley, is too expensive and many have very long commutes without these added delays. Building more living spaces may be profitable for the developer and give some additional revenue for the city but, what is the cost to the quality of life to the people who have lived here for so long, raised and are raising their families already? Have you or everyone involved, considered EVERY alternative?

L9-2

Sent from my mind to your phone 📱

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## RESPONSE TO LETTER #9 (FALENE MOYA)

### L9-1 Response:

The amount of bicycle traffic on Mathilda Avenue is unknown. Section 1.2.2.2, *Bicycle and Pedestrian Access*, in the EIR, notes “...As shown on Figure 1-4, while there is existing bicycle access in the surrounding Project area, bicycle access is discontinuous between Mathilda Avenue at Innovation Way, Mathilda Avenue at Ahwanee Avenue, and Mathilda Avenue at East and West Moffett Park Drive.” The existing volume of bicycles using Mathilda Avenue is expected to be low. Bicyclists are deterred from using the corridor because it currently has no bicycle lanes and bicyclists have to share the road with motor vehicles.

One purpose for the Project is to improve mobility for all travel modes in the area including motor vehicles, transit, bicycles, and pedestrians. Bicyclists are permitted to ride on all local streets in the City of Sunnyvale. There are currently no designated bicycle facilities on Mathilda Avenue within the Project limits, and bicyclists must share the road with vehicles. The decision to provide bicycle lanes is based on a variety of factors, including improving safety for all users of the roadway, increasing bicycle use, and closing gaps in the bicycle network. The Project proposes to enhance safety for bicyclists by providing dedicated 5-foot-wide bicycle lanes in both directions of Mathilda Avenue. Bicyclists also have the option to use the Borregas Avenue corridor as an alternate north-south route across US 101 and SR 237.

### L9-2 Response:

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) require that an environmental impact report (EIR) “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (State CEQA Guidelines Section 15126.6(a)). If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a proposed project, then the lead agency should not approve the proposed project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, State CEQA Guidelines Section 15091(a)(3)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency’s determination (State CEQA Guidelines Section 15126.6(c)).

Section 1.3.6, *Alternatives Considered but Eliminated from Further Discussion Prior to Draft Environmental Impact Report*, in the EIR, describes 19 conceptual alternatives that were considered during the early stages of Project development. A screening process was conducted with the Project Development Team to assess each alternative and identify reasons to withdraw alternatives from further study. Conceptual alternatives considered and removed during the Project development process are summarized in Table 1-3, *Alternatives and Options Considered but Eliminated from Further Discussion*.

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**Letter 10 Korab, Angela**

**Ho, Lani Lee**

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**From:** Angela Korab [REDACTED]  
**Sent:** Saturday, August 20, 2016 8:16 PM  
**To:** MathildaAve  
**Subject:** Bikes and the 101/237

Bikes should have a dedicated bike route, away from regular motorized vehicles. Safer for everyone.

| L10-1

Angela

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## RESPONSE TO LETTER #10 (ANGELA KORAB)

### L10-1 Response:

Having a dedicated bike route separate from roadway facilities is preferable to installing bike facilities near or adjacent to the roadway. However, the constraints of the current right-of-way do not allow enough space to install a Class I Bicycle Path. To install a dedicated bike route, the Project may necessitate acquisition of right-of-way from adjacent landowners.

Bicycle and pedestrian accommodation is a requirement of Caltrans, VTA, and City of Sunnyvale adopted plans and policies. Borregas Avenue is the existing north-south bicycle route across US 101 and SR 237 in the City of Sunnyvale. The route features pedestrian overcrossings across both freeways and connects neighborhoods on both sides. As stated in Section 1.2.1, *Purpose*, in the EIR, a purpose of the Project is to “...*Improve mobility for all travel modes in the area including motor vehicles, transit, bicycles, and pedestrians.*” Current conditions on Mathilda Avenue provide no specific amenities for bicyclists. Bicycle lanes are proposed on Mathilda Avenue within the Project limits to serve bicyclists wishing to use the route. There are two vehicular lanes within the SR 237 undercrossing which would be reduced to accommodate the new bike lane. In addition to the bicycle lanes provided by the Project, the three lanes for vehicular traffic would be maintained. Ramp connections to Mathilda Avenue would be teed-up and signalized to improve safety for bicyclists (and pedestrians) at intersections. As stated in Response L7-2, the closest dedicated bicycle route is a bicycle-pedestrian bridge over US 101 and SR 237, located a third of a mile east of the Project area along Borregas Avenue.

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**Ho, Lani Lee**

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**From:** [REDACTED]  
**Sent:** Thursday, August 25, 2016 12:13 PM  
**To:** MathildaAve  
**Subject:** Mathilda Interchange

Dear VTA staff,

Thank you for considering safety improvements for the Mathilda interchange.

To maximize safety, it is valuable to have accommodations for cyclists. The new designs are improvements over previous designs, however, a five foot bike lane is too narrow for this major roadway with high vehicle speeds and volumes. In addition, the two-foot gutters put the concrete/asphalt seam dangerously close to the middle of the lane.

L11-1

Please make the bike lane wider if at all possible, and narrow or eliminate the gutters to provide a wider, safer bike lane.

Thank you,

- Adina  
Adina Levin

[REDACTED]

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## RESPONSE TO LETTER #11 (ADINA LEVIN)

### L11-1 Response:

As stated in Section 1.1.1.1, *Mathilda Avenue*, in the EIR, the current posted speed limit on Mathilda Avenue within the Project limits is 45 miles per hour. As stated in Section 1.3.1.2, *Bicycle and Pedestrian Facilities*, the City of Sunnyvale proposes to perform an engineering and traffic survey along Mathilda Avenue after the Project is constructed. The survey will include an analysis of roadway conditions and accident records, and a sampling of the prevailing speed of traffic. Local authorities may, by ordinance or resolution, determine and declare a reduced speed limits on the basis of engineering and traffic surveys (California Vehicle Code 22358 and 627).<sup>5</sup> Based on the results of the survey, the City of Sunnyvale may consider modifying the speed limit on Mathilda Avenue to meet statutory guidelines set out in the California Vehicle Code.

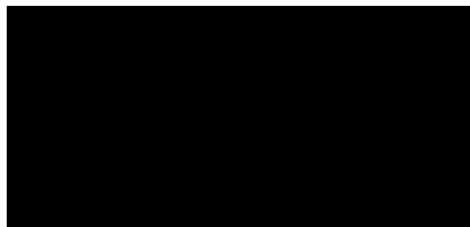
As stated in Section 1.3.1.2, *Bicycle and Pedestrian Facilities*, the Project proposes to remove the existing curb and gutter and replace them with a vertical curb to provide a full 5 feet of width for the bicycle lane.

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<sup>5</sup> Local authorities have authority to establish reduced speed limits on the basis of engineering and traffic surveys (California Vehicle Code 22358). Such surveys must include an analysis of roadway conditions, accident records, and a sampling of the prevailing speed of traffic (California Vehicle Code 627).

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August 22, 2016

Lani Ho  
VTA Environmental Programs & Resources Management  
3331 North First Street, Building B-2  
San Jose, CA 95134-1927

RE: Mathilda Avenue, Sunnyvale, Project - Question

I am very impressed that someone is finally trying to figure out what to do with Mathilda, Hwy. 237 and Hwy. 101. I live in this area and go through this terrible intersection twice a day during the week and more often on weekends. Glad to see at least there are plans for something to be done to alleviate this dangerous area because I am surprised there aren't more accidents and incidents of road rage.

One thing I have not seen addressed in the published material is what will be done with the bus stop that is on Mathilda, near Ross. (see enclosed picture where circled in red). The traffic flow toward 237 on Mathilda gets clogged up because some drivers think the bus stop is a lane that continues so they can get onto 237 – additionally traffic coming OFF of Hwy. 101 puts more vehicles into this same area. To make this bus stop a continuous lane to 237 would involve moving a traffic light pole and eliminating a curb protrusion, but it would make a lane for traffic to turn right onto Ross (which I need to do every day!) and let others go onto 237.

L12-1

Changing the off-ramp from 101 will help tremendously, but something also needs to be figured out about the bus stops. The one on the opposite side of Mathilda doesn't seem to have as many problems.

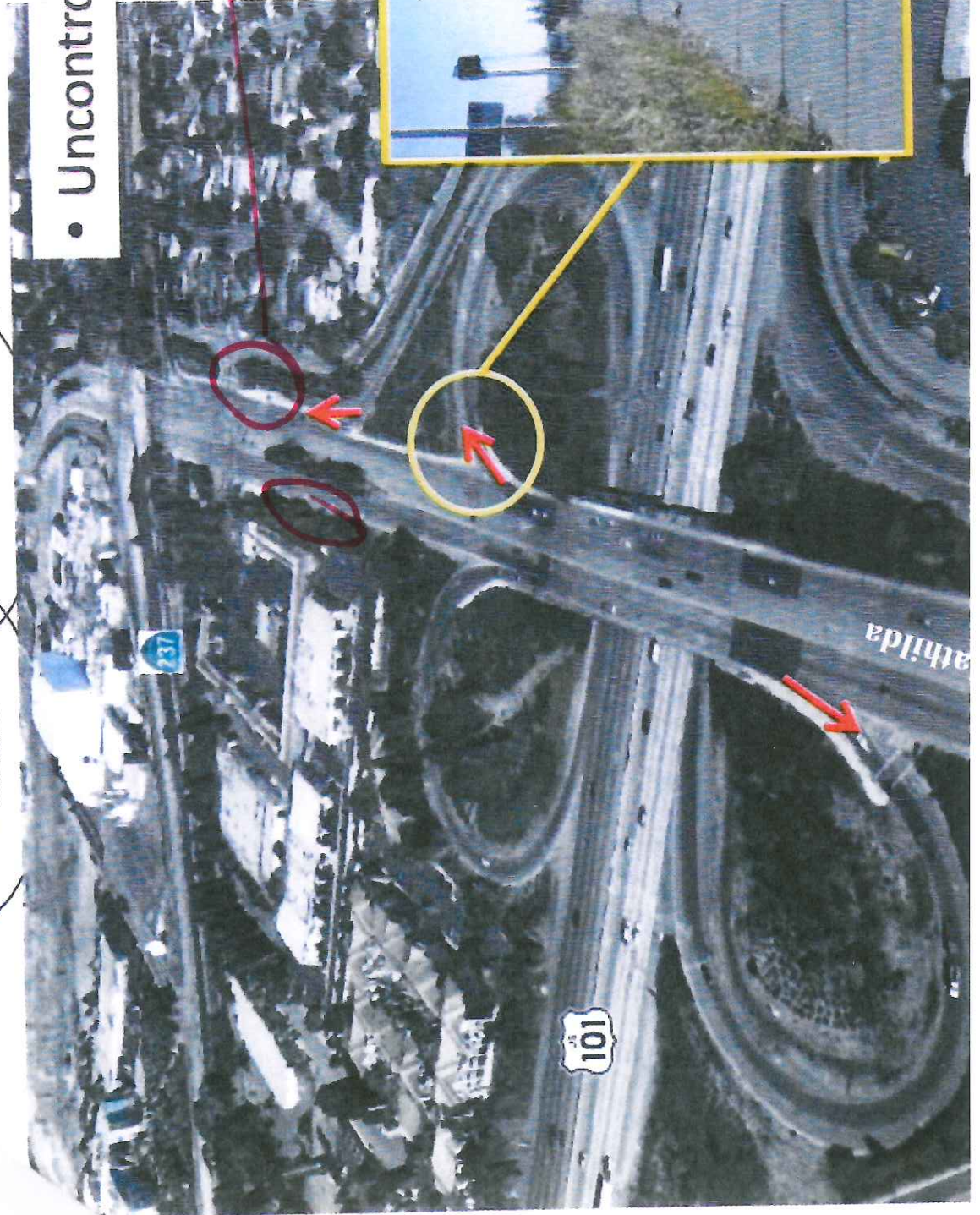
Thank you for looking at this issue and for all that you are doing to fix this.

Sincerely,

A handwritten signature in cursive script that reads "Edwina Johnson".

Enclosure: Copy of page from Project material.

Engineering: Maudhida at 101  
ET  
LANS



• Uncontrolled ramp movements

*This bus stop, just before right turn on Ross.*



**RESPONSE TO LETTER #12 (EDWINA JOHNSON)****L12-1 Response:**

As stated in Section 1.3.1.1, *Roadway Improvements* (see footnote 9), and shown on Figure 1-5b, *Build Alternative*, in the EIR, the bus stop would be relocated southerly toward the new northbound US 101 ramp intersection. The turn lane for the eastbound SR 237 on-ramp would begin after the bus stop, thereby preventing vehicles from using the bus stop as a through lane. A through right-turn lane on northbound Mathilda Avenue to access Ross Drive is also proposed.

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## Letter 13 Anonymous

**Ho, Lani Lee**

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**From:** Chu, Maily  
**Sent:** Tuesday, August 23, 2016 10:14 AM  
**To:** [REDACTED]  
**Subject:** Mathilda Ave Comment

Thank you for your comment.

Thank you for your interest in the Mathilda Avenue Improvements at SR 237 and US 101 Project. The public review period for the Draft Environmental Impact Report (EIR) is August 12 to September 26, 2016. Comments received during the public review period will be responded to in the Final EIR. Release of the Final EIR is anticipated in Early 2017.

A public meeting will be held on Tuesday, August 30, 2016, from 6:00 p.m. to 8:00 p.m. at the Columbia Middle School, Multi-Purpose Room, at 739 Morse Avenue in the City of Sunnyvale.

For more information regarding the proposed Project, please visit us on the web at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements).

Re:

Beyond pathetic. This does NONE of the GOALS you have stated in your OBJECTIVE!

In 1990 I complained it took me five minutes to get on Mathilda South from Moffet Park. At 10 PM due to stupid lights, at 6pM because traffic backed up and there was no where to go when the light turned green.

The two extra lights on Mathilda between Ross and Almanor will make this exponentially worse, and slow down my trip south on Mathilda from 101 North ,as well.

L13-1

### ***Maily Chu***

Planning & Capital Projects Coordinator  
Valley Transportation Authority  
3331 N. 1st Street, Bldg. B/2  
San Jose, CA 95134  
408.321.5525



Thank you for considering the environmental impact of printing emails.

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## **RESPONSE TO LETTER #13 (ANONYMOUS)**

### **L13-1 Response:**

Refer to Response L6-1 on page 17 as it relates to signalization of the US 101 ramp termini.

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**Letter 14 Robb, Norman**

**Ho, Lani Lee**

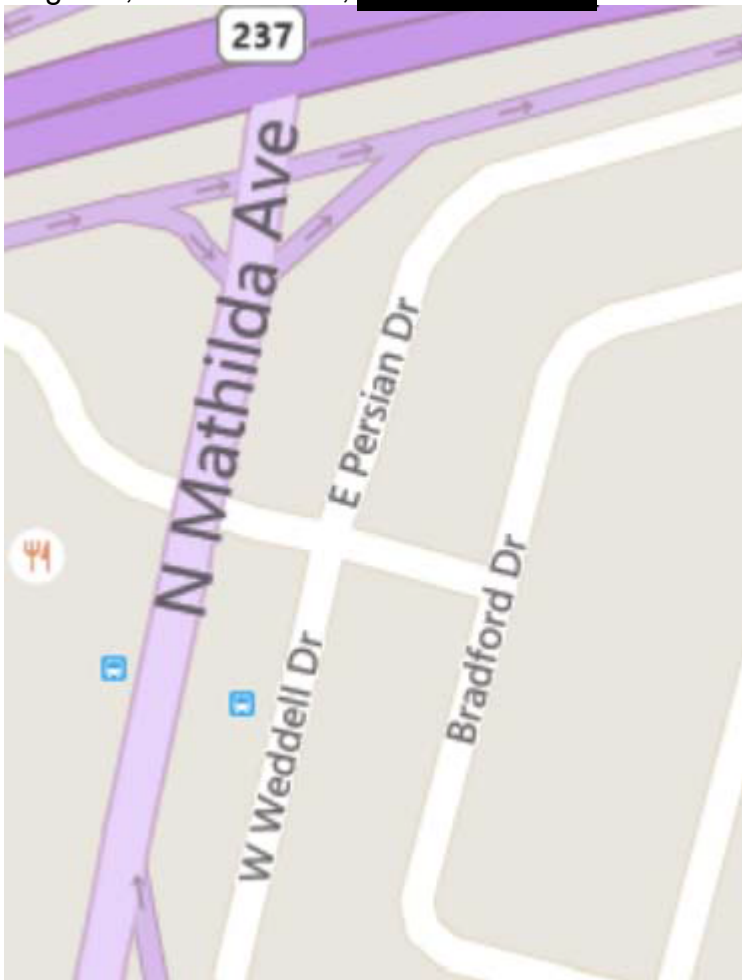
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**From:** Norman Robb [REDACTED]  
**Sent:** Friday, September 02, 2016 10:00 PM  
**To:** MathildaAve  
**Subject:** Ross intersection

**Categories:** Red Category

I live in Orchard Gardens residential area. When leaving for work in the morning I am amazed at the lack of control drivers continually show trying to get to work. Stop signs are TOTALLY ignored as cars race to get through the Mathilda intersection when the light turns green. I demand you perform a video study of this first-hand to fully understand the negative impact and potential for injury. Things get really dangerous when West bound Mathilda turn lane light ends with cars wanting to turn left on Persian while drivers charge forward to make the green light off Ross. Please study AND FIX our problem entering and exiting Orchard Gardens safely. You have allowed MASIVE project development in our area without fully understanding traffic flow. Mathilda Monster grows in scope! Regards, Norman Robb, [REDACTED]

L14-1



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## **RESPONSE TO LETTER #14 (NORMAN ROBB)**

### **L14-1 Response:**

The request for a video study in the Orchard Gardens residential area has been noted. Enforcement of unsafe driving behavior is outside of the role of Caltrans' and your concerns have been shared with Project partners.

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**Ho, Lani Lee**

---

**From:** Jennifer [REDACTED]  
**Sent:** Tuesday, September 13, 2016 4:30 PM  
**To:** MathildaAve  
**Subject:** Mathilda ave bike improvements

To whom it may concern:

I love the class I bike path on the Mathilda Ave proposal. Based on its position on the south side of vta tracks, can it be extended through mountain view or would it work better if it were placed on the north side along Manila dr? My recollection is the bike lane is narrow there. Would VTA and moffett field allow use of that land? Connectivity beyond city limits will be a huge boon to this area and its many employees. We have seen a huge mode shift in transit to cycling with the class I Stevens creek trail. If Mathilda Ave is built to extend through cities, I believe the same will happen.

L15-1

Thanks, Jennifer

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**RESPONSE TO LETTER #15 (JENNIFER HOFFMAN)****L15-1 Response:**

The Project proposes to extend the Class I bicycle path on Moffett Park Drive to Innovation Way and connect to the existing Class II bicycle lanes that extend to Ellis Street in Mountain View. A separate study would be needed to determine if a bicycle path paralleling Moffett Park Drive/Manila Drive (west of Innovation Way) is feasible. The bicycle lanes on Manila Drive are 5 feet wide and there is limited roadway width to construct a combined bicycle/pedestrian path that meets or exceeds Caltrans preferred design width of 12 feet paved. Construction of a bicycle path would be outside of the Project area limits, Project scope, and would not meet the Project purpose or need.

The Project has been designed to connect to existing and proposed regional bicycle connections, and the Class I path on Moffett Park Drive between Borregas Avenue and Innovation Way is provided to facilitate the already high volumes of bicyclists using that corridor. The comment related to mode shift on Steven's Creek Trail is noted.

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**Letter 16 Stallman, Jim**

**Ho, Lani Lee**

---

**From:** Jim Stallman [REDACTED]  
**Sent:** Sunday, September 18, 2016 4:32 PM  
**To:** MathildaAve  
**Subject:** Thank you

Thank you for retaining features keeping Moffett Park Drive continuous for bicycle/ped along the bay side of 237.

L16-1

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## **RESPONSE TO LETTER #16 (JIM STALLMAN)**

### **L16-1 Response:**

This comment is acknowledged and included in the Project record.

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SANTA CLARA  
VALLEY TRANSPORTATION AUTHORITY

MATHILDA AVENUE  
IMPROVEMENTS AT  
SR 237 AND US 101

REPORTER'S TRANSCRIPT OF PUBLIC MEETING

Date: Tuesday, August 30, 2016  
Time: 6:00 p.m. to 8:00 p.m.  
Location: COLUMBIA MIDDLE SCHOOL  
Multipurpose Room  
739 Morse Avenue  
Sunnyvale, CA 94085  
Reported By: Noelia Espinola, CSR  
License Number #8060

#52130

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A P P E A R A N C E S

VTA: MAILY CHU,  
Planning and Capital  
Projects Coordinator

ANN CALNAN,  
Environmental Programs and  
Resources Management  
Manager

SAJEENI DeALWIS-MIMA,  
Project Manager

The Reporter: ADVANTAGE REPORTING SERVICES  
BY: NOELIA ESPINOLA,  
CSR #8060  
1083 Lincoln Avenue  
San Jose, CA 95125  
(408) 920-0222

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MS. CHU: We'll start the public comment period in just a few moments. And, again, if you do have a blue speaker card, go ahead and hold that up, and we'll come around and grab those from you.

So all of the comments will be limited to three minutes. But since we don't have a huge crowd tonight, we won't be too strict on time.

We'll start with C. Wallin. C. Wallin, if you could meet me in the front. Actually, I'll meet you.

MR. WALLIN: Two of my questions have been answered. One was are you taking care of the bottleneck on Mathilda as you approach the overpass. And deleting an off-ramp off of the freeway takes care of that. So now the traffic can go right on through. Why it was never taken of before is -- I could never figure that one out.

The other one is the bottleneck that occurs at the Ahwanee -- North Ahwanee signal light. And I understand that you've got a light before that now that's going to take care of those that want to make a left turn and go north on Mathilda. But I still think it's going to be a problem with the stacking of the

PH-1

PH-2

1 cars that want to get into North Ahwanee. And you're  
2 going to have to watch that one very carefully.  
3 Because there has always been a bottleneck at that  
4 point, where the traffic wants to get into the queue.  
5 The last person is blocking the outside lane on  
6 Mathilda.

PH-2  
Cont.

7 So the only thing I have left is my personal  
8 interest to find out what's your long-range plan.  
9 Because I see this as a temporary deal, handling  
10 today's traffic.

11 Now, we've got five large eight-story office  
12 buildings that are going to be occupied -- I was  
13 thinking -- within the next year. The large one on  
14 Mathilda, two behind the Sheraton and two more further  
15 on down toward Fair Oaks, I think it is.

PH-3

16 But, on top of that, Lockheed just sold the  
17 last part of their southern territory, and the  
18 developer that built those five eight-story office  
19 buildings along Moffett is going to build five more.  
20 And I've seen a master plan that Juniper Network has,  
21 and they show that they're going to build five -- five  
22 eight-story office buildings. They've only built two.  
23 Plus a hotel. And you know there's going to be more of  
24 that going on later.

25 So is there going to be an overpass or a



1 tunnel for those folks that have to get into that  
2 territory and get out of there instead of just using  
3 Mathilda or Lawrence Expressway?

4 That's it.

5 MS. CHU: Thank you. Thank you for your  
6 comment.

7 Just to clarify: We will be receiving  
8 comments tonight and not responding. All comments will  
9 be responded to in the final document, which will be  
10 posted early 2017.

11 MS. CALNAN: Let me make it clear: So, while  
12 this is a formal comment period right now, what we're  
13 going through, after we're all done, the remainder of  
14 our time here, we can chat all you want and answer your  
15 questions afterwards, at the tables or the boards.

16 MS. CHU: Thanks, Ann.

17 Next we have Kevin.

18 MR. JACKSON: There's not more than one  
19 around here. Thank you.

20 I just have two quick comments. First about  
21 the bike lanes. That's a great improvement. Really  
22 glad you managed to get those in. Five feet is  
23 definitely skimpy, considering the motor vehicle speeds  
24 and volumes out there. If you can lower the speed  
25 limit, that would be great. I know that's not easy to

1 do, but give it a try.

2 But the one thing that really concerns me is  
3 that Sunnyvale uses two-foot gutters. And if you got a  
4 five-foot bike lane next to the curb, that puts the  
5 concrete/asphalt seam dangerously close to the middle  
6 of the bike lane. And those things don't stay even  
7 over time. So it becomes a serious hazard. If you're  
8 going to go with five-foot bike lanes, then please  
9 minimize or eliminate the gutter entirely.

PH-4  
Cont.

10 Second, throughout all the documents, the  
11 term "traffic" is used when it's clear that you're  
12 referring only to motor vehicles. It's a small but  
13 important point, but cyclists and pedestrians are also  
14 traffic. And people get confused with who is supposed  
15 to be there and what's being served and all kinds of  
16 things. So it's not going to solve the problem  
17 entirely. But if you mean motor vehicle traffic,  
18 please be specific and say so.

PH-5

19 Thank you.

20 MS. CHU: Thank you, Kevin.

21 So, again, we're still collecting blue  
22 speaker cards. We'll continue to call up names. But  
23 if you have a card, please hand it to anyone who has a  
24 VTA name badge.

25 So next we have Phyllis.

1 MS. FREEMAN: Some of this has been covered  
2 with the other people. I live in the SNAIL  
3 neighborhood, and already we have trouble getting in  
4 and out at times. Maude becomes really heavy and my  
5 street becomes heavy as people trying to get past --  
6 not go down Mathilda.

7 But my questions are, one, like the gentleman  
8 there said, they're adding more and more traffic. PH-6  
9 They're putting all of these big buildings in. They're  
10 not increasing the size or the number of traffic lanes.  
11 They're just putting more and more and more cars and  
12 probably buses on our streets that aren't really that  
13 big. And so I need to know, when you look at the  
14 future, are you looking at the total number of cars?  
15 Like there's going to be 5,000 more just with one area.  
16 We're not even starting on Peery Park. What is that  
17 going to do? That's going to be more.

18 Air quality. I've lived here since 1966. At  
19 one time, when it rained, the air was clean and clear.  
20 Now we have bad air 24 hours a day. We have noise from PH-7  
21 the traffic. You know, you haven't put any barriers of  
22 cars or anything between the traffic and where we live.  
23 Again, I've lived there since 1966. And it's a  
24 different world now. But I'd like you to consider that.

25 I have family that bikes. They go down PH-8

1 Borregas and go over that -- that goes over 101 and  
2 237. When I first started at Lockheed, one of the  
3 first weeks I started, a biker on Mathilda was killed.  
4 A car ran into it. And so I agree with the person that  
5 said five feet is not really a safe -- I don't think  
6 it's very safe when you're a biker. And if you're  
7 going to be walking, you'll be walking with the bikers  
8 or is it going to be separated?

PH-8  
Cont.

9 I mean, I know you're doing the best -- the  
10 best you can. But please think of us in the  
11 neighborhood and think of the people in the future that  
12 are going to be buying.

13 So I think that's pretty much it.

14 Air quality. I'd like you to really do  
15 something about quality. Whether you put in more  
16 trees or you put in something or other to -- to do  
17 something -- or like the fellow said -- what was it? --  
18 reduce the speed so that the bikers aren't in danger.

PH-9

19 So, anyway, thank you very much.

PH-10

20 MS. CHU: Thank you, Phyllis.

21 We have one speaker card left. Does anyone  
22 else wish to make a public comment tonight?

23 If you do want to submit your comments,  
24 again, as Ann stated, you can e-mail, mail them in. We  
25 are receiving written comments until September 26th.

1                   Just checking for any more cards.

2                   So we have our last speaker, Mayor Hendricks.

3                   MAYOR HENDRICKS: Hello. I want to thank  
4 everyone for coming out.

5                   My name is Glenn Hendricks, I'm the Mayor of  
6 Sunnyvale. I also happen to be a VTA voting board  
7 member. So I'm kind of wearing two hats.

8                   You have to excuse me for my dress today, but  
9 I was at my daughter's softball game right before I  
10 came here.

11                  I do want to thank everybody for coming out  
12 here and trying to find out about this project and  
13 being interested. Whether or not you've given any  
14 public comments right now -- VTA has given you some  
15 other avenues of where you can go ahead and give  
16 comments. Please go ahead and speak up. Let your  
17 friends and neighbors know about this.

18                  This is a project that we've been looking at  
19 from the City Council here for some time. We've  
20 gotten, you know, feedback and stuff on this. We feel  
21 this is a very important project. This is one of the  
22 things we want to do to try and improve traffic along  
23 Mathilda and getting out into the employment base that  
24 we have there north of 101 and 237.

25                  So I just wanted to come up and say thank you

PH-11

1 for VTA for coming out here into Sunnyvale and having a  
2 meeting on this topic and also for all of you for  
3 coming out.

4 And, please, if you didn't comment here, send  
5 your comments, talk to them after the formal session  
6 here. The feedback does get written down. It does.  
7 And I'll tell you, being on the VTA board member side,  
8 the Board will see the comments of what goes on. So  
9 your comments are valued for what goes on.

10 So thank you very much for coming out.

11 MS. CHU: Thank you.

12 So if there are no other comments tonight,  
13 this will officially conclude the comment period.  
14 We'll resume the open house. You'll be able to gather  
15 around the exhibit boards, talk to the project staff  
16 one on one, have any discussions.

17 And if you do have any comments that you  
18 would like to give verbally, we'll have the court  
19 reporter at the front. You're able to dictate to them  
20 directly.

21 So, again, comments are due September 26th.  
22 Thank you so much for coming out tonight. We really  
23 appreciate it. Thank you.

24 (End of public comments in meeting at 7:09  
25 p.m.)

PH-11  
Cont.

1 (The following comments were given to the  
2 court reporter after the formal meeting.)

3

4 Public comment by Phyllis Freeman:

5 MS. FREEMAN: Two things. Air quality. We  
6 have schools that are going to be bigger. Because  
7 Bishop School now has 700 hundred students. They're  
8 putting in two stories, putting in a lot more students  
9 are going to be there. There's Columbia School. The  
10 other side of 101 has schools. There's a lot more --  
11 there's a lot of elderly that live here. And so you  
12 have to be considerate about what it's going to do to  
13 their health, to their lungs. And people dropping kids  
14 off at school in the morning.

PH-12

15 Then bikes. Right now Borregas has bike  
16 lanes. This new thing shows pretty much -- not  
17 showing -- Morse might have bikes. Why? That's where  
18 the schools are. That isn't a good idea. There's a  
19 bike lane going from Lawrence to Fair Oaks. We don't  
20 want it going from East Duane, Fair Oaks to Mathilda.  
21 Right now that's a residential area. We're already  
22 getting a lot of traffic from people on Maude. Luckily  
23 it's not all the time.

PH-13

24 So be careful about the bike lanes. Keep the  
25 one that's on Borregas that is already there. Who's to

1 say where they're going to go?

2 Thank you.

3

4 Public Comment by Judi Richards:

5 MS. RICHARDS: Basically, I'm not against  
6 bicycles. But I don't believe every single road in  
7 this city needs to be a bicycle zone. Those roads I  
8 think should not be bicycle zones are Mathilda and El  
9 Camino Real. They were never designed to be that.  
10 They have copious in-and-out driveways and were never  
11 intended for bike lanes.

12 And putting in bike lanes on Mathilda, I  
13 think, is just absolutely ridiculous. It is a road  
14 that is -- has a tremendous amount of traffic every  
15 day. Last time I heard -- and this was a decade ago --  
16 they said it was 40,000 cars a day. And that's with  
17 the current laneage.

18 So if you're going to change the lanes in any  
19 way -- and I can't see you widening anything, because  
20 there's buildings to the edge on most of that road --  
21 the only way you can put bikes in is to take out a  
22 lane. And I think that would be absolutely abhorrent.

23 I grew up in Sunnyvale. I rode my bike  
24 there. And this is in the '60s. I never rode on  
25 Mathilda because even back then it was not a bicycle



1 road. And the idea that every single road in the city  
2 needs to be bicycle-friendly, I think, is wrong.

3 Now, I do get that it would be really nice to  
4 have a nice way to get bicycles from the middle of the  
5 city over to the Lockheed area. Because that has  
6 always been a problem, as far as I can tell.

7 But don't put them on Mathilda, where people  
8 are looking five different ways for cars, and the  
9 bicycles going to get -- you know, going to get hit.  
10 Even if you do everything in a wonderful way, bicycles  
11 are going to get hit there.

12 You want to get bicycles safely over to  
13 Lockheed; find another way. I would suggest having one  
14 of those bicycle overpasses like they do on Mary, that  
15 goes -- continues from Mary over 280, over by Homestead  
16 High. Why can't we have something similar from Mary  
17 over by -- I guess the golf course is there right  
18 now -- over from that area, across 101, to get you to  
19 the Lockheed area?

20 Make it safe. Don't -- don't do stupid  
21 things on Mathilda just so that you can put in a bike  
22 lane that's not even going to be safe.

23 Anyway, I feel extremely strongly about that.  
24 And it kind of bothers me that from what I could see  
25 recently in the VTA situation, that the viewpoint of

PH-14  
Cont.

1 bikes seems to count for way more than anybody else's  
2 viewpoint. And I think all the people -- those 40,000  
3 cars a day have to count too, even if they don't all  
4 show up at the meeting.

PH-14  
Cont.

5 Okay. In about 1991 I made a request to my  
6 city to improve the intersection where 237, 101,  
7 Mathilda and a couple of side streets meet. I'm not  
8 sure what the names of those side streets are. And at  
9 the time I was told that nothing could be done about it  
10 because there were too many people involved. This  
11 wasn't a Sunnyvale property. Some of it belonged to  
12 the County or the State, and some of it was federal.  
13 And that's why they couldn't improve that intersection.

PH-15

14 At the time, there were times when I couldn't  
15 exit, heading south from that intersection, during rush  
16 hour because the area I wanted to go in, heading south,  
17 already was filled up with cars who had gone there  
18 from -- who had previous turns on the light. And then  
19 when I tried to exit that way at 10:00 p.m. and all  
20 those other cars would be gone, I would sometimes wait  
21 five minutes, even though there was no other cars on  
22 the road, to exit heading south on that.

23 And for this reason I'm not really a big fan  
24 of lights when you don't need to have lights. From my  
25 understanding of the new plan for Mathilda, there is a

1 plan to not allow traffic to go directly from 101  
2 heading north to Mathilda south. We're going to have  
3 to go via lights, and it was going to add at least two  
4 more lights to Mathilda. In any scheme of things, I  
5 can't see how adding lights to Mathilda will improve  
6 anything at all.

7 And -- okay. That's it.

8 (End of public comments at 7:37 p.m.)

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PH-15  
Cont.

1 STATE OF CALIFORNIA  
2 COUNTY OF SANTA CLARA

3  
4

5 I, NOELIA ESPINOLA, Certified Shorthand  
6 Reporter in and for the State of California, do hereby  
7 certify:

8 That said hearing was taken down by me in  
9 shorthand at the time and place therein named, and  
10 thereafter reduced to computerized transcription under  
11 my direction.

12 I further certify that I am not interested in  
13 the outcome of this hearing.

14  
15  
16

17 Date: \_\_\_\_\_, 2016

18  
19

20 -----  
NOELIA ESPINOLA  
Certified Shorthand Reporter  
License No. C-8060

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23  
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## YOUR OPINION COUNTS

Date: \_\_\_\_\_ Name of Project: \_\_\_\_\_

I have a question/comment about:

WHAT ARE THE ASSUMPTIONS  
FOR TRAFFIC FLOW A  
MATCHLINE @ 237 WITH THE  
BUILD OUT EXPECTED OVER  
THE NEXT 10 YEARS.

I would like more information about:

- Design Features       Community Meetings       Funding  
 Property Acquisition       Environmental Effects       Schedule  
 Construction Impacts       Other: \_\_\_\_\_

Thank you for your comments. If you would like us to respond or be included in our mailing list, please fill out the information below. You may also call the Community Outreach Line at (408) 321-7575. Thank you for your interest.

Name: DEE HANSON

Address: \_\_\_\_\_

City: SV State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ time to call: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

0806-6409



## YOUR OPINION COUNTS

Date: 8/30/16 Name of Project: Mathilda

I have a question/comment about:

I like the addition of  
bike lanes both ways on  
Mathilda

I like the new Bike/ped  
path on Maffett Park alignment

I would like more information about:

- Design Features     Community Meetings     Funding  
 Property Acquisition     Environmental Effects     Schedule  
 Construction Impacts     Other: \_\_\_\_\_

Thank you for your comments. If you would like us to respond or be included in our mailing list, please fill out the information below. You may also call the Community Outreach Line at (408) 321-7575. Thank you for your interest.

Name Robert Neff

Address \_\_\_\_\_

City: Palo Alto State: CA Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Best time to call: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

0806-6409



## YOUR OPINION COUNTS

Date: 8/30/2016 Name of Project: Matilda Ave. Improv

I have a question/comment about:

Are there provisions being made to allow a VTA light rail line to be extended down Matilda?

I would like more information about:

- Design Features     Community Meetings     Funding  
 Property Acquisition     Environmental Effects     Schedule  
 Construction Impacts     Other: \_\_\_\_\_

Thank you for your comments. If you would like us to respond or be included in our mailing list, please fill out the information below. You may also call the Community Outreach Line at (408) 321-7575. Thank you for your interest.

Name: Keith Mitchell

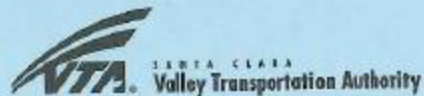
Address: [REDACTED]

City: Sunnyvale State: CA Zip: [REDACTED]

Phone: [REDACTED] Best time to call: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: [REDACTED]

0806-6409



## YOUR OPINION COUNTS

Date: 8-30-16 Name of Project: Mathilda Ave Imp.

I have a question/comment about:

Regarding the Borregas / 237 Bike/Ped  
bridge touchdown: The Moffett Park Dr  
path looks like a great solution.

Would you also attend to the  
through bicycle traffic on Borregas?  
Please make sure it still works with  
these new improvements.

I would like more information about:

- Design Features       Community Meetings       Funding  
 Property Acquisition       Environmental Effects       Schedule  
 Construction Impacts       Other: \_\_\_\_\_

Thank you for your comments. If you would like us to respond or be included in our mailing list, please fill out the information below. You may also call the Community Outreach Line at (408) 321-7575. Thank you for your interest.

Name Georgina Aubin

Address \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Best time to call: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

0006-6409





## YOUR OPINION COUNTS

Date: 8-30-2016 Name of Project: Mathilda Ave Impv

I have a question/comment about:

Pedestrian access and visibility can be significantly improved by simply cutting back overgrown vegetation. Will new sidewalks be left to such neglect as current ones?

I would like more information about:

- Design Features       Community Meetings       Funding  
 Property Acquisition       Environmental Effects       Schedule  
 Construction Impacts       Other: \_\_\_\_\_

Thank you for your comments. If you would like us to respond or be included in our mailing list, please fill out the information below. You may also call the Community Outreach Line at (408) 321-7575. Thank you for your interest.

Name Mark Aubin

Address \_\_\_\_\_

City: Sunnyvale State: CA Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Best time to call: \_\_\_\_\_

Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

0406-6409



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## RESPONSE TO PUBLIC HEARING TRANSCRIPT

### PH-1 Response:

As stated in Section 1.2.2.1, *Roadway Deficiencies*, and shown on Figure 1-5c, *Build Alternative*, in the EIR the bottleneck on southbound Mathilda Avenue, just south of Ross Drive, would be removed by relocating the northbound US 101 loop off-ramp to a widened and realigned northbound US 101 diagonal off-ramp. This would result in three continuous through lanes on southbound Mathilda Avenue through the US 101 interchange.

### PH-2 Response:

As described in Section 2.14.4.1, *Opening Year 2018*, and Table 2.14-3, *Existing, 2018, and 2040 Peak Hour Intersection Analysis*, in the EIR, the Mathilda Avenue/Almanor Avenue-Ahwanee Avenue intersection is predicted to experience congestion in the PM peak hour under both the No Build and Build 2018 Alternatives. In the No Build 2018 Alternative, this intersection is anticipated to operate at LOS F with delays of up to 140 seconds per vehicle. Refer to Tables 3-2, 5-4, and 6-3 in the Traffic Operations Analysis Report (TOAR, which is included in the Final EIR in Appendix G, *Technical Studies*) for queuing data. The queue will spill over to the adjacent through lane in Existing, 2018, and 2040 conditions according to TOAR's tables. The traffic exiting southbound 101 would have to weave across three lanes on Mathilda to reach the southbound left turn lane at Ahwanee without the Project. The same movement will be protected by signal phases and move more efficiently with the Project. Under the Build Alternative, the Project improves the operations of this intersection by reducing delay by 105 seconds per vehicle and improving the LOS from F to C (2018 PM peak hour). The improvement in LOS at the Mathilda Avenue/Almanor Avenue-Ahwanee Avenue intersection is achieved because the flow of traffic from the Mathilda Avenue/US 101 interchange is improved by the proposed traffic signal at the terminus of the southbound US 101 diagonal off-ramp/Mathilda Avenue.

### PH-3 Response:

As stated in Section 2.14.2.1, *Current and Forecast Traffic Analysis*, in the EIR, the traffic analysis for the Project included traffic impacts from the 2013, 2018, and 2040 scenarios consistent with the development in the Project area. Refer to Section 2.14.4.2, *Design Year 2040*, which provides a description of the anticipated transportation and traffic conditions under the No-Build and Build Alternatives in Design Year 2040.

### PH-4 Response:

Refer to Response L11-1 on page 27 as it relates to bicycle traffic and speed limits. Regarding the 5-foot width of the bicycle lanes on Mathilda Avenue, the existing US 101 overcrossing bridge structure and the SR 237 undercrossing bridge structure prevents the installation of wider bicycle lanes.

### PH-5 Response:

Unless otherwise noted, references to traffic in the EIR refer to motor vehicle traffic. When referring to bicycle or pedestrian traffic, the EIR specifically refers to those transportation modes.

**PH-6 Response:**

As described in Section 2.14, *Transportation/Traffic*, and Section 2.15.2.6, *Transportation/Traffic*, in the EIR, the traffic analysis was prepared in accordance with Caltrans standards. The traffic analysis for the Project analyzed traffic volumes in the Project study area up to 2040. The traffic forecasts include planned land use and growth for the region and locally up to 2040. As stated in Section 2.14.2.1, *Current and Forecast Traffic Analysis*, planned and programmed transportation projects are also incorporated into the analysis.

**PH-7 Response:**

Section 2.3, *Air Quality*, in the EIR, discusses potential impacts related to air quality. All Project impacts related to air quality were found to be less than significant. Section 2.11, *Noise and Vibration*, discusses potential impacts related to noise and vibration. Similarly, all Project impacts related to noise were found to be less than significant. Technical reports for air quality and noise and vibration are available in Appendix G, *Technical Reports*.

Assessment of existing and future air quality impacts from the Project were studied as part of the Air Quality Study Report. As described in Section 2.3.3.2, *Build Alternative*, the Project was found to conform with the applicable Air Quality Plan, and operation-period emissions from carbon monoxide, criteria pollutants, and mobile source air toxics, as well as construction-period criteria pollutants, were found to be less than significant. During construction, the Project would implement avoidance and minimization measures (AQ-1, *Implement California Department of Transportation Standard Specification Section 14* and AQ-2, *Implement Basic and Additional Control Measures for Construction Emissions of Fugitive Dust*) which would reduce impacts to a less-than-significant level.

As stated in Section 2.11, *Noise and Vibration*, assessment of existing and future noise impacts at receivers near the Project were studied as part of the Noise Study Report. The increase in noise levels at noise-sensitive locations, relative to existing conditions, is predicted to be in the range of 0 to 2 decibels under Build Alternative conditions. This range represents a minimal (barely perceptible) increase; therefore, no impact due to operational noise is anticipated and no new barriers would be required. During construction, the Project would implement avoidance and minimization measures (NV-1, *Implement Noise-Reducing Construction Practices*) which would reduce impacts to a less-than-significant level.

**PH-8 Response:**

There are currently no bicycle facilities on Mathilda Avenue within the Project limits. The Project would enhance safety for bicyclists by providing dedicated 5-foot-wide bicycle lanes in both directions of Mathilda Avenue. The bicycle lanes would separate bicyclists from pedestrians using the sidewalk and vehicular traffic on the street. The existing US 101 overcrossing bridge structure and the SR 237 undercrossing bridge structure preclude the installation of wider bicycle lanes.

**PH-9 Response:**

Section 2.3, *Air Quality*, in the EIR, discusses potential impacts related to air quality. All Project impacts related to air quality were found to be less than significant. Also, refer to Response PH-7 on page 40 for additional discussion as it relates to air quality.

As described in Section 1.3.1.6, *Highway Planting*, in the EIR, existing highway plantings and irrigation infrastructure that are damaged or destroyed as a result of the Project would be repaired and replaced as necessary. Planting would commence immediately following Project roadway construction and would include a 3-year plant establishment period. Furthermore, implementation of Avoidance and Minimization Measure BIO-2, *Implement Tree Avoidance, Minimization, or Replacement*, would avoid or reduce impacts on trees to a less-than-significant level. This would replace trees at a 1:1 to 3:1 ratio depending on type (native or non-native/ornamental) and diameter at breast height.

**PH-10 Response:**

Reductions in the posted speed limit will be considered by the City of Sunnyvale after the Project is constructed. Refer to Response L11-1 on page 27 for additional discussion as it relates to traffic speed.

**PH-11 Response:**

The City of Sunnyvale's Mayor Glenn Hendricks' comment is acknowledged and included in the Project record.

**PH-12 Response:**

Refer to Responses PH-7 and PH-9 on pages 40 and 41 as they relate to air quality impacts. As shown in Table 2.1-1, *Environmental Resource Area (Topics) Not Evaluated Further*, in the EIR, the Project is within an existing transportation facility and no physical impacts associated with new facilities for schools, parks/recreational facilities, or other public facilities would occur. Environmental impacts related to the construction or operation of schools are outside the scope of the Project.

**PH-13 Response:**

As shown on Figure 1-4, the Borregas Avenue bicycle corridor provides access to Morse Avenue via Ahwanee Avenue. The Project does not propose to alter the use of the Borregas Avenue corridor for bicyclists. The Project proposes new bicycle lanes on Mathilda Avenue (between Almanor Avenue and Innovation Way) and a new bicycle path on Moffett Park Drive (between Borregas Avenue and Innovation Way). In addition, the Project does not propose changes to bicycle facilities at any other location, including Borregas Avenue or Morse Avenue. The proposed bicycle path on Moffett Park Drive would connect bicyclists to the Borregas Avenue bicycle corridor. The Project does not propose changes to East Duane Avenue and/or Fair Oaks Avenue to Mathilda Avenue as this area is outside the Project limits.

**PH-14 Response:**

Refer to Response L10-1 on page 25 as it relates to bicycle and pedestrian accommodations. No traffic lanes would be removed as part of the Project to accommodate construction of new bicycle lanes.

As described in Section 1.3.1.1, *Roadway Improvements*, in the EIR, the Project would close Moffett Park Drive to vehicular traffic between Bordeaux Drive and Mathilda Avenue and Moffett Park Drive would remain open to bicyclists and would become a Class I bikeway. However, this change would shift vehicular traffic to Bordeaux Drive and Innovation Way.

Innovation Way would be extended from Mathilda Avenue to Bordeaux Drive as part of the Moffett Place Campus Project. Moffett Park Drive eastbound north of Mathilda Avenue would remain.

**PH-15 Response:**

Refer to Response L6-1 on page 17 as it relates to traffic intersection improvements and specifically the addition of new signals (lights).

## RESPONSE TO PUBLIC HEARING COMMENT CARDS

### PH-16 Response:

As described in Section 2.14, *Transportation/Traffic* and Section 2.15.2.6, *Transportation/Traffic* in the EIR, the traffic analysis was prepared in accordance with Caltrans standards. The traffic analysis was performed for the Project and the proposed improvements were analyzed using traffic forecasts up to 2040. Traffic forecast volumes are based on land use projections in the Metropolitan Transportation Commission's Plan Bay Area Program and regional roadway improvements included in Santa Clara Valley Transportation Plan 2040. These assumptions include build out of planned and programmed land use development in the Project area (including build out over the next 10 years). The effects on traffic flow at various locations along Mathilda Avenue are described in Section 2.14.4.2, *Design Year 2040*. As shown in Table 2.14-4, *Existing, 2018, and 2040 Mathilda Avenue Travel Times*, the Build Alternative would reduce the average travel time and increase the average travel speed along Mathilda Avenue.

### PH-17 Response:

This comment is acknowledged and included in the Project record.

### PH-18 Response:

VTA has no plans to extend light rail along Mathilda Avenue, south of Moffett Park Drive. No provisions are being made to allow a VTA light rail extension in the Project area.

### PH-19 Response:

As shown on Figure 1-4, *Existing and Proposed Bicycle Facilities* in the EIR, the proposed Moffett Park Drive bicycle path would extend to connect with the Borregas Avenue/SR 237 pedestrian overcrossing touchdown. The existing curb ramp at the Borregas Avenue pedestrian overcrossing touchdown and Moffett Park Drive would remain, permitting bicyclists to travel between the pedestrian overcrossing and Borregas Avenue.

### PH-20 Response:

The City of Sunnyvale and Caltrans have an existing maintenance agreement. In accordance with this agreement, Caltrans performs periodic maintenance of landscaping and removal of weeds in the Project area. The Project area sidewalks would be maintained by the City of Sunnyvale and Caltrans.

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# **Appendix G**

## Technical Studies

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# Appendix G

## List of Technical Studies

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Air Quality Study Report	ICF International
Historic Resources Compliance Report/	ICF International
Archaeological Survey Report	
Community Impact Assessment	ICF International
Initial Site Assessment	BASELINE Environmental Consulting
Natural Environment Study – Minimal	ICF International
Impacts Noise Study Report	ICF International
Paleontological Identification Report	ICF International
Preliminary Geological Assessment Summary	BASELINE Environmental Consulting
of Floodplain Encroachment Traffic	WRECO
Operations Assessment Report	Fehr and Peers
Visual Impact Assessment (Minor)	ICF International
Water Quality Assessment Report	WRECO
Wetland Assessment Technical Memorandum	ICF International

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**Appendix H**  
Notice of Preparation and  
Newspaper Advertisements

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# Public Scoping Meeting and Open House for the Mathilda Avenue Improvements at SR 237 and US 101 Project

## Notice of Preparation of an Environmental Impact Report/Environmental Assessment

**WHAT:** The purpose of this notice is to inform you that the California Department of Transportation will be the lead agency and will prepare an Environmental Impact Report (EIR)/Environmental Assessment (EA) for the Mathilda Avenue Improvements at State Route 237 and US 101 Project.

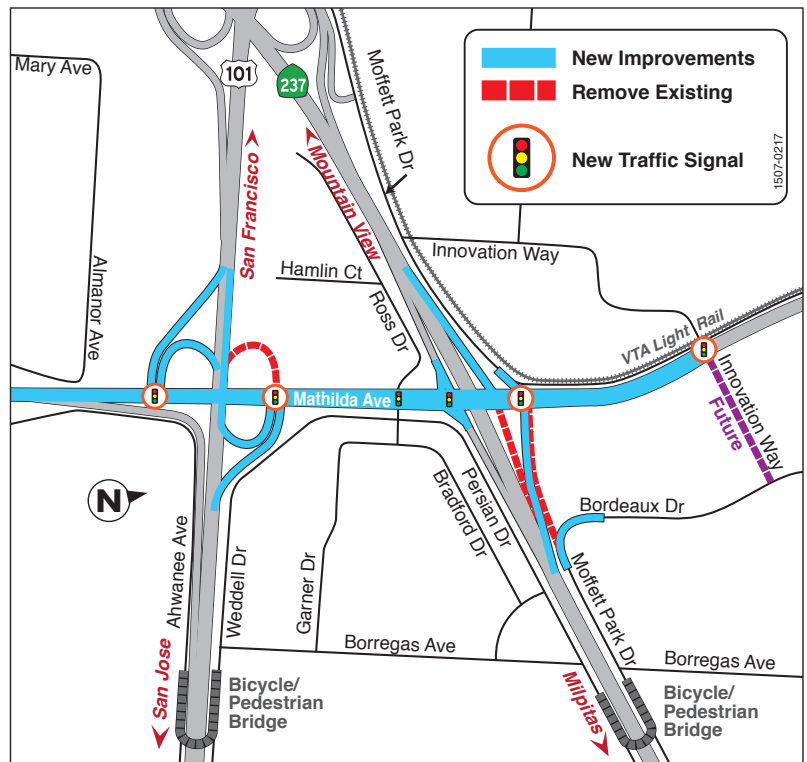
The Project proposes to improve Mathilda Avenue in the City of Sunnyvale from Almanor Avenue to Innovation Way, including on- and off-ramp improvements at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges.

The purpose of the Project is to reduce congestion on Mathilda Avenue, improve mobility for all travel modes, and provide better access to local destinations. The Project is needed to address existing roadway deficiencies including closely spaced intersections and uncontrolled ramp movements. The project also proposes to improve bicycle and pedestrian access within the project limits.

**WHY:** The purpose of the meeting is to gather input on the scope and content for the environmental document.

The deadline for receiving comments on the project scope is September 16, 2015, by 5 pm. Comments can be sent by email to [MathildaAve@vta.org](mailto:MathildaAve@vta.org) or by mail to:

VTA Environmental Programs  
and Resources Management  
Attn: Lani Ho  
3331 North First Street, Bldg. B-2  
San Jose, CA 95134-1927



### WHEN & WHERE:

**Thursday, August 27, 2015**

**5:30 p.m. to 7:00 p.m.**

Columbia Middle School - Staff Lounge  
739 Morse Avenue  
Sunnyvale, CA 94085

*This location is served by VTA Bus Lines: 22, 26, 55, 62, and 522*

**FOR MORE INFORMATION:** For more information regarding the proposed project, please contact VTA Community Outreach at (408) 321-7575, TTY for the hearing impaired: (408) 321-2330. You may also visit us on the web at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) or email us at [community.outreach@vta.org](mailto:community.outreach@vta.org).

*Individuals who require language translation, American Sign Language, or other assistance are requested to contact VTA Community Outreach at (408) 321-7575, TTY (408) 321-2330, at least five (5) business days before the public information meeting.*

# Mathilda Avenue Improvements at SR 237 and US 101 Project

- Receive a project overview and schedule.
- Receive a summarized project description.
- Give your comments on the environmental issues that will be discussed in the environmental document.

**Thursday, August 27, 2015**

**5:30 p.m. - 7:00 p.m.**

Columbia Middle School - Staff Lounge  
739 Morse Avenue  
Sunnyvale, CA 94085

Take VTA Bus Lines: 22, 26, 55, 62, and 522

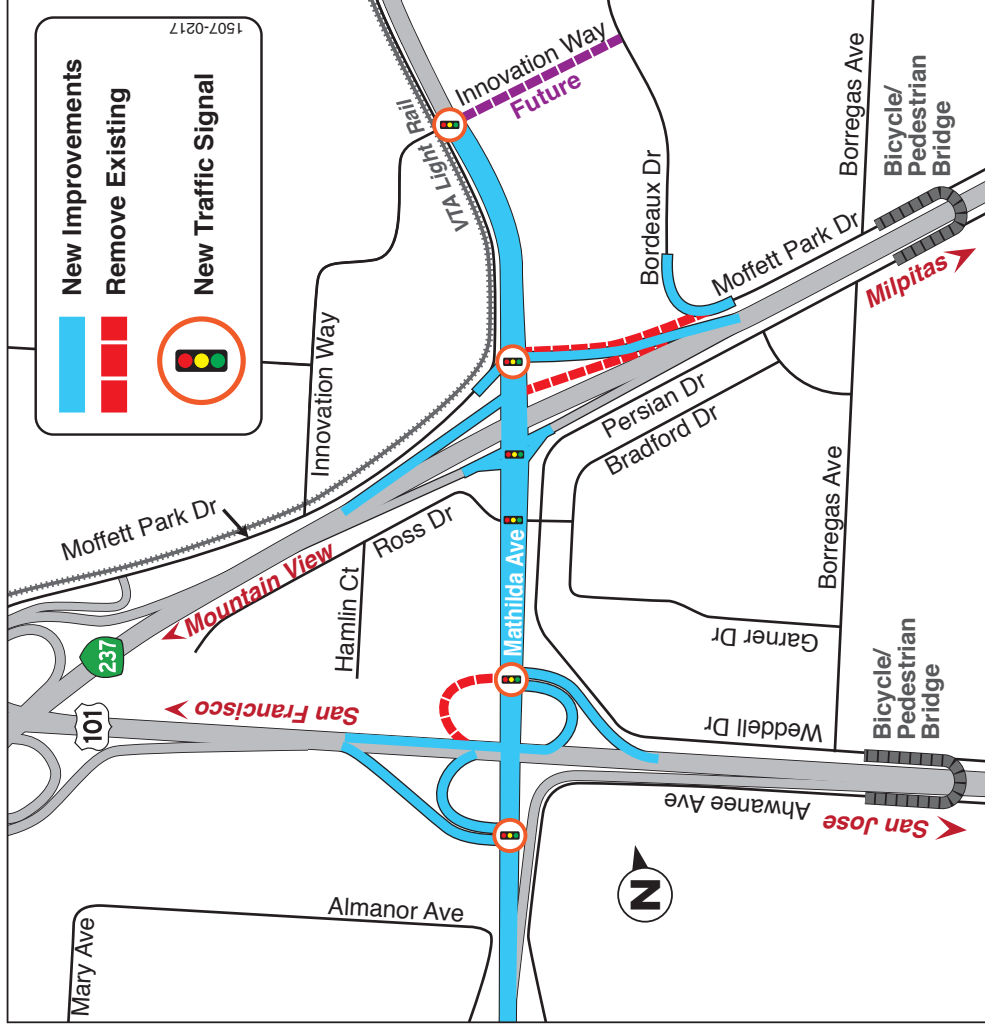
**For more information**, please contact VTA Community Outreach at (408) 321-7575. The deadline for receiving comments on the project scope is September 15, 2015, by 5 p.m. Comments can be sent by email to [MathildaAve@vta.org](mailto:MathildaAve@vta.org) or by mail to:

VTA Environmental Programs and  
Resources Management

Attn: Lani Ho

3331 North First Street, Bldg. B-2  
San Jose, CA 95134-1927

Si desea más información en su idioma, por favor comuníquese con el Programa de Alcance a la Comunidad de VTA al (408) 321-7575.



Nếu quý vị muốn thông tin đã được dịch sang tiếng Việt, xin liên lạc Ban Tiếp Ngoại Cộng Đồng của VTA tại số (408) 321-7575.







S A N T A C L A R A

**Valley Transportation Authority**

3331 North First Street • San Jose, CA 95134-1927

PRESORTED  
STANDARD  
U.S. POSTAGE  
PAID  
PERMIT NO. 589  
SAN JOSE, CA

**Learn about the Mathilda Avenue  
Improvements at SR 237 and US 101 Project  
at a Public Scoping Meeting/Open House  
for the Environmental Impact Report/  
Environmental Assessment.**

**Ad Number:** 0005552467-01  
**Advertiser:** Valley Transportation Authority...  
**Agency:** N/A  
**Section-Page-Zone(s):** A-29-All  
**Insertion Number:** N/A  
**Size:** 6 Col x 4.75 in  
**Color Type:**



# local bulletin

Announcements, Events and Youth Sports

### FREE FAMILY MUSIC FAIRE.

Join us at the Sunnyvale Music School for an open house with hands-on musical activities and free concert. Event on August 22nd, Open house from 10am-11am, concert at 11am, 728 W Fremont Avenue in Sunnyvale. Activities include: Meet the Instruments, Piano Lab, Musical Games and Crafts, and a Sing-along. Refreshments and registration information to follow concert. Admission is free. For more information, call (408) 739-9248, or visit [www.themusicschool.org](http://www.themusicschool.org).

**ON Tuesday, August 25th,  
7pm Presentation by Saratoga: Carolyn Cocciardi  
(5pm Social/Dinner by RSVP)**

The Mona Lisa Knot: My Journey Finding Leonardo da Vinci's Real "Mona Lisa" Lecture by Caroline Cocciardi screenwriter and producer of "Mona Lisa Revealed". Cocciardi claims she has made the single most important discovery found on the Mona Lisa painting. She discovered Renaissance artist Leonardo da Vinci left a message of love on the Mona Lisa dress. Come hear what the message says.

**LOCATION:** IOOF LODGE 428 BUILDING  
14414 Oak Street, UPSTAIRS  
Saratoga Village, CA

Telephone: RSVP (408) 647-2326.  
Email: RSVP monalisarevealed@hotmail.com

8/21

### Puppies & Kitties & Prayers-Oh my!

Special worship service, "Blessing of the Animals", Sunday, August 30th, 10 am, at St. John Lutheran & Trinity United Methodist Churches, corner of Fremont & Manet, Sunnyvale, in the courtyard. You are invited to bring your animal on a leash, in a carrier, or represented by a photograph. Gifts of new or "warmly used" stuffed animals will be accepted for donation to local community service agencies.

8/14, 8/21, 8/28

Call or email Patie Greely at 408.200.1062 to assist you with your purchase. She will inform you that it's only \$20 for your listing (.35¢ for each additional word).



## Notice of Preparation of a Draft Environmental Impact Report/ Environmental Assessment for the Mathilda Avenue Improvements at SR 237 and US 101 Project

California Department of Transportation (Caltrans) will be the lead agency and will prepare an Environmental Impact Report (EIR)/Environmental Assessment (EA) for the Mathilda Avenue Improvements at State Route 237 and US 101 Project.

The Project proposes to improve Mathilda Avenue in the City of Sunnyvale from Almanor Avenue to Innovation Way, including on-and off-ramp improvements at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges. The purpose of the Project is to reduce congestion on Mathilda Avenue, improve mobility for all travel modes, and provide better access to local destinations. The Project is needed to address existing roadway deficiencies including closely spaced intersections and uncontrolled ramp movements. The project also proposes to improve bicycle and pedestrian access within the project limits.

Your input on the scope and content for the environmental document is requested. A Public Scoping Meeting and Open House will be held on:

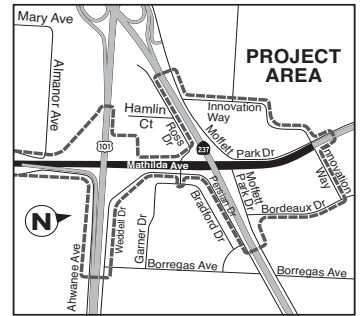
**August 27, 2015**  
Columbia Middle School – Staff Lounge  
739 Morse Avenue  
Sunnyvale, CA 94085  
5:30 p.m. to 7:00 p.m.

The deadline for receiving comments on the project scope is 5:00 p.m. on September 16, 2015. Comments can be sent by email to

[MathildaAve@vta.org](mailto:MathildaAve@vta.org) or by mail to: VTA Environmental Programs and Resources Management, Attn: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927.

For more information, please contact VTA Community Outreach at (408) 321-7575, TTY for the hearing impaired: (408) 321-2330.

You may also visit us on the web at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) or email us at [community.outreach@vta.org](mailto:community.outreach@vta.org).



## Thông báo Chuẩn Bị Dự Thảo Báo Cáo về Tác Động môi trường / Đánh giá môi trường cho việc cải thiện Đại lộ Mathilda Avenue trong dự án SR 237 và US 101

Cục giao thông vận tải California (Caltrans) là cơ quan chủ trì và sẽ chuẩn bị một Dự Thảo Báo Cáo Tác Động Môi Trường (EIR) / Đánh Giá Môi Trường (EA) cho việc cải thiện Đại lộ Mathilda Avenue tại dự án SR 237 và US 101.

Để cải thiện Đại lộ Mathilda Avenue ở thành phố Sunnyvale từ Almanor Avenue đến đường Innovation Way, gồm cải thiện các dốc thoải lên xuống tại các giao lộ đường tiểu bang 237 / Đại lộ Mathilda Avenue và US 101 / Đại lộ Mathilda Avenue. Mục đích của dự án là giảm tắc nghẽn trên Đại lộ Mathilda Avenue, cải thiện lưu thông cho tất cả các hình thức lưu thông, và cung cấp đường đi tốt hơn tới các điểm đến ở địa phương. Dự án cần có để giải quyết các khiếm khuyết hiện có bao gồm các giao lộ nằm gần nhau và việc lên xuống ở các đoạn dốc vào không kiểm soát được. Dự án cũng để xuất cải thiện việc đi lại bằng xe đạp và đi bộ trong phạm vi dự án.



Yêu cầu Ban cho ý kiến về phạm vi và nội dung của tài liệu về môi trường. Một buổi họp cộng đồng và ra mắt sẽ được tổ chức vào:

**27 Tháng Tám 2015**  
Columbia Middle School – Staff Lounge  
739 Morse Avenue  
Sunnyvale, CA 94085  
Từ 17:30 đến 19:00

Hạn chót tiếp nhận ý kiến về phạm vi dự án là 17:00 ngày 16 tháng 9 năm 2015. Có thể gửi ý kiến qua email cho [Mathilda.Ave@vta.org](mailto:Mathilda.Ave@vta.org) hoặc qua đường bưu điện đến: VTA Environmental Programs and Resources Management, Attn: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927.

Để biết thêm thông tin, xin vui lòng liên hệ với Tiếp Ngoại Cộng đồng VTA tại (408) 321-7575, TTY cho người khiếm thính: (408) 321-2330. Bạn cũng có thể tham khảo tin trên trang web tại [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) hoặc gửi email cho chúng tôi tại [community.outreach@vta.org](mailto:community.outreach@vta.org).



15070239

tác tới" Việt Nam.

Về lâu về dài, Lào có thể ngăn dòng nước sông Mekong tại đập thủy điện Xayaburi và CPC cũng có thể điều khiển dòng nước này từ Biển Hồ (Tonlé Sap) như thả chất độc xuống hạ nguồn Sông Cửu Long

### 7\* Thành lập lực lượng phòng vệ đảo Phú Quốc

Ngày 5-9-2014, Bộ Tư lệnh Quân khu 9 làm lễ ra mắt lực lượng 950 "đế bảo vệ đảo Phú Quốc trong tình hình mới". Mục đích là chống lại lực lượng tấn công từ Campuchia. Lực lượng gồm có 1 tiểu đoàn xe tăng, một đại đội pháo binh, công binh Chi huy trưởng là đại tá Nguyễn Trung Kiên.

7.2. Khmer Đỏ đã từng tấn công Phú Quốc tiêu diệt người Việt Nam

Trước kia, 4 ngày sau khi CSBV chiếm được miền Nam (30-4-1975) thì ngày 4-5-1975 quân Khmer Đỏ đã đánh chiếm đảo Phú Quốc. 6 ngày sau chiếm đảo Thổ Châu. Đem ra hành quyết trên 500 thường dân trên đảo, sự kiện to lớn như thế mà nhà nước bưng bít khiến người dân Sài Gòn và các nơi khác không hay biết gì cả, và cho đến nay cũng còn có rất nhiều người không biết gì về biến cố lịch sử đó cả.

Sau vụ Phú Quốc Thổ Châu, quân Cộng Sản Miền tây hiện những cuộc tấn công lẻ tẻ ở một số vùng thuộc tỉnh An Giang để giết hại người Việt Nam.

Tháng 4 năm 1977, quân chính phủ Khmer Đỏ tiến sâu 10km vào lãnh thổ Việt Nam, chiếm một số vùng ở tỉnh An Giang,

sắt hai một số lớn thường dân. Gặp đầu giết đó, gặp ai cũng giết, giết trẻ bé lớn, đàn ông đàn bà gì cũng không tha. Hệ người Việt thì phải chết.

Ngày 25-9-1977, Pol Pot đưa 4 sư đoàn đánh chiếm nhiều điểm ở huyện Tân Biên (Châu Đốc), Bến Cầu và quận châu thành tỉnh Tây Ninh.

- Đốt phá 471 ngôi nhà  
- Giết chết hơn 800 thường dân

Ngày 1-2-1978, Nghị quyết Cộng Sản Khmer Đỏ có ghi như sau: "Chỉ cần một ngày tiêu diệt vài chục Việt Nam. Mỗi tháng diệt vài ngàn, mỗi năm diệt vài ba vạn thì danh tới 10, 15 hoặc 20 năm để tiêu diệt hết người Việt Nam.

Thực hiện công thức 1 đối 30, như vậy hy sinh 2 triệu người Khmer để diệt 50 triệu người Việt Nam.

Từ tháng 12 năm 1977 đến 14-6-1978, một thống kê cho biết:

- 30,642 thường dân Việt Nam bị thương.  
- 6,902 thường dân VN bị giết.  
- 30 vạn người Việt phải di tản ra phía sau.  
- 6 vạn hecta đất bị bỏ hoang.

Được Trung Cộng chông lưng, Pol Pot đã huy động 10 trong 19 sư đoàn (Khoảng 60,000) tấn công trên toàn biên giới Việt Nam.

- 3 sư đoàn đánh vào Bến Sỏi (Tây Ninh)  
- 2 sư đoàn đánh vào Hồng Ngự (Đồng Tháp)  
- 2 sư đoàn đánh vào Thất Sơn (7 núi) An Giang  
- 1 sư đoàn đánh vào Trà Phú, Trà Tiên, Kiên Giang

**THÔNG BÁO VỀ BẢN BÁO CÁO VÀ LƯỜNG ĐỊNH HOẠT ĐỘNG THƯƠNG NIÊN HỢP NHẤT VÀ LỊCH TRÌNH CÁC BUỔI ĐIỀU TRẦN CÔNG KHAI**

Nay thông báo rằng Bản Báo Cáo và Lường Định Hoạt Động Thương Niên Hợp Nhất (CAPER) sẽ có cho công chúng xem xét bắt đầu từ ngày 24 tháng 8, 2015. CAPER là bản báo cáo hàng năm về việc Thành phố chi tiêu những ngân khoản liên bang và tiến trình trong việc đạt các mục tiêu về gia cư và phát triển cộng đồng đưa ra trong Kế Hoạch Hợp Nhất của Thành Phố mà liên bang hỗ trợ, và bao gồm Community Development Block Grant (CDBG), Home Investment Partnerships (HOME), the Emergency Shelter Grant (ESG), và Chương trình Housing Opportunities for Persons with AIDS (HOPWA).

Dưới đây là thời biểu của tiến trình công chúng xem xét và thông qua các bản báo cáo:

Ngày	Về việc
24 tháng 8, 2015	Phổ biến bản thảo cho công chúng xem xét Số Gia Cư Thành phố San Jose 200 East Santa Clara St., Tầng 12 San Jose, CA 95113 Điện thoại: 408-535-3860 <a href="http://www.sanjoseca.gov/CAPER">www.sanjoseca.gov/CAPER</a>
24 tháng 8, 2015 đến 10 tháng 9, 2015	Thời gian công chúng xem xét và góp ý
10 tháng 9, 2015	Điều trần công khai: Ủy Ban Cố Vấn Gia Cư và Phát Triển Cộng Đồng 200 East Santa Clara St., phòng Cảnh 118-119 San Jose, CA 95113 5:45 chiều
15 tháng 9, 2015	Điều trần công khai và Cầu xét chấp thuận Kế hoạch Phòng hội Hội đồng Thành phố San Jose 200 East Santa Clara St. San Jose, CA 95113 1 giờ 30 chiều

Kính mời quý vị tham dự những buổi điều trần ghi trên và ghi ý kiến đóng góp về Số Gia Cư Thành Phố, 200 E. Santa Clara Street, San Jose, CA 95113. Attn: James Stagi. Ý kiến cũng có thể được gửi bằng email đến [james.stagi@sanjoseca.gov](mailto:james.stagi@sanjoseca.gov) hay gọi điện thoại về số (408) 535-8238. Các địa điểm họp mở rất dễ dàng cho những người bị khuyết tật. Những người có trở ngại trong việc nghe/ nhìn, xin liên hệ hay cần thông điệp viên xin gọi (408) 294-9537 cùng sớm càng tốt nhưng ít nhất phải 3 ngày trước ngày buổi điều trần diễn ra.

khách sạn 5 tầng".

Hàng chục sòng bạc phục vụ cho con bạc VN, trong khi đó, người dân CPC bị cấm cờ bạc một cách nghiêm ngặt.

Ngày 6-4-2012, Cục Cảnh sát Hình sự VN cho biết, ước tính trung bình mỗi ngày có trên 3.000 người Việt sang CPC đánh bạc, phần lớn đều thua cháy túi, đưa đến những hệ lụy nhức nhối cho gia đình và xã hội.

8.2. Vừa báo vệ biên giới vừa phá hoại xã hội Việt Nam

Hun Sen tung ra một chiêu mà đạt được hai mục đích: bảo vệ biên giới và phá hoại văn hóa, xã hội, gia đình và cả kinh tế VN nữa.

25 sòng bạc, khách sạn, mại dâm phục vụ cho con bạc VN, mỗi năm thu vào 20 triệu đô la tiền thuế cho nhà nước. Nhiều

ở Củ Chi, sau nhiều ngày xả láng ở casino, đã sạch túi, nợ chủ sòng 110 triệu đồng, bị bắt giam trong "phòng chết" hành hạ, chờ tiền chuộc mạng.

Con gái 13 tuổi tên Nguyễn Thị Thủy Kiều thuật lại như sau, em đang ở trường thì nhận được điện thoại của cha. Cha em khóc nước mắt yêu cầu em đem cầm chiếc xe đạp, mang tiền sang chuộc cha.

Ông Lâm hướng dẫn cận kề đường đi nước bước đến sòng bạc. Tuy nhiên, trên đường đi, em Thủy Kiều bị người lái xe ôm và một thanh niên của casino lừa gạt lấy 300,000 đồng.

Khi Thủy Kiều bị giam giữ, thì người cha biệt vô âm tín.

Ngày 28-12-2012, bà Đinh Thị Hoa, 42 tuổi, mẹ của em Thủy Kiều cho biết, nhiều cứ điện thoại

Độc nhân long Hun Sen lại bại thật. Chơi quan tâu rảo máng với quan thầy VN đã dựng ông lên cao quỳn mới có ngày nay.

### 9\* Tổng quát về nước Campuchia và nhà nước độc tài của Hun Sen

9.1. Nước Campuchia Quốc vương Norodom Sihamoni \* Cung điện Hoàng Gia ở Phnompenh

Di sản của thế giới "Điều mùa Hoàng gia

Vương quốc Campuchia diện tích 181,040km2. Dân số 14,805,385 (2011). Thủ đô là Phnom Penh. Theo chế độ quân chủ lập hiến, nhà vua giữ chức vụ tượng trưng. Quốc vương hiện nay là Norodom Sihamoni (Con của Norodom Sihanouk). Thủ tướng là Hun Sen.

Campuchia (CPC) có biên giới chung với các quốc gia: Với Thái Lan (800km) ở phía Bắc. Với Lào 541 km ở phía Tây. Với Việt Nam 1,270km ở phía Đông. Phía Nam CPC là Vịnh Thái Lan

Quốc hội lưỡng viện: Hạ Viện và Thượng Viện. Hạ Viện có 123 đại biểu do dân bầu. Thượng Viện 61 đại biểu do Quốc vương bổ nhiệm theo đề cử của Hạ Viện.

Đảng Nhân Dân Campuchia CPP (Cambodian Peoples Party) của Hun Sen bị mất



Hai con bạc Việt Nam bị chặt đứt ngón tay \* Gia đình các nạn nhân

Thực tế tranh chấp biên giới Việt-Miền như thế thì làm sao mà không cảnh giác?

Ngày 16-7-2015, người phát ngôn Bộ Ngoại giao, Lê Hải Bình, lên tiếng bác bỏ những hình ảnh và tin tức trên các trang mạng, cho rằng VN đang chuyển vô khí về biên giới Tây Nam.

Ông Bình khẳng định: "Thông tin về việc Việt Nam chuyển vô khí vào Nam là không xác thực".

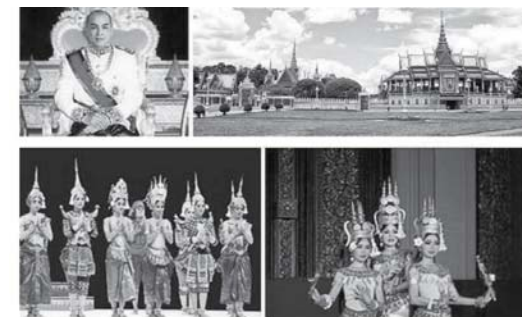
### 8\* Hun Sen chơi đon đem, quyết hạ Việt Nam

8.1. Hun Sen xây 25 sòng bạc ở biên giới Miền-Việt

Casino Titan là sòng bạc lớn nhất gần cửa khẩu Mộc Bài

Hun Sen cho xây một loạt các sòng bài dọc theo biên giới Miền-Việt, cho đó là một phần trong chiến lược bị mất bạo mạng lãnh thổ chống lại VN.

Hàng AFP dẫn lời của Hun Sen: "Tôi không thích sòng bạc nhưng mục tiêu lớn nhất là bảo vệ biên giới. Người ta có thể tháo gỡ cột mốc biên giới nhưng không thể phá hủy một



Quốc vương Norodom Sihamoni \* Cung điện Hoàng Gia ở Phnompenh

Di sản của thế giới "Điều mùa Hoàng gia

con bạc thua cháy túi, thế thân từ 3.000 đến 5.000 đô la để gỡ vốn, nhưng rồi cũng sạch túi, phải chịu giam cầm và hành hạ, khủng khiếp nhất và chất nhúng tay, chụp hình gửi về thân nhân đòi tiền chuộc mạng. Nhiều cha mẹ phải bán nhà, chịu cảnh màn trời chiếu đất, đem tiền chuộc con.

Thảm kịch xúc động nhất là người cha lừa đem con gái 13 tuổi để gán nợ cho chủ sòng. Ông Nguyễn Văn Lâm, 41 tuổi của sòng bạc hồi thúc đem tiền chuộc con, nếu chậm trễ thì con bà sẽ bị đem bán vào động mại dâm ở Thái Lan.

Bà Hoa vay nợ 30 triệu đồng với tiền lãi 10%, mượn khắp nơi đem tiền đến chuộc con.

Sòng bạc Hun Sen gây biết bao thảm cảnh cho gia đình và xã hội VN. Thua bạc giết người cướp xe ô tô, con giết cha mẹ lấy tiền trả nợ và đánh bạc, trộm cắp, cướp giật do cờ bạc.

nhiều ghế trong cuộc bầu cử ngày 28-7-2013. Hồi năm 2008 đảng CPP của Hun Sen chiếm 90 ghế. Bầu cử năm 2013 CPP chiếm 68 ghế. Đảng Cựu nguy Dân tộc Campuchia CNRP (Cambodia National Rescue Party-CNRP) của Sam Rainsy chiếm 55 ghế. Hun Sen bị các đảng đối lập tẩy chay là gian lận trong bầu cử

9.2. Nhà nước độc tài của Hun Sen

(Xem tiếp trang A11)

# Paunawa sa Paghahanda ng Draft na Ulat ukol sa Epekto sa Kapaligiran/Pag-aseso sa Kapaligiran para sa Proyekto na Mga Pagpapahusay sa Mathilda Avenue sa SR 237 at US 101

Ang California Department of Transportation (Caltrans) ay ang mangungunang ahensiya at maghahanda ng Ulat ukol sa Epekto sa Kapaligiran (EIR)/Pag-aseso sa Kapaligiran (EA) para sa Proyekto na Mga Pagpapahusay sa Mathilda Avenue sa State Route 237 at US 101.

Iminumungkahi ng Proyekto na pahasayin ang Mathilda Avenue sa Lungsod ng Sunnyvale mula Almanor Avenue hanggang sa Innovation Way, kabilang ang mga pagpapahusay sa on- at off-ramp na nasa mga interchange ng SR 237/Mathilda Avenue at US 101/Mathilda Avenue. Ang layunin ng Proyekto ay bawasan ang pagsisikip ng trapiko sa Mathilda Avenue, pahasayin ang daloy ng lahat ng uri ng transportasyon at magbigay ng mas mahusay na access sa mga lokal na destinasyon.

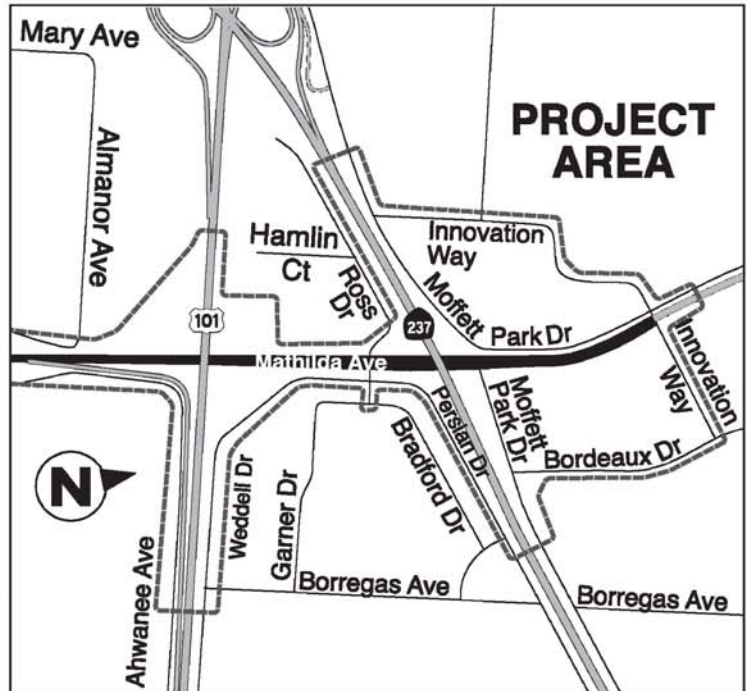
Kailangang pagtuunan ng Proyekto ang kasalukuyang mga problema sa daan kabilang ang mga dikit-dikit na interseksyon at hindi makontrol na mga daloy sa ramp. Iminumungkahi rin ng proyekto na pahasayin ang linya ng bisikleta at pedestrian sa loob ng mga limit ng proyekto.

Hinihiling ang iyong opinyon sa saklaw at nilalaman para sa dokumento ukol sa kapaligiran. Magaganap ang Public Scoping Meeting at Open House sa:

**Agosto 27, 2015**

Columbia Middle School – Staff Lounge,  
 739 Morse Avenue,  
 Sunnyvale, CA 94085  
 5:30 p.m. hanggang 7:00 p.m.

Ang deadline para sa pagtanggap ng mga komento sa saklaw ng proyekto ay 5:00 p.m. sa Setyembre 16, 2015. Maaaring ipadala ang mga komento sa pamamagitan ng email sa [MathildaAve@vta.org](mailto:MathildaAve@vta.org) o ng mail sa: VTA Environmental Programs and Resources Management, Attn: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927.



Para sa karagdagang impormasyon, mangyaring maki-pag-ugnayan sa VTA Community Outreach sa (408) 321-7575, TTY para sa may kahirapan sa pandinig: (408) 321-2330. Maaari mo ring bisitahin kami sa web sa [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) o mag-email sa [amin@community.outreach@vta.org](mailto:amin@community.outreach@vta.org).



### 華裔號召積極參政 自我維權

# 亞凱迪亞反建巨宅 族裔對立呼之欲出

記者陳慧輝亞凱迪亞報導



由於亞凱迪亞市高地(Highland)社區的「拯救亞凱迪亞高地組織」,希望以跨越公投門檻的運籌,納入嚴總亞市住宅開發面積標準的公投。19日100多位出席社區居民說明會,有華人發言,認為反對建蓋巨宅者,都是白人居民,有歧視華裔移民的傾向。

19日參加這場社區說明會的華裔,包括亞市的新、老華裔住戶,有人認為反建大住宅,是主流居民歧視華裔移民,尤其是來自中國大陸的新移民。有人則強調美國是法治社會,希望此爭議案走完法律程序,釐清爭議,建立住宅開發的合理標準,同時,不希望演變成族裔的對立或歧視問題。

亞市市議員戴守真當天應華裔居民要求,舉行「拯救亞凱迪亞高地組織」報告市府,以及該組織發起社區遊藝,對該市住宅開發影響的說明

會。戴守真希望為華裔居民解答相關疑問,並聽取居民意見。

戴守真表示,他個人不反對該市住宅開發,有關建築面積的標準納入公投,但公投之前,居民應對該市現行的住宅面積開發標準,有充分瞭解,才能判斷市府的現行標準是否合理,是否需要變更,以及「拯救亞凱迪亞高地組織」提出的公投標準是否合理,是否值得支持。因為一旦公投通過,發現不適合亞市的社區住宅開發需求,要再變更回來或修改,應須再進行一次公投的大工程。



亞凱迪亞市為建蓋或重建5000呎以上住宅,掀起大論戰。記者陳慧輝攝

亞市現行住宅開發的標準,與第一層住宅,住宅面積最大可佔地45%。建蓋兩層樓住宅,一、二樓住宅面積最大均可佔地35%,但二樓建築須做退後設計,因此二樓面積不會達到最大35%的標準。戴守真說,「拯救亞凱迪亞高地組織」計劃明年付諸市民公投的提案內容,主張將該市現行的住宅開發標準予以嚴縮,住宅建築面積僅可佔地20%,而且是總建築面積,若屋主建蓋多層住宅,各層的住宅面積就會相對均分縮小。

### 偷情網站被黑 澳數百公務員斷正

偷情網站「Ashley Madison」遭到黑客,偷去3700萬名用戶的個人資料,其中有數百名澳洲公務員的名字、地址、信用卡資料及電郵地址,包括來自敏感部門國防部及外交部的公務員。

這個自稱為「偷情網」的黑客團今次成功,已引起國安專家的關注,警告公務員與個別人士可能會被人用來勒索敲詐。「偷情網」偷得的資料在「深網」發布,據澳聯社所見,包括至少800名公務員,有聯邦及省政府部門,警用會會員可得的安排偷情服務。會員賬戶與政府部門僅有關,由聯邦政府的衛生、教育及環境、公營的廣播ABC、國防部及外交部,至紐省的律政署。

又有幾十個賬戶所用的電郵地址與紐省、維省、西澳、南澳及昆省的警員有關,包括高級警員。昆省政府表示,已調查為何至少44名公務員的電郵在數據中出現,這些電郵地址包括屬於一名保員、一名城鎮議員及一名政府官員。一名海軍軍官的賬戶也出現,其工作範圍是「領袖發展及文化」。澳聯社正向外交部及國防部要求評論。

本報專訊

### 剋扣背囊客薪資 旅行社資產凍結

昆北亞盛益一間旅行社,剋扣5名香港、台灣、意大利及荷蘭背囊客薪資近3萬元,不肯聽從法庭命令支付所欠的薪資,被公平工作申訴專員入稟聯邦巡迴法庭,防止公司變賣或處理其資產。

Trek North旅行社及其東主兼董事在費臣(Leigh Alan Jorgensen)因為未遵照申訴專員的通知,在今年6月被下令償還5名背囊客薪資,並且被罰款共6.7萬元。

但迄今這些外國工人仍未收到補償,所以申訴專員凍結公司的資產,防止公司將資產變賣,或宣布破產,逃避支付所欠的薪資。申訴專員表示,有消息最近傳出,指在費臣計劃將公司的資產移往一間新公司,故此,申訴專員已成功地取得聯邦巡迴法庭的頒令,防止公司變賣資產。上述的工人是在2013年8月至2014年4月在公司工作。

本報專訊

## 潮團聯誼年會開幕 僑辦鼓勵推動多贏經濟



國際潮團總會第18屆國際潮團聯誼年會(簡稱:國際潮團年會),20日在卑詩省溫哥華會議中心(Vancouver Convention Centre)開幕,加拿大三級政府官員、中國國務院僑務副主任任啟亮,及多位加國及海外華社區領袖共3000人出席。場面盛大;大會討論如何善用潮商力量推動經濟活動,以及推廣潮汕文化。任啟亮則鼓勵海外潮團運用資金和智慧優勢,合力發展多贏經濟。

國際潮團年會首次在加拿大舉行,來自80個國家及地區共3000位潮團領袖及專業人士參與,開幕禮增添不少加國元素,包括皇家騎警風笛隊和原住民祈禱儀式,讓前來開會的海外人士也體驗加國文化。

開幕禮結束,隨即舉辦多個研討會和推介會,題材廣泛,包括自然資源、農產品、創意產業等,同時舉辦了潮籍青年中國畫展及潮韻展,推廣潮汕文化。專程到溫出席活動的中國國務院僑務副主任任啟亮致開幕詞,他鼓勵海外潮團僑領結各地鄉親,推動經濟發展。任啟亮說:「要發揮海外潮商資金與智力優勢,積極參與與中國的全面大改革,在促進中外各領域交流合作中,發揮、發展、壯大自身的事業。」

加國聯邦國防部長兼多元文化部長康尼(Jon Kenney)、卑詩省督古桑(Judith Guichon)、省自由黨議員李煥明、列治文市議員區澤光等三級政

府官員,以及中國駐溫總領事劉昇等人,都有出席國際潮團年會。古桑致詞時,特別提到已故卑詩省督林思齊,以及與卑詩省有密切聯繫關係的香港首富李嘉誠,都是潮州人,顯示卑詩省與潮州有密切聯繫。她更以香港人常用的「超人」,來形容潮籍巨富李嘉誠。而康尼致詞時,首先以潮州話「大家好!向嘉賓問好,並且讚揚潮州人勤奮節儉作風,又感謝潮商多年對社區所作貢獻。他更向海外潮團僑領招手,歡迎他們移民加拿大。在溫市中心一連三天舉行的國際潮團年會,定於21日開幕。

本報記者伍鍾輝溫哥華報導

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<b>Daly City</b> 440 Westlake Ctr 650.991.3275	<b>Irving</b> 825 Irving St. 415.682.2250	<b>Noe Valley</b> 3900 24th St. 415.970.9070	<b>San Rafael</b> 1104 4th St. 415.453.2929	<b>West Portal</b> 115 West Portal Ave. 415.682.8833
<b>Excelsior</b> 4627 Mission St. 415.452.4250	<b>Market</b> 2122 Market St. 415.437.3860	<b>Noriega</b> 1239 Noriega St. 415.685.5366	<b>Sunset</b> 2501 Irving St. 415.731.4386	
<b>Fillmore</b> 1900 Fillmore St. 415.674.9590	<b>Mission</b> 2776 Mission St. 415.826.1013	<b>Portola</b> 2555 San Bruno Ave. 415.508.1472	<b>Taraval</b> 1122 Taraval St. 415.664.7920	

\*The Annual Percentage Yields (APY) are accurate as of 7/20/2015 and are subject to change without notice. 1% Combo Account — The Combo Account is a 13 month 1% APY CD with a \$500 minimum balance requirement and a checking or money market account with at least one monthly direct deposit. Both must be maintained to earn the advertised CD APY. If the direct deposit is not established within 90 days of account opening, the APY will revert to the 12 month CD rate in effect at account opening. A penalty will be imposed for early withdrawal. High Yield Money Market Account — Rates are compounded monthly and paid on the entire balance in the account. Fees may reduce earnings if the average minimum monthly balance of \$500 is not maintained.

1-800-944-2265

富華信託銀行 Sterling Bank & Trust

关于制定环境影响报告/环境评估草案的通知

237 号州道和 101 高速公路  
Mathilda Avenue 路段的修繕项目

加州交通部 (Caltrans) 将作为 237 号州道和 101 高速公路 Mathilda Avenue 路段修繕项目的主导机构,负责起草该项目的环境影响报告(英文简称“EIR”)/环境评估报告(英文简称“EA”)。

项目提议修繕 Sunnyvale 市从 Almanor Avenue 到 Innovation Way 之间的 Mathilda Avenue 路段,包括 237 号州道/ Mathilda Avenue 及 101 高速公路/ Mathilda Avenue 交汇处的高速公路上下坡道。该项目旨在减轻 Mathilda Avenue 交通拥挤状况,使所有交通方式运行畅通,使当地的交通更为便利。项目将解决道路目前存在的问题,例如交叉口距离过近、高速公路上下坡道的车流没有控制等。该项目还提议在项目覆盖的范围内改善自行车及行人的通行。

我们恳请您对环境影响文件的范围及内容提出意见和建议。我们将于下述日期及地点举办公众征求意见会议及开放参观活动:

2015 年 8 月 27 日  
Columbia 初中 - 员工休息室  
739 Morse Avenue  
Sunnyvale, CA 94085  
晚 5:30 至 7:00 时

接受公众建议的截止期是 2015 年 9 月 16 日下午 5:00 时。您可以发电子邮件至 [Mathilda.Ave@vta.org](mailto:Mathilda.Ave@vta.org) 或写信至: VTA Environmental Programs and Resources Management, Attn:Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927.

如需更多信息,请联系 VTA 社区外展部。电话是:(408) 321-7575。TTY 听障者专线是(408) 321-2330。您也可以访问我们的网站:  
[www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) 或发电子邮件至 [community.outreach@vta.org](mailto:community.outreach@vta.org).

Caltrans VTA

SF한국교육원 최철순 신임원장

“공립학교 한국어반 개설에 전력”

3년간의 임기를 마치고 돌아가는 신주소 SF교육원장의 후임에 최철순 전 서울시 교육청 장학관이 부임했다.

18일 인사차 본사를 방문한 최 신임 교육원장은 “한국어 반 많은 공립학교 내 한국어반 개설이 가장 큰 목표”라고 포부를 밝혔다.

오는 20일부터 공식 업무를 시작하는 최 원장은 “한국어 보급을 위한 가장 효율적인 방법이 공립학교 내 한국어반 개설이라고 생각한다”면서 “수업 문제는 아니지만 전임 교육원장님들이 이뤄온 성과에 누가 되지 않도록 노력할 것”이라고 말했다.

그 일환으로 신주소 원장이 추진하던 콜로라도 덴버 인근 오로라의 글로벌 빌리지 야구 팀이(GVA)와 한국어 반이 개설됐다 폐지된 덴버국제학교(DCIS)에도 다시 수업이 재개될 수 있도록 협의할 계획이다. 또 킨더거튼 부두 6학년까지 한국이 이민전 프로그램이 개설돼 있는 샌프란시스코 클레어델리엔탈에도 중학교 전학년(7-8학년)에 한국어 프로그램이 확대 실시 될 수 있도록 하는 계획도 덧붙였다.

이와 함께 한국학교 지원 계획도 밝혔다. 최 원장은 “현재 한국학교들이 주로 유아 또는 초등학생 위주로 수업이 진행되는 것으로 알고 있다”며 “중학생과 고등학생들도 흥미를 가지고 수업에 참여할 수 있는 방안을 마련해 나갈 것”이라고 전했다. 또 “교사 연수와 학습법 세미나 등



18일 본사를 방문한 최철순 신임 SF 교육원장이 공립학교 한국어반 개설 등 향후 추진 계획을 설명하고 있다.

을 통해 각 학교 교사들의 질적 향상도 꾀할 생각”이라고 덧붙였다.

최 원장은 “임기중 한국어반이 개설된 공립학교, 세종학당 그리고 한국학교까지 총 망라된 책자를 통해 한국어 교육을 홍보할 생각”이라며 “지역사회와 학교가 연결돼 함께 시너지 효과를 낼 수 있는 프로그램들도 개발해 시도에 볼 생각”이라고 밝혔다.

공주소법대학을 졸업하고 ROTC로 7년간 군복무를 한 최 원장은 92년 서울 아현중학교에서 처음 교편을 잡은 뒤 경동고등학교를 거쳐 2003년 장학사로 서울시 교육청에서 근무를 해왔다.

부인 조주은씨와 사이에 2녀가 있다.

한편, 신주소 원장은 20일 한국으로 귀임해 세종시 교육청에서 근무한다. 최정현 기자

“섹스팅과의 전쟁”... 청소년에 만연

개학 맞아 대대적 예방 캠페인 10명중 3명 경험 '무방비 노출'

각 교육구별로 가을학기 개학이 시작됐다.

개학을 맞아 학교 당국과 학부모들의 큰 고민인 10대 청소년 사이에서 퍼지고 있는 ‘섹스팅(sexting)’이다. 섹스팅은 섹스(sex)와 문자(texting)의 합성어로 스마트폰과 SNS를 통해 음란 문자나 사진을 주고 받는 행위다.

가주의 각 교육구들은 개학에 맞춰 섹스팅의 위험성을 알리고 경각심을 일깨우는 캠페인을 벌이는 등 ‘섹스팅과의 전쟁’에 나섰다.

특히 남가주의 LA통합교육구는 교육용 영상을 통해 섹스팅 방지법과 대처법을 알려주려 학생들을 올바른 방향으로 인도하겠다는 방침이다.

최근 한 연구보고서에 따르면 고교생 10명 중 3명이 섹스팅을 경험

했을 정도로 청소년들 사이에서 섹스팅이 만연해 있다.

무방비로 노출되기 쉽고 ‘친구들이 하니까 나도 해도 괜찮겠지’라는 심리가 작용해 섹스팅을 처음 접했을 때 당황하거나 거부하기보다 자연스럽게 회의식 없이 받아들이는 경향이 있다는 게 교육계의 지적이다.

고등학교 10학년생 아들을 둔 레이철 박씨는 “아들의 페이스북에 남자가 뒤엉켜 진하게 스킨십을 하는 사진이 올라와 있는 것을 보고 충격을 받았다. 친구들과 주고 받은 댓글도 수위가 높아 충격은 더했다”고 말했다.

이모씨는 “이번에 중학교에 들어간 딸에게 스마트폰을 사주면서 유튜브 등의 위험한 콘텐츠는 접근하지 못하도록 차단했지만 마음이 놓이지 않는다”며 “사내 아이러닝 모델을 어떤 딸이 심한 충격을 받을까 걱정”이라고 말했다. 고등학생 자녀를 둔 윤모씨는 “이상한 내용

또는 사진을 보내는 친구와 어울리지 말고 했다”며 “아이의 반발심만 키웠다”며 “아이가 화가 나서 소리를 지르는 데 ‘친구들 다 한다’고 하더라. 별로 심각하게 여기지 않는 게 문제”라고 답했다 했다.

교육 전문가들은 ▶조조진 나쁘다 하지 말라고 강요하기보다는 ▶섹스팅에 빠지면 성범죄에 대한 죄의식이 희박해져 성범죄를 일으킬 수 있다는 점을 자녀에게 주지시킬 것을 조언했다. 또 ▶섹스팅을 통해 성폭행 사진이나 또래의 음란 사진을 공유하는 것은 범죄이자 아동 포르노라는 것을 인식하게 하고 ▶지금 SNS 등에서 한 일이 이후 대학 진학 취직 커리어 등 앞으로 자녀의 삶에 영향을 미친다(New Matters Later)는 것을 인지하도록 할 것을 권했다.

무엇보다 ▶불편하지만 자녀가 섹스팅에 대해 어떻게 생각하는지 묻고 지속적인 대화를 통해 파악해야 한다고 강조했다. 이세희 기자

SF시, 주차미터기 수수료 부과 시작

SF 교통국(SFMTA)이 지난 15일부터 주차미터기를 신용카드 및 체크카드로 결제할 경우 27센트의 수수료를 부과하기 시작했다.

플 로즈 SFMTA 대변인은 “5년

전 SF시가 신용카드 주차미터기를 처음 설치 했을때부터 현재까지 부과요금을 정부 보조금으로 충당해왔다”며 “그러나 이제 이용자께 요금을 부과해야 할 때”라

고 말했다. 이번 요금 부과 정책으로 SFMTA는 앞으로 9년간 4770만 달러를 벌어들일 것으로 추정된다.

한편, 45센트였던 핸드폰 결제 거래 수수료는 27센트로 인하된다.

신다운 인턴기자

우버, SF서 음식 배달한다

자동차 공유 어플리케이션 ‘우버(Uber)’가 음식 배달 서비스를 시작했다. 우버는 지난 18일부터 ‘UberEATS to San Francisco’라는 이름으로 이용자들에게 음식을 배달하는 서비스를 시작했다고 밝혔다. 이번 음식 배달 서비스는 SF 시의 파이낸셜과 소마 지역을 중심으로 서비스 가능 지역을 늘려 나갈 계획이다.

우버는 ‘리넨 바’, ‘나폴리토’와 같은 SF 인기 레스토랑들과 파트너십을 맺어 그곳의 음식을 8달러에서 12달러 사이의 가격으로 제공

하며 3분의 배달비를 받고 10분 안에 주문음식을 배달할 방침이다.

그러나 일각에서는 우버가 실제로 10분 안에 배달을 할 수 있을지 의문을 제기했다. SF에서 거주하고 있는 줄리아 루티어는 “SF 시내의 교통 체증이 심해 우버를 통해 주문한 음식이 10분 안에 배달될 수 있을지 모르겠다”라는 의견을 밝혔다. 한편, 우버는 이미 시카고와 뉴욕에서 음식 배달 서비스를 시행 중이며 LA와 스페인의 바르셀로나에서 서비스를 시행 예정인 적 있다. 신다운 인턴기자

여름철 해병, 아동 성추행 조신 산타크루즈 해변에서 최근 2건

56세의 남성이 산타크루즈 해변에서 15세 소녀의 사진을 촬영하다 현장 신세를 지게했다.

산타크루즈 경찰국에 따르면 정 원사로 일하는 이 남성은 9일 산타크루즈 인근 캐비올라 비치에서 15세 소녀의 사진을 몰래 촬영하다

동 성추행 혐의로 체포된 것으로 알려졌다. 이번 체포는 한 시민의 제보로부터 비롯됐다. 남성은 현재 보석금 2만 달러를 내고 풀려난 상태다.

한편, 지난달에도 산타크루즈 해변에서 유사한 사건이 발생했다. 산타크루즈 메인 비치 인근에 위치한 공공사위실에서 한 남성이 7세 소녀의 나체를 촬영한 뒤 딸이 사진이 일어났다. 신다운 인턴기자

→1면 '개슬린세'에서 이어집니다

리온(Reason) 파운데이션의 '21세기 고속도로 보고서'에 따르면 가주의 고속도로 시스템은 미국에서 최악인 곳 중 하나다. 주간 고속도로와 매일당 관리비용 부분은 골짜기에서 두 번째다. 도로 상태가 좋은 풀 50에 오른 주는 와이오밍, 네브래스

카, 사우스다코타, 사우스캐롤라이나, 캔자스주의 개슬린 세금은 전국 평균보다 낮다. LA타임스는 개슬린 세가 낮은데도 도로 상태가 좋은 이곳 들은 어떻게 설명할 것인지가 주 정부에 물었다. 운전자를 위하지 않고 다른 곳에 쓰면서 세금을 더 올리고 하느니고 요점이다.

**237번 주도와 101번 국도의 마틸다 애비뉴 개선 (Mathilda Avenue Improvements) 프로젝트 관련 환경영향평가 보고서 (Environmental Impact Report) 초안 및 환경평가(Environmental Assessment) 준비에 대한 공지**

캘리포니아주 교통부(Caltrans)는 주관 기관으로서 237번 주도와 101번 국도의 마틸다 애비뉴 개선 프로젝트 관련 환경영향평가 보고서(EIR) 및 환경평가(EA)를 준비할 예정입니다.

이번 프로젝트에서는 237번 주도/마틸다 애비뉴와 101번 국도/마틸다 애비뉴 인터체인지의 진출입로 포함, 알마노 애비뉴(Almanor Avenue)에서 이노베이션 웨이(Innovation Way)까지의 서니벨리(Sunnyvale)시 마틸다 애비뉴의 개선 작업이 제안되었습니다. 프로젝트의 목표는 마틸다 애비뉴의 교통 정체 감소, 교통 수단별 이동성 개선 및 로컬 지역에 대한 접근성 향상 등입니다. 밀집 배치된 교차로와 통제되지 않은 진입로 이동 등 기존 도로의 문제점을 해결하기 위해 필수적인 프로젝트입니다. 또한, 프로젝트 한도내에서 자전거 및 보행자의 접근성을 개선하는 것도 제안되었습니다.

환경 보고서의 범위와 내용에 대한 여러분의 의견이 필요합니다. 일반 시민을 위한 스코프 결정(Scoping) 미팅과 설명회 개최 일정은 다음과 같습니다.

**2015년 8월 27일**  
컬럼비아 중학교 - 직원 라운지  
739 모스 애비뉴(Morse Avenue)  
서니벨리(Sunnyvale), CA 94085  
오후 5:30-7:00

프로젝트 스코프에 대한 의견 제출 기한은 2015년 9월 16일 오후 5시입니다. 의견은 이메일 [MathildaAve@vta.org](mailto:MathildaAve@vta.org) 로 보내시거나 우편인 경우 하기의 주소로 보내주세요. VTA 환경 프로그램 및 자원 관리부, 담당자: 라니 호(Lani Ho), 3331 노스 퍼스트 스트리트(North First Street), Bldg. B-2, 산 호세(San Jose), CA 95134-1927.

프로젝트에 관해 더 자세한 정보를 원하시는 분들은 VTA 지역봉사부(408) 321-7575로 연락 주십시오. 청각 장애가 있으신 분들을 위해 TTY 모드 (408) 321-2330 도 제공하고 있습니다. 또한, 관련 웹페이지 ([www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements))를 확인하시거나, 이메일 ([community.outreach@vta.org](mailto:community.outreach@vta.org)) 로도 연락가능합니다.

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# Harnessing The Healthy Power Of Coffee



## NAPS

A few cups of coffee a day may do much more than fuel that early-morning energy oomph. The latest wave of scientific evidence suggests drinking coffee offers numerous health benefits that contribute powerfully to a balanced diet, an active lifestyle and overall well-being.

Until recently, the health impact of the world's most popular beverage has been hotly debated. However, better and more well-designed research is now telling a much clearer story, one that has coffee enthusiasts celebrating.

Helping shape this sharper picture have been eye-opening reports by the U.S. Dietary Guidelines Advisory Committee released just this past year. Scientists conducted a comprehensive analysis of all the latest evidence surrounding coffee as it relates to health. Included was a review of more than three dozen studies involving 1.2 million-plus participants. Following the assessment, the nation's top nutrition panel made history by giving the thumbs-up for people to enjoy coffee in a "moderate range," defined as three to five cups per day for adults.

It turns out that when scientists honed in on coffee—just coffee, without trans-fat-ridden creamers, syrups and sugars—the results were clear. A cup of joe can have a very healthful effect, such as enhancing exercise performance. But there are also strong indicators tying coffee to other benefits, such as an association with better cardiovascular, metabolic and brain health long-term.

This is great news for java lovers everywhere, and there are lots of them. Americans alone consume 400 million cups of coffee per day, making the U.S. the leading consumer of coffee in the world, according to the National Coffee Association. Globally, the total is estimated between 1.5 and 2 billion cups daily.

"Today's science now shows us that coffee can be quite healthful, and that's fantastic since there are so many of us who enjoy it," said registered dietitian and nutritional counselor Jaimie Lopez, RDN. "But this means drinking sensibly. Black coffee is best. When you start throwing in things like sweeteners, a healthful pick-me-up can quickly turn into a high-calorie concoction."

So not only does coffee deliver natural caffeine to the body for an energy boost, but many negative misperceptions about the beverage's impacts to overall wellness and fitness are also being debunked. In fact, the data findings by the Dietary Guidelines Advisory Committee point to just the opposite—that the brew can actually help support and protect mental and physical well-being.

The healthy power of coffee is a welcome delight for millions. It not only tastes good, it can also be good for you. So much so that it is emerging as an integral part of healthful living.

"The right type of coffee consumed responsibly can definitely be a tasty and healthy part of daily life," said Suk Cho, Ph.D. and Chief Science Officer with Isagenix, a leading global health and wellness company. A provider of nutritional systems and solutions for energy, performance and weight loss, the company recently expanded its product offerings to include a line of premium and organic, slow-roasted coffee.

"This isn't a green light to drink as much coffee as you want. Coffee consumed in excess or in the evening is linked to poor sleep, insomnia and other risks. But in moderation, it can absolutely provide a safe and satisfying boost for your brain and body," said Suk.

So now millions can enjoy their daily dose of coffee while simultaneously drinking to, and for, their health. For more information about the healthy power of natural caffeine and coffee, visit [www.isagenix.com](http://www.isagenix.com).

The healthful power of coffee is a welcome delight for millions. It not only tastes good, it can also be good for you.

Departamento del Control de Sustancias Tóxicas - Hoja de Datos agosto de 2015

## Aviso Publico

La misión del DTSC es de proteger a los residentes de California y al medio ambiente de los efectos nocivos de sustancias tóxicas a través de la restauración de recursos contaminados, la aplicación de regulaciones, y la prevención de la contaminación.

### PRIMERA REVISIÓN QUINQUENAL EVERGREEN ELEMENTARY SCHOOL SAN JOSE, CALIFORNIA

El Departamento de Control de Sustancias Tóxicas (DTSC, por sus siglas en inglés) llevará a cabo la primera Revisión Quinquenal de efectividad de la solución para el sitio Evergreen Elementary School (SES) ubicado en el 3010 Power Road, en San Jose, California 95132. El propósito de la Revisión Quinquenal es asegurar que la solución elegida siga siendo efectiva y esté funcionando para lo que fue diseñada y tiene un mantenimiento apropiado para proteger la salud humana y el medio ambiente.

La solución fue de cubrir las zonas del SSO donde concentraciones inaceptables de asbestos de origen natural permanecen en el suelo. Las siguientes áreas fueron cubiertas para crear barreras y así tanto, prevenir o reducir considerables emisiones esporádicas para los estudiantes y el personal: Área del Pasto de Servicio Sur, Área del Pasto de Servicio Oriental, Área de Enarcamiento Pavimentado, Área Aplanadas, Área de Autos, Área del Edificio de Usos Múltiples y Área de Llegada/Camino de Autobús.

La cubierta consiste en una barrera de alerta (generalmente cerca para nieve color amarillado) seguida de retazo impermeado, seguido de cualquier base de agregado grava, asfalto o concreto, o suelo vegetal y materiales de jardinería. El Distrito de Evergreen Elementary School (Distrito) condujo todas las actividades de remoción en el verano de 2009. Incluido en la solución hay actividades de operación y mantenimiento (O&M) para monitorear y proteger las cubiertas en el sitio. En agosto de 2015, el DTSC y el Distrito llevarán a cabo una inspección en el sitio. La inspección identificará cualquier cambio en la condición o uso del SSO, cambios en la construcción que afectan las cubiertas, identificación y evaluación de cualquier reparación requerida, y otra información relevante relativa a las cubiertas. La inspección incluirá medición y evaluación de las cubiertas. El DTSC enviará un Reporte de Revisión Quinquenal documentando los resultados de la inspección y las recomendaciones, para revisión y aprobación, dentro de los 60 días posteriores a la inspección. De ser necesario, el Plan O&M será actualizado para reflejar los cambios desde la implementación del Plan de Trabajo de Acción de Remoción (RAW) por sus siglas en inglés.

DEPÓSITOS DE INFORMACIÓN: El RAW y el Aviso de Estando de la Ley de Calidad Ambiental de California (NDL, por sus siglas en inglés) y otros documentos relativos pueden ser revisados en las siguientes ubicaciones:

Distrito Evergreen Elementary School 3188 Quimby Road San Jose, CA 95143 (408) 270-6820 Llamas para horarios	Biblioteca de Evergreen 2625 Aborn Road San Jose, CA 95121 (408) 803-3263 Llamas para horarios	Oficina Regional del DTSC de Sacramento 8800 Cal Center Drive Sacramento, CA 95826 (916) 255-3780 Únicamente por cita
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O el sitio web del DTSC: [www.dtsc.ca.gov/psd/ndl](http://www.dtsc.ca.gov/psd/ndl)

Para información adicional, favor de contactar al siguiente personal del DTSC:

Harold (Bud) Duke Gerente de proyecto (916) 255-3695 <a href="mailto:bud.duke@dtsc.ca.gov">bud.duke@dtsc.ca.gov</a>	Veronica Lopez-Villaseca Especialista en Participación Pública (916) 255-3651 1 (888) 425-2651 <a href="mailto:Veronica.Lopez-Villaseca@dtsc.ca.gov">Veronica.Lopez-Villaseca@dtsc.ca.gov</a>	Sandy Nax Oficial de Información Pública (916) 221-6114 <a href="mailto:Sandy.Nax@dtsc.ca.gov">Sandy.Nax@dtsc.ca.gov</a>
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27 de agosto de 2015, Columbia Middle School • Salón del personal, 739 Morse Avenue, Sunnyvale, CA 94085, 5:30 p. m. a 7:00 p. m.

## Aviso de preparación del bosquejo de un Informe sobre el Impacto Ambiental/Evaluación Ambiental para el Proyecto de mejoras de Mathilda Avenue en SR 237 y US 101

El Departamento de Transporte de California (Caltrans) será la agencia líder y preparará un Informe sobre el Impacto Ambiental (Environmental Impact Report, EIR)/Evaluación Ambiental (Environmental Assessment, EA) para el Proyecto de mejoras de Mathilda Avenue con la Ruta Estatal 237 y US 101.

El Proyecto propone mejorar Mathilda Avenue en la Ciudad de Sunnyvale desde Almaden Avenue hasta Innovation Way, incluyendo mejoras a las rampas de entrada y salida en los pasos a desnivel SR 237/Mathilda Avenue y US 101/Mathilda Avenue. El propósito del Proyecto es reducir la congestión vial en Mathilda Avenue, mejorar la movilidad para todos los tipos de viaje, y proporcionar un mejor acceso a los destinos locales. El Proyecto es necesario para atender las deficiencias existentes en los caminos, incluyendo intersecciones muy cercanas y movimientos sin control en las rampas. El proyecto propone también mejorar el acceso de peatones y bicicletas dentro de los límites del proyecto.

Se solicita su opinión sobre el ámbito y el contenido del documento ambiental. Se llevará a cabo una reunión pública para determinar el ámbito y un evento de puertas abiertas el:

La fecha límite para recibir comentarios sobre el ámbito del proyecto es a las 5:00 p. m. del 16 de septiembre de 2015.

Se pueden enviar los comentarios por correo electrónico a [MathildaAve@vta.org](mailto:MathildaAve@vta.org) o por correo postal a: Programas Ambientales y Administración de Recursos de VTA, a/c Lani Ho, 3331 North First Street, Building B-2, San Jose, CA 95134-1927.



Para obtener más información sobre este proyecto, llame al Programa de Extensión a la Comunidad de VTA al (408) 321-7575, TTY para los que tienen discapacidad auditiva al: (408) 321-2330. Usted puede visitarnos también en la red en [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) o enviarnos un correo electrónico a [community.outreach@vta.org](mailto:community.outreach@vta.org).



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**Appendix I**  
Notice of Availability and  
Newspaper Advertisements

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# PUBLIC MEETING

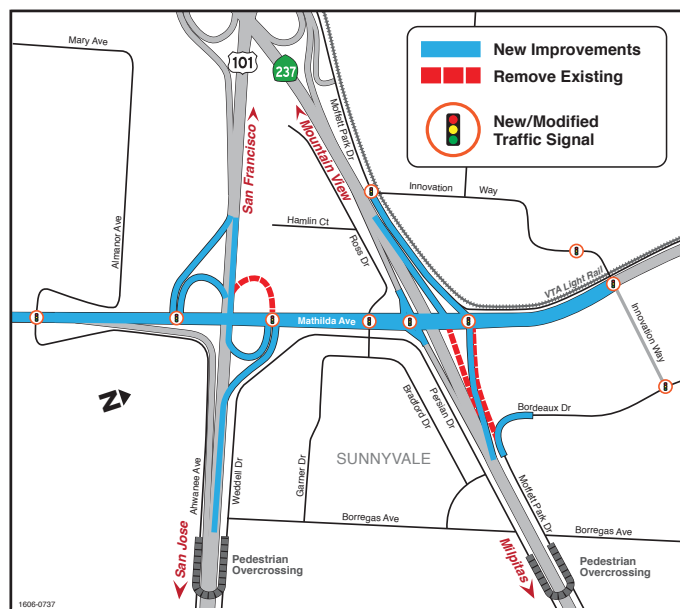
## Notice of Draft Environmental Impact Report (EIR) Available for Mathilda Avenue Improvements at SR 237 and US 101 Project and Notice of Public Meeting and Open House

**WHAT IS BEING PLANNED:** The California Department of Transportation (CALTRANS) has prepared a Draft Environmental Impact Report (EIR) for the Mathilda Avenue Improvements at State Route 237 (SR 237) and U.S. Route 101 (US 101) Project. The Project proposes to improve Mathilda Avenue in the City of Sunnyvale from Almanor Avenue to Innovation Way, including on- and off-ramp improvements at the SR 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges. The primary purpose of the Project is to improve traffic operations on Mathilda Avenue through US 101 and SR 237 interchanges. This Project is needed to address substantial traffic congestion on Mathilda Avenue and provide efficient access for all travel modes in the Project area.

**WHY THIS NOTICE:** CALTRANS has studied the effects this project may have on the environment. This notice is to inform you of the preparation of the Draft EIR and its availability for you to review and comment.

**WHAT'S AVAILABLE:** You can read or obtain a hardcopy of the Draft EIR at the CALTRANS District 4 Office, 111 Grand Avenue, Oakland, CA 94612 or the VTA Administrative Office, 3331 North First Street, San Jose, CA 95134 on weekdays from 8:00 am-5:00 pm. You can also access the report online at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) and hardcopies of the report at the Sunnyvale Public Library (665 W. Olive Avenue, Sunnyvale, CA 94086).

**WHERE YOU COME IN:** Your input on the content for the environmental document is requested. CALTRANS welcomes your comments on the Draft EIR. If you would like to make a comment on the Draft EIR, you may submit your written comments to VTA Environmental Programs and Resources Management, Attn: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927 or via email to [MathildaAve@vta.org](mailto:MathildaAve@vta.org).



All comments must be received in writing by 5:00 pm on Monday, September 26, 2016. Additionally, a public meeting and open house will be held to solicit comments on the Draft EIR.

**WHEN AND WHERE:** A public meeting and open house will be held on Tuesday, August 30, 2016 from 6:00 pm to 8:00 pm at Columbia Middle School (Multi-Purpose Room, 739 Morse Avenue, Sunnyvale, CA 94085). A brief presentation on the project will be given, followed by public comment.

**CONTACT:** The meeting facility is accessible to persons with disabilities. Persons requesting special accommodations should contact VTA Community Outreach no later than three days before the meeting. For more information, please contact VTA Community Outreach at (408) 321-7575, TTY for the hearing impaired: (408) 321-2330. You may also visit us on the web at [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) or email us at [community.outreach@vta.org](mailto:community.outreach@vta.org).





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**Learn about the Mathilda Avenue  
Improvements at SR 237 and US 101 Project  
at a Public Meeting and Open House  
for the Draft Environmental Impact Report.**

# Mathilda Avenue Improvements at SR 237 and US 101 Project

A public meeting and open house will be held on:

**Tuesday, August 30, 2016**

**6:00 p.m. - 8:00 p.m.**

Columbia Middle School, Multi-Purpose Room  
739 Morse Avenue  
Sunnyvale, CA 94085

Take VTA Bus Lines: 22, 26, 55, 62, and 522

A brief presentation on the project will be given, followed by public comment.

For more information, please visit the project website at [www.vta.org/mathilda/improvements](http://www.vta.org/mathilda/improvements) or contact VTA Community Outreach at (408) 321-7575.

The deadline for receiving comments on the Draft Environmental Impact Report is Monday, September 26, 2016, by 5 p.m. Comments can be sent by email to [MathildaAve@vta.org](mailto:MathildaAve@vta.org) or by mail to:

VTA Environmental Programs and Resources Management

Attn: Lani Ho

3331 North First Street, Bldg. B-2  
San Jose, CA 95134-1927

Si desea más información en su idioma, por favor comuníquese con el Programa de Alcance a la Comunidad de VTA al (408) 321-7575.



Nếu quý vị muốn thông tin đã được dịch sang tiếng Việt, xin liên lạc Ban Tiếp Ngoại Cộng Đồng của VTA tại số (408) 321-7575.



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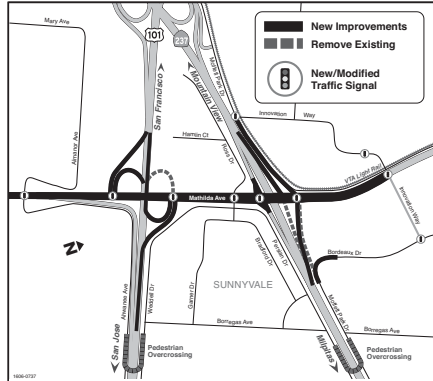
SILICON VALLEY  
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NEWSPAPERS**



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## PUBLIC MEETING

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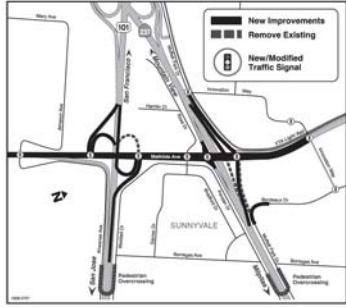
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Friday, August 12, 2016

**CUỘC HỌP CÔNG CỘNG**

**Thông Báo Về Dự Thảo Báo Cáo Tác Động Môi Trường (EIR) Đối Với Dự Án Cải Tiến Mathilda Avenue Tại SR 237 và US 101 và Thông Báo Về Cuộc Họp Công Cộng và Ra Mắt**



**NHỮNG ĐIỀU ĐƯỢC DỰ KIẾN:** Sở Giao thông vận tải California (Caltrans) đã chuẩn bị một dự thảo Báo cáo tác động môi trường (EIR) cho Dự Án cải tiến Mathilda Avenue tại Lộ Trình Tiểu Bang 237 (SR 237) và Lộ Trình Liên Bang 101 (US101). Dự án đề xuất để cải tiến Mathilda Avenue ở thành phố Sunnyvale từ Almanor Avenue đến Innovation Way, kể cả những cải tiến trong và ngoài các đường dẫn xuống tại các giao lộ SR 237 / Mathilda Avenue và US 101 / Mathilda Avenue. Mục đích chính của dự án là cải thiện hoạt động giao thông trên Mathilda Avenue qua giao lộ US 101 và SR 237. Dự án này là cần thiết để giải quyết tình trạng tắc nghẽn giao thông đáng kể trên Mathilda Avenue và cung cấp cách tiếp cận hiệu quả cho tất cả các phương thức đi lại trong khu vực dự án.

**TẠI SAO RA THÔNG BÁO NÀY:** Caltrans đã nghiên cứu những ảnh hưởng dự án này có thể có đối với môi trường. Thông báo này là để thông báo cho bạn về việc chuẩn bị Dự thảo EIR và sự sẵn có của nó để bạn có thể xem xét và cho ý kiến

**CÀI GIỚI CỎ SẴN:** Bạn có thể đọc hoặc có được một bản cứng của Dự thảo EIR tại Văn phòng Quận Caltrans 4, 111 Grand Avenue, Oakland, CA 94612 hoặc Văn phòng hành chính VTA, 3331 North First Street, San Jose, CA 95134 vào các ngày trong tuần từ 8:00 am đến 5:00 pm. Bạn cũng có thể truy cập báo cáo trực tuyến tại [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) và đọc bản in của báo cáo tại Thủ viện công cộng Sunnyvale (665 W. Olive Avenue, Sunnyvale, CA 94086).

**NƠI TIẾP NHẬN Ý KIẾN CỦA BẠN:** Bạn được yêu cầu góp ý cho nội dung tài liệu về môi trường. Caltrans hoan nghênh các ý kiến của bạn về Dự thảo EIR. Nếu bạn muốn góp ý cho Dự thảo EIR, bạn có thể gửi ý kiến bằng văn bản của bạn cho Ban Quản lý Tài nguyên và Các chương trình môi trường VTA, Attn: Lan Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927 hoặc email tới [MathildaAve@vta.org](mailto:MathildaAve@vta.org).

Tất cả các ý kiến phải được nhận bằng văn bản trước 17:00 Thứ Hai, 26 Tháng Chín năm 2016. Ngoài ra, một cuộc họp công cộng và ra mắt sẽ được tổ chức để trưng cầu ý kiến về Dự thảo EIR.

**THỜI GIAN VÀ ĐỊA ĐIỂM:** Một cuộc họp công cộng và ra mắt sẽ được tổ chức vào Thứ Ba, 30 Tháng Tám, 2016 từ 18:00-20:00 tại Trường Trung học Columbia (Phòng đa chức năng, 739 Morse Avenue, Sunnyvale, CA 94085). Một bài thuyết trình ngắn gọn về dự án sẽ được trình bày, tiếp theo là ý kiến công chúng.

**LIÊN HỆ:** Người khuyết tật có thể vào dự họp. Người yêu cầu tiện nghi đặc biệt nên liên hệ với Ban Tiếp Ngoại Cộng Đồng VTA không muộn hơn ba ngày trước khi họp. Để biết thêm thông tin, xin vui lòng liên hệ với Ban Tiếp Ngoại Cộng Đồng VTA tại (408) 321-7575,TTY cho người khiếm thính (408) 321-2330. Bạn cũng có thể tham chúng tôi trên web tại [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) hoặc gửi email cho chúng tôi tại [community\\_outreach@vta.org](mailto:community_outreach@vta.org).



**Sửa Chữa Đường Rầy Vào Cuối Tuần Này**

Vi có những sửa chữa thiết yếu về an toàn cho đường rầy, sẽ không có dịch vụ BART giữa các trạm BART tại Glen Park và Daly City vào cuối tuần này.

**Saturday, August 13 – Sunday, August 14**

Dịch vụ xe buýt miễn phí sẽ được cung cấp. Xem thêm chi tiết tại **BART** [cham.gov](http://cham.gov).



Qua Tàu ngày 12-2-2014. Qua Mỹ ngày 1-10-2014.  
5. Nguyễn Phú Trọng  
Qua Tàu ngày 7-4-2015. Qua Mỹ ngày 6-7-2015.

Nguyễn Phú Trọng phải hợp tác toàn diện là gì?  
Nguyễn Phú Trọng tuyên hứa với Dương Khiết Trì: "Việt Nam khẳng định

chính sách nhất quán của Đảng, Nhà nước và nhân dân VN, luôn luôn coi trọng quan hệ hữu nghị,

(Xem tiếp trang B3)

**10\* VÌ SAO PHẢI LẬP BAN CHỈ ĐẠO HỢP TÁC TOÀN DIỆN VIỆT-TRUNG?**

Ủy Ban chỉ đạo hợp tác song phương (Committee for China-Vietnam Bilateral Cooperation), thành lập ngày 11-11-2006 tại Hà Nội. Phía Trung Cộng: Đường Gia Triệu, Ủy viên Quốc vụ, chủ tịch. Phía Việt Nam: Phạm Gia Khiêm, Phó TT, Bộ trưởng Ngoại giao, chủ tịch.

Mục đích: Vì một tương lai tốt đẹp. Thúc đẩy hợp tác toàn diện mạnh mẽ, lâu dài. Tăng cường tin

**Danh sư hí khúc Mã Sư Tặng báỉ phục Phùng Há**

Soạn giả Nguyễn Phương



Phùng Há trong vai Lữ Bố

Thờ i VNCH, chính phủ tổ chức cho vào nghệ sĩ giao lưu với đoàn văn hóa nghệ thuật các nước gia đồng minh.

– Đoàn nghệ thuật ca múa của Nhựt đến biểu diễn ở rạp Đại Nam, rạp Oscar, rạp Đại Quang (Chợ Lớn)

– Ban nhạc gõ percutation và Ban tứ cầm violoncelle của Pháp trình diễn ở rạp Adécaf (Viện Văn Hóa Pháp)

– Đoàn ca múa Ấn Độ trình diễn tại rạp Nguyễn Văn Hào và rạp Norodom.

– Đoàn hát của Trường Quốc Lập Phục Hưng Hỷ Kịch Thực Nghiệm Học Hiệu của Đài Loan và đôi danh tài Mã Sư Tăng – Hồng Tuyền Nữ đến từ Hồng Kông trình diễn tại rạp Đại Quang và sân Tinh Võ, Chợ Lớn.

Năm 1958, 10 năm sau khi Hội Ai Hữu Nghệ Sĩ được thành lập, Hội có dịp đón tiếp phái đoàn văn nghệ Ấn Độ và hai nghệ sĩ sân khấu tài danh Trung Quốc: Mã Sư Tăng và Hồng Tuyền Nữ qua thăm Việt Nam, trao đổi nghệ

thuật. Có Bảy Phùng Há lúc đó là Hội trưởng, cùng Ban chấp hành Hội: Năm Châu, Duy Lân, Bầu Long, Út Trà Ôn tiếp đón Mã Sư Tăng và Hồng Tuyền Nữ tại trụ sở Hội. Cũng có mặt trong buổi đón tiếp long trọng đó có hầu hết các kỹ giá kịch trường, soạn giả, các diễn viên nam nữ nổi tiếng của các đoàn Thanh Minh, Kim Chung, Khánh Hồng. . .

Qua thông dịch viên, Mã Sư Tăng và Hồng Tuyền Nữ ngỏ lời ngưỡng mộ các nghệ sĩ Việt Nam, nhất là Năm Châu và Phùng Há mà báo chí Hồng Kông có nhiều bài khen ngợi. Ông Mã giới thiệu vài đoạn ca trong hí khúc Trung Quốc. Mã Sư Tăng nói:

– Mỗi thời đại Trung Quốc có một nền văn học tiêu biểu cho thời đại đó, như: Sở có Tao (Ly Tao), Hán có Phú, Đường có Thơ, Tống có Từ, Nguyễn có Khúc. Nói đến Khúc thì hí khúc tức là tuồng hay kịch có điển là chủ yếu. Lần này qua Việt Nam được sự bảo trợ của Hoa Kiều Tương Tế Hội, nên Mã Sư Tăng và Hồng Tuyền Nữ sẽ hát mấy

đạo diễn nổi tiếng Trung Hoa là Cấn Đức Mậu và các diễn viên người Việt Nam.

8.3. Lý Thái Tổ được nhà Tống phong vương

Một nhận xét cho rằng, Việt Nam có những trang sử chống ngoại xâm lừng lẫy, oanh liệt thế mà Đảng lại chọn một giai đoạn nội chiến, tranh giành quyền lực tàn sát lẫn nhau. Đó là Đỉnh Bộ Lĩnh dẹp loạn 12 sứ quân rồi lên làm vua, nhưng không được bao lâu thì anh em nhà họ Đinh giết nhau để tranh giành ngôi báu tạo ra biến loạn. Tướng quân Lê Hoàn dẹp loạn lên làm vua tạo ra nhà Tiền Lê. (Nhà Hậu Lê là Lê Lợi). Cảnh huynh đệ tương tàn xảy ra. Lê Long Đĩnh (Lê Ngoạ Triệu) giết anh đoạt ngôi. Lê Long Đĩnh cai trị tàn ác, đam mê đắm dục nên bị Lý Công Uẩn đoạt ngôi xưng là Lý Thái Tổ, lập ra nhà Lý.

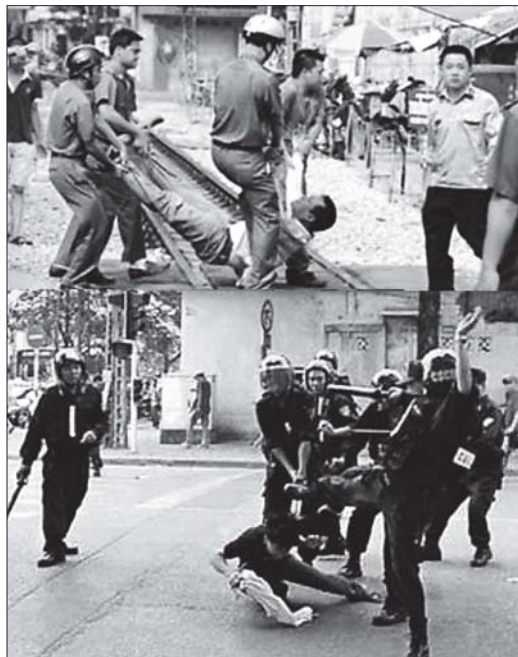
Lịch sử ghi lại như sau: "Lúc bấy giờ nhà Tống bận nhiều việc nên không muốn sinh sự lợi thời với Đại Việt. Bởi vậy khi Lý Thái Tổ lên ngôi, sai sứ sang cầu phong, thì hoàng đế nhà Tống phong cho làm Giao Chỉ Quận Vương. Sau lại phong Nam Bình Vương (năm 1017).

8.4. Vua Lý Thái Tổ không có ngày giỗ nào định lui tới ngày 1 tháng 10.

Lý Công Uẩn sinh ngày 8-3-974. Mất ngày 31-3-1028. Thọ 54 tuổi.

Lên ngôi năm 1009. Qua đời ngày 31-3-1028. Trị vì 19 năm. Như vậy thời gian về mọi việc của Lý Thái Tổ không có ấn nhập gì tới ngày quốc khánh 1 tháng 10 của Trung Cộng cả.

Tóm lại, tổ chức đại lễ 1,000 Thăng Long chỉ sự lệ thuộc, thần phục và



mừng ngày quốc khánh của Trung Cộng mà thôi. Đó là sắc tộc Việt vẫn còn nằm trong đại gia đình Trung Quốc. Chúng tôi sự trung thành mà hai bên luôn luôn nói là "tín cậy lẫn nhau".

trình diện quan thầy Tàu khựa trước khi đi Mỹ.

1. Nguyễn Minh Triết  
Qua Tàu ngày 16-5-2007. Qua Mỹ ngày 22-6-2007.
2. Trương Tấn Sang  
Qua Tàu ngày 19-6-2013. Qua Mỹ ngày 25-7-2013.
3. Phạm Quang Nghi  
Qua Tàu ngày 8-9-2013. Qua Mỹ ngày 27-7-2014. Vì có sự tranh giành với Phạm Bình Minh.
4. Phạm Bình Minh

**9\* VÌ SAO LÃNH ĐẠO CÔNG SẢN VIỆT NAM PHẢI QUÁ TÀU TRÌNH DIỄN TRƯỚC KHI DLMY?**

Đi phải thưa, về phải trình là phép tắc của tôi tớ đối với chủ. Một sự thật hiển nhiên là các lãnh đạo đảng CSVN đều phải qua

# PAMPUBLIKONG PAGPUPULONG

## **Paunawa sa Draft ng Environmental Impact Report (EIR) [Draft ng Ulat ng Epekto sa Kapaligiran] Para sa Pagpapahusay sa Mathilda Avenue sa SR 237 at US 101 na Proyekto at Paunawa sa Pampublikong Pagpupulong at Open House**

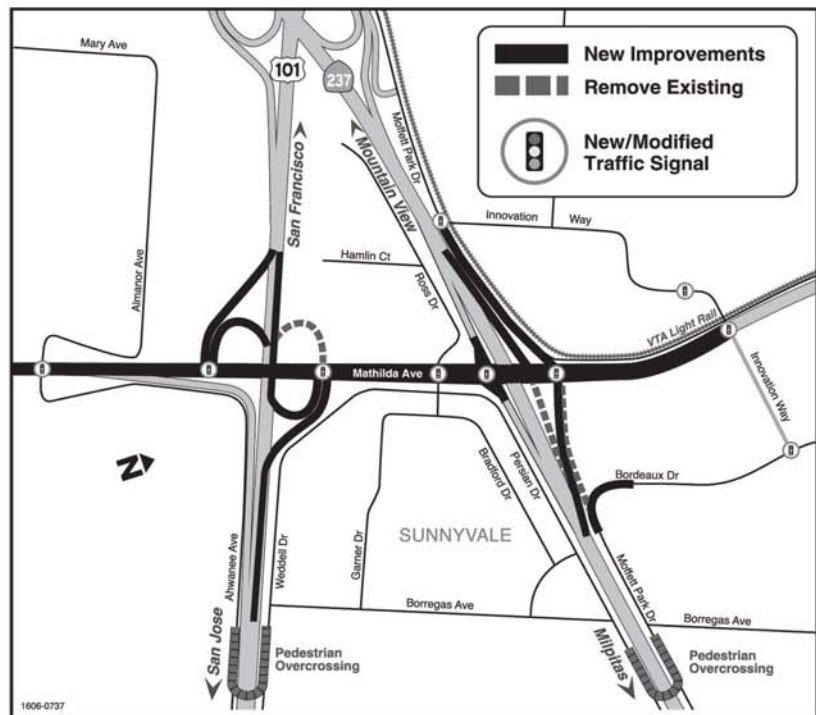
**ANO ANG PINAPLANO:** Naghanda ang California Department of Transportation (CALTRANS) ng Draft ng Environmental Impact Report (EIR) para sa Mga Pagpapahusay sa Mathilda Avenue sa State Route 237 (SR 237) at U.S. Route 101 (US 101) na Proyekto. Iminumungkahi ng Proyekto ito na pahusayin ang Mathilda Avenue sa Lungsod ng Sunnyvale mula sa Almanor Avenue hanggang sa Innovation Way, kabilang ang mga pagpapahusay sa on- at off-ramp sa SR 237/Mathilda Avenue at sa mga interchange na US 101/Mathilda Avenue. Ang pangunahing layunin ng Proyekto ay pahusayin ang daloy ng trapiko sa Mathilda Avenue sa pamamagitan ng mga interchange na US 101 at SR 237. Kinakailangan ang Proyekto ito para tugunan ang malalang pagsisikip ng trapiko sa Mathilda Avenue at magbigay ng mas mahusay na access para sa lahat ng pamamaraan ng pagbiyahe sa lugar ng Proyekto.

**PARA SAAN ANG PAALALANG ITO:** Pinag-aralan ng CALTRANS ang maaaring maging epekto ng proyektong ito sa kapaligiran. Ang paunawa na ito ay para ipaalam sa iyo ang paghahanda ng Draft ng EIR at ang pagiging available nito para masuri at mabigyang ninyong komento.

**ANO ANG AVAILABLE:** Mababasa mo o makakakuha ka ng hardcopy ng Draft ng EIR sa CALTRANS District 4 Office, 111 Grand Avenue, Oakland, CA 94612 o sa Administrative Office ng VTA, 3331 North First Street, San Jose, CA 95134 nang Lunes hanggang Biyernes mula 8:00 am-5:00 pm. Maa-access mo rin ang ulat online sa [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) at mga hardcopy ng ulat sa Sunnyvale Public Library (665 W. Olive Avenue, Sunnyvale, CA 94086).

**SAAN KA KAILANGAN:** Hinihiling ang iyong pananaw sa nilalaman para sa dokumentong pangkapaligiran. Ikinalulugod rin ng CALTRANS ang iyong mga komento sa Draft ng EIR. Kung gusto mong magkomento sa Draft ng EIR, maaari mong isumite ang iyong mga nakasulat na komento sa VTA Environmental Programs and Resources Management, Para kay: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927 o mag-email sa [MathildaAve@vta.org](mailto:MathildaAve@vta.org).

Dapat matanggap ang lahat ng komento nang nakasulat nang 5:00 pm sa Lunes, Setyembre 26, 2016. Bukod pa rito, gagawin ang pampublikong pagpupulong at open house upang humingi ng komento tungkol sa Draft ng EIR.



**KAILAN AT SAAN:** Gagawin ang pampublikong pagpupulong at open house sa Martes, Agosto 30, 2016 mula 6:00 pm hanggang 8:00 pm sa Columbia Middle School (Multi-Purpose Room, 739 Morse Avenue, Sunnyvale, CA 94085). Magbibigay ng maikling presentasyon tungkol sa proyekto, kasunod ng pagkokomento ng publiko.

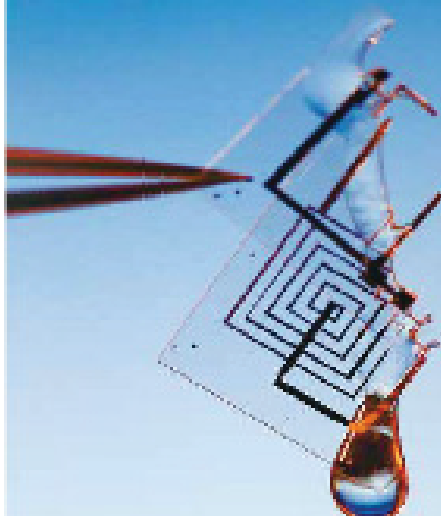
**MATATAWAGAN:** Ang pasilidad ng pagpupulong ay accessible sa mga taong may kapansanan. Dapat tumawag ang mga taong nangangailangan ng natatanging tulong sa Community Outreach ng VTA nang hindi lalampas sa tatlong araw bago ang pagpupulong. Para sa higit pang impormasyon, mangyaring tumawag sa Community Outreach ng VTA sa (408) 321-7575, TTY para sa may kahirapan sa pandinig: (408) 321-2330. Mabibisita mo rin kami sa web sa [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) o mag-email sa [community.outreach@vta.org](mailto:community.outreach@vta.org).





# 新 / 一 / 代 / 電 / 子 / 器 / 件 / --

# 短暫電子器件



記者(潘敏)

迄今為止，電子工業主要的設計和工程師們都在努力提高電子產品的可靠性。他們在先進的集成電路技術基礎上，採用新型的半導體、樹脂、複合材料等改善封裝和印刷線路板 (Printed Circuit Board) 的可靠性。避免灰塵、陽光、潮濕、氧化和其它有害物質的侵害。現在，單個集成電路三極管的平均故障間隔時間(MTBF) (mean-time-between-failure) 已經遠遠超過百萬小時，這對於用於軍事、航空航天和太空工業環境的電子設備無疑具有十分重要的意義。

然而，一切事物都具有兩面性，並不是所有應用場合都喜歡高可靠性、長壽命的電子產品。舉一個簡單的例子，我們想了解一下更普遍的血管堵塞情況，很希望能往患者的血管裏注入一個微型的可降解的網球，看得一目了然。可是，看完之後怎麼把這個微型網球取出來呢？我曾經夢想，有什麼辦法能夠讓這個小東西自行消失，或者被「消化」掉呢？

物理層面，對溶解或升華；也可以發生在化學層面，如氧化、還原、水解等化學反應；還可以發生在生物層面，如吸收等。目前，研究人員還在探索生物材料和其它可完全降解材料的使用。

Rogers、Huang和Omanato在實驗室老鼠身上成功地測試了兩種短暫電子器件。其中一種是在醫療表面集成了一個厚度只有幾十納米的64條線的數據傳輸，用監測熱量的方法來預防復發痛，這個裝置在接觸皮膚後幾分鐘內就被身體吸收。儘管短暫電子器件處在早期發展階段，但是可以預見毫無疑問將對醫學領域發揮重要作用，使醫學進入全新的時代。例如，常規化療藥物最主要的副作用是在消滅癌細胞的同時也破壞健康的組織，而採用短暫電子器件就可以對身體的特定部位進行治療，可以實時調整劑量優化，同時為醫生提供數據，瞭解特定藥物對治療疾病的作用。事實上，這項技術正在迅速發展，特別是在醫學領域提供了難以想像的機會。他們預計，在幾年內能夠看到可以在臨床實際使用的設備。

短暫電子器件代表了一個從根本上不同的構建電子系統的方法。這項技術可以重新定義醫藥科學，重新定義計算技術，也從根本上改變環境科學和其它領域的面貌。短暫電子器件可以用來監控石油和其它化學液體、氣體的洩漏，監測水體空氣的傳播模式。在瞬間創建實時的環境監測網絡，準確評估解決環境問題不同方法的優劣。這些傳感器部署在水、土壤、空氣將溶解或自行降解。設計人員可以針對不同的化學物質、化合物、溫度或pH值，具體設計器件封裝的材料和方式，以控制器件在多長時間內被吸收，可以是幾分鐘、幾小時、幾天甚至幾年。

在短暫電子領域中研究人員正在大力研究和改進各種短暫電子器件，如三極管和二極管、無線傳輸電力的感應線圈、溫度傳感器和應變傳感器、光電探測器、太陽能電池、無線電流傳感、天線等以及具有生物相容性的超小型可編程邏輯設備等短暫電子設備，致力於系統設備優化。有利於以低成本大規模生產。研究人員目前重點關注可以製造短暫電子器件、組件的材料，包括超薄的載體片。研究人員發現，可溶性的鍍和氧化鍍是短暫電子領域最有希望的塗層材料，可溶性的氧化鍍會協助人體對藥物和細菌的攝入，對於健康的身體至關重要；而從用可溶性的鍍可以變成一粒沙子大小的器件，擁有傳統微處理器或射頻識別卡 (RFID) 的同等屬性，會與射頻無線技術傳輸電信號，最後和可降解的一次性電池一起消失。

構建短暫電子器件的能力甚至將從根本上改變戰爭和間諜活動的概念和模式。比如，短暫電子器件在對敵方進行探測和音頻記錄之後消失得無影無蹤，讓敵方找不到它們存在的蛛絲馬跡；也可以讓軍隊或間諜分發後蓋或藥物而不被敵方發現。Rogers說：「能夠創建一種用過以後消除痕迹的設備，可以重新定義軍事和安全的應用。」他們在這個領域的研究經費就是由美國國防部高級研究計劃總署 (The U.S. Defense Advanced Research Projects Agency) 負責提供的。他認為，短暫電子器件最終可以取代傳統的微處理器和電子設計。「在某種程度上，我們必須問自己，是不是可以對電腦、手機這樣的電子設備設定一個壽命，讓它們在環境中自行降解，減少危險的廢物，降低整體的消費可能從根本上改變我們生產、消費和去棄的方式，從根本上改變我們的行為模式。」

現在，這個夢想快要實現了 -- 伊利諾伊大學 Urbana-Champaign 分校材料科學與工程系 John Rogers 教授、芝加哥西北大學機械系 Yonggang Huang 教授、馬薩諸塞州 Tufts 大學工程學院生物醫學工程 Professor Omernio 教授等3人合作，已經在實驗室裏構成了瞬態短暫電子器件 (transient electronic device) 的新一代電子器件，可以在完成使命之後按計劃自行溶解、消失。

他們解釋說，短暫電子器件和傳統電子器件的觀念完全相反，它不需要長期穩定的設計，這些最重慶慶的電子器件一方面具有強勁的性能，另一方面能夠按一個具體的時間表消失。即使它們是處在一個系統內部，這種所說的消失可以發生在

重要作用，使醫學進入全新的時代。例如，常規化療藥物最主要的副作用是在消滅癌細胞的同時也破壞健康的組織，而採用短暫電子器件就可以對身體的特定部位進行治療，可以實時調整劑量優化，同時為醫生提供數據，瞭解特定藥物對治療疾病的作用。事實上，這項技術正在迅速發展，特別是在醫學領域提供了難以想像的機會。他們預計，在幾年內能夠看到可以在臨床實際使用的設備。

短暫電子器件代表了一個從根本上不同的構建電子系統的方法。這項技術可以重新定義醫藥科學，重新定義計算技術，也從根本上改變環境科學和其它領域的面貌。短暫電子器件可以用來監控石油和其它化學液體、氣體的洩漏，監測水體空氣的

## 公開會議

### SR 237 與 101 國道 之間的 Mathilda Avenue 路段改造項目 《環境影響報告》草案通知暨公開會議與公眾接待活動通知

**計劃內容:**加州運輸部 (CALTRANS) 為 SR 237 和 101 號國道 (SR 101) 之間的 Mathilda Avenue 路段改造項目擬訂了《環境影響報告》(EIR) 草案。項目計畫改造 San Joaquin Hills 區 (San Joaquin Hills) 區 Innovation Way 路段，包括 SR 237/Mathilda Avenue 和 US 101/Mathilda Avenue 交通過境入口匝道和出口匝道改造。項目的主要目的在於改善 SR 國道和 SR 237 在 Mathilda Avenue 的兩個交通過境入口匝道的交通運行狀況。項目將解決 Mathilda Avenue 路段交通過境重疊的問題，為項目區內各種形式的交通提供便利的通行。

**通知目的:** CALTRANS 研究了項目計畫可能造成的影響。通知的目的是向公眾告知。EIR 草案已經擬訂，可供查看和評論。

**可提供內容:**可在工作日上午 8:00 am-5:00 pm 前往 CALTRANS District 4 Office, 111 Grand Avenue, Oakland, CA 94612 或 VTA Administrative Office, 3031 North First Street, San Jose, CA 95134 閱覽 EIR 草案或獲取相關文件。您也可向讀者閱覽會 ([www.mathildaregion.com](http://www.mathildaregion.com))，或在 San Joaquin Hills 公共圖書館 (San Joaquin Hills Library - 463 W. Glen Avenue, San Joaquin, CA 94086) 查詢報告的相關副本。

**參與方式:**請您就環境文件內容提出您的意見。CALTRANS 歡迎各方對 EIR 草案提出意見。如果您希望對 EIR 草案發表意見，您可將書面意見提交至 VTA

環境方案與資源管理處 (Environmental Programs and Resource Management), 地址: Loni Ho, 3031 North First Street, Bldg. B-2, San Jose, CA 95134-1927 或 via email to [Mathilda@regap.org](mailto:Mathilda@regap.org)。

所有意見須以書面形式提交。截止日期為 2016 年 8 月 26 日星期一 下午 5:00 時。此外，還將舉辦公開會議與公眾接待活動以促進對 EIR 草案的意見。

**開會地點:**公開會議與公眾接待活動將於 2016 年 8 月 30 日星期二 晚 6:00 時至 8:00 時 在 哥倫比亞中學 (Columbia Middle School, Multi-Purpose Room, 729 Monte Avenue, San Joaquin, CA 94085) 舉行。會上將對項目作簡要介紹，之後由公眾發表意見。

**聯絡方式:**會場都有預備人士可方便使用的設施。需要特別照顧之人士須在會場前至少提前三天聯絡 VTA 社區外展部 (VTA Community Outreach), 如需瞭解更多資訊, 請聯絡 VTA 社區外展部: (408) 331-7375; 聽力障礙人士 TTY: (408) 331-2336. 您也可遍訪我們的網站 [www.vta.org/mathildaregion](http://www.vta.org/mathildaregion), 或向我們傳送電子郵件 [community@vta.org](mailto:community@vta.org)。



# 베이지역 대학들 '세계 최고 수준'

'THE' 발표 세계 대학 랭킹 스탠퍼드 2위, UC버클리 3위

베이지역 대학들이 세계 대학 랭킹에서도 상위권에 들며 명성을 얻고 있다.

영국의 권위 있는 대학교육 전문 잡지 '타임스 하이어 에듀케이션'(Times Higher Education)이 최근 발표한 '세계 대학 랭킹 톱 25'에 스탠퍼드, UC버클리, UCSF 등 3개 대학이 포함됐다. 스탠퍼드는 1위 하버드에 이어 2위에 올랐으며, UC버클리가 3위에 선정됐다. UCSF는 21위에 랭크됐다.

'타임스 하이어 에듀케이션'(Times Higher Education)의 이번 평가는 전세계 1만1500개 대학을 대상으로 연구금액 등 객관적 자료보다는 교수나 학자들의 견해를 반영한 것으로 '명성'을 중시

<'THE' 발표 세계 대학 랭킹 톱10>

순위	대학
1	하버드
2	스탠퍼드
3	UC버클리
4	캠브리지
5	MIT
6	프린스턴
7	옥스퍼드
8	칼텍
9	컬럼비아
10	시카고대

으로 한 것이다. 베이지역을 제외한 가주대학으로는 칼텍이 8위에, UCLA가 12위에, UC 샌디에이고가 14위에 각각 이름을 올렸다.

아시아대학으로는 일본 도쿄대가 20위로 가장 높은 순위를 차지했으며, 한국 최고의 대학으로 꼽히는 서울대는 101~150위권에 이름을 올렸다. 최정현 기자 choi.jeonghyun@koreadaily.com



한·일 위안부 합의 무효 주장 시위 열려 지난 13일 북가주 지역 한인단체 '공감' 회원 6명이 '세계 위안부의 날'(8월 14일)을 맞아 UC버클리에서 지난해 한·일 위안부 합의 무효를 주장하는 시위를 벌였다. 이날 시위를 주도한 남미숙씨는 "많은 분들이 8월 14일에 세계 위안부의 날인 것을 모르는 것 같다"며 아쉬움을 표하며 "앞으로 UC버클리에서 정기적인 시위를 벌이며 일본군 위안부에 대해 많은 사람이 알 수 있도록 노력하겠다"고 전했다. '공감'은 매달 산타클라라 갤러리 마켓 앞에서 위안부 할머니들을 배제한 한·일 정부간 위안부 합의의 부당함을 알리는 시위를 펼쳐오고 있다. 이날 UC버클리 스프라울 홀 앞에서 한·일 위안부 합의의 부당함을 알리고 있는 '공감' 회원들. [사진 캠프코스]

## '클레이튼 산불' 방화 용의자 체포

화재 진화율은 20% 높아져



클레이튼 산불의 방화 용의자가 체포됐다. 레이크 카운티 셰리프국은 15일 레이크 카운티에서 발생한 클레이튼 화재 방화 용의자로 데이민 앤서니 패실크(40·사진) 씨를 체포했다고 밝혔다. 패실크씨는 현재 카운티 구치소에 수감된 것으로

알려졌다. 셰리프국은 따르면 패실크씨는 총 17건의 방화 혐의로 체포됐으며, 지난해 부터 발생한 여러 화재와 연관이 있는 것으로 알려졌다. 당국은 지난 13일 발생한 클레이튼 산불도

패실크씨의 소행으로 보고 있다. 하지만 패실크씨가 고의로 방화를 일으킨 정황에 대해선 자세히 밝혀지는 않았다. 한편, 16일 현재 클레이튼 산불은 4000에이커를 전소시켰으며 주택 등 건물 175채도 화재 피해를 입었다. 가주 소방국에 따르면 다행히 화재 진화율은 급격히 향상돼 16일 현재 20%의 진화율을 보이고 있는 것으로 알려졌다. 최정현 기자

## 레이크 타호 관광선 화재

패들 유람선 타호 퀸, 1명 부상



레이크 타호에서 운행되는 '타호퀸(Tahoe Queen)' 유람선에 화재가 발생해 1명이 부상을 입었다.

소방당국에 따르면 화재는 16일 오전 8시경 발생했으며, 연기가 발생하자 이를 확인하기 위해 조사를 벌이던 승무원 2명이 부상을 입었다고 밝혔다.

화재 발생 당시 '타호 퀸' 호는 레이크 타호 남동쪽 제퍼 코브(Zephyr Cove)의 선착장에 정박해 있었으며 다행히 승객이 타고 있지 않아 인명피해는 크지 않았다.

화재는 배 일부부분을 태운 뒤 출동한 소방관들에 의해 진압됐다. 소방당국은 배 안에서 총성과 함께

화재가 발생한 레이크 타호 패들 관광선 '타호 퀸'. [사진 = KOL8 웹캐스트]

불길기 발생했다는 증언이 나오에 따라 승무원 등을 상대로 화재 발생 원인을 조사하고 있다.

300여 명을 태울 수 있는 레이크 타호의 대형 패들 관광선인 '타호퀸(Tahoe Queen)'은 올 여름 타호의 수위가 낮아지며 최근 몇 주 간 운행을 하고 있지 않았다. 최정현 기자



어드로이트 컬리지 10주년 기념행사

2006년 개교한 어드로이트 컬리지(학장 구문회)가 지난 13일 산호세 은행과 평강교회에서 10주년 기념행사를 개최했다. 이날 행사에서는 지난 10년간의 발전취를 돌아보는 슬라이드 상영과 어드로이트 컬리지 앙상블의 공연도 펼쳐졌다. 이날 구 학장은 개교때부터 재직해 온 유명 경 검사와 어드로이트 컬리지 앙상블로 활동해온 니모 스위프트 씨에게 감사장을 전달했다. 행사 참가자들이 기념촬영을 하고 있다. [사진 어드로이트 컬리지]

## KARL, 정기세미나 개최

18일, 산타클라라 휴스타운 뷔페

북가주 한인 부동산용자 전문인협회(KARL·회장 최성우)가 18일(목) 오후 12시에 산타클라라 휴스타운 뷔페에서 2016년 제2회 정기세미나를 개최한다. 이날 세미나는 '소셜 시큐리티 아

는 만큼 누린다'를 주제로 소셜 워크인 이민영씨를 초청해 강연을 들는다.

이날 세미나는 부동산·용자 전문인은 물론 관심있는 한인 누구나 참가할 수 있다.

세미나 후에는 KARL 총회도 개최된다. ▶주소: 2670 El Camino Real, Santa Clara

## 메달리스트 조운복

북가주 휘문중·고 동문회

북가주 휘문중·고 동문 골프대회가 지난 14일 산타로사 보개가 라버 골프코스에서 열렸다. 다음은 입상자 명단.

메달리스트 조운복, 1등 문관용, 2등 원철중, 3등 김요홍, 여성부 챔피언 김영민, 2등 이옥자, 장타 황보전(남), 김영민(여), 근점 이진성, 김유진, 문관용, 한명림, 김기만. ▶문의: 박찬영 회장 (408) 786-8738.

사건·사고 및 기사제보 (510) 429-3245

### 공청회

#### SR 237과 US 101의 마틸다 애비뉴(Mathilda Avenue) 개선 프로젝트 관련 환경영향평가 보고서(EIR) 초안 공개 및 공청회/설명회에 대한 공지

**계획:** 캘리포니아주 교통부(CALTRANS)는 SR 237과 US 101의 마틸다 애비뉴 개선 프로젝트 관련 환경영향평가 보고서 초안을 작성했습니다. 이번 프로젝트에서는 SR 237/마틸다 애비뉴와 US 101/마틸다 애비뉴 인터체인지의 진출입 차선을 포함해, 알만노 애비뉴(Almanor Avenue)에서 이노베이션 웨이(Innovation Way)까지의 서니베일(Sunnyvale)시 마틸다 애비뉴의 개선 작업이 제안되었습니다. 프로젝트의 주요 목적은 US 101과 SR 237 북쪽 마틸다 애비뉴의 교통 운영을 개선하는 것이며, 마틸다 애비뉴의 극심한 교통 정체 감소 및 해당 지역의 모든 교통 수단의 접근성 향상을 목표로 합니다.

**공지 이유:** 캘리포니아주 교통부(Caltrans)에서는 해당 프로젝트가 환경에 미치는 영향을 조사했습니다. 이번 공지를 통해 환경영향평가 보고서(EIR) 초안 작성 작업에 대해 알리고 검토와 피드백 수렴을 위해 공개합니다.

**공개 내용:** 환경영향평가 보고서(EIR) 초안은 캘리포니아주 교통부(District 4 Office, 111 Grand Avenue, Oakland, CA 94612) 또는 VTA 관리 사무소(3331 North First Street, San Jose, CA 95134)에서 평일 오전 8시~오후 5시까지 열람하거나 제공받을 수 있습니다. 또한 웹사이트 [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements)를 통해서도 열람이 가능하며 서니베일 공공 도서관(665 W. Olive Avenue, Sunnyvale, CA 94086)에서도 열람 가능합니다.

**참여 기회:** 환경 보고서의 내용에 대한 여러분의 의견이 필요합니다. 캘리포니아주 교통부(CALTRANS)에서는 환경영향평가 보고서(EIR) 초안에 대한 여러분의 의견을 환영합니다. 의견을 전달하고자 하시는 경우에는 VTA 환경 프로그램 및 자원 관리부에 우편 혹은 이메일로 제출해주시기 바랍니다.

**담당자:** 라니 호(Lani Ho), 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927 이메일 [Mathilda.Ave@vta.org](mailto:Mathilda.Ave@vta.org). 모든 서면 제출 마감은 2016년 9월 26일 오후 5:00까지입니다. 추가 피드백 수렴을 위해 공청회/설명회가 개최될 예정입니다.

**일정 및 장소:** 공청회/설명회는 2016년 8월 30일 화요일 오후 6:00~8:00 컬럼비아 대학교 (다목적 룸, 739 Morse Avenue, Sunnyvale, CA 94085)에서 개최됩니다. 간단한 프레젠테이션 후 의견 수렴 시간을 갖을 예정입니다.

**연락처:** 비영 장소는 거동이 불편하신 분들께도 이용하시는 데 불편함이 없습니다. 편의 시설 지원이 필요하신 분께서는 늦어도 공청회 3일 전까지 VTA 지역봉사부(Community Outreach)로 연락주시기 바랍니다. 더 자세한 정보를 원하시는 분들은 VTA 지역봉사부 (408) 321-7575로 연락 주십시오. 청각 장애가 있으신 분들을 위해 청각 장애인용 전화 (408) 321-2330도 제공되고 있습니다. 또한, 관련 웹페이지 ([www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements))를 확인하시거나, 메일 ([community.outreach@vta.org](mailto:community.outreach@vta.org))로도 연락 가능합니다.



Several health-care bills that promise greater protections for consumers face key decisions in Sacramento this week. (Ilijoel/Stockphoto)

## KEY VOTES ON SURPRISE MEDICAL BILLS, DRUG PRICES

Suzanne Potter  
California News Service

end up unwittingly seeing an out-of-network physician.

SACRAMENTO, Calif. - Several bills aimed at protecting health-care consumers face do-or-die votes this week in Sacramento. On August 10th the State Assembly Appropriations Committee heard Senate Bill 1010, which would force drug companies to justify significant prescription-drug price hikes and give notice of the increases.

The real decision for both bills comes tomorrow, when the committees decide which bills get out of the so-called "suspense file" and get a vote in the full chamber.

Anthony Wright, executive director with the advocacy group Health Access, said a little "sunlight" might shed light on the soaring prices.

AB 72 is a compromise bill to replace last year's similar legislation (AB 533), which failed by three votes. This version includes higher reimbursement rates for doctors. Wright said patients who play by the rules should not be penalized with huge out-of-network bills.

"We typically require similar notice and disclosure of other parts of the health industry, but prescription drug prices are often a black box," he said. "This would provide just some very basic, commonsense transparency."

"Patients need to be protected that if they go to a network facility, that all the cost-sharing related to that visit is also in-network, typically a small co-pay, rather than uncovered or at significant expense," he added.

On Monday, the State Senate Appropriations Committee heard AB 72, which would prevent insurers from sending patients a big bill if they use an in-network hospital, but

Several other bills on mid-year cost-sharing increases, notice on large premium hikes, and the right to a timely appointment are also headed for final votes in the next few weeks.



SUNDAY- 9:30AM

SATURDAY- 5:30PM

KNTV/KSTS-SAN JOSE, SAN FRANCISCO, OAKLAND

## Comunidad Del Valle

Con: Damian Trujillo

TORNEO CÉSAR CHÁVEZ

TORNÉO DE GOLF

AGOSTO 20

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### REUNIÓN PÚBLICA

**Aviso del del Reporte Preliminar sobre el Impacto Ambiental (EIR) disponible para el Proyecto de mejoras de Mathilda Avenue en la intersección de SR 237 y US 101 y Aviso de Reunión pública y Evento de puertas abiertas**

**LO QUE SE ESTÁ PLANEANDO:** El Departamento de Transporte de California (CALTRANS) ha preparado un Reporte Preliminar sobre el Impacto Ambiental (EIR) para el Proyecto de mejoras de Mathilda Avenue en la intersección con la Ruta Estatal 237 (SR 237) y la Ruta U.S. 101 (US 101). El Proyecto propone mejorar Mathilda Avenue en la Ciudad de Sunnyvale desde Almanor Avenue hasta Innovation Way, incluyendo mejoras a las rampas de entrada y salida en los pasos a desnivel SR 237/Mathilda Avenue y US 101/Mathilda Avenue. El propósito principal del Proyecto es mejorar las operaciones de tráfico sobre Mathilda Avenue a través de los pasos a desnivel de US 101 y SR 237. Este Proyecto es necesario para atenuar la congestión sustancial de tráfico en Mathilda Avenue y proveer acceso eficiente para todas las modalidades de tráfico en el área del Proyecto.

**POR QUÉ ESTE AVISO:** El Departamento de Transporte de California (CALTRANS) ha estudiado los efectos que este proyecto puede tener en el medio ambiente. Este aviso es para informarle sobre la preparación del Reporte preliminar y su disponibilidad para que usted lo revise y lo comente.

**LO QUE ESTÁ DISPONIBLE:** Usted puede leer u obtener una copia impresa del Reporte preliminar en la Oficina del Distrito 4 de CALTRANS, 111 Grand Avenue, Oakland, CA 94612 o la Oficina de Administración de VTA, 3331 North First Street, San Jose, CA 95134 entre semana de 8:00 a. m. a 5:00 p. m. Usted puede también tener acceso al reporte en línea en [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements) y copias impresas del reporte en la Biblioteca Pública de Sunnyvale (665 W. Olive Avenue, Sunnyvale, CA 94086).

**CÓMO PARTICIPA USTED:** Se solicita su opinión sobre el contenido del documento ambiental. CALTRANS aprecia sus comentarios sobre el

Reporte preliminar del EIR. Si usted desea hacer un comentario sobre el Reporte preliminar de EIR, puede entregar sus comentarios escritos a: VTA Environmental Programs and Resources Management, A/A: Lani Ho, 3331 North First Street, Bldg. B-2, San Jose, CA 95134-1927 o por correo electrónico a [MathildaAve@vta.org](mailto:MathildaAve@vta.org).

Todos los comentarios deben recibirse por escrito antes de las 5:00 p. m. del lunes 26 de septiembre de 2016. Además, se llevará a cabo una Reunión pública y un Evento de puertas abiertas para solicitar comentarios sobre el Reporte Preliminar del EIR.

**CUÁNDO Y DÓNDE:** Se llevarán a cabo una Reunión pública y un Evento de puertas abiertas el martes 30 de agosto de 2016 de 6:00 p. m. a 8:00 p. m. en Columbia Middle School (Salón de usos múltiples, 739 Morse Avenue, Sunnyvale, CA 94085). Se hará una breve presentación del proyecto, seguida de comentarios del público.

**CONTACTO:** Las instalaciones de la reunión son accesibles a personas con discapacidades. Las personas que soliciten adaptaciones especiales deberán ponerse en contacto con el Programa de extensión a la comunidad (Community Outreach) de VTA a más tardar tres días antes de la reunión. Para obtener más información sobre este proyecto, póngase en contacto con el Programa de Extensión a la Comunidad de VTA al (408) 321-7575, TTY para los que tienen discapacidad auditiva al: (408) 321-2330. Usted puede visitarnos también en la red en [www.vta.org/mathildaimprovements](http://www.vta.org/mathildaimprovements), o enviarnos un correo electrónico a [community.outreach@vta.org](mailto:community.outreach@vta.org).



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