

The project would not require any expansion of the existing ROW or the acquisition of any public or private property. The project also does not require any relocation of existing curbs except for the median modification in Segment 2 as outlined above. No trees are proposed for removal as a result of the project.

AIR QUALITY AND GREENHOUSE GASES

Air quality impacts would occur due to temporary construction emissions and from direct and indirect emissions from changes to traffic pattern. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD)¹.

Setting

The project is located in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and Federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}).

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. Highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant in the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide (or cumulative) emissions and localized emissions. Transport of air pollutants from the Central and San Joaquin Valleys contribute to wintertime particulate levels. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and Federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes

¹ BAAQMD 2010. BAAQMD CEQA Air Quality Guidelines. June.

the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008 CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles². The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The Bay Area Air Quality Management District (BAAQMD) is the regional agency tasked with managing air quality in the region. At the State level, the California Air Resources Board or CARB (a part of the California Environmental Protection Agency) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects³.

Impacts and Mitigation Measures

Impact 1: Conflict with or obstruct implementation of the applicable air quality plan?
No Impact

The most recent clean air plan is the *Bay Area 2010 Clean Air Plan* that was adopted by BAAQMD in September 2010. The proposed project would not conflict with the latest Clean Air planning efforts since (1) the project would have emissions well below the BAAQMD thresholds (see Impact 2), (2) development of the project would enhance transportation modes that are consistent with the Clean Air Plan Transportation Control Measures, and (3) development would be near existing transit with regional connections. The project is too small to incorporate project-specific transportation control measures listed in the latest Clean Air Plan (i.e., *Bay Area 2010 Clean Air Plan*). The project would include numerous amenities that encourage pedestrian, bicycle and transit use that promote transportation control measures included in the Clean Air Plan.

Impact 2: 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)? *Less-than-significant*

² <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

³ Bay Area Air Quality Management District. 2010. BAAQMD CEQA Air Quality Guidelines. June.

The Bay Area is considered a non-attainment area for ground-level ozone and fine particulate matter (PM_{2.5}) under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for respirable particulates or particulate matter with a diameter of less than 10 micrometers (PM₁₀) under the California Clean Air Act, but not the Federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀ and PM_{2.5} and apply to both construction period and operational period impacts.

The largest construction activities would include some demolition of the existing roadways or medians, paving, and construction of project amenities including signs and landscape. These emissions are anticipated to be minor, since on average, less than 3 pieces of construction equipment would be utilized. As a result, exhaust emissions would be well below thresholds that used to judge construction projects. However, best management practices are necessary during demolition, trenching and grading activities to avoid generation of dust that may affect nearby sensitive receptors. Best Management Practices for controlling construction period air pollutant emissions are identified as Mitigation Measure AQ-1. Operation of the proposed project would not generate air pollutant emissions that would expose sensitive receptors to unhealthy air pollutant levels.

Mitigation Measure AQ-1: Include measures to control dust and exhaust during construction.

Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant. The contractor shall implement the following Best Management Practices that are required of all projects:

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.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
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.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
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.
6. 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 Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. 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.

Impact 3: Violate any air quality standard or contribute substantially to an existing or projected air quality violation? *Less-than-significant*

As discussed under Impact 2, the project would not cause measureable emissions, and therefore, not have emissions above significance thresholds adopted by BAAQMD for evaluating impacts to ozone and particulate matter. Therefore, the project would not contribute substantially to existing or projected violations of those standards. The project would not require any expansion of the existing right-of-way or the acquisition of public or private property. The project also does not include any relocation of existing curbs except for the median modification in Segment 2. As a result, the project would not move traffic closer to residences or sensitive receptors that could change air pollutant conditions. Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and Federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. There is an ambient air quality monitoring station in Cupertino that measures carbon monoxide concentrations. The highest measured level over any 8-hour averaging period during the last 3 years is less than 2 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. The roadways affected by the proposed project have relatively low traffic volumes compared to the busier intersections in the Bay Area. BAAQMD screening guidance indicates that projects would have a less than significant impact to carbon monoxide levels if project traffic projections indicate traffic levels would not increase at any affected intersection to more than 44,000 vehicles per hour. The intersections affected by the proposed project have much lower traffic volumes. So the change in traffic caused by the proposed project would be minimal and the project would not cause or contribute to a violation of an ambient air quality standard.

Impact 4: Expose sensitive receptors to substantial pollutant concentrations? *Less-than-significant with construction period mitigation measures*

As discussed under Impact 2, construction activities may include some roadway demolition, paving, possible utility upgrades, and installation of hardscape and landscape improvements. Primary activity associated with each phase of construction activities would last less than 6 months. These would not be intensive operations. As indicated in Impact 2, emissions would be below the BAAQMD thresholds and are not expected to cause adverse impacts to nearby

sensitive receptors. Mitigation Measure AQ-1, identified in Impact 2, would represent Best Management Practices controlling construction period air pollutant emissions and reducing impacts to nearby sensitive receptors. Diesel particulate matter (DPM), a toxic air contaminant, would be emitted during construction in relatively small quantities. DPM can cause adverse health effects, i.e., excess cancer risk, if sensitive receptors are exposed to relatively high amounts. This type of exposure can occur when sensitive receptors are exposed to intensive construction activities, which last 6 months or longer in one location, or if exposed to long periods of lower emissions from continuous sources (e.g., highways). Given the relatively short construction period near any one area, construction impacts associated with DPM are not anticipated. The project would not increase emissions of DPM along the roadway, so long-term impacts from DPM are not anticipated.

Impact 5: Create objectionable odors affecting a substantial number of people? *No Impact*

The proposed project would not generate odors that would result in confirmed odor complaints.

Impact 6: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? *Less-than-significant*

The BAAQMD recommended GHG emissions-based thresholds in 2010 that are used by the City to judge the significance of emissions from land use projects. These criteria include a “bright-line” emissions threshold at 1,100 metric tons per year for land-use type projects and 10,000 metric tons per year for stationary sources. Projects with emissions above the thresholds would be considered to have an impact, which, cumulatively, could be significant. These thresholds apply to the operation of projects. No thresholds were identified for construction activities.

Temporary GHG emissions would occur during construction. These would vary from day-to-day. Best management practices assumed to be incorporated into construction of the proposed project include, but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials. Modeling of construction GHG emissions was conducted using the Sacramento Metropolitan Air Quality management District’s Road Construction Emissions Model, Version 6.3.2. A screening model run was developed that included widening of 3 miles of roadway over a 12-month period. Based on this modeling, annual emissions from construction activity are estimated to be 502 tons (455 metric tons). As described under Impact 2, no changes to operational emissions resulting from changes in traffic patterns were predicted. Therefore, the proposed project would not adversely affect long-term GHG emissions.

Impact 7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? *No Impact*

The project would be subject to new requirements under rule making developed at the State and local level regarding greenhouse gas emissions and be subject to local policies that may affect emissions of greenhouse gases. The project would not interfere with any plan or regulation intended to reduce GHG emissions.

NOISE

Regulatory Background

The State of California and the City of Sunnyvale establish guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. These plans and policies include: (1) the State CEQA Guidelines, Appendix G; (2) the City of Sunnyvale Noise Sub-element of the General Plan; and (3) the City of Sunnyvale Municipal Code. The following criteria provide a measure of acceptability for community noise in Sunnyvale.

Noise Sub-Element of the General Plan. The Noise Sub-Element of the Sunnyvale General Plan identifies noise and land use compatibility standards for various land uses, and establishes goals, policies, and standards for evaluating the compatibility of proposed projects with respect to noise exposure or noise generation. Goals and policies of the Sub-element are presented below:

GOAL 3.6A - MAINTAIN OR ACHIEVE A COMPATIBLE NOISE ENVIRONMENT FOR ALL LAND USES IN THE COMMUNITY.

Policy 3.6A.1: Prevent significant noise impacts from new development by applying state noise guidelines and Sunnyvale Municipal Code noise regulations in the evaluation of land use issues and proposals.

Policy 3.6A.2: Enforce and supplement state laws regarding interior noise levels of residential units.

Policy 3.6A.3: Consider techniques that block the path of noise and insulate people from noise.

GOAL 3.6B - PRESERVE AND ENHANCE THE QUALITY OF NEIGHBORHOODS BY MAINTAINING OR REDUCING THE LEVELS OF NOISE GENERATED BY TRANSPORTATION FACILITIES.

Policy 3.6B.1: Refrain from increasing or reduce the noise impacts of major roadways.

Policy 3.6B.2: Support efforts to reduce or mitigate airport noise.

Policy 3.6B.3: Support activities that will minimize the noise impacts of Moffett Federal Airfield.

Policy 3.6B.4: Support activities that will minimize and/or reduce the noise impacts of San Jose International Airport.

Policy 3.6B.5: Encourage activities that limit the noise impacts of helicopters.

Policy 3.6B.6: Mitigate and avoid the noise impacts from trains.

Policy 3.6B.7: Monitor and mitigate the noise impacts of light rail facilities.

GOAL 3.6C – MAINTAIN OR ACHIEVE ACCEPTABLE LIMITS FOR THE LEVELS OF NOISE GENERATED BY LAND USE OPERATIONS AND SINGLE-EVENTS (COMMUNITY NOISE).

Policy 3.6C.1: Regulate land use operation noise.

Policy 3.6C.2: Regulate select single-event noises and periodically monitor the effectiveness of the regulations.

Table N-1 shows the compatibility of various land use categories with varying noise levels.

Table N-1 Land Use Compatibility Guidelines for Community Noise in Sunnyvale

Land Use Category	Exterior Noise Exposure LDN or CNEL, DBA					
	55	60	65	70	75	80
Residential, Hotels and Motels						
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Commercial and Professional Businesses						
Auditoriums, Concert Halls, Amphitheaters						
Industrial, Manufacturing, Utilities and Agriculture						

	<p>Normally Acceptable Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.</p>
	<p>Conditionally Acceptable Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features are included in the design.</p>
	<p>Unacceptable New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.</p>

Municipal Code. Title 16, Chapter 16.08 presents construction noise regulations.

Construction activity shall be permitted between the hours of 7 a.m. and 6 p.m. daily Mondays through Fridays. Saturday hours of operation shall be between 8 a.m. and 5 p.m. There shall be no construction activity on Sundays or national holidays when city offices are closed.

No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc. will be allowed where such noises may be a nuisance to adjacent residential neighborhoods. Exceptions: (a) Construction activity is permitted for detached single-family residential properties when the work is being performed by the owner of the property, provided no construction activity is conducted prior to 7 a.m. or after 7 p.m. Mondays through Fridays, prior to 8 a.m. or after 7 p.m. on Saturdays and prior to 9 a.m. or after 6 p.m. on Sundays and national holidays when city offices are closed. It is permissible for up to two persons to assist the owner of the property so long as they are not hired by the owner to perform the work. For purposes of this section, "detached single-family residential property" refers only to housing that stands completely alone with no adjoining roof, foundation or sides. (b) Where emergency conditions exist, construction activity may be permitted at any hour or day of the week. Such emergencies shall be completed as rapidly as possible to prevent any disruption to the residential neighborhoods. (Ord. 2774-05 § 1; Ord. 2756-04 § 1; Ord. 2704-02 § 2).

Impacts and Mitigation Measures

Impact 1: Result in 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? *Less-than-significant*

The construction of the project would occur during allowable time periods as established in the City of Sunnyvale Municipal Code. Construction would occur between the hours of 7 a.m. and 6 p.m. Monday through Friday. Saturday hours of operation would be between 8 a.m. and 5 p.m. There would be no construction activity on Sundays or national holidays when city offices are closed.

The operation of the proposed project (i.e., the use of bike lanes) would not generate noise levels above existing noise levels resulting from vehicular traffic along Mary Avenue.

Impact 2: Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels? *Less-than-significant*

Construction activities may generate localized vibrations. These activities are not expected to be perceptible outside the right-of-way because the majority of the physical work would be conducted near the roadway median, more than 50 feet from the nearest receptors. There would be no ground-borne vibration resulting from operation of the project.

Impact 3: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? *Less-than-significant*

Permanent noise level increases resulting from the project could result from changes in traffic patterns utilizing the roadways in the project vicinity and/or changes in the roadway lane configurations. A comparison of existing and existing plus project traffic volumes shows that that the traffic volumes with the project are identical to existing conditions, because with the project, the capacity at major intersections will be preserved. Therefore, no diverted traffic is expected and traffic patterns would not change with the project. Correspondingly, traffic noise levels along Mary Avenue or other areas roadways will not increase above existing conditions.

The project would modify existing lane alignments as follows:

- Segment 1A - Eliminate a travel lane in the southbound direction for the inclusion of one bicycle lane in either direction.
- Segment 1B - Remove parking on the west side of the street for the addition of one bicycle lane in either direction.
- Segment 2 - Median narrowing/modification, and travel lane narrowing for the inclusion of one bicycle lane in each direction.
- Segment 3 - Remove one travel lane each, in either direction for a total of four car lanes remaining with the inclusion of one bicycle lane in either direction where road diet (lane removal) would yield extra wide bike space, preferred by bicyclists.

Traffic noise level changes were calculated assuming the lane modifications described above. The change in traffic noise levels was calculated based on relative changes to the equivalent lane distance from Mary Avenue traffic to nearby sensitive receptors. The calculations assumed that a receptor would be 25 feet from the northbound or southbound right of way, and the relative changes to traffic noise levels are summarized in Table N-2, below.

Table N-2 Traffic Noise Level Changes Due to Project

Mary Avenue Roadway Segment	Change in Traffic Noise Levels at Receptors adjacent to Southbound Mary Avenue (west)	Change in Traffic Noise Levels at Receptors adjacent to Northbound Mary Avenue (east)
Segment 1A	-0.2 dBA	-0.2 dBA
Segment 1B	+0.5 dBA	-0.1 dBA
Segment 2	-0.4 dBA	-0.2 dBA
Segment 3	0.0 dBA	0.0 dBA

As indicated in Table N-2, the project would slightly reduce traffic noise levels some receptors along the study area corridor. A slight noise increase is predicted to occur at receptors adjacent to southbound Mary Avenue in Segment 1B. However, increases to traffic noise levels would be less than 1 dBA, which would not be measureable or perceptible. As a result, traffic noise level increases caused by the proposed project, in terms of changed traffic patterns and/or changed roadway lane configurations would be less-than-significant.

Impact 4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? *Less-than-significant*

The construction of the project would generate noise, and would temporarily increase noise levels in the area. Noise impacts resulting from construction depend on the noise generated by

various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. Where noise from construction activities exceeds 60 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} , for a period exceeding one year, the impact would be considered significant.

Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time. Limiting the hours when construction can occur to daytime hours is often a simple method to reduce the potential for noise impacts. In areas immediately adjacent to construction, controls such as constructing temporary noise barriers and utilizing "quiet" construction equipment can also reduce the potential for noise impacts.

The project would not require any expansion of the existing right-of-way or the acquisition of any public or private property. The project also does not require any relocation of existing curbs except for the median modification in Segment 2. No trees are proposed for removal as a result of the project. Heavy construction equipment and trucks would be required at times during demolition activities and earthmoving activities associated with the project. This construction period would result in the highest noise levels at off-site receivers (79 to 88 dBA L_{eq} at 50 feet from a busy construction site). The remaining construction activities would be less intensive and would require less heavy equipment. Given the proximity of nearby residences that share the project perimeter, construction noise levels would generally exceed 60 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} throughout the construction phases requiring heavy construction equipment and trucks.

Primary activity associated with each phase of construction activities would last less than 6 months. Typically, small construction projects do not generate significant noise impacts when standard construction noise control measures are enforced at the project site and when the duration of the noise generating construction period is limited to one construction season (typically one year or less). Reasonable regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction materials, are necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life.

Although the impact would be less-than-significant, the following standard measures are assumed to be included in the project:

1. Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists;
2. Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
3. Locate all stationary noise-generating equipment, such as air compressors, portable power generators, and crushing/recycling operations as far away as possible from adjacent land uses;

4. Locate staging areas and construction material areas as far away as possible from adjacent land uses;
5. Prohibit all unnecessary idling of internal combustion engines;
6. Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented.



This completes our analyses. Please feel free to contact us should you have any questions or need further assistance.

Sincerely,

James A Reyff
Senior Consultant, Principal

Michael S. Thill
Senior Consultant, Principal

(13-083)

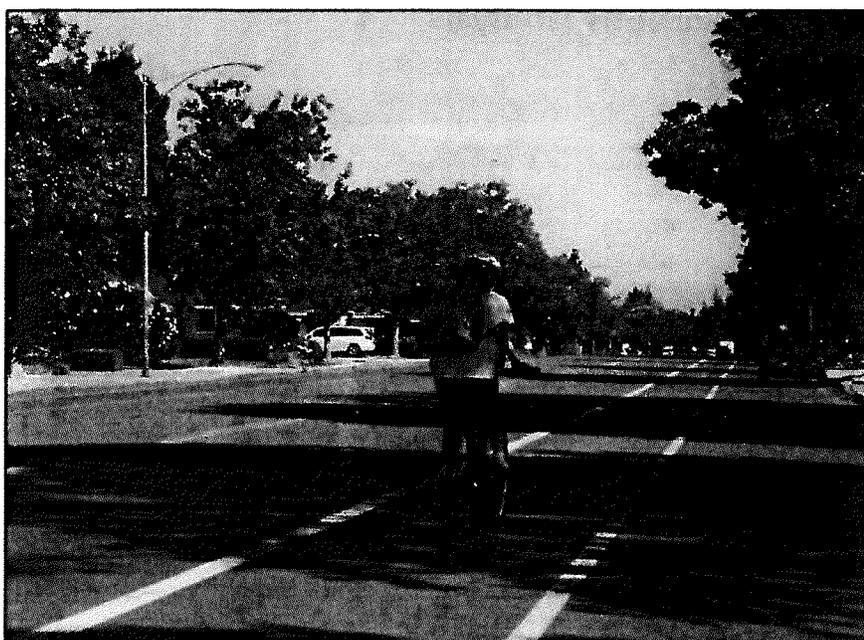
This page intentionally left blank.

APPENDIX B

MARY AVENUE STREET SPACE ALLOCATION STUDY, ALTERNATIVES TRAFFIC OPERATIONS ANALYSIS

TJKM
Transportation
Consultants

Vision That Moves Your Community



Draft Report

**Mary Avenue Street
Space Allocation Study**

**Alternatives Traffic
Operations Analysis**

In the City of Sunnyvale

February 1, 2013

Pleasanton
Fresno
Sacramento
Santa Rosa



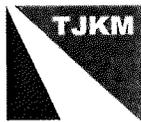
Vision That Moves Your Community

Draft Report

Mary Avenue Street Space Allocation Study: Alternatives Traffic Operations Analysis

In the City of Sunnyvale

February 1, 2013



www.tjkm.com

Prepared by:
TJKM Transportation Consultants
4305 Hacienda Drive
Pleasanton, CA 94588-2798
Tel: 925.463.0611
Fax: 925.463.3690

Table of Contents

Introduction and Summary	1
Introduction.....	1
Summary.....	1
Existing Conditions	1
Year 2020 Conditions	2
Level of Service Analysis Methodology.....	4
Intersections	4
Significance Criteria.....	4
Study Traffic Analysis Scenarios.....	4
Study Intersections	5
Existing Conditions	6
Existing Traffic Volumes and Geometry	6
Existing Conditions Peak Hour Intersection LOS Analysis	6
Bicycle Collision History.....	7
Existing Corridor Vehicle Speeds.....	8
Street Space Allocation Alternatives	12
Alternative 1	12
Alternative 2.....	13
Alternative 3.....	13
Alternative 4.....	14
Existing Conditions with Project Alternatives	15
Existing Conditions with Alternative 1	15
Existing Conditions with Alternative 2	17
Existing Conditions with Alternative 3	19
Existing Conditions with Alternative 4	21
2020 Baseline Conditions	23
Anticipated Future Roadway Projects	23
2020 Traffic Volumes	23
2020 Baseline Conditions Peak Hour Intersection LOS Analysis.....	23
2020 Plus Project Alternatives Conditions.....	26
2020 Conditions with Alternative 1	26
2020 Conditions with Alternative 2	29
2020 Conditions with Alternative 3.....	31
2020 Conditions with Alternative 4	33
Conclusions.....	35
Study References	36
TJKM Staff	36
CirclePoint Staff.....	36
Bicycle Solutions.....	36
Traffic Data Collection	36
City of Sunnyvale.....	36
References	36

List of Appendices

Appendix A – Level of Service Methodology	
Appendix B – Existing Daily Roadway Segment Vehicle Counts	
Appendix C – Existing Daily Roadway Segment Vehicle Classification	
Appendix D – Existing Corridor Midblock Daily Pedestrian and Bicycle Counts	
Appendix E – Existing Intersection Traffic Counts (Vehicles and Bicycles)	
Appendix F – Intersection Level of Service Worksheets: Existing Conditions	
Appendix G – Corridor Bicycle and Pedestrian Collision History	
Appendix H – Existing Corridor Vehicle Speeds	
Appendix I – Street Space Allocation Design Alternative 1	
Appendix J – Street Space Allocation Design Alternative 2	
Appendix K – Street Space Allocation Design Alternative 3	
Appendix L – Street Space Allocation Design Alternative 4	
Appendix M – Intersection Level of Service Worksheets: Existing with Alternative 1 Conditions	
Appendix N – Intersection Level of Service Worksheets: Existing with Alternative 2 Conditions	
Appendix O – Intersection Level of Service Worksheets: Existing with Alternative 3 Conditions	
Appendix P – Intersection Level of Service Worksheets: Existing with Alternative 4 Conditions	
Appendix Q – Intersection Level of Service Worksheets: 2020 Baseline Conditions	
Appendix R – Intersection Level of Service Worksheets: Year 2020 with Alternative 1 Conditions	
Appendix S – Intersection Level of Service Worksheets: Year 2020 with Alternative 2 Conditions	
Appendix T – Intersection Level of Service Worksheets: Year 2020 with Alternative 3 Conditions	
Appendix U – Intersection Level of Service Worksheets: Year 2020 with Alternative 4 Conditions	

List of Figures

Figure 1: Project Study Corridor.....	3
Figure 2: Existing Average Daily Vehicle Traffic.....	9
Figure 3: Existing Intersection Vehicle Volumes, Lane Geometry, & Traffic Controls (Baseline).....	10
Figure 4: Existing Corridor Segment Speeds.....	11
Figure 5: Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 1).....	16
Figure 6: Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 2).....	18
Figure 7: Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 3).....	20
Figure 8: Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 4).....	22
Figure 9: 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Baseline).....	25
Figure 10: 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 1).....	28
Figure 11: 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 2).....	30
Figure 12: 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 3).....	32
Figure 13: 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alt. 4).....	34

List of Tables

Table I: Peak Hour Intersection LOS – Existing Conditions.....	7
Table II: Peak Hour Intersection LOS – Existing Conditions with Alternative 1.....	15
Table III: Peak Hour Intersection LOS – Existing Conditions with Alternative 2.....	17
Table IV: Peak Hour Intersection LOS – Existing Conditions with Alternative 3.....	19
Table V: Peak Hour Intersection LOS – Existing Conditions with Alternative 4.....	21
Table VI: Peak Hour Intersection LOS – 2020 Baseline Conditions.....	24
Table VII: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 1.....	26
Table VIII: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 2.....	29
Table IX: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 3.....	31
Table X: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 4.....	33

Introduction and Summary

Introduction

Through a grant from the Santa Clara Valley Transportation Authority (VTA) Bicycle Expenditure Program and additional City funding support, the City of Sunnyvale directed TJKM to develop design alternatives for re-allocating existing street space on Mary Avenue between Fremont Avenue and Maude Avenue. Ideally, the space allocation will safely accommodate all modes of travel and include continuous Class II bicycle lanes. The Mary Avenue study corridor is classified as a Minor Arterial in the City of Sunnyvale General Plan and is approximately three miles in length. The corridor is currently designated as a signed bicycle route. It serves a variety of office and retail commercial uses between Maude Avenue and Central Expressway and primarily residential uses south of Central Expressway. Figure 1 illustrates the location of the study corridor, including all intersections evaluated for this traffic operations study.

In April 2009 the Sunnyvale City Council adopted the Policy for the Allocation of Street Space, which was adopted by General Plan Amendment as part of the City's Land Use and Transportation Element in April 2009. This policy promotes the continued planning, design, and construction of a comprehensive citywide bikeway network in Sunnyvale. Policy goals include modal balance for motor vehicles, public transportation, bicycles, and pedestrians to promote increased bicycle use; incentives to offset potential impacts to on-street parking and other non-transport uses; and maintenance of minimum design and safety standards for all roadway users.

The Policy for the Allocation of Street Space also establishes the need for planning and engineering screening criteria with respect to bicycle lane implementation, including roadway geometry, collision history, travel speed, motor vehicle traffic volumes, and parking supply/demand (both on- and off-street). In accordance with this policy and under separate cover, TJKM developed evaluation criteria that were subsequently used to evaluate and rank four design alternatives to reallocate street space on Mary Avenue.

This report focuses on expected traffic operations with respect to the four street space allocation design alternatives. It contains a discussion of existing corridor conditions, including traffic counts for all modes, vehicle speeds, vehicle classification, and collision history; detailed descriptions of all design alternatives; and a traffic operations evaluation of each alternative under both Existing Conditions and Year 2020 Conditions.

Summary

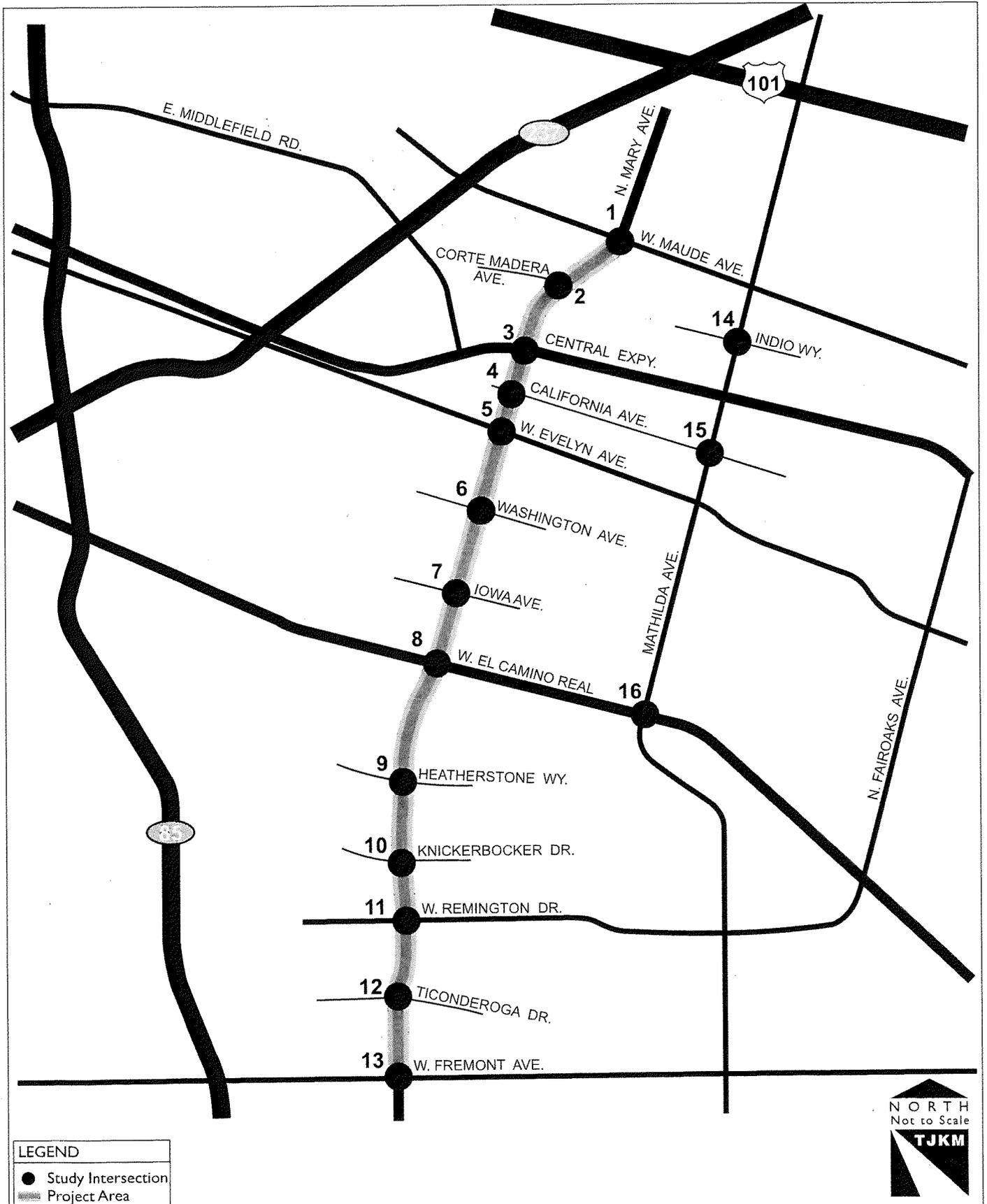
Existing Conditions

- Currently, all 16 study intersections are operating at acceptable LOS based on City of Sunnyvale standards (LOS D/E) as defined in the City of Sunnyvale General Plan Land Use and Transportation Element (LUTE), with the exception of the Mary Avenue / Central Expressway intersection that is currently operating at LOS F during both peak hours.
- With implementation of any of the design alternatives under Existing Conditions (Alternatives 1, 2, 3, and 4), all intersections are expected to remain operating acceptably based on City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection, which is expected to continue operating at LOS F during both peak hours but with no increase in average delay.
- Under Alternatives 1, 3, and 4, in which the road diet is proposed along the Residential segment, LOS and delay is expected to increase at some Residential segment intersections due

to the expected diversion of some vehicles, although overall LOS would still remain acceptable. Therefore, no significant traffic operational impacts are expected to result from constructing any of the four street space allocation alternatives under Existing Conditions.

Year 2020 Conditions

- Under 2020 Baseline Conditions (without implementation of any design alternative), all study intersections are expected to continue operating within acceptable City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection. This intersection is expected to operate at LOS F during both peak hours before implementation of any of the four street space allocation alternatives.
- With implementation of any of the four design alternatives, all intersections are expected to remain operating acceptably based on City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection, which is expected to continue operating at LOS F during both peak hours as under 2020 Baseline Conditions. However, no increase in average delay is expected at that intersection under any alternative.
- Under Alternatives 1, 3, and 4, in which the road diet is proposed along the Residential segment, LOS and delay is expected to increase at some Residential segment intersections due to the expected diversion of some vehicles, although overall LOS would still remain acceptable. Therefore, no significant traffic operational impacts are expected to result from constructing any of the four street space allocation alternatives in Year 2020.



Level of Service Analysis Methodology

Level of service is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The level of service generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational levels of service (LOS) are given letter designations from "A" to "F," with "A" representing the best operating conditions (free-flow) and "F" the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets.

Intersections

The study intersections were analyzed using the Highway Capacity Manual 2000 (HCM 2000) Operations Method contained in the standard traffic software Synchro. For signalized intersections, this methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour operating conditions. LOS "A" indicates free flow conditions with little or no delay, while LOS "F" indicates jammed conditions with excessive delay and long back-ups. The methodology is described in detail in Appendix A.

Significance Criteria

The Mary Avenue study corridor is under City of Sunnyvale jurisdiction, although the corridor intersects facilities that are maintained by the California Department of Transportation (Caltrans) and Santa Clara County. El Camino Real (State Route (SR) 82 - Caltrans) and Central Expressway (County) intersect the study corridor. Additionally, the Caltrain commuter rail line crosses Mary Avenue adjacent to the intersection with Evelyn Avenue. Mathilda Avenue, which is expected to experience a small amount of added traffic under some street space allocation alternatives and therefore is also studied, is also under City jurisdiction.

All study intersections are signalized. The City of Sunnyvale level of service (LOS) traffic operational standard for signalized intersections is LOS D, except for City intersections that are designated as regionally significant and accordingly have a LOS E standard. For purposes of this study, regionally significant facilities include intersections along Mathilda Avenue and also Mary Avenue intersections at El Camino Real and Central Expressway.

This study analyzes the potential impacts, if any, to intersection operations on the study corridor based on four potential street space allocation alternatives.

Study Traffic Analysis Scenarios

This study analyzes the potential impacts, if any, to intersection operations on the Mary Avenue study corridor and Mathilda Avenue corridor based on four potential street space allocation alternatives. The study evaluated traffic operational conditions under the following ten (10) analysis scenarios:

1. *Existing Conditions* – this scenario is based on existing traffic counts, lane geometry, traffic controls, and field conditions on Mary Avenue and Mathilda Avenue. This baseline scenario assumes no change to the current roadway lane configurations.
2. *Existing plus Alternative 1 Conditions* – this scenario assumes diversion of a small amount of Existing Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 1.
3. *Existing plus Alternative 2 Conditions* – this scenario assumes the same traffic volumes as Existing Conditions (no road diet traffic diversion), but with new lane geometries associated with Alternative 2.

4. *Existing plus Alternative 3 Conditions* – this scenario assumes diversion of a small amount of Existing Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 3.
5. *Existing plus Alternative 4 Conditions* – this scenario assumes diversion of a small amount of Existing Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 4.
6. *2020 Baseline Conditions* – this scenario is based on Year 2020 lane geometry and traffic control assumptions based on the Sunnyvale Resource Allocation Plan and Transportation Strategic Program. Traffic volumes were derived by factoring Existing Conditions volumes to Year 2020 using an annual growth factor.
7. *2020 plus Alternative 1 Conditions* – this scenario assumes diversion of a small amount of Year 2020 Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 1.
8. *2020 plus Alternative 2 Conditions* – this scenario assumes the same traffic volumes as 2020 Baseline Conditions (no road diet traffic diversion), but with new lane geometries associated with street space allocation Alternative 2.
9. *2020 plus Alternative 3 Conditions* – this scenario assumes diversion of a small amount of Year 2020 Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 3.
10. *2020 plus Alternative 4 Conditions* – this scenario assumes diversion of a small amount of Year 2020 Conditions volumes on Mary Avenue due to a proposed road diet design and consists of new lane geometries associated with Alternative 4.

Study Intersections

The traffic analysis study focused on evaluating traffic conditions at 13 study intersections on Mary Avenue and three study intersections on nearby Mathilda Avenue that may potentially be affected by the street space allocation alternatives. The following study intersections, all of which are signalized, were analyzed:

1. Mary Avenue / Maude Avenue
2. Mary Avenue / Corte Madera Avenue
3. Mary Avenue / Central Expressway
4. Mary Avenue / California Avenue
5. Mary Avenue / Evelyn Avenue
6. Mary Avenue / Washington Avenue
7. Mary Avenue / Iowa Avenue
8. Mary Avenue / El Camino Real (SR 82)
9. Mary Avenue / Heatherstone Way
10. Mary Avenue / Knickerbocker Drive
11. Mary Avenue / Remington Drive
12. Mary Avenue / Ticonderoga Drive
13. Mary Avenue / Fremont Avenue
14. Mathilda Avenue / Indio Way
15. Mathilda Avenue / California Avenue
16. Mathilda Avenue / El Camino Real

Existing Conditions

This section details current traffic operational conditions along the Mary Avenue study corridor, including daily and peak hour vehicle, bicycle, and pedestrian volumes; intersection level of service (LOS); recent bicycle and pedestrian collision history; and prevailing vehicle speeds along the corridor. Mary Avenue is classified as a Class II Arterial in the City of Sunnyvale General Plan Land Use and Transportation Element (LUTE). Intersection LOS is also presented for Mathilda Avenue, which is classified as a Class I Arterial in the LUTE.

Existing Traffic Volumes and Geometry

Quality Counts collected daily roadway segment counts of vehicles, bicycles, and pedestrians in May and June 2010. Data sheets for daily vehicle counts and classifications by roadway segment are provided in Appendices B and C, respectively. The roadway segment counts were collected for 48 consecutive hours during typical midweek days. The average daily directional vehicle volumes for each study roadway segment are shown in Figure 2. Average daily traffic (ADT) on the study corridor currently ranges between 9,932 on the Maude Avenue to Corte Madera Avenue segment and 22,715 on the Central Expressway to California Avenue segment. In addition, Appendix D includes daily pedestrian and bicycle counts (7:00 a.m. to 7:00 p.m.) collected at three midblock roadway segments along the corridor.

Quality Counts also collected peak hour counts of vehicles, bicycles, and pedestrians at the study intersections in May 2012, while local schools were in session. The intersection counts were taken during typical midweek days during the peak periods of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. Figure 3 shows Existing Conditions peak hour intersection counts for vehicles, bicycles, and pedestrians at the study intersections, as well as lane geometry and traffic controls. Appendix E contains the peak hour count data sheets for vehicles, pedestrians, and bicycles at each study intersection.

Existing Conditions Peak Hour Intersection LOS Analysis

Table I shows the results of the intersection peak hour LOS analysis conducted for the 13 study intersections along the Mary Avenue corridor and three intersections along Mathilda Avenue. Appendix F includes the LOS analysis sheets for Existing Conditions. Currently, all study intersections are operating at acceptable LOS based on City of Sunnyvale standards (LOS D/E) as defined in the City of Sunnyvale LUTE, with the exception of the Mary Avenue / Central Expressway intersection that is currently operating at LOS F during both peak hours.

Table I: Peak Hour Intersection LOS – Existing Conditions

ID	Intersection	Control	Existing Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	25.0	C	24.5	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.8	B	22.9	C
3	Mary Avenue / Central Expressway	Signal	105.2	F	327.0	F
4	Mary Avenue / California Avenue	Signal	15.4	B	15.4	B
5	Mary Avenue / Evelyn Avenue	Signal	32.7	C	36.5	D
6	Mary Avenue / Washington Avenue	Signal	20.2	C	18.0	B
7	Mary Avenue / Iowa Avenue	Signal	12.2	B	11.0	B
8	Mary Avenue / El Camino Real (SR 82)	Signal	45.0	D	53.1	D
9	Mary Avenue / Heatherstone Way	Signal	7.2	A	4.1	A
10	Mary Avenue / Knickerbocker Drive	Signal	5.2	A	4.8	A
11	Mary Avenue / Remington Drive	Signal	26.5	C	30.7	C
12	Mary Avenue / Ticonderoga Drive	Signal	8.6	A	5.1	A
13	Mary Avenue / Fremont Avenue	Signal	49.8	D	46.9	D
14	Mathilda Avenue / Indio Way	Signal	17.2	B	18.1	B
15	Mathilda Avenue / California Avenue	Signal	23.8	C	31.6	C
16	Mathilda Avenue / El Camino Real	Signal	49.0	D	52.9	D

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

Bicycle Collision History

TJKM and Bicycle Solutions analyzed the recent collision history on the Mary Avenue corridor relative to bicycles to determine any potential patterns that potentially could be addressed or resolved as part of implementing this corridor project. The most recent five-year (2005 through 2009) collision history was obtained from City of Sunnyvale staff and was supplemented through use of the California Statewide Integrated Traffic Records System (SWITRS) database. Appendix G details the collision analysis approach and includes detailed bicycle-related collision records.

Based on review of the collision records, a total of 23 bicycle-involved and two pedestrian-involved collisions were reported in the study corridor during the five-year analysis period. The two pedestrian-involved collisions consisted of pedestrian right-of-way violations by motorists. The two most common collision patterns recently for bicyclists have been right-hook collisions and bicyclists traveling on the wrong side of the road (four collisions each for both categories). Right-hook collisions occur when motorists overtake and make a right turn in front of a bicyclist traveling in the same direction. The motorist is considered at fault. A Class II bicycle lane (on-street and striped) has the potential to reduce the incidence of such collisions by providing greater definition of the street space as both motorists and bicyclists approach intersections.

In motorist collisions with wrong-way bicyclists, the bicyclist is considered at fault. These incidents occur either within the existing roadway or within parallel sidewalks. Class II bicycle lanes have the potential to correct such collisions by providing a dedicated street space attractive to bicyclists that promotes safe, “right-way” bicycle travel.

Existing Corridor Vehicle Speeds

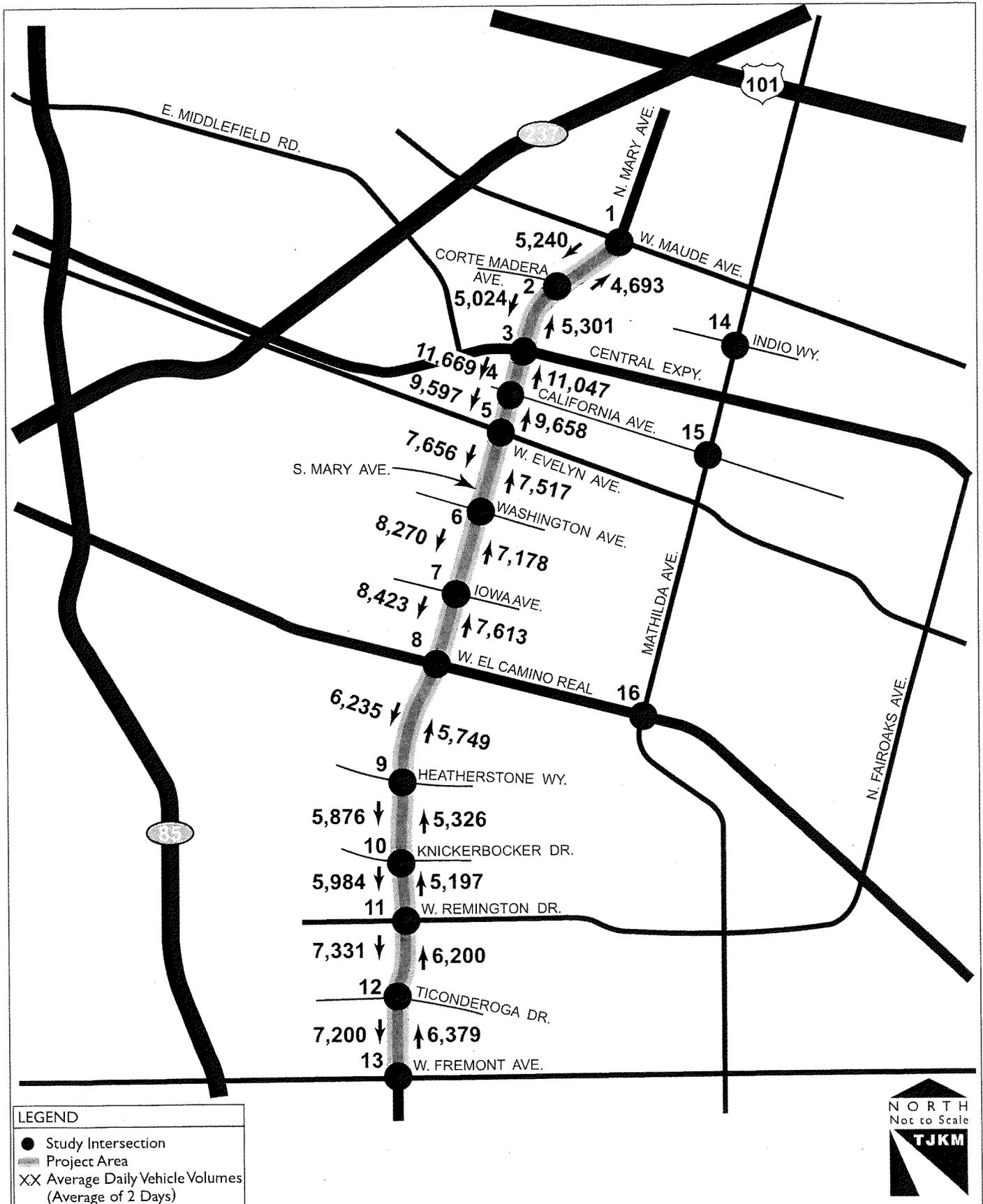
Quality Counts additionally collected vehicle speed data along all 12 segments of the Mary Avenue study corridor during the same days of vehicle count data collection. Past experience with bicycle lane and road diet projects in many cases has resulted in reduced vehicle speeds as a result of project implementation. The speed surveys were conducted in a manner consistent with the recommended procedures and intent of Section 2B.13 of the latest California Manual on Uniform Traffic Control Devices (MUTCD). The speed surveys were collected during free-flow, midday off-peak hours on a day with fair weather, dry pavement, and clear visibility. An effort was made to ensure that the presence of radar survey equipment did not affect the speed of the traffic being surveyed. Appendix H includes corridor segment speed observation sheets and calculations.

TJKM determined prevailing vehicle speeds on the Mary Avenue corridor through examination of the 85th-percentile speed results from the field observations. The 85th-percentile speed is defined as the speed at or below which 85 percent of the sampled vehicles are observed to be traveling. Traffic engineers consider the 85th-percentile speed resulting from a spot speed survey to be a primary indicator of the appropriate speed limit for a section of roadway.

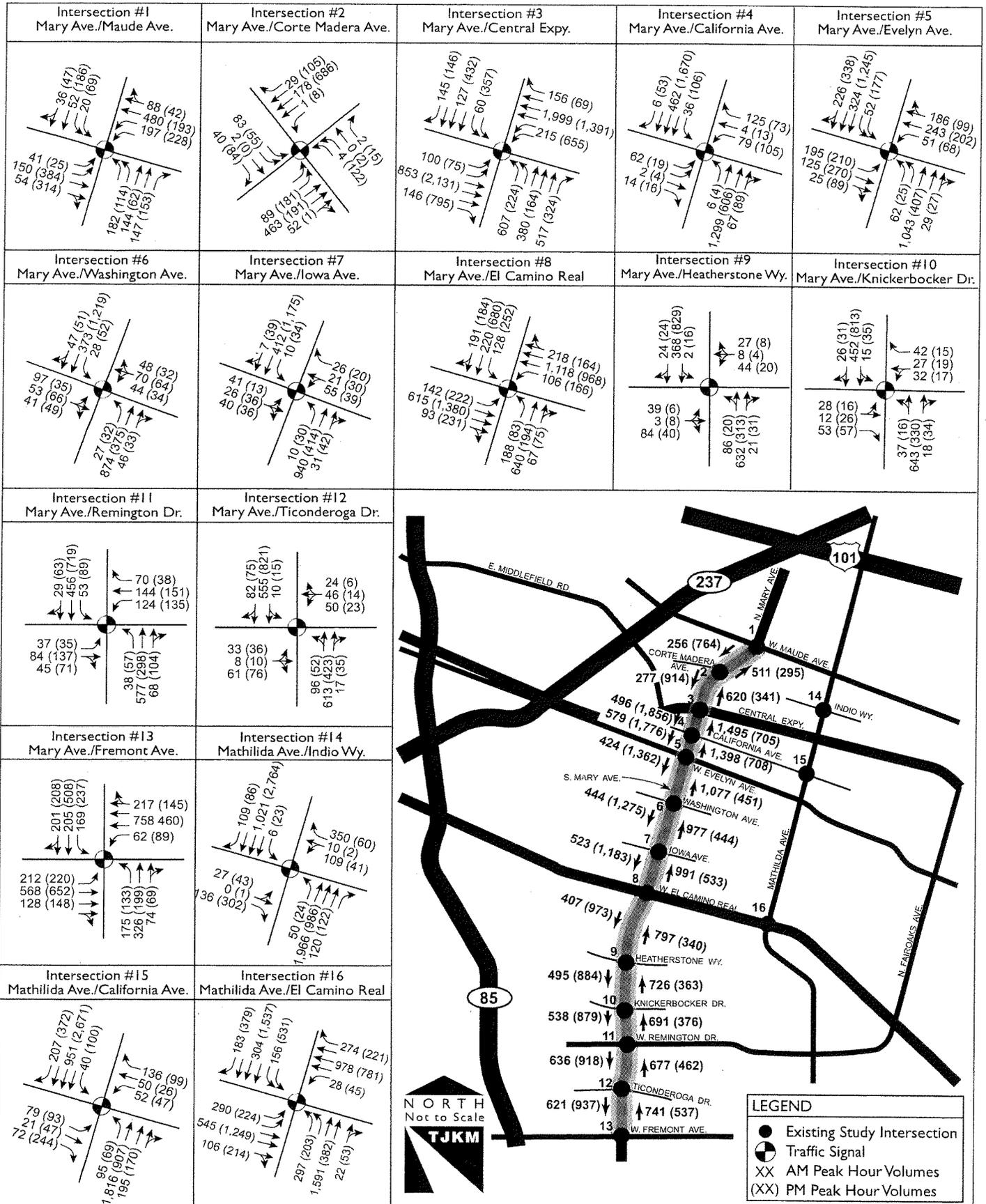
Figure 4 illustrates the observed prevailing (85th-percentile) vehicle speeds along the study roadway segments. Appendix H contains the data sheets detailing collected vehicle speed data for each study corridor roadway segment. According to the collected data, current observed speeds on the Mary Avenue study corridor range from 33 to 42 miles per hour (mph) north of Evelyn Avenue, where the current posted speed limit is 40 mph. South of Evelyn Avenue, where the corridor primarily fronts residential properties, observed speeds range from 37 to 41 mph. Currently, this segment of the Mary Avenue corridor has a posted speed limit of 35 mph. Most of the proposed street space allocation alternatives through this residential segment include a road diet with bicycle lanes, in which two travel lanes per direction would be reduced to one lane per direction.

Based on TJKM review of road diet case studies detailed in the *Road Diet Handbook*, implementing a road diet south of Evelyn Avenue has the potential to lower the observed 85th-percentile speeds that currently exceed the posted speed limit. In one case study, a 32 percent decrease in vehicles traveling over the speed limit was reported. In other case studies, one jurisdiction reported overall prevailing corridor speeds decreasing by 18 percent, while other jurisdictions reported reductions in aggressive speeding by 52 to 76 percent.¹

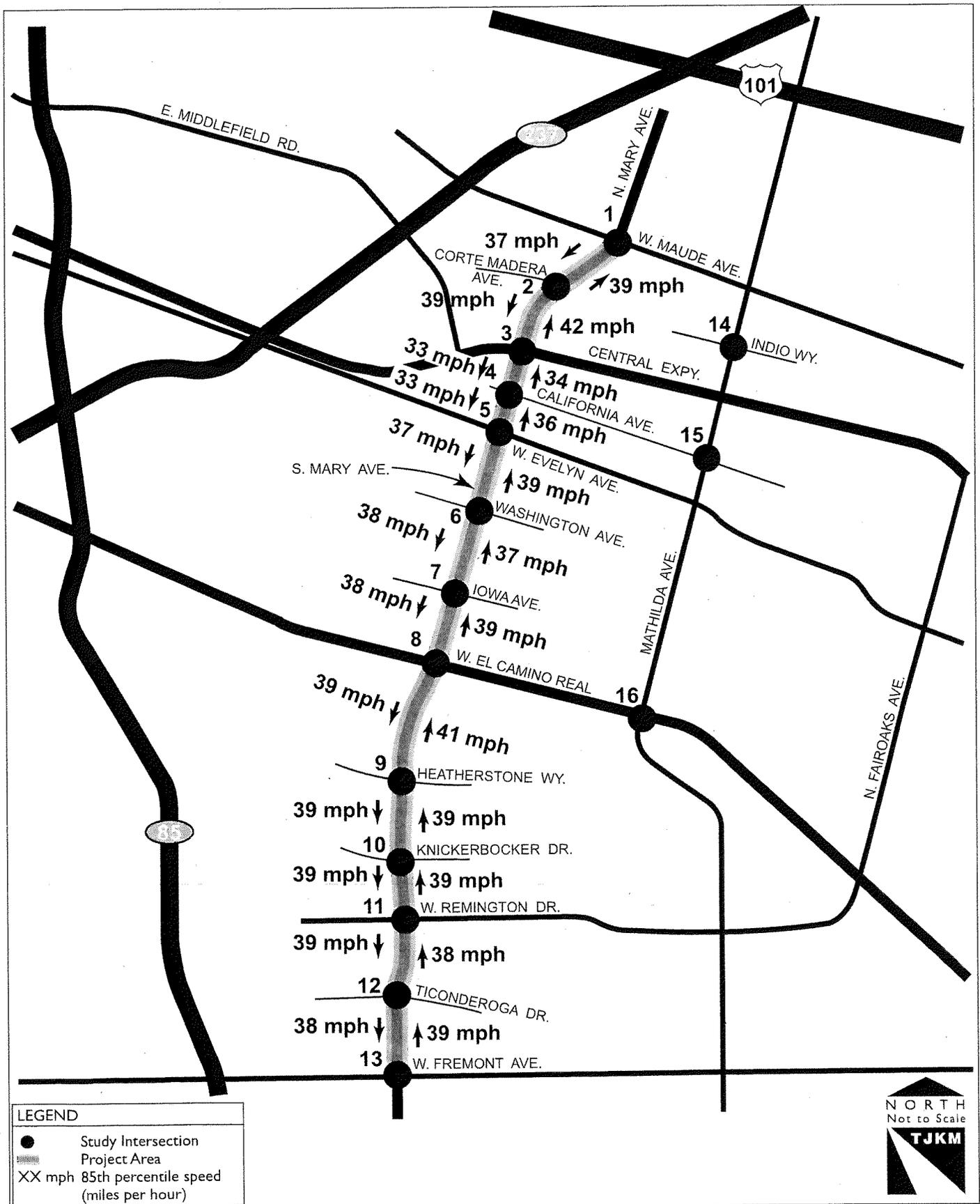
¹ *Road Diet Handbook*, page 93.



City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure
Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls 3



339



340

Street Space Allocation Alternatives

This section details the development of four street space allocation design alternatives that were developed based on the City Policy for the Allocation of Street Space and informed by City staff, City Bicycle and Pedestrian Advisory Committee (BPAC), and community stakeholder input. The alternatives are also informed by the land use environment through which the corridor passes. Accordingly, TJKM has divided the Mary Avenue study corridor into three distinct segments as follows:

- Residential (Fremont Avenue to Evelyn Avenue) – this approximately 2.2-mile segment is fronted primarily by residential land uses, with many residential driveways providing direct access. The typical segment consists of four travel lanes (two per direction) and two curb parking lanes within a typical 64-foot curb-to-curb width. At major arterial street intersections, an exclusive left turn lane is provided. At collector/local street intersections along the corridor, exclusive left turn lane pockets are provided at select locations. Continuous sidewalk is provided in each direction along this segment.
- Transition (Evelyn Avenue to Central Expressway) – this segment is approximately three-tenths (3/10) of a mile in length and serves as a key distributor of local residential and regional traffic to and from Central Expressway. It is the highest-volume segment in terms of ADT (22,715). The current midblock cross-sections consist of three through lanes per direction, with greater restrictions on local access than the residential segment (only right-in/right-out driveways and signalized access at California Avenue). Directional traffic is separated by a median, and no curb parking is permitted in either direction. Continuous sidewalk is provided in each direction along this segment.
- Office (Central Expressway to Maude Avenue) – this eight-tenths (8/10) of a mile segment also consists of a six-lane midblock cross section (three lanes per direction) with limited access via driveways serving office/commercial land uses. ADT on the Maude Avenue to Corte Madera Avenue section within this segment is the lowest along the corridor (9,932). Directional traffic is separated by a median, and no curb parking is permitted in either direction. Continuous sidewalk is provided in each direction along this segment.

Alternative I

Design Alternative I includes continuous bicycle lanes for nearly all of the corridor length. Appendix I illustrates the Alternative I design for the entire corridor. Within the Residential segment, the design includes a road diet consisting of three travel lanes (including two-way left turn lane), two new Class II bicycle lanes, and the two existing curb parking lanes. This is accomplished within the same curb-to-curb roadway width as Existing Conditions. The two-way center turn lane provides channelization for all left turns, thereby eliminating the current issue of through vehicles on the inside travel lane getting trapped behind left-turning vehicles waiting for gaps in opposing through traffic. Existing turn lane geometry is retained at Fremont Avenue, El Camino Real, and the south leg approaching Evelyn Avenue within this segment, since these intersections are currently approaching capacity.

In the Transition section, the existing six-lane cross section is maintained, with travel lanes being narrowed to 10-11 feet to accommodate minimum five-foot bicycle lanes (minimum acceptable based on California Department of Transportation standards and the Santa Clara Valley Transportation Authority (VTA) Bicycle Technical Guidelines). These bicycle lanes can be accommodated in both directions within the existing curb width, with the exception of a short segment in the southbound direction between California Avenue and Evelyn Avenue, which includes a sharrow along the right side curb lane. Sharrows within a travel lane indicate that motorists and bicyclists must share the lane.

Also, the southbound curb lane approaching Evelyn Avenue is converted from a shared through-right turn lane to an exclusive right-turn lane. This lane allocation allows for two receiving travel lanes and creates space for a Class II bicycle lane in the southbound direction downstream (south) of Evelyn Avenue.

In the Office section, all midblock locations within the segment reallocate the existing curb-to-curb street space from six travel lanes (three per direction) to four travel lanes (two per direction) and two six-foot wide Class II bicycle lanes. The six-foot width is an optimal width per the VTA guidelines. However, the Class II bicycle lanes are not continuous throughout the segment. The north leg of the Central Expressway intersection includes sharrows along both the northbound and southbound Mary Avenue curb lanes. Existing capacity is retained at the Maude Avenue and Central Expressway intersections, with the latter currently approaching capacity.

Alternative 2

Design Alternative 2 provides continuous Class II bicycle lanes for virtually the entire corridor length. Appendix J illustrates the Alternative 2 design for the entire corridor. The Residential section differs from Alternative 1 in that the existing four-lane cross section is maintained, and six-foot bicycle lanes are provided by removing one curb parking lane in the southbound direction. Existing approach lane geometries are preserved at all intersections along this segment.

In the Transition section, six-foot, continuous bicycle lanes are provided, due in part to narrowing the Mary Avenue median between Evelyn Avenue and California Avenue, and the existing six-lane cross section is preserved. The southbound curb lane approaching Evelyn Avenue is converted from a shared through-right turn lane to an exclusive right-turn lane. This lane allocation allows for two receiving travel lanes and creates space for a Class II bicycle lane on southbound Mary Avenue south of Evelyn Avenue. In addition, "stop" legends and signs are proposed to control the eastbound and westbound Central Expressway free right turn lanes entering Mary Avenue, in order to enhance bicyclist and pedestrian safety.

In the Office section, minimum six-foot continuous bicycle lanes are once again accommodated along with the existing six-lane cross section due to narrowing the median at locations just north of Central Expressway and just south of Maude Avenue.

Design feedback on Alternatives 1 and 2 was provided by City staff, as well by the City BPAC and by community members. Informed by this collective input, TJKM developed two additional alternatives to address design issues raised.

Alternative 3

Design Alternative 3 provides continuous Class II bicycle lanes along the entire corridor. Appendix K illustrates the Alternative 3 design for the entire corridor. This alternative is very similar to Alternative 1 in the Residential segment and Alternative 2 in the Transition and Office segments, with some design adjustments. In the Residential segment, the Alternative 3 design provides a longer lane drop transition length to facilitate vehicle merging and enhance bicycle lane continuity in the southbound direction of Mary Avenue between Evelyn Avenue and Carson Drive. The Residential segment also includes a shorter vehicle merge length south of El Camino Real in order to preserve existing southbound curb parking south of Blair Avenue.

In the Transition segment, the Alternative 3 design is identical to the Alternative 2 design (six-lane cross section with narrowed median and continuous bicycle lanes), but with enhanced bicycle lane transition striping in both directions of Mary Avenue between California Avenue and Central Expressway.

Alternative 3 within the Office segment is also identical to Alternative 2 (six-lane cross section with narrowed median and continuous bicycle lanes), but replaces the southbound curb lane sharrow just south of Maude Avenue with continuous bicycle lane striping.

Alternative 4

Design Alternative 4 provides continuous Class II bicycle lanes along the entire corridor. Appendix L illustrates the Alternative 4 design for the entire corridor. Alternative 4 is very similar to Alternative 1, but includes design enhancements within the Residential, Transition, and Office segments. In the residential segment, the same lane merge enhancements south of El Camino Real and Evelyn Avenue proposed under Alternative 3 are provided.

In the Transition segment, Alternative 4 accommodates minimum five-foot bicycle lanes in both directions through minor curb widening of 1-2 feet on either side of the roadway. The design also maintains the existing three travel lanes in each direction. Enhanced bicycle lane transition striping between California Avenue and Central Expressway is also proposed.

Finally, in the Office segment, the alternative shows minor median narrowing just north of Central Expressway to allow for continuous bicycle lanes in both directions. This segment also includes enhanced bicycle and vehicle lane striping at the right-in/right-out intersection at Escalon Avenue. Just as with Alternative 3, the Alternative 4 design replaces the southbound curb lane sharrow just south of Maude Avenue with continuous bicycle lane striping.

Existing Conditions with Project Alternatives

TJKM conducted an intersection LOS analysis of all four street space allocation design alternatives, the results of which are detailed in the following sections.

Existing Conditions with Alternative I

Figure 5 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Existing Conditions with implementation of Alternative I. Table II compares the intersection LOS results of Existing Conditions under current lane geometry with Alternative I lane geometry. Appendix M includes the LOS analysis sheets for Existing Conditions with Alternative I.

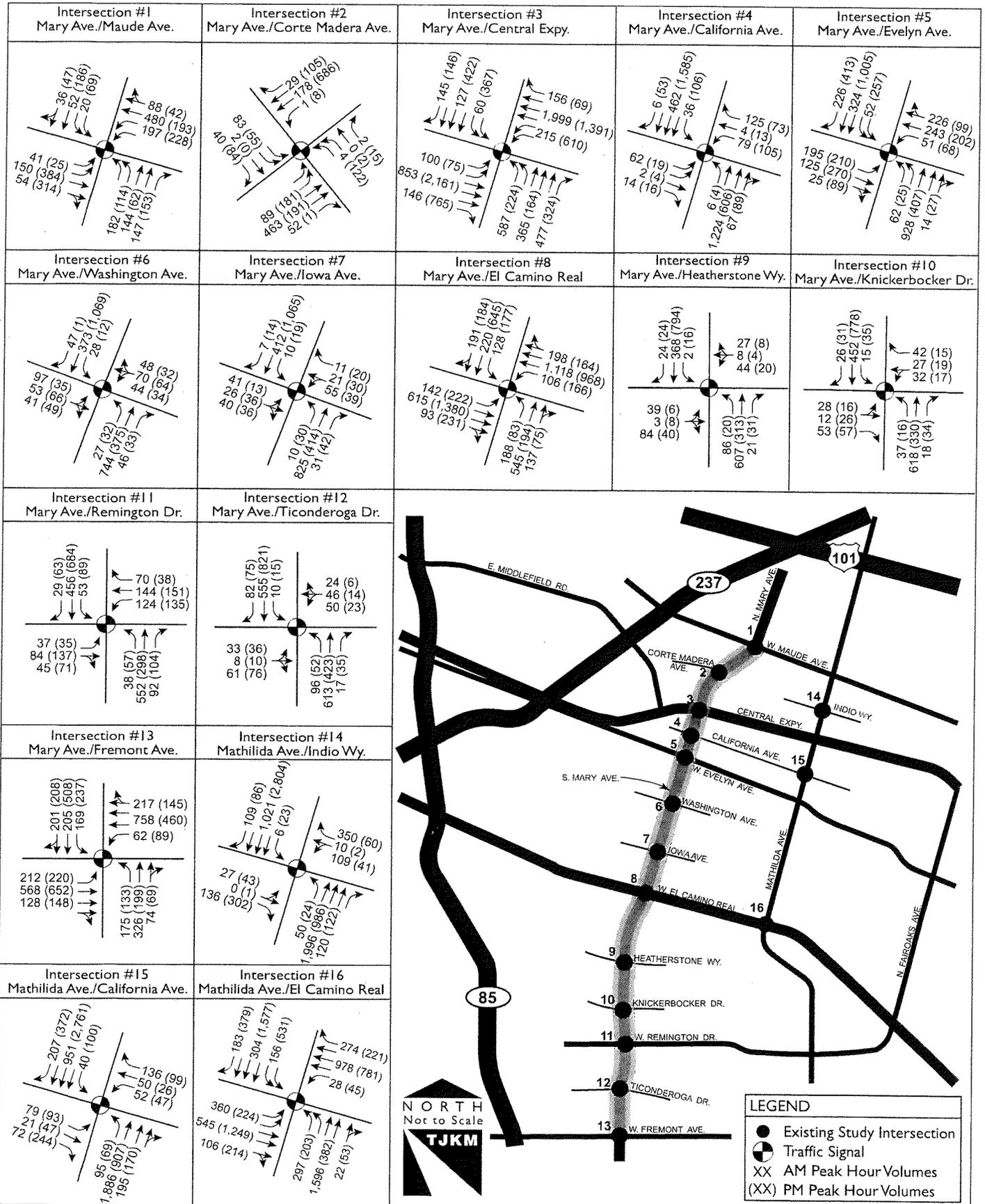
Under Alternative I, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under Existing Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment.

Table II: Peak Hour Intersection LOS – Existing Conditions with Alternative I

ID	Intersection	Control	Existing Conditions				Existing Conditions with Alternative I			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	25.0	C	24.5	C	25.0	C	24.5	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.8	B	22.9	C	14.0	B	23.6	C
3	Mary Avenue / Central Expressway	Signal	105.2	F	327.0	F	103.2	F	324.2	F
4	Mary Avenue / California Avenue	Signal	15.4	B	15.4	B	15.3	B	15.3	B
5	Mary Avenue / Evelyn Avenue	Signal	32.7	C	36.5	D	33.4	C	37.5	D
6	Mary Avenue / Washington Avenue	Signal	20.2	C	18.0	B	24.3	C	30.7	C
7	Mary Avenue / Iowa Avenue	Signal	12.2	B	11.0	B	15.1	B	21.6	C
8	Mary Avenue / El Camino Real (SR 82)	Signal	45.0	D	53.1	D	43.9	D	49.5	D
9	Mary Avenue / Heatherstone Way	Signal	7.2	A	4.1	A	8.4	A	6.1	A
10	Mary Avenue / Knickerbocker Drive	Signal	5.2	A	4.8	A	6.7	A	6.8	A
11	Mary Avenue / Remington Drive	Signal	26.5	C	30.7	C	37.1	D	42.2	D
12	Mary Avenue / Ticonderoga Drive	Signal	8.6	A	5.1	A	10.5	B	6.8	A
13	Mary Avenue / Fremont Avenue	Signal	49.8	D	46.9	D	49.8	D	46.9	D
14	Mathilda Avenue / Indio Way	Signal	17.2	B	18.1	B	17.4	B	18.5	B
15	Mathilda Avenue / California Avenue	Signal	23.8	C	31.6	C	24.7	C	36.1	D
16	Mathilda Avenue / El Camino Real	Signal	49.0	D	52.9	D	52.5	D	53.9	D

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure
 Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 1) 5



Existing Conditions with Alternative 2

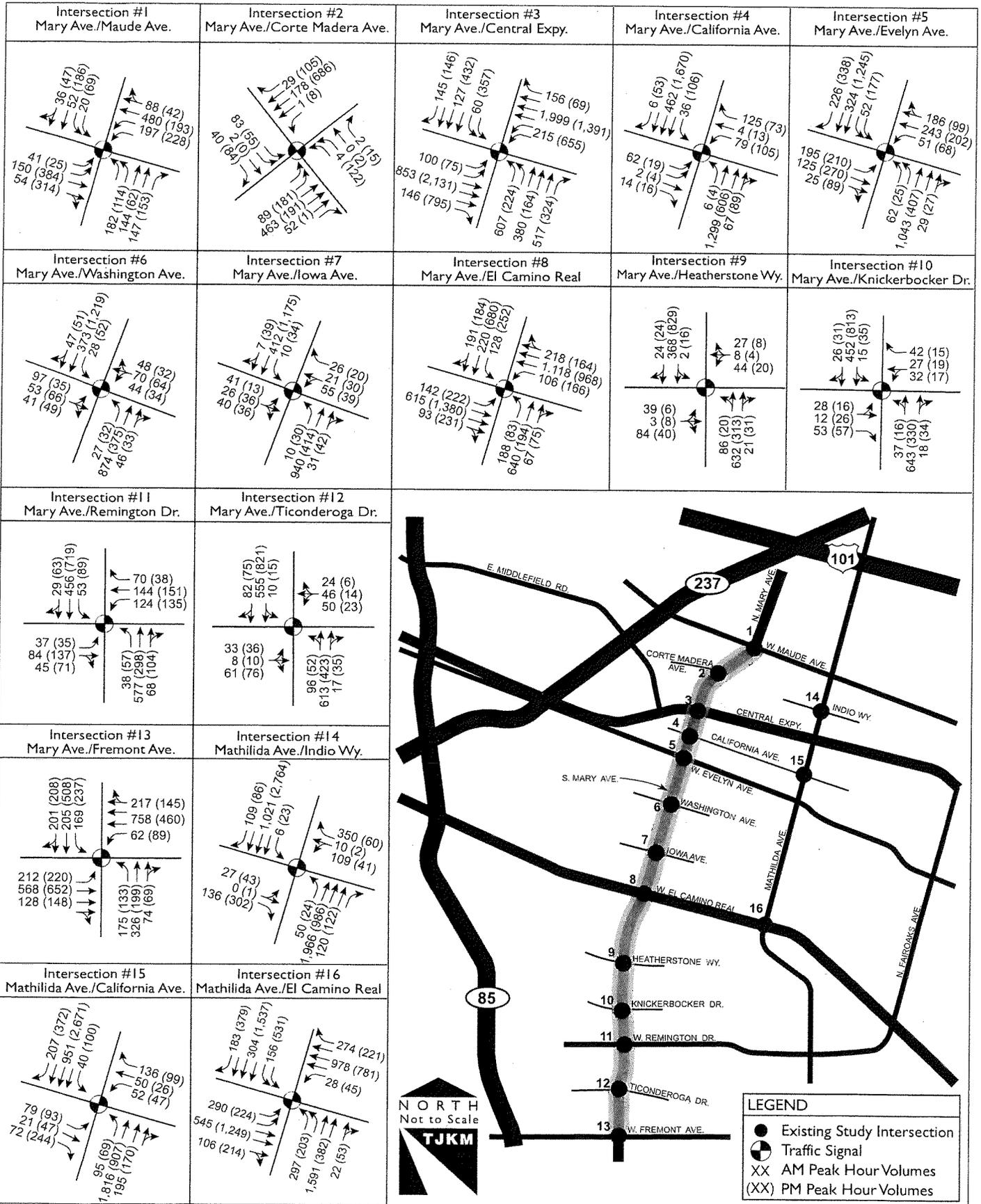
Figure 6 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Existing Conditions with implementation of Alternative 2. Table III compares the intersection LOS results of Existing Conditions under current lane geometry with Alternative 2. Under Alternative 2, lane geometry and traffic volumes would be the same as under Existing Conditions. Appendix N includes the LOS analysis sheets for Existing Conditions with Alternative 2. Under Alternative 2, all intersections are expected to remain operating acceptably based on applicable City LOS standards, with some minor changes in overall average delay.

Table III: Peak Hour Intersection LOS – Existing Conditions with Alternative 2

ID	Intersection	Control	Existing Conditions				Existing Conditions with Alternative 2			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	25.0	C	24.5	C	25.0	C	24.5	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.8	B	22.9	C	13.7	B	22.9	C
3	Mary Avenue / Central Expressway	Signal	105.2	F	327.0	F	105.2	F	327.0	F
4	Mary Avenue / California Avenue	Signal	15.4	B	15.4	B	15.4	B	15.4	B
5	Mary Avenue / Evelyn Avenue	Signal	32.7	C	36.5	D	32.6	C	37.2	D
6	Mary Avenue / Washington Avenue	Signal	20.2	C	18.0	B	19.9	B	16.4	B
7	Mary Avenue / Iowa Avenue	Signal	12.2	B	11.0	B	12.2	B	11.0	B
8	Mary Avenue / El Camino Real (SR 82)	Signal	45.0	D	53.1	D	45.0	D	53.1	D
9	Mary Avenue / Heatherstone Way	Signal	7.2	A	4.1	A	7.2	A	4.1	A
10	Mary Avenue / Knickerbocker Drive	Signal	5.2	A	4.8	A	5.2	A	4.8	A
11	Mary Avenue / Remington Drive	Signal	26.5	C	30.7	C	26.5	C	30.7	C
12	Mary Avenue / Ticonderoga Drive	Signal	8.6	A	5.1	A	8.6	A	5.1	A
13	Mary Avenue / Fremont Avenue	Signal	49.8	D	46.9	D	49.8	D	46.9	D
14	Mathilda Avenue / Indio Way	Signal	17.2	B	18.1	B	17.2	B	18.1	B
15	Mathilda Avenue / California Avenue	Signal	23.8	C	31.6	C	23.8	C	31.6	C
16	Mathilda Avenue / El Camino Real	Signal	49.0	D	52.9	D	49.0	D	52.9	D

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure
 Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 2) 6



Existing Conditions with Alternative 3

Figure 7 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Existing Conditions with implementation of Alternative 3. Table IV compares the intersection LOS results of Existing Conditions under current lane geometry with Alternative 3 lane geometry. Appendix O includes the LOS analysis sheets for Existing Conditions with Alternative 3.

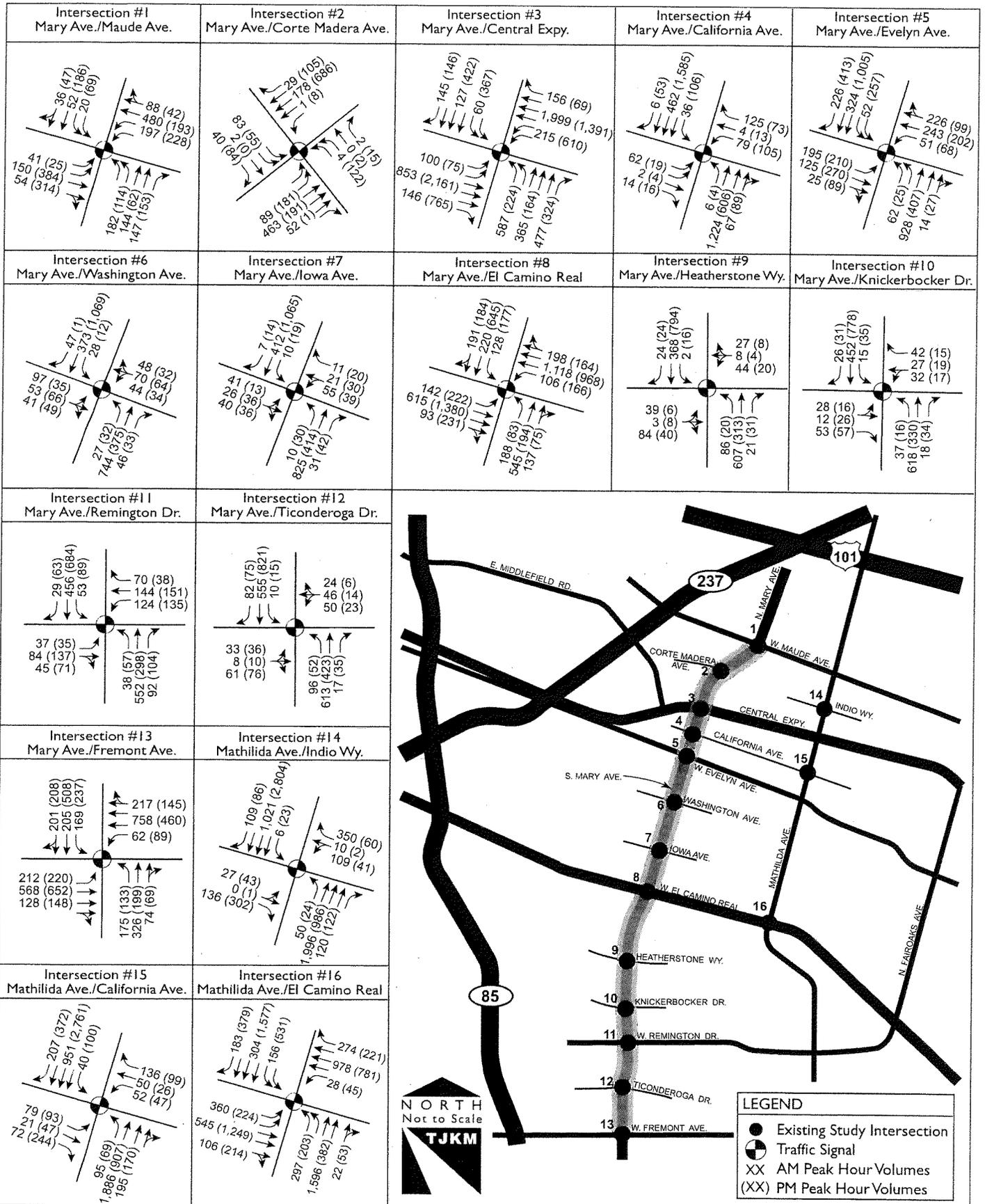
Under Alternative 3, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under Existing Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment.

Table IV: Peak Hour Intersection LOS – Existing Conditions with Alternative 3

ID	Intersection	Control	Existing Conditions				Existing Conditions with Alternative 3			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	25.0	C	24.5	C	25.0	C	24.5	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.8	B	22.9	C	13.7	B	22.9	C
3	Mary Avenue / Central Expressway	Signal	105.2	F	327.0	F	103.2	F	324.2	F
4	Mary Avenue / California Avenue	Signal	15.4	B	15.4	B	15.3	B	15.3	B
5	Mary Avenue / Evelyn Avenue	Signal	32.7	C	36.5	D	33.4	C	37.5	D
6	Mary Avenue / Washington Avenue	Signal	20.2	C	18.0	B	24.3	C	30.7	C
7	Mary Avenue / Iowa Avenue	Signal	12.2	B	11.0	B	15.1	B	21.6	C
8	Mary Avenue / El Camino Real (SR 82)	Signal	45.0	D	53.1	D	43.9	D	49.5	D
9	Mary Avenue / Heatherstone Way	Signal	7.2	A	4.1	A	8.4	A	6.1	A
10	Mary Avenue / Knickerbocker Drive	Signal	5.2	A	4.8	A	6.7	A	6.8	A
11	Mary Avenue / Remington Drive	Signal	26.5	C	30.7	C	37.1	D	42.2	D
12	Mary Avenue / Ticonderoga Drive	Signal	8.6	A	5.1	A	10.5	B	6.8	A
13	Mary Avenue / Fremont Avenue	Signal	49.8	D	46.9	D	49.8	D	46.9	D
14	Mathilda Avenue / Indio Way	Signal	17.2	B	18.1	B	17.4	B	18.5	B
15	Mathilda Avenue / California Avenue	Signal	23.8	C	31.6	C	24.7	C	36.1	D
16	Mathilda Avenue / El Camino Real	Signal	49.0	D	52.9	D	52.5	D	53.9	D

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure
 Existing Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 3) 7



Existing Conditions with Alternative 4

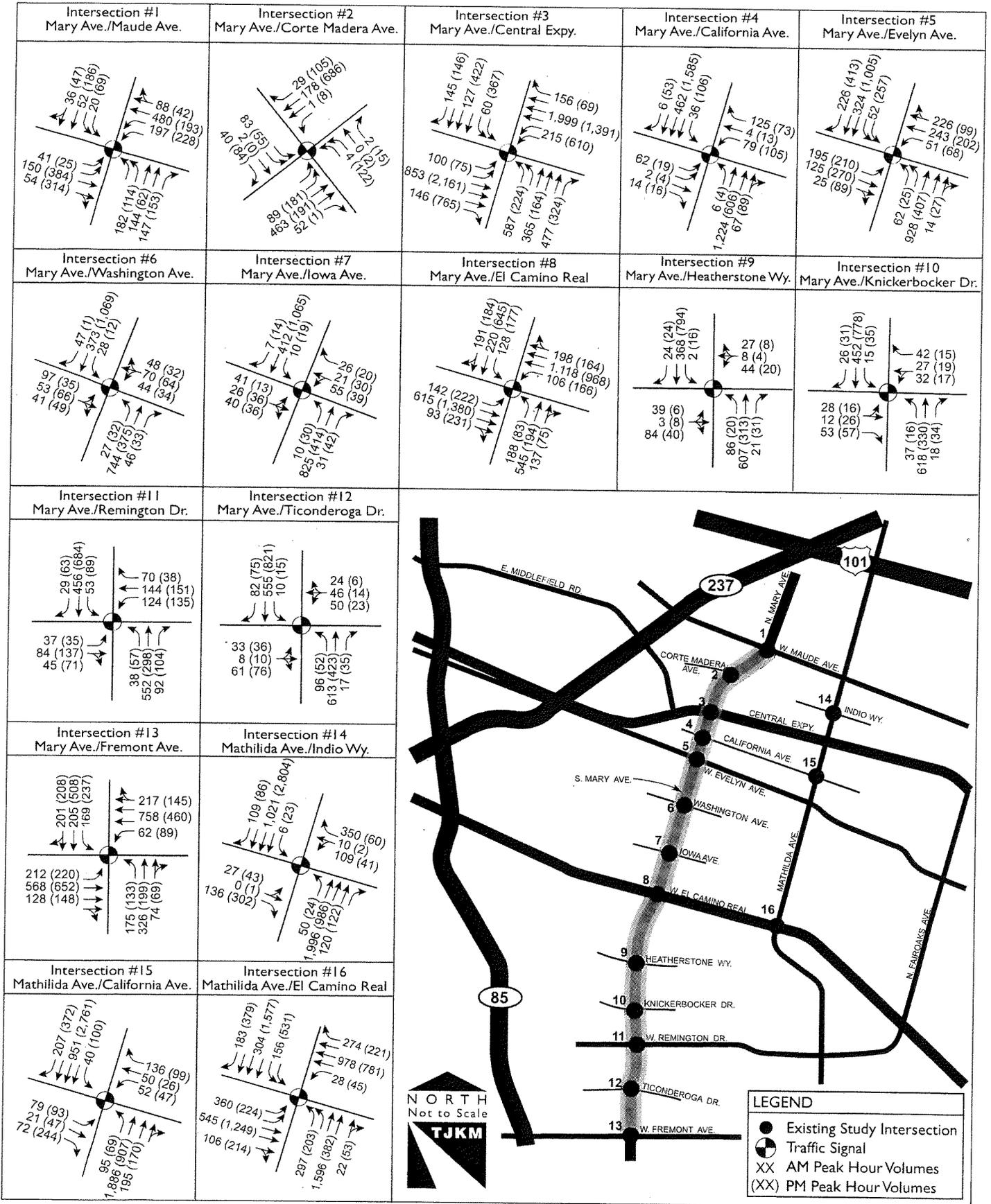
Figure 8 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Existing Conditions with implementation of Alternative 4. Table V compares the intersection LOS results of Existing Conditions under current lane geometry with Alternative 4 lane geometry. Appendix P includes the LOS analysis sheets for Existing Conditions with Alternative 4.

Under Alternative 4, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under Existing Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment.

Table V: Peak Hour Intersection LOS – Existing Conditions with Alternative 4

ID	Intersection	Control	Existing Conditions				Existing Conditions with Alternative 4			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	25.0	C	24.5	C	25.0	C	24.5	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.8	B	22.9	C	14.0	B	23.6	C
3	Mary Avenue / Central Expressway	Signal	105.2	F	327.0	F	103.2	F	324.2	F
4	Mary Avenue / California Avenue	Signal	15.4	B	15.4	B	15.3	B	15.3	B
5	Mary Avenue / Evelyn Avenue	Signal	32.7	C	36.5	D	33.4	C	37.5	D
6	Mary Avenue / Washington Avenue	Signal	20.2	C	18.0	B	24.3	C	30.7	C
7	Mary Avenue / Iowa Avenue	Signal	12.2	B	11.0	B	15.1	B	21.6	C
8	Mary Avenue / El Camino Real (SR 82)	Signal	45.0	D	53.1	D	43.9	D	49.5	D
9	Mary Avenue / Heatherstone Way	Signal	7.2	A	4.1	A	8.4	A	6.1	A
10	Mary Avenue / Knickerbocker Drive	Signal	5.2	A	4.8	A	6.7	A	6.8	A
11	Mary Avenue / Remington Drive	Signal	26.5	C	30.7	C	37.1	D	42.2	D
12	Mary Avenue / Ticonderoga Drive	Signal	8.6	A	5.1	A	10.5	B	6.8	A
13	Mary Avenue / Fremont Avenue	Signal	49.8	D	46.9	D	49.8	D	46.9	D
14	Mathilda Avenue / Indio Way	Signal	17.2	B	18.1	B	17.4	B	18.5	B
15	Mathilda Avenue / California Avenue	Signal	23.8	C	31.6	C	24.7	C	36.1	D
16	Mathilda Avenue / El Camino Real	Signal	49.0	D	52.9	D	52.5	D	53.9	D

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards



2020 Baseline Conditions

This section details expected traffic conditions at the study intersections under 2020 Baseline Conditions, which includes {PRIVATE }expected traffic growth along the Mary Avenue study corridor between now and Year 2020.

Anticipated Future Roadway Projects

TJKM reviewed the Sunnyvale Resource Allocation Plan, Sunnyvale Transportation Strategic Program, and Valley Transportation Plan (VTP) 2030 and consulted with City staff in terms of expected future roadway projects along the Mary Avenue study corridor. These future projects would result in modified roadway lane geometry at some of the study corridor intersections. TJKM assumed these modified lane geometries under 2020 Baseline Conditions as follows:

- Mary Avenue / El Camino Real – the southbound Mary Avenue approach would be widened by one lane and reconfigured to include one left turn lane, two through lanes, and one exclusive right turn lane.
- Mary Avenue / Fremont Avenue – a second left turn lane would be added to the eastbound Fremont Avenue approach, while the westbound Fremont Avenue approach would be widened by one lane and reconfigured to include one left turn lane, three through lanes, and one exclusive right turn lane.

2020 Traffic Volumes

Year 2020 Baseline Conditions traffic volumes at the study intersections were developed by applying an annual growth factor derived from the latest City of Sunnyvale travel demand model to the Existing Conditions intersection traffic volumes collected for this study. TJKM applied the following annual growth factors to develop Year 2020 Baseline Conditions traffic volumes according to City roadway classifications in the LUTE:

- Arterials: 2 percent during the a.m. peak hour and 1.75 percent during the p.m. peak hour
- Collectors: 2.28 percent during the a.m. peak hour and 2.34 percent during the p.m. peak hour
- Local Streets: 0.5 percent during both a.m. and p.m. peak hours

Figure 9 shows the resulting 2020 Baseline traffic volumes at the study intersections, as well as assumed intersection traffic controls and lane geometries that include the above mentioned anticipated future roadway projects.

2020 Baseline Conditions Peak Hour Intersection LOS Analysis

Table VI shows the results of the intersection peak hour LOS analysis conducted for the 13 study intersections along the Mary Avenue corridor and three Mathilda Avenue study intersections. Appendix Q includes the LOS analysis sheets for 2020 Baseline Conditions.

Table VI: Peak Hour Intersection LOS – 2020 Baseline Conditions

ID	Intersection	Control	2020 Baseline Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	35.5	D	34.0	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.5	B	23.3	C
3	Mary Avenue / Central Expressway	Signal	154.3	F	423.9	F
4	Mary Avenue / California Avenue	Signal	16.6	B	17.1	B
5	Mary Avenue / Evelyn Avenue	Signal	37.7	D	43.4	D
6	Mary Avenue / Washington Avenue	Signal	23.9	C	21.8	C
7	Mary Avenue / Iowa Avenue	Signal	14.0	B	12.7	B
8	Mary Avenue / El Camino Real (SR 82)	Signal	61.6	E	56.0	E
9	Mary Avenue / Heatherstone Way	Signal	7.5	A	4.2	A
10	Mary Avenue / Knickerbocker Drive	Signal	6.2	A	5.9	A
11	Mary Avenue / Remington Drive	Signal	30.9	C	35.8	D
12	Mary Avenue / Ticonderoga Drive	Signal	10.1	B	5.5	A
13	Mary Avenue / Fremont Avenue	Signal	47.1	D	49.4	D
14	Mathilda Avenue / Indio Way	Signal	21.9	C	27.5	C
15	Mathilda Avenue / California Avenue	Signal	35.8	D	75.2	E
16	Mathilda Avenue / El Camino Real	Signal	67.2	E	77.2	E

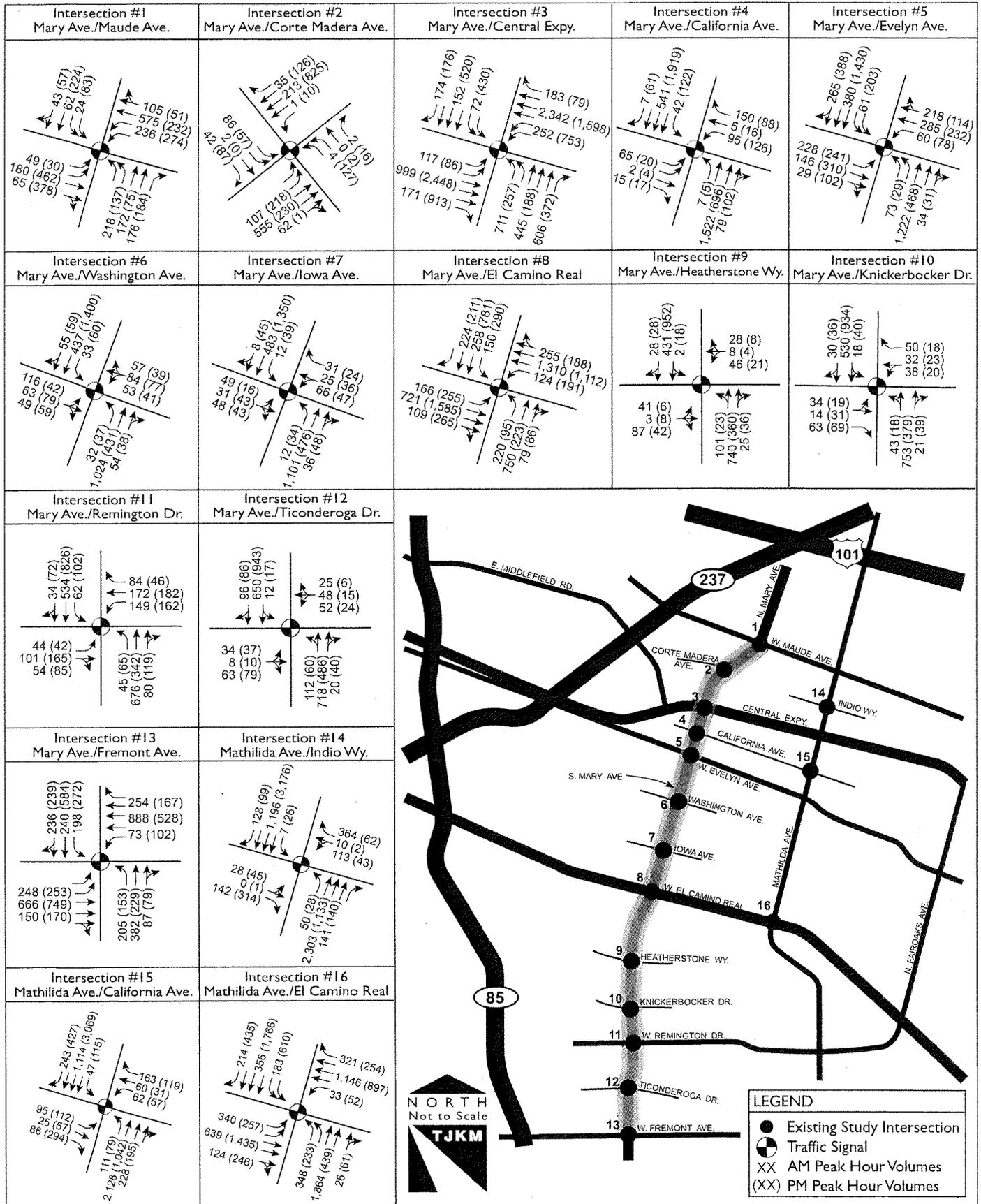
Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

Under 2020 Baseline Conditions, all study intersections are expected to continue operating within acceptable City LOS standards, except for the following intersections:

- Mary Avenue / Central Expressway (LOS F both peak hours)
- Mary Avenue / California Avenue (LOS F during p.m. peak hour)

It should be noted that both intersections are expected to operate at LOS F prior to implementation of any of the street space allocation alternatives. In addition, delay at Mary Avenue / Fremont Avenue is expected to slightly improve compared to Existing Conditions due to the future improvement of a second eastbound left turn lane.

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Baseline) 9



2020 Plus Project Alternatives Conditions

TJKM conducted an intersection LOS analysis of all four street space allocation design alternatives, the results of which are detailed in the following sections.

2020 Conditions with Alternative I

Figure 10 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Year 2020 Conditions with implementation of Alternative I. Table VII compares the intersection LOS results for 2020 Baseline Conditions under baseline lane geometry with conditions under the Alternative I lane geometry and reduced Mary Avenue traffic volumes due to the Residential road diet. Appendix R includes the LOS analysis sheets for 2020 Conditions with Alternative I.

Under Alternative I, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under 2020 Baseline Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment. Therefore, no significant operational impacts are expected to result from implementation of Alternative I.

Table VII: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative I

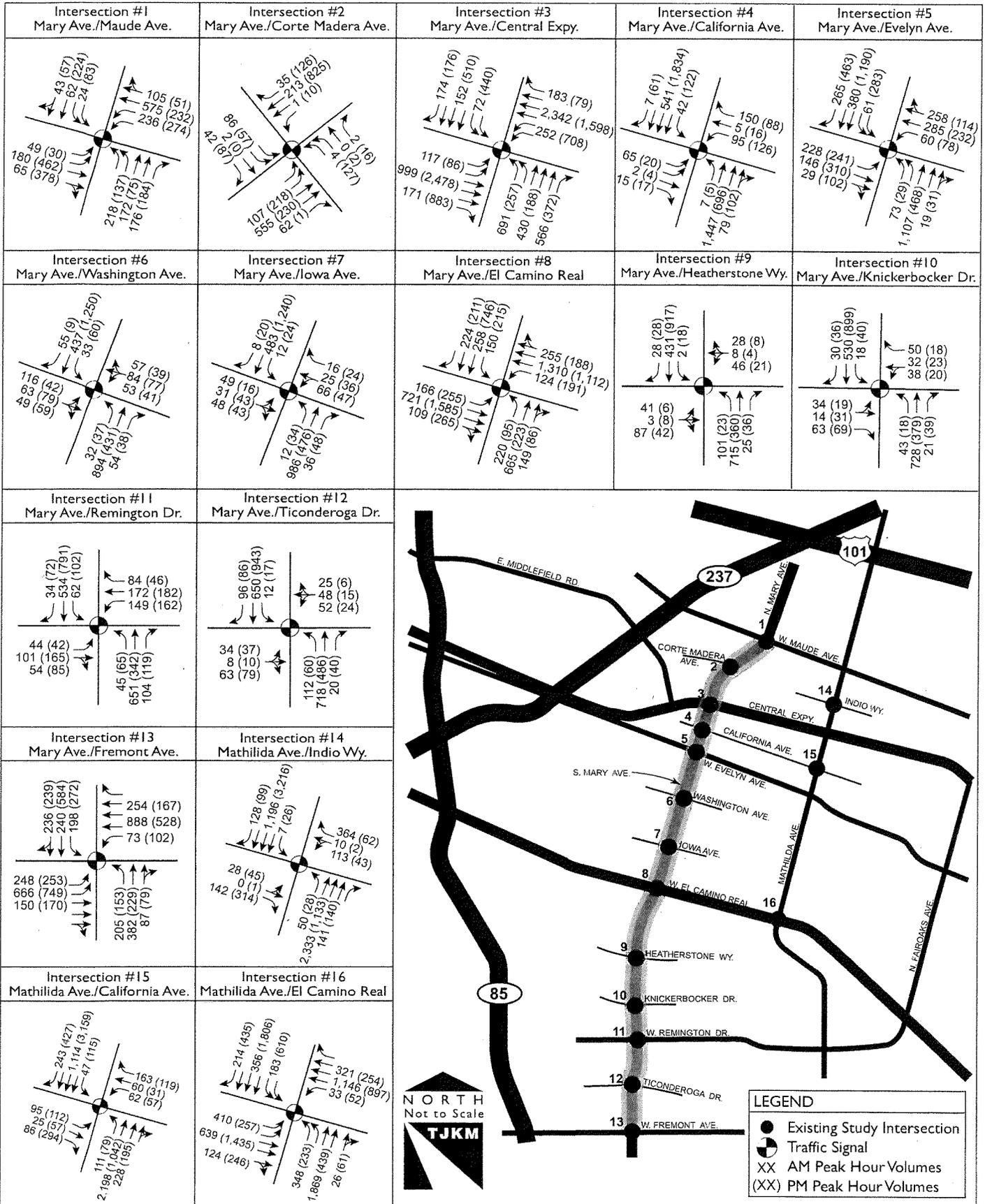
ID	Intersection	Control	2020 Baseline Conditions				2020 Conditions with Alternative I			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	35.5	D	34.0	C	35.5	D	34.0	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.5	B	23.3	C	13.7	B	24.3	C
3	Mary Avenue / Central Expressway	Signal	154.3	F	423.9	F	152.3	F	420.7	F
4	Mary Avenue / California Avenue	Signal	16.6	B	17.1	B	16.4	B	17.0	B
5	Mary Avenue / Evelyn Avenue	Signal	37.7	D	43.4	D	38.0	D	43.0	D
6	Mary Avenue / Washington Avenue	Signal	23.9	C	21.8	C	41.3	D	42.3	D
7	Mary Avenue / Iowa Avenue	Signal	14.0	B	12.7	B	20.6	C	51.9	D
8	Mary Avenue / El Camino Real (SR 82)	Signal	61.6	E	56.0	E	60.1	E	50.9	D
9	Mary Avenue / Heatherstone Way	Signal	7.5	A	4.2	A	9.2	A	7.4	A
10	Mary Avenue / Knickerbocker Drive	Signal	6.2	A	5.9	A	9.2	A	10.5	B
11	Mary Avenue / Remington Drive	Signal	30.9	C	35.8	D	47.3	D	52.3	D

Table VII (continued): Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative I

ID	Intersection	Control	2020 Baseline Conditions				2020 Conditions with Alternative I			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
12	Mary Avenue / Ticonderoga Drive	Signal	10.1	B	5.5	A	14.1	B	8.5	A
13	Mary Avenue / Fremont Avenue	Signal	47.1	D	49.4	D	47.1	D	49.4	D
14	Mathilda Avenue / Indio Way	Signal	21.9	C	27.5	C	22.1	C	29.1	C
15	Mathilda Avenue / California Avenue	Signal	35.8	D	75.2	E	40.6	D	78.3	E
16	Mathilda Avenue / El Camino Real	Signal	67.2	E	77.2	E	72.5	E	78.2	E

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
 2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative I) 10



2020 Conditions with Alternative 2

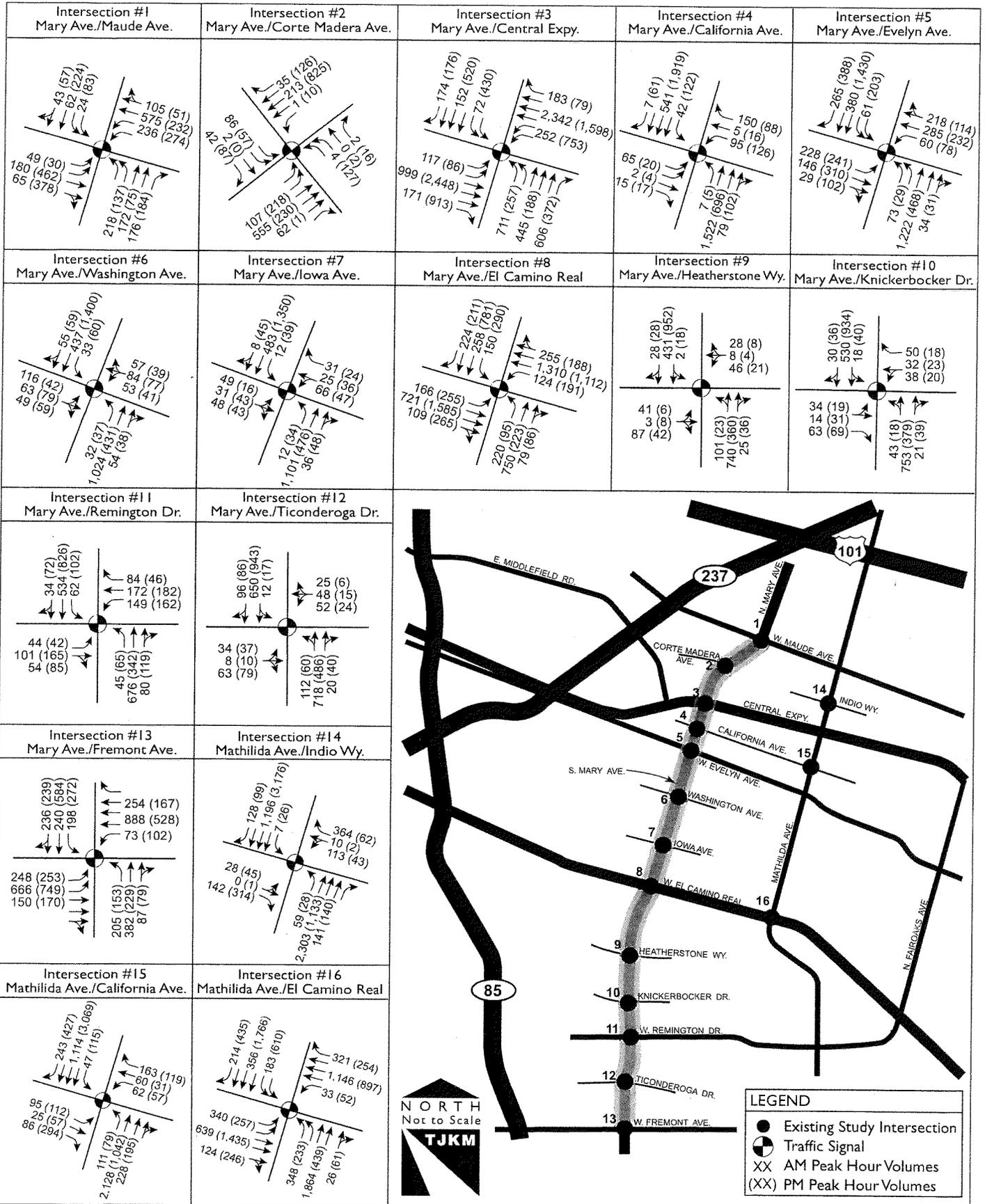
Figure I I shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Year 2020 Conditions with implementation of Alternative 2. Table VIII compares the intersection LOS results for 2020 Baseline Conditions with conditions under Alternative 2. Appendix S includes the LOS analysis sheets for 2020 Conditions with Alternative 2. Under Alternative 2, the same one intersection (Mary Avenue at Central Expressway) is expected to continue operating below applicable City LOS standards, just as under 2020 Baseline Conditions. However, the overall LOS and delay at this intersection and all other study intersections would remain identical to 2020 Baseline Conditions, given that traffic volumes and lane geometry under Alternative 2 would be the same as 2020 Baseline Conditions. Therefore, no significant operational impacts are expected to result from implementation of Alternative 2.

Table VIII: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 2

ID	Intersection	Control	2020 Baseline Conditions				2020 Conditions with Alternative 2			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	35.5	D	34.0	C	35.5	D	34.0	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.5	B	23.3	C	13.5	B	23.3	C
3	Mary Avenue / Central Expressway	Signal	154.3	F	423.9	F	154.3	F	423.9	F
4	Mary Avenue / California Avenue	Signal	16.6	B	17.1	B	16.6	B	17.1	B
5	Mary Avenue / Evelyn Avenue	Signal	37.7	D	43.4	D	37.7	D	43.4	D
6	Mary Avenue / Washington Avenue	Signal	23.9	C	21.8	C	23.9	C	21.8	C
7	Mary Avenue / Iowa Avenue	Signal	14.0	B	12.7	B	14.0	B	12.7	B
8	Mary Avenue / El Camino Real (SR 82)	Signal	61.6	E	56.0	E	61.6	E	56.0	E
9	Mary Avenue / Heatherstone Way	Signal	7.5	A	4.2	A	7.5	A	4.2	A
10	Mary Avenue / Knickerbocker Drive	Signal	6.2	A	5.9	A	6.2	A	5.9	A
11	Mary Avenue / Remington Drive	Signal	30.9	C	35.8	D	30.9	C	35.8	D
12	Mary Avenue / Ticonderoga Drive	Signal	10.1	B	5.5	A	10.1	B	5.5	A
13	Mary Avenue / Fremont Avenue	Signal	47.1	D	49.4	D	47.1	D	49.4	D
14	Mathilda Avenue / Indio Way	Signal	21.9	C	27.5	C	21.9	C	27.5	C
15	Mathilda Avenue / California Avenue	Signal	35.8	D	75.2	E	35.8	D	75.2	E
16	Mathilda Avenue / El Camino Real	Signal	67.2	E	77.2	E	67.2	E	77.2	E

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 2) 11



2020 Conditions with Alternative 3

Figure 12 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Year 2020 Conditions with implementation of Alternative 3. Table IX compares the intersection LOS results for 2020 Baseline Conditions under baseline lane geometry with conditions under the Alternative 3 lane geometry and reduced Mary Avenue traffic volumes due to the Residential road diet. Appendix T includes the LOS analysis sheets for 2020 Conditions with Alternative 3.

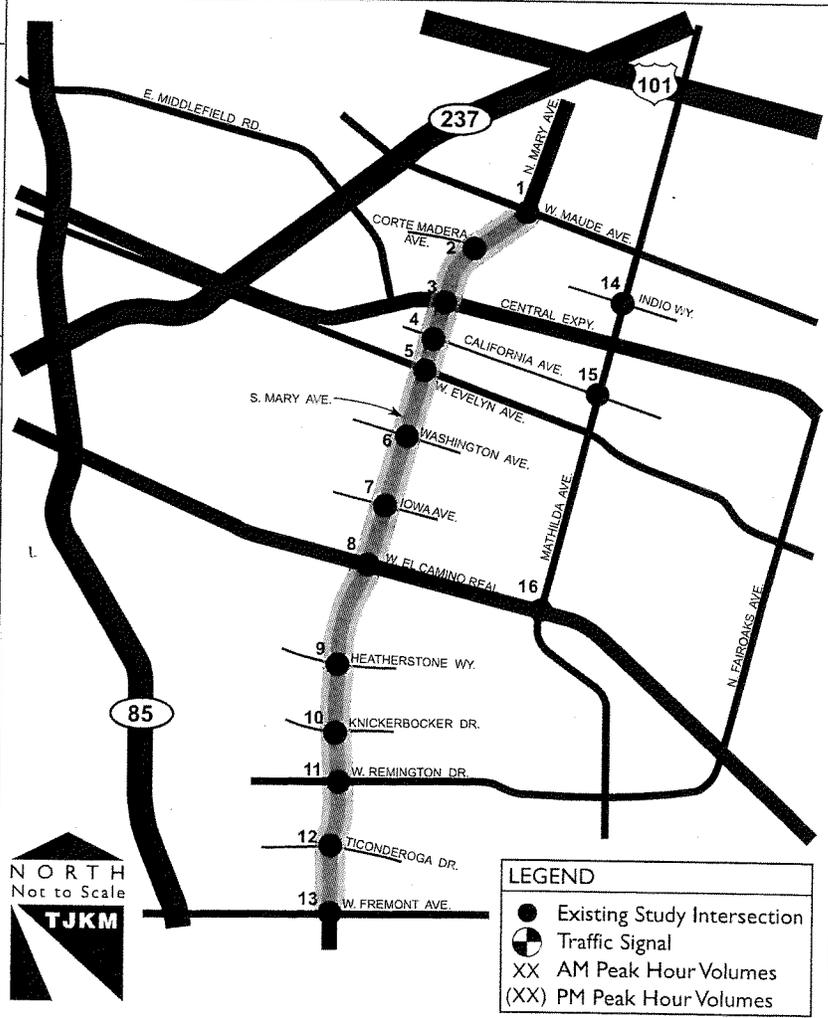
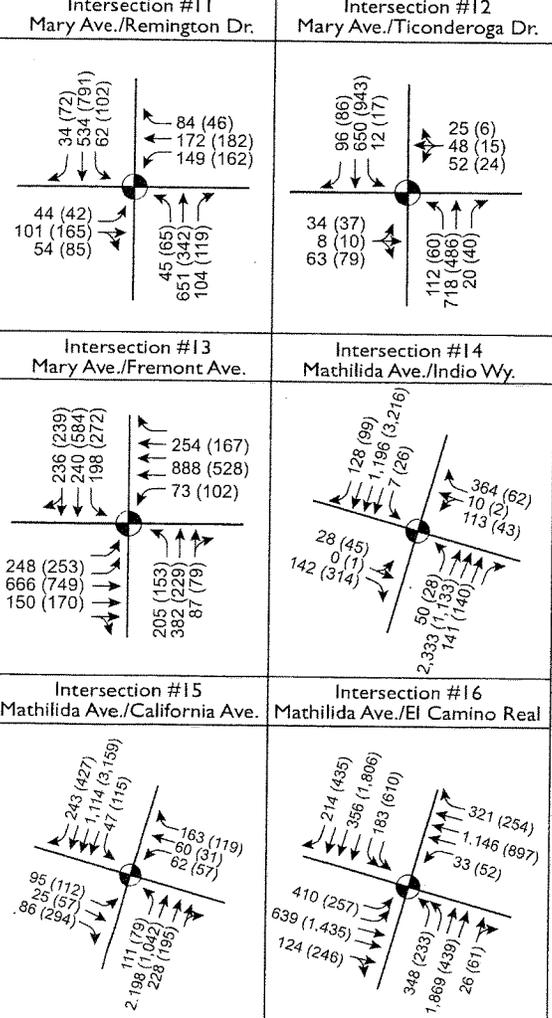
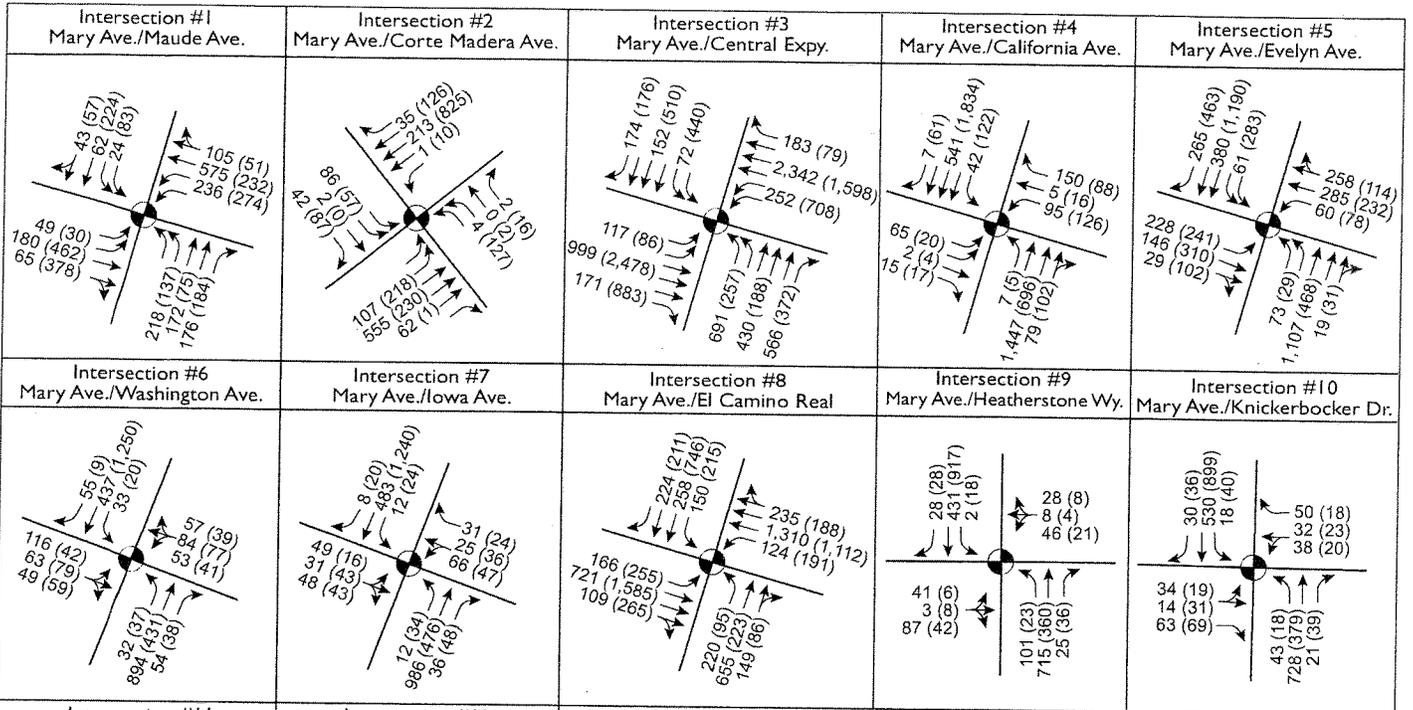
Under Alternative 3, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under 2020 Baseline Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment. Therefore, no significant operational impacts are expected to result from implementation of Alternative 3.

Table IX: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 3

ID	Intersection	Control	2020 Baseline Conditions				2020 Conditions with Alternative 3			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	35.5	D	34.0	C	35.5	D	34.0	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.5	B	23.3	C	13.7	B	24.3	C
3	Mary Avenue / Central Expressway	Signal	154.3	F	423.9	F	152.3	F	420.7	F
4	Mary Avenue / California Avenue	Signal	16.6	B	17.1	B	16.4	B	17.0	B
5	Mary Avenue / Evelyn Avenue	Signal	37.7	D	43.4	D	38.0	D	43.0	D
6	Mary Avenue / Washington Avenue	Signal	23.9	C	21.8	C	41.3	D	42.3	D
7	Mary Avenue / Iowa Avenue	Signal	14.0	B	12.7	B	20.6	C	51.9	D
8	Mary Avenue / El Camino Real (SR 82)	Signal	61.6	E	56.0	E	60.1	E	50.9	D
9	Mary Avenue / Heatherstone Way	Signal	7.5	A	4.2	A	9.2	A	7.4	A
10	Mary Avenue / Knickerbocker Drive	Signal	6.2	A	5.9	A	9.2	A	10.5	B
11	Mary Avenue / Remington Drive	Signal	30.9	C	35.8	D	47.3	D	52.3	D
12	Mary Avenue / Ticonderoga Drive	Signal	10.1	B	5.5	A	14.1	B	8.5	A
13	Mary Avenue / Fremont Avenue	Signal	47.1	D	49.4	D	47.1	D	49.4	D
14	Mathilda Avenue / Indio Way	Signal	21.9	C	27.5	C	22.1	C	29.1	C
15	Mathilda Avenue / California Avenue	Signal	35.8	D	75.2	E	40.6	D	78.3	E
16	Mathilda Avenue / El Camino Real	Signal	67.2	E	77.2	E	72.5	E	78.2	E

- Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 3) 12



361

2020 Conditions with Alternative 4

Figure 13 shows study intersection vehicle volumes, lane geometries, and traffic controls proposed under Year 2020 Conditions with implementation of Alternative 4. Table X compares the intersection LOS results for 2020 Baseline Conditions under baseline lane geometry with conditions under the Alternative 4 lane geometry and reduced Mary Avenue traffic volumes due to the Residential road diet. Appendix U includes the LOS analysis sheets for 2020 Conditions with Alternative 4.

Under Alternative 4, all intersections except one (Mary Avenue / Central Expressway) are expected to remain operating acceptably based on applicable City LOS standards, even with some increases in overall average delay and LOS along the Mary Avenue Residential segment. Although the Residential segment intersections are expected to experience a slight decrease in peak hour volumes due to diversion, this reduction is offset by the reduced capacity to one travel lane per direction along this segment. The Mary Avenue / Central Expressway intersection is expected to continue operating at LOS F as under 2020 Baseline Conditions, but with slightly reduced overall average delay due to the diversion of some vehicles from the proposed road diet along the Residential segment. Therefore, no significant operational impacts are expected to result from implementation of Alternative 4.

Table X: Peak Hour Intersection LOS Analysis – 2020 Conditions with Alternative 4

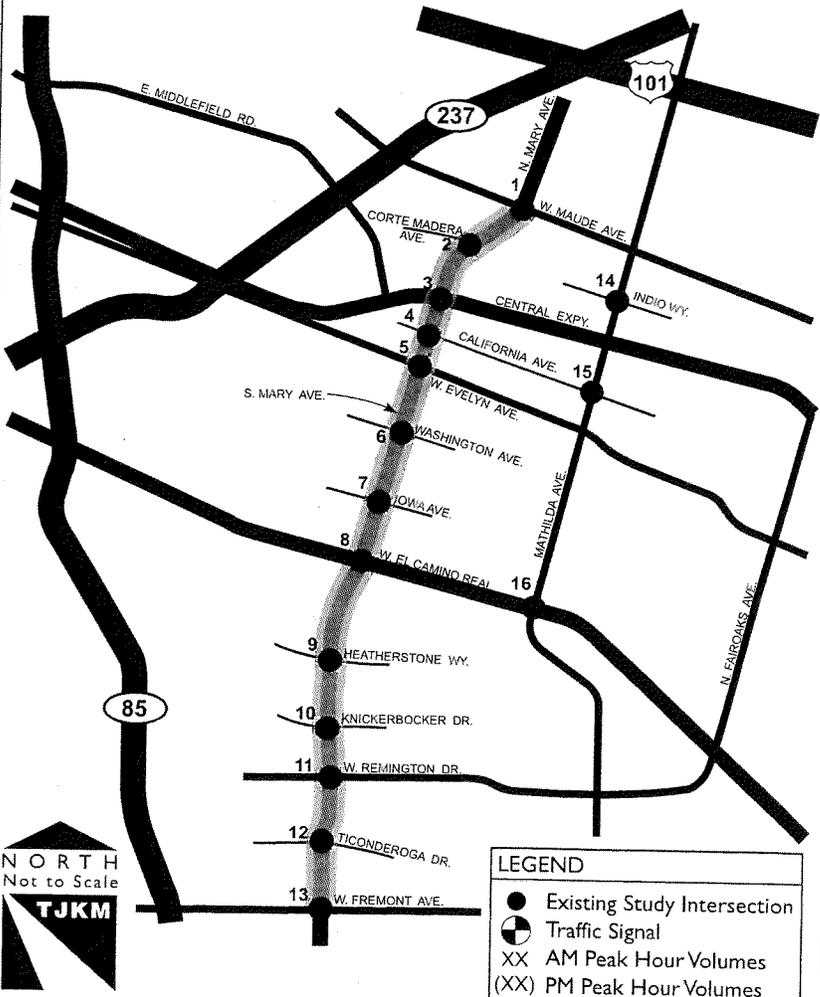
ID	Intersection	Control	2020 Baseline Conditions				2020 Conditions with Alternative 4			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Mary Avenue / Maude Avenue	Signal	35.5	D	34.0	C	35.5	D	34.0	C
2	Mary Avenue / Corte Madera Avenue	Signal	13.5	B	23.3	C	13.7	B	24.3	C
3	Mary Avenue / Central Expressway	Signal	154.3	F	423.9	F	152.3	F	420.7	F
4	Mary Avenue / California Avenue	Signal	16.6	B	17.1	B	16.4	B	17.0	B
5	Mary Avenue / Evelyn Avenue	Signal	37.7	D	43.4	D	38.0	D	43.0	D
6	Mary Avenue / Washington Avenue	Signal	23.9	C	21.8	C	41.3	D	42.3	D
7	Mary Avenue / Iowa Avenue	Signal	14.0	B	12.7	B	20.6	C	51.9	D
8	Mary Avenue / El Camino Real (SR 82)	Signal	61.6	E	56.0	E	60.1	E	50.9	D
9	Mary Avenue / Heatherstone Way	Signal	7.5	A	4.2	A	9.2	A	7.4	A
10	Mary Avenue / Knickerbocker Drive	Signal	6.2	A	5.9	A	9.2	A	10.5	B
11	Mary Avenue / Remington Drive	Signal	30.9	C	35.8	D	47.3	D	52.3	D
12	Mary Avenue / Ticonderoga Drive	Signal	10.1	B	5.5	A	14.1	B	8.5	A
13	Mary Avenue / Fremont Avenue	Signal	47.1	D	49.4	D	47.1	D	49.4	D
14	Mathilda Avenue / Indio Way	Signal	21.9	C	27.5	C	22.1	C	29.1	C
15	Mathilda Avenue / California Avenue	Signal	35.8	D	75.2	E	40.6	D	78.3	E
16	Mathilda Avenue / El Camino Real	Signal	67.2	E	77.2	E	72.5	E	78.2	E

Notes: 1) LOS / delay = level of service and average control delay for overall intersection
2) **Bold** values exceed applicable jurisdictional standards

City of Sunnyvale – Mary Avenue Street Space Allocation Study – Alternatives Traffic Operations Analysis Figure 2020 Intersection Vehicle Volumes, Lane Geometry, and Traffic Controls (Alternative 4) 13

Intersection #1 Mary Ave./Maude Ave.	Intersection #2 Mary Ave./Corte Madera Ave.	Intersection #3 Mary Ave./Central Expy.	Intersection #4 Mary Ave./California Ave.	Intersection #5 Mary Ave./Evelyn Ave.
Intersection #6 Mary Ave./Washington Ave.	Intersection #7 Mary Ave./Iowa Ave.	Intersection #8 Mary Ave./El Camino Real	Intersection #9 Mary Ave./Heatherstone Wy.	Intersection #10 Mary Ave./Knickerbocker Dr.

Intersection #11 Mary Ave./Remington Dr.	Intersection #12 Mary Ave./Ticonderoga Dr.
Intersection #13 Mary Ave./Fremont Ave.	Intersection #14 Mathilda Ave./Indio Wy.
Intersection #15 Mathilda Ave./California Ave.	Intersection #16 Mathilda Ave./El Camino Real



Conclusions

TJKM has reached the following conclusions regarding traffic operations both without and with the four design alternatives prepared for the Mary Avenue Street Space Allocation Study in the City of Sunnyvale:

Existing Conditions

- Currently, all 16 study intersections are operating at acceptable LOS based on City of Sunnyvale standards (LOS D/E) as defined in the City of Sunnyvale General Plan Land Use and Transportation Element (LUTE), with the exception of the Mary Avenue / Central Expressway intersection that is currently operating at LOS F during both peak hours.

Existing Conditions with Street Space Design Alternatives

- With implementation of any of the design alternatives (Alternatives 1, 2, 3, and 4), all intersections are expected to remain operating acceptably based on City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection, which is expected to continue operating at LOS F during both peak hours but with no increase in average delay.
- Under Alternatives 1, 3, and 4, in which the road diet is proposed along the Residential segment, LOS and delay is expected to increase at some Residential segment intersections due to the expected diversion of some vehicles, although overall LOS would still remain acceptable. Therefore, no significant traffic operational impacts are expected to result from constructing any of the four street space allocation alternatives in Existing Conditions.

2020 Baseline Conditions

- Under 2020 Baseline Conditions (without implementation of any design alternative), all study intersections are expected to continue operating within acceptable City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection. This intersection is expected to operate at LOS F during both peak hours before implementation of any of the four street space allocation alternatives.

2020 Conditions with Street Space Design Alternatives

- With implementation of any of the four design alternatives, all intersections are expected to remain operating acceptably based on City LOS standards, with the exception of the Mary Avenue / Central Expressway intersection, which is expected to continue operating at LOS F during both peak hours as under 2020 Baseline Conditions. However, no increase in average delay is expected at that intersection under any alternative.
- Under Alternatives 1, 3, and 4, in which the road diet is proposed along the Residential segment, LOS and delay is expected to increase at some Residential segment intersections due to the expected diversion of some vehicles, although overall LOS would still remain acceptable. Therefore, no significant traffic operational impacts are expected to result from constructing any of the four street space allocation alternatives in Year 2020.

Study References

TJKM Staff

Richard Haygood, P.E.	Project Manager
Andrew Kluter, P.E.	Deputy Project Manager
Joanna Liu, P.E.	Senior Transportation Engineer
Vishnu Gandluru	Transportation Engineer
Steve Delsid, P.E.	Assistant Transportation Engineer
Kai Han, P.E.	Assistant Transportation Engineer
Jeffrey Lacap	Assistant Transportation Engineer / Graphics
Travis Richards, P.E.	Assistant Transportation Engineer
Kim Goodrich	Word Processing

CirclePoint Staff

John Cook, AICP	Senior Project Manager
Chris Colwick	Senior Project Manager
Lawrence McGuire	Project Manager
Jennifer Kincaid	Project Coordinator
Samantha Robinson	Project Coordinator

Bicycle Solutions

John Ciccarelli	President
-----------------	-----------

Traffic Data Collection

Quality Counts	May 2012; May - June 2010
----------------	---------------------------

City of Sunnyvale

Jack Witthaus	Traffic and Transportation Manager, Division of Transportation and Traffic, Department of Public Works
Joel Arreola	Staff Engineer, Division of Transportation and Traffic, Department of Public Works
Adam Levermore-Rich	Communications Office

References

- *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials (AASHTO Green Book), 2004
- *Bicycle Technical Guidelines*, Santa Clara Valley Transportation Authority (VTA), 2008
- *California Manual on Uniform Traffic Control Devices* (2010)
- *City of Sunnyvale Bicycle Plan* (2006)
- *City of Sunnyvale General Plan Land Use and Transportation Element* (2010)
- *Highway Capacity Manual*, Transportation Research Board (2000)
- *Road Diet Handbook: Setting Trends for Livable Streets, 2nd Edition*. Parsons Brinckerhoff, Inc. (2007)

Mary Avenue Street Space Allocation Study
Excerpts from Various Bicycle and Pedestrian Advisory
Commission Meeting Minutes

indicated that the bike and walk to school week seemed to be very successful, and suggested that BPAC members approach schools to communicate with TSCN and show interest in participating in future years. In addition, indicated that the City of Los Angeles had a Cyclovia event on 10/10/2010 which had 100,000 participants. Recommended having a similar event in Sunnyvale, and commented that our serious disadvantage is that we have this entrenched automobile culture that they do not seem to have in Los Angeles. Also noted that he observed a sign posted at the end of the Stevens Creek Trail at Sleeper Avenue announcing that the bike/pedestrian bridge over-crossing SR 85 is fully funded with expected completion in the fall.

CONSENT CALENDAR

- 1.A) Approval of Draft Minutes of the September 16, 2010 Meeting
- 1.B) Approval of Agenda of the October 21, 2010 Meeting
- 1.C) Approval of the 2010 BPAC Calendar Update

Consent Calendar Item 1 was moved to follow Public Hearing Item 2. **Commissioner Durham moved a motion seconded by Commissioner Manitakos to approve Consent Calendar items 1.A), 1.B) and 1.C). Motion was passed 7-0.**

STAFF RESPONSE TO PRIOR PUBLIC COMMENTS

No response was needed.

PUBLIC COMMENTS

None.

PUBLIC HEARINGS/GENERAL BUSINESS

- 2. DISCUSSION: Mary Avenue Street Space Allocation Study

Andrew Kluter – Provided a Powerpoint presentation describing two evaluated alternatives for each of three roadway segments. In general, the first alternative proposes a road diet by reducing the number of auto travel lanes and providing bike lanes. This alternative maintains the existing auto travel lanes at critical intersections such as Mary Avenue/Fremont Avenue and Mary Avenue/El Camino Real for safe operational purposes. The second alternative proposes retaining the existing number of auto travel lanes and prohibiting parking on one side of the street to accommodate the provision of bike lanes. It should be noted that both alternatives maintain the

existing number of auto travel lanes between Evelyn Avenue and Central Avenue, with the second alternative including median reduction to accommodate continuous Class II bicycle lanes. The three road segments from south to north are: Mary Avenue from Fremont Avenue to Evelyn Avenue (primarily running through a residential area), from Evelyn Avenue to Central Expressway, and from Central Expressway to Maude Avenue. The consultant also described a set of draft criteria, listed below, for evaluating the two alternatives. In addition, Mr. Kluter requested feedback of the BPAC members for consideration in future steps of the feasibility study and noted the possibility of mixing and matching between the two alternatives along the road segments. Also noted that a refined alternative is expected to be presented to the public in a community meeting to be held in January 2011. Cost estimate will also be prepared prior to the January community meeting. Provided a web site address where up-to-date information on the project is being posted.

The Draft Evaluation Criteria are as follows:

- 1- City Policy Considerations including:
 - Appropriate accommodations for vehicles and bikes,
 - Enhanced safety and efficiency for all road users;
 - Call for developing engineering & planning criteria based on roadway geometry, collision history, travel speed, traffic volume, and other factors;
- 2- Maintain current/acceptable vehicle peak hour Level of Service (LOS) at key intersections;
- 3- Lane widths for motorized vehicles and bicycles;
- 4- Ability to provide continuous Class II bicycle lanes;
- 5- Traffic calming and pedestrian safety features;
- 6- Potential for speed reduction and collision reduction;
- 7- Cost consideration – modification of roadway elements including curbs, medians, pavement, and landscaping; and,
- 8- Parking supply impacts.

Commissioner Switzer – Noted the need for establishing bike lanes that are as wide as possible. Also noted that she considers criteria #4 a high priority. Indicated that outreach of the community meeting was very good, and requested just as a good of an outreach process to be carried out for the January community meeting.

Commissioner Rausch – Noted that the community meeting outreach within the residential part of Mary Avenue was limited, and suggested posting future meeting announcements in the Sunnyvale newspaper.

Commissioner Durham – Noted that most homes along the southerly segment of Mary Avenue have at least three to four on-site parking stalls per house (in garages and on driveways) excluding the stalls currently provided on the street. Considers Criteria #8 a low priority when it sacrifices safety conditions. Also noted that criteria #2 through #5 are the most important ones in his view.

Commissioner Stawitcke - Considers criteria items #3, #4, #5 and #6 as equally important and highest priority followed by criteria #2, #7 and #8.

Chair Walz – Noted that he agrees that criteria #2 through #5 are the highest priority. Added that should the cost become an issue, then possibly the project could be implemented in phases depending on the grants and/or other funding sources that may be attained. Suggested that the safest and best segment be implemented first in case of phasing the project to make it more affordable.

There was a general consensus among the BPAC members that the most important evaluation criteria are number 3, 4, 5 and 6.

Arthur Schwartz – Inquired if the bike lane width includes the gutter. Also suggested paving over the gutter to better accommodate cyclists whenever it is only possible to provide a four-foot bike lane.

Andrew Kluter – Clarified that width of the bike lanes include the gutter and that the bike lane is generally provided at a minimum of 3 feet plus 2 feet gutter. Where possible, the bike lane is proposed 4 feet plus 2 feet gutter.

Kevin Jackson – Recommended providing six-foot bike lanes as much as possible because pavement and concrete do not age the same, and the line of separation become unsafe for cyclists. Noted his belief that the high traffic volumes and speeds along the street warrant providing the six-foot bike lanes. In addition, noted that parking is dangerous for cyclists especially in the peak traffic hours, and that parked cars also restrict visibility for cars turning in and out of driveways.

Comments noted on Segment 1 (Most southerly segment): The proposed six-foot bike lanes are adequate. In the case of having parking shifting from side to side, recommended the establishment of distinguished marked crosswalks including in the vicinity of the soccer field. Also recommended having swerves in lane edge lines at intersections and not at mid-block locations because motorists have a tendency to drive straight and over-crossing marked lines which create pinch points for cyclists. The BPAC members recommended Alternative 1 for Segment 1.

Comments noted on Segment 2 (The middle segment): Recommended maintaining consistent width for the vehicular travel lanes. Alternative 2 is considered better because it does not propose sharrows (lanes shared between automobile and bicycle traffic).

Comments noted on Segment 3 (Most northerly segment): The BPAC members raised concerns regarding the four-foot bike lanes and suggested instead considering narrowing the vehicular turn lanes to nine feet. Noted that this is a 40 mph zone and that bike lanes need to be at least six feet wide. Requested avoiding

the sharrows by narrowing down the vehicular travel lanes and separating/markings bike lanes.

Commissioner Manidakos - Noted with regard to Segment 3 that the plan under review for both options have a separate right-turn lane at Mary Avenue/Maude Avenue that is located to the right of the bike lane. This forces cyclists to mix with the traffic or wait behind turning cars to get back to the bike lane. He considers this design practice to be confusing and hazardous. Noted his opposition to such design and his preference to maintain the bike lane abutting to the curb.

A public member: Requested modifying width of all bike lanes to at least five feet, and requested retaining turn lanes to avoid delays and collisions. Inquired if the consultant is a cyclist and whether he prefers a certain alternative and why. Also inquired if more than two alternatives have been reviewed.

Andrew Kluter – Clarified that he has no preferred alternative at this point, and is currently formulating the evaluation criteria and reviewing elements of the two alternatives. Added that he bicycles, and welcomed suggestions for additional or hybrid alternatives.

Kevin Jackson – Noted that this project is being motivated as a bicycle retrofit project which should not be compromised especially in light of the street space allocation policy with the capacity concerns and street parking as subordinate goals. Indicated that the facility should be designed to accommodate safe use by average and not elite cyclists which should be the project's measure of success. Added that the Class II bicycle facility along Mary Avenue will be a good connection between the bridge over I-280 and the Borregas Avenue pedestrian/bicycle bridges.

3. DISCUSSION: Draft Climate Action Plan (CAP) policies

Heba El-Guendy – Circulated an updated list of draft CAP policies, growth scenarios per the current General Plan along with potential changes, and an updated project schedule for developing the first Sunnyvale CAP and updating the Land Use and Transportation Element (LUTE). Noted that the draft CAP policies have been developed based on input from the Horizon 2035 Committee, the public, and staff. Described the Study Session process that will be attended by Council members, the Planning Commission and BPAC. Requested reviewing the circulated materials before the study session to provide input. Added that soon after the study session, BPAC members can still provide comments using the link on the project's web page or via e-mail to Gerri Caruso and Tricia Lord of the Community Development Department.

Chair Walz – Noted his hope for the Council not to water down the CAP policies that are currently under review. Also noted that one of the links on the main project web page is inaccurate with "Sunnyvale.com".

PUBLIC COMMENTS

Jim Stallman commented on development of the Valley Transportation Plan 2040 and Highway 85 projects.

Kevin Jackson commented on the Horizon 2035 Land Use and Transportation Element update and environmental impact report.

Chair Walz commented on a Lawrence Station Area Plan public meeting.

Garth Williams commented on Sunnyvale's involvement in Stevens Creek Trail planning.

PUBLIC HEARINGS/GENERAL BUSINESS

2. ACTION: Transportation Development Act (TDA) Article 3 Funding Recommendation

After questions from Commissioners, the public hearing was opened. Patrick Grant suggested pursuing Trust for Public Lands grants. George Emma inquired about the geometry of Wildwood Avenue. Kevin Jackson inquired about potential Bicycle Expenditure Program projects, and indicated support for funding of a Stevens Creek Trail feasibility study. Art Schwartz inquired about Remington Drive bike lanes funding.

The Commission took a straw vote on TDA funding priorities.

Commissioner Durham moved and Commissioner Stawitcke seconded a motion to recommend TDA funding for the East Channel Trail, in order to swap funds for a Stevens Creek Trail feasibility study.

Motion passed: 5-0-1, Commissioner Manidakos abstained.

3. ACTION: Mary Avenue Bike Lanes Project Alternative Design Concept Evaluation

Commissioner Stawitcke moved and Commissioner Manidakos seconded deferring Item 4, Pastoria Avenue Bike Lanes, to the April, 2011 meeting.

Motion passed: 5-0, Commissioner Durham absent.

After the staff report, the BPAC adjourned for five minutes to allow the public an opportunity to review plans that were presented.

Commissioners provided comments on the plans that were presented.

The public hearing was opened. Dan Hafeman expressed concern about right of way acquisition and requested that through bike traffic at Maude Avenue be accommodated. Art Schwartz commented on bike lanes and tricycles, and requested reconsideration of gutter design standards. Kevin Jackson commented on bike lanes at right turn pockets, and buffer zones next to bike lanes. Patrick Grant noted the presence of a large drain grate near California Avenue.

4. DISCUSSION: Pastoria Avenue Bike Lanes Project – Deferred to April, 2011 meeting.

NON-AGENDA ITEMS AND COMMENTS

Commissioner Durham moved and Commissioner Stawitcke seconded the motion to approve Consent Calendar items 1.A) and 1.B).

Motion passed: 6-0.

Commissioner Rausch arrived at 6:55 PM due to the change in meeting location.

PUBLIC COMMENTS

Kevin Jackson noted with regard to one of the e-mail messages contained in the agenda packet that the travel lanes along Tasman Drive are substandard and that cyclists have the right to use full width of the lanes.

PUBLIC HEARINGS/GENERAL BUSINESS

4. DISCUSSION: VTA BEP Funding Awards

David Simons (member of the VTA BPAC) noted that the Transportation Funds for Clean Air (TFCA) program was undersubscribed. Bike/pedestrian projects applying for TFCA must meet the cost effectiveness criteria and be ready for implementation. Concerned that the list of projects applying for Bicycle Expenditure Program (BEP) funds were initially shared with the VTA BPAC as a discussion, and not action item.

2. DISCUSSION: Mary Avenue Bike Lanes – Central Expressway to Maude Avenue

BPAC members reiterated their preference for a road diet along this roadway segment due to:

- Mary Avenue is expected to be the main north-south cycling route through the City, and is a cost effective route in terms of implementation;
- Allow the provision of wider six-foot bike lanes all along the length of the road segment. This wider bike lane width would also exclude the side gutter, relative to the other alternative that generally offers the standard five-foot bike lane including the typical two-foot gutter which narrows the effective width of the bike lane;
- Enhance good safety conditions and encourage cycling through the provision of wider bike lanes. The wider bike lanes will also better accommodate tricycles and baby trailers;
- The provision of wider 12-foot vehicular travel lanes is not expected to significantly increase speeds, and will allow some room for drivers' error;
- Allow for break down and maintenance space on the sides of the road; and,
- Somewhat reduce construction cost relative to other alternatives.

3. DISCUSSION: Grand Boulevard Concept Planning

Chair Walz noted that VTA may form a citizen advisory committee for the Bus Rapid Transit (BRT) project on El Camino Real and encouraged having a cycling activist from the individual cities along the corridor to be a member of such committee. Clarified the need for providing continued bike lanes along El Camino Real as the corridor travels through the different municipalities.

**Draft Minutes of the July 18 BPAC
Meeting to follow**

Attachment C

From "*The Standard Code of Parliamentary Procedure*" by Alice Sturgis

Electing the Chair and Vice Chair

1. Open Nominations:
 - a. Presiding officer may say: "Are there nominations for the office of Chair?"
 - b. Any member may say: "I nominate _____"
 - c. No second is necessary.
 - d. Presiding officer will ask: "Are there further nominations for the office of Chair?"
 - e. Repeat until no further nominations.
2. Close Nominations:
 - a. Presiding officer declares nominations for that office closed.
 - b. Motion to close is not necessary.
3. Nominations are voted upon in the order taken.
 - a. The member receiving the necessary vote is elected.

Electing a Temporary Chair in the absence of both Chair and Vice Chair

1. Open Nominations:
 - a. Secretary or Liaison should inform the members that in the absence of both Chair and Vice Chair, a Temporary Chair (or Chair Pro Tem) must be elected to serve as presiding officer for this meeting only.
 - b. Secretary or Liaison may say: "Are there nominations for Temporary Chair for this meeting?"
 - c. Any member may say: "I nominate _____"
 - d. No second is necessary.
 - e. Secretary or Liaison will ask: "Are there further nominations for Temporary Chair?"
 - f. Repeat until no further nominations.
2. Close Nominations:
 - a. Secretary or Liaison declares nominations for Temporary Chair closed.
 - b. Motion to close is not necessary.
3. Nominations are voted upon in the order taken.
 - a. The member receiving the necessary vote is elected for this meeting only.

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr**
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27344 6 of 100 **Status** Closed

Assigned To CPatchin **Priority, Contact** Regular WebForm

From Dave Long <bayareaguy49@hotmail.com> **Receive Date** 07-05-13 10:58 am

To Public Works <pubworks@ci.sunnyvale.ca.us> **Reply Needed** No

Subject Pedestrian bridge over 101 at Weddell Drive **Close Date** 07-10-13 9:04 am

Message There are two lights out located on the pedestrian bridge between Borregas Ave and Borregas Ave. The lights are on the side of the South bound traffic for highway 101.

Actions

Action Reassign

Date 07-05-13 4:08 pm

From Frances Moralez - Public Works

To Michelle Cameron - Public Works

Subject Web Request - Reassign 27344 from: Frances Moralez to: Mlcameron, subject: Pedestrian bridge over 1

Message Hi Michelle,

Please record comments, action taken or an outcome and close the inquiry. Work order #14516 was created regarding these street light outages.

Thanks,

Frances
x7390

Action Reassign

Date 07-10-13 8:37 am

From Michelle Cameron - Public Works

To Connie Patchin Frank - Public Works

cc jcraig@ci.sunnyvale.ca.us, kpineda@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27344 from: Michelle Cameron to: CPatchin, subject: Pedestrian bridge over 1

Message Hi Connie,

Please record comments, action taken or an outcome and close the inquiry. Work order #14516 was created regarding these street light outages.

The customer is not requesting a response

Thanks,

Frances
x7390

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27290 9 of 100 **Status** Closed

Assigned To CTalavera **Priority, Contact** Regular WebForm

From Rebecca Matthews <tmrm@sbcglobal.net> 408-605-4950 **Receive Date** 07-01-13 11:44 am

To Public Works <pubworks@ci.sunnyvale.ca.us> **Reply Needed** Yes

Subject Stop Sign and Parking Request **Close Date** 07-08-13 2:01 pm

Regarding Location 539 E Weddell Dr 37.39717, -122.01543
E Weddell at John Christain Greenbelt

Message
Hello, The section of E. Weddell Drive near the Fair Oaks Business Park and John Christian Greenbelt is very dangerous (approximate address 525 E. Weddell Ave.). Many pedestrians and cyclists cross Weddell near the greenbelt and we would love to see a stop sign installed here to slow traffic. Cars drive at high speeds down this section and take corners very fast, there is no stop sign in between Fair Oaks Avenue and Borregas Avenue and this is a good mid-point between the two streets. I am aware that there is a proposal for a large apartment complex development in the existing Fair Oaks Business Park as well as the planned new park "Morse Park/Seven Seas Park" which will be accessible from the Greenbelt. This will only increase the traffic in this area and make it even more dangerous. I would also like to know if the city is considering allowing street "parallel parking" on at least one side of Weddell in this area considering the plan to develop more high density housing and the already existing town homes and churches in the area create a high need for parking!

Actions

Action Reassign

Date 07-04-13 11:54 am

From James Boone - Traffic Safety

To Carmen Talavera - Public Works

Subject Web Request - Reassign 27290 from: James Boone to: CTalavera, subject: Stop Sign and Parking Reques

Message

Action ReplyClosed - by Email

Date 07-08-13 2:01 pm

From pubworks@ci.sunnyvale.ca.us - Public Works

To pubworks@ci.sunnyvale.ca.us -

Subject Re: Request #27290 - Stop Sign and Parking Request

Message Dear Ms. Matthews,

Thank you very much for contacting us in regards of your traffic concerns for E. Weddell near the Fair Oaks Business Park.

This message is to inform you that as part of the proposed development on-street parking and improvements to the Greenbelt trail in this area are being considered. About the stop sign installation; it is not possible to install the STOP sign with the purpose of slowing down traffic on E. Weddell. Per California Manual on Traffic Control Devices -the standard we must follow for installation of traffic control devices- STOP signs are installed at intersection when an engineering study shows the need for it and should not be used for speed control (CA-MUTCD 2012 Part 2, Section 2B.04) . Among the aspects we evaluate are collision history, visibility obstructions, vehicular traffic volume and speed and pedestrian volume. Installing a STOP sign at this site can

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27285 10 of 100

Status Closed

Priority, Contact Regular WebForm

Receive Date 07-01-13 7:28 am

Reply Needed Yes

Close Date 07-01-13 5:57 pm

Assigned To JChu

From Steve Akimoto <akimoto.s555@gmail.com> 408-702-7953

To Public Works <pubworks@ci.sunnyvale.ca.us>

Subject Mathilda Overpass parking - parking/walk through

Message Is the area under the Mathilda overpass going to be closed for parking and walk through? (question asked due to fencing going up) If so, when does the area get closed off and for how long?

Actions

Action Reassign

Date 07-01-13 2:04 pm

From Frances Moralez - Public Works

To Man-Hwa Chu - Public Works

cc nfakih@ci.sunnyvale.ca.us, mpineda@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27285 from: Frances Moralez to: JChu, subject: Mathilda Overpass parking - p

Message Hi Judy,

Please respond to the customer.

Thanks,

Frances
x7390

Action ReplyClosed

Date 07-01-13 5:57 pm

From pubworks@ci.sunnyvale.ca.us - Public Works

To akimoto.s555@gmail.com -

cc nfakih@ci.sunnyvale.ca.us, mpineda@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Re: Mathilda Overpass parking - parking/walk through

Message Dear Steve,

Thanks for your inquiry and concern.

The parking lot under the Mathilda Overpass will soon be under construction. The project includes a number of improvements including pavement maintenance, new striping, and new lighting. The improvements will make the parking lot function better and create a better overall experience. Construction fencing is currently being installed in anticipation of the work. The parking lot and pedestrian access will be closed starting mid-August for approximately 30-45 days. The schedule is currently being developed and notices will be posted in advance of the closure.

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27266 22 of 100

Status Closed

Priority, Contact Regular WebForm

Receive Date 06-29-13 9:16 pm

Reply Needed Yes

Close Date 07-03-13 1:01 pm

Assigned To CPatchin

From Alex Rozovsky <Ewent@hotmail.com> 408-245-4123

To Public Works <pubworks@ci.sunnyvale.ca.us>

Subject Sidewalk repair or replacement

Regarding Location 806 Ladis Ct 37.36231, -122.01074

Message Hello, I noticed my neighbors on Silvertip Way and Starbush Dr. got pieces of sidewalk in front of their hoses replaced. How can I have the same? Sidewalk in front of my house is in bad shape and needs to be replaced. Thank you very much, Alex Rozovsky

Actions

Action Reassign

Date 07-01-13 11:38 am

From Frances Moralez - Public Works

To Michelle Cameron - Public Works

cc jcraig@ci.sunnyvale.ca.us, tpineda@ci.sunnyvale.ca.us, cpatchin@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27266 from: Frances Moralez to: Mlcameron, subject: Sidewalk repair or repla

Message Hi Michelle,

Please respond to the customer. Work order #14460 was created today regarding this sidewalk issue.

Thanks,

Frances
x7390

Action Reassign

Date 07-01-13 2:22 pm

From Michelle Cameron - Public Works

To Connie Patchin Frank - Public Works

cc jcraig@ci.sunnyvale.ca.us, tpineda@ci.sunnyvale.ca.us, cpatchin@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27266 from: Michelle Cameron to: CPatchin, subject: Sidewalk repair or repla

Message Hi Connie,

Please respond to the customer. Work order #14460 was created today regarding this sidewalk issue.

378

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27255 25 of 100 Status Closed

Assigned To JChu Priority, Contact Regular WebForm

From Michael Hatch <mhatch@zonare.com> 408-393-5436 Receive Date 06-28-13 2:30 pm

To Public Works <pubworks@ci.sunnyvale.ca.us> Reply Needed Yes

Subject Mathilda underpass @ caltrain station Close Date 07-01-13 5:52 pm

Message Fencing is being put up that looks like it will limit access to the underpass parking lot behind the fire station. Is this going to happen? Several people (including myself) that commute use that passage to bypass the busy intersection at California and Mathilda. Is access going to be closed off? Thank you.

Attachment Mathilda underpass.bmp

Actions

Action Reassign

Date 06-28-13 2:53 pm

From Frances Moralez - Public Works

To Man-Hwa Chu - Public Works

cc nfakih@ci.sunnyvale.ca.us, mpineda@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27255 from: Frances Moralez to: JChu, subject: Mathilda underpass @ caltrain

Message Hi Judy,

Please respond to the customer.

Thanks,

Frances
x7390

Action ReplyClosed

Date 07-01-13 5:52 pm

From pubworks@ci.sunnyvale.ca.us - Public Works

To mhatch@zonare.com -

cc mpineda@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Re: Mathilda underpass @ caltrain station

Message Dear Michael,

Thanks for your inquiry and concern.

The parking lot under the Mathilda Overpass will soon be under construction. The project includes a number of improvements including pavement maintenance, new striping, and new lighting. The improvements will make the parking lot function better and create a better overall experience. Construction fencing is currently being installed in anticipation of the work. The

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27247 26 of 100

Status Closed

Assigned To JChu Priority, Contact Regular WebForm
 From Jim <jimk05@gmail.com> Receive Date 06-28-13 10:07 am
 To Public Works <pubworks@ci.sunnyvale.ca.us> Reply Needed Yes
 Subject Fencing under the Mathilda overpass Close Date 07-01-13 5:47 pm
 Regarding Location Mathilda bridge

Message Temporary fencing is being constructed under the Mathilda bridge overpass. What is the reason for this? The fencing blocks access from the business park to Caltrans and downtown Sunnyvale.

Actions

Action Reassign
Date 06-28-13 1:56 pm
From Frances Moralez - Public Works
To Elizabeth Racca-Johnson - Public Works
cc nfakih@ci.sunnyvale.ca.us, mpineda@ci.sunnyvale.ca.us
bc ksteffens@ci.sunnyvale.ca.us
Subject Web Request - Reassign 27247 from: Frances Moralez to: ERaccajohnson, subject: Fencing under the Ma

Message Hi Liz,

 Please respond to the customer.

 Thanks,

 Frances
 x7390

Action Reassign
Date 06-28-13 2:24 pm
From Elizabeth Racca-Johnson - Public Works
To Man-Hwa Chu - Public Works
cc nfakih@ci.sunnyvale.ca.us, mpineda@ci.sunnyvale.ca.us
bc ksteffens@ci.sunnyvale.ca.us
Subject Web Request - Reassign 27247 from: Elizabeth Racca-Johnson to: JChu, subject: Fencing under the Mat

Message Hi Judy,

 Please respond to the customer.

 Thanks,

 Frances

380

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27190 34 of 100

Status Closed

Assigned To JAreola Priority, Contact Regular WebForm

From Mark Pool <mark_pool@sbcglobal.net> 408-718-2764 Receive Date 06-25-13 2:25 pm

To Public Works <pubworks@ci.sunnyvale.ca.us> Reply Needed No

Subject Bernardo at Blair: street level cross walk lights defective Close Date 06-27-13 2:54 pm

Regarding Location Cross walk at Blair

Message Cross walk on Bernardo at Blair, I noticed yesterday that about half (observation, not counted) the lights in the street surface of the cross walk, are not operating. As these lights help immensely, can you please send someone out to look and make repair? Thank you

Actions

Action Reassign

Date 06-25-13 4:50 pm

From Frances Moralez - Public Works

To Carmen Talavera - Public Works

cc jwitthaus@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27190 from: Frances Moralez to: CTalavera, subject: Bernardo at Blair: stree

Message Hi Carmen,

Please record comments, action taken or an outcome and close the inquiry. Troublespot #204 was created today regarding this issue.

Thanks,

Frances
x7390

Action Reassign

Date 06-26-13 8:03 am

From Carmen Talavera - Public Works

To Joel Arreola - Public Works

cc jwitthaus@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27190 from: Carmen Talavera to: JAreola, subject: Bernardo at Blair: street

Message Hi Joel,

Please respond to the customer.

Thanks,

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

- Possibly more than 100 matches found, showing the first 100.
- 27414 . C . 07-09-13 . Street light outage
 - 27403 . C . 07-09-13 . Old tree
 - 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
 - 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
 - 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
 - 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
 - 27308 . C . 07-02-13 . Air conditioning
 - 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27120 44 of 100 Status Closed

Assigned To CPatchin Priority, Contact Regular WebForm

From Andy Frazer <andyfrazer@gorillasites.com> 408-475-5103 Receive Date 06-20-13 11:29 am

To Public Works <pubworks@ci.sunnyvale.ca.us> Reply Needed Yes

Subject Nasty sidewalk break Close Date 06-21-13 8:55 am

Regarding Location see below

Message Hello, Yesterday I tripped over a very bad sidewalk ridge. It's on the west side of San Junipero Dr. I'm 90% sure it was between Altamont Ct and San Juan Dr. I understand you have a schedule and plan to fix all the sidewalks across the city, but this was the worst sidewalk problem I've ever seen in Sunnyvale (it's also the first time I've actually wiped out on one. There were no injuries... just a bruised ego :-). The two sidewalk blocks are at least two inches out of vertical alignment. Thanks Andy Frazer

Actions

Action Reassign

Date 06-21-13 8:17 am

From Frances Moralez - Public Works

To Connie Patchin Frank - Public Works

cc tpineda@ci.sunnyvale.ca.us, jcraig@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Web Request - Reassign 27120 from: Frances Moralez to: CPatchin, subject: Nasty sidewalk break

Message Hi Connie,

Please reply to the customer. Work order #14296 was created today regarding this sidewalk issue.

Thanks,

Frances
x7390

Action ReplyClosed

Date 06-21-13 8:55 am

From pubworks@ci.sunnyvale.ca.us - Public Works

To andyfrazer@gorillasites.com -

cc tpineda@ci.sunnyvale.ca.us, jcraig@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Re: Request #27120 - Nasty sidewalk break

Message Dear Andy Frazer,

Thank you for your recent email. We have generated a service request for our technician to look into the area of concern regarding the concrete on the west side of San Junipero between

CRM - Answer Point: Public Works, BPAC

Add Request Request Report Help JWitthaus

Find Criteria

Find Result

Status

Req. #

Staff

Sort Req. # Desc

Possibly more than 100 matches found, showing the first 100.

- 27414 . C . 07-09-13 . Street light outage
- 27403 . C . 07-09-13 . Old tree
- 27360 . C . 07-06-13 . Street Light Outage across from 1524 Mur
- 27354 . C . 07-06-13 . Multiple Street Lights On During Daytime
- 27353 . C . 07-05-13 . Street Light On During Daytime (Dayburne
- 27344 . C . 07-05-13 . Pedestrian bridge over 101 at Weddell Dr
- 27308 . C . 07-02-13 . Air conditioning
- 27305 . C . 07-02-13 . Street Light Maintenance

Action Print Request

Request 27167 37 of 100

Status Closed

Priority, Contact Regular WebForm

Receive Date 06-24-13 5:34 pm

Reply Needed No

Close Date 06-28-13 12:43 pm

Assigned To fmoralez

From DT Jewett

To Public Works <pubworks@ci.sunnyvale.ca.us>

Subject Curb cuts and concrete hazard repair needed

Regarding Location Thunderbird & Lillick AND Thunderbird & Burnley

Message 1. Corners of Lillick & Thunderbird lack curb cuts; there is heavy pedestrian traffic including many people pushing strollers (schools nearby) and elderly residents out walking. 2. Thunderbird & Burnley, West side, a few paces north of Stop sign. Section of curb drops a few inches and creates a hazard...a real ankle-twister.

Actions

Action ReplyClosed - by Other

Date 06-28-13 12:43 pm

From pubworks@ci.sunnyvale.ca.us - Public Works

To pubworks@ci.sunnyvale.ca.us -

cc jwitthaus@ci.sunnyvale.ca.us

bc ksteffens@ci.sunnyvale.ca.us

Subject Re: Curb cuts and concrete hazard repair needed

Message In response to inquiry #1:

Curb cuts are provided to meet the needs of the disabled. The City is in the process of retrofitting the entire City sidewalk system with curb ramps. While the City invests on average over a hundred thousand dollars a year on curb ramps, retrofitting is still projected to take many years. Priorities are:

- 1) Accommodation of requests from the disabled.
- 2) Major streets
- 3) Parks and other civic centers
- 4) Local streets

Thunderbird and Lillick are classified as local streets. The City is currently retrofitting it's major streets and making accommodations for the disabled. It may be several years before ramps are installed at the location cited.

This information was provided by Jack Witthaus, Transportation/Traffic Manager. His contact number is 408 730-7330.

In response to inquiry #2:

Concrete work order #14320 was created on June 25 regarding the section of the curb that drops.

This information was provided by Frances Moralez, Senior Office Assistant. Her contact number is 408 730-7330.

Bicycle and Pedestrian Advisory Commission

Active Items List

Item #	Item	OPR	Due Date (Approx)	Status	Last Updated
1	Bernardo Caltrain Under-crossing	Witthaus	TBD	Feasibility Study accepted by the City Council. Funds for 20% local matching funds must be identified before further project initiation. Submitted for Valley Transportation Plan 2040 BEP.	2/15/2013
2	Code of Ethics and Conduct	Witthaus	Annual	Agendized for review by BPAC during the meeting of February 21th, 2013.	2/15/2013
3	Utility Bill Insert	Witthaus	Annual	Draft under consideration by the Communications Division.	7/10/2013
4	Bike to Work Day	Witthaus	Annual	Held May 9, 2013	5/9/2013
5	Earth Day	Witthaus	Annual	No BPAC or transportation staff participation.	5/11/2012
6	Fit and Fun Fair	Witthaus	Annual	Bike helmets donated by the County Public Health Department, fitted and distributed by volunteer Kevin Jackson.	5/9/2013
7	Road Overlay, Slurry, Reconstruction & Chip Schedule	T. Pineda	Annual	Transmitted at the March, 2013 BPAC meeting	3/1/2013
9	State of the City	Garnett	Annual	Complete for 2012.	9/14/2012

384

Item #	Item	OPR	Due Date (Approx)	Status	Last Updated
10	VTA Bicycle Expenditure Program (BEP)	Witthaus	Annual	17 new projects ranked for inclusion in Valley Transportation Plan 2040 BEP. \$ 346,000 grant awarded for Mary Avenue Bike Lanes project.	6/13/2013
11	Block Grants	Witthaus	Annual	Hendy Avenue between Fair Oaks and Sunnyside Avenues sidewalks, bike lanes, underground utilities, and other improvements project awarded. Left-turn, signal and pedestrian improvements at the intersection of Old San Francisco Road/Sunnyside Avenue awarded, under construction.	7/10/2013
12	Construction Zone Safety Complaints received	Witthaus	Ongoing	No complaints received.	5/9/2013
13	Bicycle Detection Complaints received	Witthaus	Ongoing	No complaints received.	6/13/2013
14	Community Design and Transportation (CDT) - Planning Grant Program	Witthaus	Annual	Feasibility study/concept plan for the West Channel Trail corridor capital project approved by Council. East and West Channel trail concepts provided to SCVWD for inclusion in flood control project.	7/10/2013
15	2011/12 Transportation Planning Grant Funds	Witthaus	Annual	No projects submitted.	5/11/2012
16	Safe Routes to Schools Projects	Fakih	Annual	Cycle 10 project 90% complete. Delays due to SFPUC permitting at the Hetch Hetchy Aqueduct. City awarded \$ 820,000 in Safe Route funding, Caltrans expenditure approval pending, design awarded. City provided a letter of support and in-kind matching resources for a County Health Department VERBS application.	7/10/2013

Item #	Item	OPR	Due Date (Approx)	Status	Last Updated
17	2010 Community Design and Transportation (CDT) - Capital Grant Program	Fakih	Annual	East Channel Trail project determined to require coordination with Water District flood control improvements. Timing of grant funds would not allow construction. Funds shifted to Downtown Streetscape Project to improve sidewalk and other streetscape features on Iowa Avenue. Project award May, 2013.	5/9/2013
18	Establishment of Bike Lanes on Mary Avenue	Witthaus	Ongoing	Technical work complete, environmental studies underway. Council study session April, 2013. \$346,000 BEP grant awarded for bike lane construction. To BPAC, July 20, 2013	7/10/2013
19	One Bay Area Grants	Witthaus	June, 13	City awarded seven projects to be funded, \$ 8.9 million. All projects are bicycle and pedestrian projects.	6/13/2013
20	Vehicle Emissions Reductions Based at Schools (VERBS) Grant Program	Oza	Ongoing	. Site coordination meetings ongoing. City letter of support and commitment of in-kind services provided for phase II Safe Routes grant funding.	5/9/2013