

2.0 CIRCULATION

The following section describes the existing regulatory, physical and operational characteristics affecting Milpitas's transportation system. An overview of the regulatory framework is presented first, followed by descriptions of the circulation network's setting for each transportation mode.

REGULATORY FRAMEWORK

The City of Milpitas General Plan, along with a variety of regional, state and federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in Milpitas. While the City of Milpitas has primary responsibility for the maintenance and operation of transportation facilities within the City, Milpitas staff works on a continual basis with responsible regional, state, and federal agencies including the County of Santa Clara, Santa Clara Valley Transportation Authority (VTA), Metropolitan Transportation Commission (MTC), California Department of Transportation (Caltrans), and Federal Highway Administration, as well as others, to maintain, improve, and balance the competing transportation needs of the community and the region.

REGIONAL

State of California Complete Streets Act

On September 30, 2008, Governor Schwarzenegger signed Assembly Bill (AB) 1358, the California Complete Streets Act of 2008, into law. As of January 2011, AB 1358 requires any substantive revision of the circulation element of a city or county's general plan to identify how they will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists.

Caltrans

DEPUTY DIRECTIVE 64-R2: COMPLETE STREETS – INTEGRATING THE TRANSPORTATION SYSTEM

In 2001, Caltrans adopted Deputy Directive (DD) 64; a policy directive related to non-motorized travel throughout the state. In October 2014, DD 64 was strengthened to reflect changing priorities and challenges. DD 64-R2 states:

The California Department of Transportation (Caltrans) provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Caltrans develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating "complete streets" beginning early in system planning and continuing through project delivery and maintenance and operations. Developing a network of "complete

Complete Street

A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Complete street concepts apply to rural, suburban, and urban areas.

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streets” requires collaboration among all Department functional units and stakeholders to establish effective partnerships.

Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's vision: "Improving Mobility across California."

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give families the option to lower transportation costs by using transit, walking or bicycling rather than driving to reach their destinations. The Department is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System.

CALTRANS TRAFFIC IMPACT STUDY GUIDELINES

The Caltrans Guide for the Preparation of Traffic Impact Studies, 2002, includes criteria for evaluating the effects of land use development and changes to the circulation system on State highways. In Milpitas, Caltrans oversees operation on SR 237 and would like to maintain a target Level of Service (LOS) at the transition between LOS C and LOS D.

METROPOLITAN TRANSPORTATION COMMISSION

The current Regional Transportation Plan (RTP) produced by MTC and the Association of Bay Area Governments, *Plan Bay Area*, was adopted in 2013. Plan Bay Area sets forth regional transportation policy and provides capital program planning for all regional, State, and Federally funded projects. In addition, Plan Bay Area provides strategic investment recommendations to improve regional transportation system performance over the next 25 years. Investments in regional highway, transit, local roadway, bicycle, and pedestrian projects are set forth. Plan Bay Area includes committed funding to widen north- and southbound I-680 to add an express lane in each direction from the Alameda County line through Milpitas to U.S. 101, convert high occupancy vehicle (HOV) lanes on I-880 to express lanes through Milpitas and extend these express lanes to U.S. 101, assist the VTA transit operating and capital improvement program and extend Bay Area Rapid Transit (BART) from Fremont through Milpitas to San Jose.

Santa Clara County General Plan

The *Santa Clara County General Plan* is a long range comprehensive planning document required by state law and was adopted by the County in 1994 to set uniform policy, guide balanced future growth, create livable communities, and develop responsible resource conservation throughout the County. The following 1994 General Plan goals and strategies are relevant to circulation in Milpitas:

Goals for Managed, Balances Growth

GOAL 1: Coordinated Countywide Planning and Cooperative Plan Implementation.

POLICY 1.1: Local planning and implementation that is consistent with a framework of integrated countywide plans and policies aimed at meeting the needs of current and future county residents and protecting environmental resources. Local plans and policies that take into account regional and state goals, plans and policies.

GOAL 3: Planned, Orderly Urban Expansion.

POLICY 3.1: Expansion of the urban area only when it occurs in a logical, orderly, and efficient manner, consistent with countywide plans and policies and the ability of local agencies to anticipate and provide necessary urban services and facilities in a cost-effective manner.

GOAL 6: Compact, Transportation-Efficient Urban Development.

POLICY 6.1: Compact urban development patterns that reduce the need for long distance commuting and can be served efficiently by public transportation.

Goals for Livable Communities**GOAL 2: Convenient Transportation.**

POLICY 2.1: An integrated, fully accessible, and balanced transportation system that allows for the convenient and efficient movement of people and goods and reduces dependency upon the automobile.

Strategies for Safeguarding Future Mobility

Strategy #1: Develop land use patterns that support travel alternatives.

Strategy #2: Manage travel demand, system efficiency, and congestion.

Strategy #3: Expand system capacity and improve system integration.

Strategy #4: Support new transportation

Santa Clara County Bicycle Plan

The 2008 *Santa Clara County Bicycle Plan* assists VTA and member agencies to “establish, protect, and enhance bicycling as a viable transportation mode and to assure that bicycling is a practical and safe mode of travel, by itself and in combination with other modes.” The Plan identifies bicycle facility projects that have regional or countywide significance. Three specific types of projects were identified: the Cross County Bicycle Corridor network, bike routes to major transit stations and centers, and non-motorized crossings of major physical barriers. The Bay Trail and the Coyote Creek Trail pass through Milpitas and are part of the Cross County Bicycle Corridor network. The Bay Trail connection across the Alameda County Flood Control Channel, between Fremont and McCarthy Boulevard in Milpitas, was identified as a priority project. I-880 at Dixon Landing Road was specifically identified as a major physical barrier hindering the advancement of bicycle transportation between Fremont and Milpitas. The plan highlights three additional planned and five more potential across barrier connections in Milpitas. Many of these potential crossings are necessary to provide safe bike routes to the new Milpitas BART station. The Plan also recommends minimum lane widths for existing and future bicycle facilities.

Santa Clara Valley Transportation Authority Congestion Management Plan

Santa Clara VTA is the Congestion Management Agency (CMA) for Santa Clara County and they are tasked with preparing the *Congestion Management Plan* (CMP) which outlines strategies to address congestion problems and to monitor compliance. MTC requires that the local transportation authorities, such as VTA, establish their own transportation plans that can feed into the larger RTP. The CMP is developed cooperatively with local governments, transit agencies, MTC, Caltrans, and the Bay Area Air Quality Management District. It contains LOS standards for highways and arterials, multimodal performance

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standards, a capital improvement program, a program for analyzing land use decisions, and a travel demand management (TDM) program.

The minimum LOS standard for CMP designated facilities in Santa Clara County is LOS E, except for facilities grandfathered in at LOS F, which states that intersections operating at LOS F at the baseline year for implementation of an LOS standard can be grandfathered in. The LOS standards for Santa Clara County were established in October of 1991; thus, any intersection operating at LOS F prior to the established 1991 LOS standards, are not held to the minimum standard of LOS E. Member Agencies, which include the cities and County of Santa Clara, must ensure that CMP roadways operate at or better than the minimum LOS standard or they face losing gas tax subventions. VTA monitors the performance of the CMP facilities at a minimum of every two years. If the minimum LOS standards are not met, Member Agencies must develop multimodal improvement plans to address the congestion.

VALLEY TRANSPORTATION PLAN 2040

The *Valley Transportation Plan 2040* (VTP) is the comprehensive countywide long-range transportation plan for Santa Clara County developed by VTA. Through the policy and planning framework, the VTP covers location-specific improvements for all modes of travel via three programs. The Highways Program includes major freeway improvements, local freeway interchanges, and Express Lanes. The Local Systems Program includes local roadway improvements, Expressway improvements, pedestrian and bicycle projects, and technology-related projects. The Transit Program includes improvements in transit efficiency and new transit improvement projects. The VTP identifies six projects in Milpitas:

- BART Extension to/and Beyond Milpitas
- Calaveras Boulevard widening
- Intersection improvements at Dixon Landing Road and North Milpitas Boulevard
- Montague Expressway Bicycle/Pedestrian Overcrossing
- Dixon Landing Road Pedestrian and Bicycle Improvements
- South Milpitas Boulevard SMART corridor

VTA Great Streets: Complete Streets Corridor Study

Through a series of corridor studies, VTA is planning to implement complete street concepts along select transportation corridors in Santa Clara County. The goal is to transform select transportation roadways into “high-quality, multimodal streets that prioritize bicycle, pedestrian, and transit travel while still serving motorists.” These collaborative planning processes, led by VTA, will include planning and conceptual design work and may result in a number of recommended improvements for transit operations, pedestrian and bicycle safety and connectivity, transit travel time, transit rider amenities, and/or traffic calming measures. The Tasman Drive/Great Mall Parkway corridor beginning at Main Street in Milpitas and continuing west to Sunnyvale has been selected by VTA as a potential study corridor based on input received during community meetings.

VTA Bicycle Technical Guidelines

The 2012 update to the *VTA Bicycle Technical Guidelines* outline standards and guidance for planning, designing, operating, retrofitting, and maintaining roadways and bikeways throughout Santa Clara County. The guidelines aim to improve the quality of bicycle facilities and ensure countywide consistency in the design and construction of both bicycle facilities and roadways. They apply to projects that are part of the countywide bicycle network, projects that are funded by the Countywide Bicycle Expenditure Program, and to all VTA-funded roadway projects. The manual is divided into four sections: Introduction

and General Guidance, Technical Guidance for Roadways, Technical Guidance for On-Roadway Bicycle Facilities, and Technical Guidance for Bike-Only Facilities.

LOCAL

City of Milpitas General Plan

The Milpitas General Plan is a long-range comprehensive planning document required by state law and adopted by the City in 1994, with some elements updated most recently in 2010, to set policy and guide future growth, development, and conservation of resources. The following 1994 General Plan guiding principles are relevant to circulation in Milpitas.

Circulation Element

3.a-G-1: Continue to utilize the City’s adopted Level of Service standards in evaluating development proposals and capital improvements.

3.a-G-2: Maintain acceptable service standards for all major streets and intersections.

3.a-G-3: Create accessible transportation networks system to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

3.b-G-1: Develop a street network integrated with the pattern of living, working and shopping areas, and which provides for safe, inviting, convenient, and efficient intermodal movement within the City and to other parts of the region.

3.b-G-2: Direct special consideration toward the circulation needs of a modern, convenient central business district, including adequate off-street parking.

3.b-G-3: Create a street pattern that encourages industrial growth and promote livable community where all people – regardless of age, ability or mode of transportation – feel safe & welcome on the streets.

3.b-G-4: Use the “Major Improvements Needed” subsection as a basis for identifying, scheduling, and implementing transportation improvements as development occurs in the future.

3.c-G-1: Implement measures that increase transit use and other non-motorized travel modes that lead to improved utilization of the existing transportation system, such as improvements to access public transit stops and stations by walking and biking, and provide transit stops near employment centers and higher density residential developments.

3.c-G-2: Cooperate with other private entities and public agencies to promote local and regional transit serving Milpitas.

3.d-G-1: Implement the goals, objectives, and benchmarks of the Bikeways Master plan.

3.d-G-2: Promote walking and bicycling for transportation and recreation purposes by providing a comprehensive system of sidewalks, bicycle lanes and routes and off-street trails that connects all parts of the City.

3.d-G-3: Provide adequate bicycle parking and end-of trip support facilities for bicyclists at centers of civic, retail, recreation, education, and work activity.

3.d-G-4: Promote intermodal commuting options by developing connected system of streets, roads, bridges, and highways that provides continuous, efficient, safe and convenient travel for all users regardless of age or ability.

3.d-G-5: Encourage a mode shift to non-motorized transportation by expanding and enhancing current pedestrian and bicycle facilities to accommodate casual and experienced cyclists and pedestrians.

3.d-G-6: Analyze the feasibility and cost/benefit of a pedestrian crossing connecting Yosemite Drive with Curtis Avenue.

3.d-G-7: Study the feasibility of a pedestrian circulator around the BART station.

3.e-G-1: Provide adequate circulation and off-street parking and loading facilities for trucks.

Bikeway Master Plan Update

The 2009 *Bikeway Master Plan Update* provided an update to the 2002 *Bikeway Master Plan* produced by the City's Bicycle Pedestrian Advisory Commission. The Update was developed to build upon the existing bicycle facilities in Milpitas to increase connectivity to schools, public buildings, places of employment, shopping centers, and transit access. The Update plans to connect Milpitas to the larger regional bicycle trail network and utilize new right-of-way to develop off-street bicycle facilities. Beyond the bicycle facilities, the Update aims to educate cyclists and motorists about the rules of road and encourage new cyclists of all ages. The principle goals and objectives from the *Bikeway Master Plan Update* are summarized below.

GOAL 1: Improve Bicycle Safety in Milpitas.

OBJECTIVE 1-1: Monitor and enhance Bicycle Safety

OBJECTIVE 1-2: Construct and retrofit bikeway facilities to meet minimum engineering guidelines.

OBJECTIVE 1-3: Incorporate bicycle amenities into all new transportation infrastructure and into major transportation retrofits, as possible.

OBJECTIVE 1-4: Proactively enforce bicycle-related traffic laws through activities such as targeted enforcement or a police-staffed checkpoint where officers distribute bicycle related information.

GOAL 2: Increase Bicycle Trips Made in Milpitas

OBJECTIVE 2-1: Promote and support Milpitas' annual Bike to Work Day.

OBJECTIVE 2-2: Increase the number of students who bike to school by promoting events such as International Walk and Bike to School Day and providing schools with the resources to develop Safe Routes to School programs

GOAL 3: Connect Milpitas' Bikeways to the Regional Bicycle System

OBJECTIVE 3-1: Work with the Santa Clara County Parks and Recreation Department, the San Francisco Bay Trail, and neighboring jurisdictions to identify opportunities for bikeway connections.

OBJECTIVE 3-2: Work with Fremont, San Jose, and Santa Clara County to coordinate on-street and off-street bicycle facility construction, signage and maintenance.

GOAL 4: Ensure that All Residents of Milpitas are Knowledgeable about Bicycle Safety

OBJECTIVE 4-1: Educate Milpitas students about bicycle safety with in-classroom bicycle safety training, conducted by a police officer or other certified trainers.

OBJECTIVE 4-2: Provide bicycle safety information in local publications, such as the City's website, television, and radio stations, and in all public City buildings.

OBJECTIVE 4-3: Provide adult education for bicycle safety through Milpitas' recreational centers.

OBJECTIVE 4-4: Continue support of the Santa Clara County Juvenile Traffic Diversion Program

GOAL 5: Enhance Bicycle Access to Public Transit and Increase the Number of People who Bike to Public Transit in Milpitas

OBJECTIVE 5-1: Work with the VTA to promote biking to bus and light rail transit stops within Milpitas.

OBJECTIVE 5-2: Work with the VTA and BART to ensure bicycle access to the planned BART extension.

GOAL 6: Promote Bicycling as an Integral Mode of Transportation in Milpitas

OBJECTIVE 6-1: Team with neighboring communities and with the Silicon Valley Bicycle Coalition to promote bicycling in Milpitas.

OBJECTIVE 6-2: Provide secure bicycle valet parking at City-sponsored events in partnership with the Silicon Valley Bicycle Coalition.

GOAL 7: Improve bicycle connections to Milpitas' community amenities, parks, and schools.

OBJECTIVE 7-1: Maintain Milpitas' bikeways to the highest level possible.

OBJECTIVE 7-2: Conduct annual bike audits at Milpitas schools, with parents, teachers and students, to identify obstacles to biking to school and brainstorm improvements.

GOAL 8: Identify funding sources to design, construct and maintain Milpitas' bikeways.

OBJECTIVE 8-1: Apply for bikeway grants from local, regional and state funding sources.

OBJECTIVE 8-2: Seek opportunities for private donations to construct bikeways and related amenities.

Milpitas Trails Master Plan

The *Milpitas Trails Master Plan* was completed to provide recommendations for the 2002 *Milpitas General Plan* update. The Plan recommended an extensive off-street trail system to enhance the quality of life in Milpitas by providing an alternative transportation system, expanding recreational opportunities, and improving the environmental conditions of those trail corridors that parallel creeks. The goals from the *Milpitas Trails Master Plan* are included below.

- Identify potential trail routes for commuter and recreational use which integrate with and provide benefit to creek corridors, schools businesses, parks and local citizens.

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- Provide staging areas and use existing facilities for such staging areas whenever possible.
- Maximize linkages to other trail and bikeway systems to provide alternative transportation routes for pedestrians, bicycles, and joggers.
- Respect the property rights of adjacent landowners and be good neighbors.
- Preserve and restore the natural environment of the creek corridors.
- Coordinate, cooperate and involve all stakeholders along the trail corridors including schools, parks, businesses, agencies, trail users, citizens, and adjacent neighbors to maximize public involvement, support and ownership of the trails.
- Provide alternative transportation routes.

Streetscape Master Plan

The *City of Milpitas Streetscape Master Plan* provides overall guidelines and recommendations to address major issues related to street trees, landscape treatments and amenities in the public street right-of-way. The Plan includes goals, strategies, and design guidelines for streets by type and provides recommendations for other physical features of the right-of-way, such as medians and sound walls. The Plan was developed through a collaborative planning process and is meant to guide streetscape development and maintenance through 2020. The transportation related goals from the *City of Milpitas Streetscape Master Plan* are included below.

GOAL 1: Provide a comprehensive set of design guidelines and parameters for street tree and landscape planting in public right of way areas. Establish a hierarchy of design elements related to functional components that address commercial, residential and industrial areas, parking strips, median islands and sound wall treatments.

GOAL 2: Provide a comprehensive set of design standards and parameters for street tree, landscape planting and irrigation in the materials distributed to private developers.

GOAL 3: Provide guidelines to enhance the citywide gateways and develop a hierarchy of entry features.

GOAL 4: Provide guidelines to enhance the pedestrian quality of the major streets and develop a hierarchy of street amenities.

GOAL 7: Enhance the coordination with city planning efforts, project development and on-going city programs. Increase public awareness and understanding of the value of street trees and right-of-way plantings.

Milpitas Community-Based Transportation Plan

The 2009 *Community-Based Transportation Plan (CBTP)* was developed to analyze the specific needs of low-income and minority communities in Milpitas. These groups require safe, affordable, and reliable transportation services to meet their daily travel needs. Through an extensive public outreach campaign, the City, VTA, and MTC were able to identify transportation issues that were of primary concern the low-income and minority community members. The working group then developed possible transportation solutions to address the needs of the community in the following areas:

- Transit Service Improvements
- New Transportation Amenities
- Bicycle and Pedestrian Improvements
- Auto-Based Programs and Improvement Projects

- Improved Demand-Responsive Services

Midtown Specific Plan

The 2002 *Midtown Specific Plan* creates a cohesive vision for development along the South Main Street and South Abel Street corridors. The Plan rezoned existing industrial and commercial land uses to residential and mixed-use, providing the City an opportunity to control and enhance the corridors. The Plan identifies specific locations appropriate for median island and streetscape improvements.

Transit Area Specific Plan

The *Transit Area Specific Plan* guides the redevelopment of over 400 acres near the Great Mall Shopping Center/VTA Light Rail Station and the future Milpitas BART Station. The Specific Plan area is currently occupied by industrial uses. The Plan calls for the removal of nearly 3 million square feet of industrial uses. The proposed land uses include half a million square feet of shopping, over 7,000 new residential dwelling units, a new hotel, and 800,000 square feet of office space. According to the Draft Environmental Impact Report for the Transit Area Specific Plan, this Plan will generate over 50,000 new daily trips. Also, the Plan highlights the following circulation goals to improve the transportation network in Milpitas.

- Create a new network of streets through the area that is appropriate for the mix of land uses and encourages walking, biking and transit use rather than auto trips.
- Divide the area into smaller two to three-acre blocks to facilitate direct and easy pedestrian access between different land uses and areas.
- Target a traffic “level of service” of E at all major intersections if feasible, and level of service D at all local intersections. However, level of service F may be acceptable during peak periods, in order to balance auto circulation needs with goals for pedestrian and bike circulation, and to encourage transit use and carpooling.
- Maximize the use of transit by residents and workers through the placement and density of land uses, and the creation of safe attractive pedestrian, bike, and bus routes to the light rail and BART stations.
- Create attractive comfortable pedestrian connections for the following types of trips between destinations:
 - residents to the BART and light rail stations;
 - workers from BART and light rail stations to offices;
 - office workers, hotel patrons, and other visitors to restaurants, retail, and entertainment;
 - residents to retail, personal services, and restaurants;
 - residents to parks, trails, schools, and community facilities; and
 - visitors, residents, workers, and students to the Great Mall.

SETTING

URBAN CONTEXT

Milpitas is part of the greater San Francisco Bay Area in Silicon Valley and is geographically divided by major regional connectors. Interstate (I) 880 and I-680 run parallel in the north-south directions through the City, while State Route (SR) 237 connects the two Interstates through the center of the City. Milpitas is bounded by San Jose to the south and west, Fremont to the north, and unincorporated Santa Clara County to the east. The midtown area is currently growing as an employment and housing center as part of Silicon Valley through the vision of the Midtown Specific Plan.

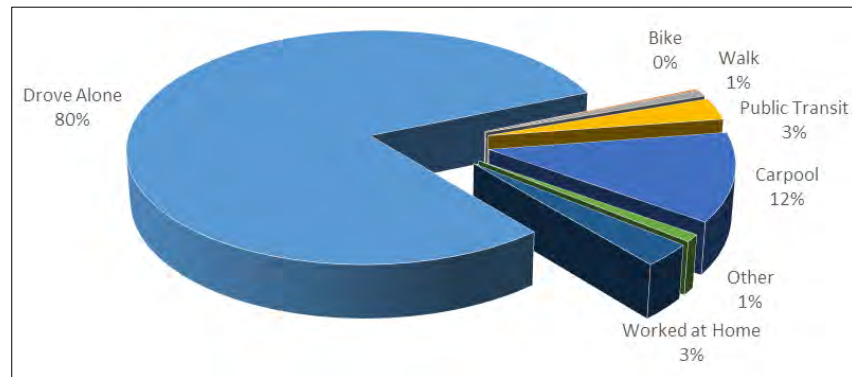
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The interstates and state highway that bisect Milpitas connect Silicon Valley to a majority of the San Francisco Bay Area and beyond into northern and southern California. Given its central location, Milpitas is home to many major regional employers creating high levels of traffic congestion during peak commute hours. A majority of commute trips by residents are in single occupancy vehicles, with a low percentage of residents using public transit. On-going improvement and investment in public transit infrastructure aims to shift commuters away from single occupancy vehicles to public transit.

TRAVEL CHARACTERISTICS

Census Journey to Work

Data from the 2010 US Census and 2010-2014 American Community Survey were utilized to illustrate Journey to Work (JTW) statistics for Milpitas. According to the 2010 US Census, Milpitas' population was approximately 67,800



people, including 31,000 workers 16 years of age or older. The ACS reports that 80 percent of workers living in Milpitas drive to work alone. Alternative modes of transportation accounted for approximately five percent of commute trips; approximately 12 percent of workers use carpools; three percent take public transit systems; less than one percent of commuters walk to work; less than one percent bicycle to work; and the remaining three percent of workers work at home. Table 2.0-1 provides an overview of Milpitas's JTW mode split data compared to countywide statistics for Santa Clara County and the State of California.

TABLE 2.0-1: DEMOGRAPHIC AND JOURNEY TO WORK DATA, 2010 US CENSUS/2014 ACS 5-YEAR ESTIMATES

	MILPITAS		COUNTYWIDE		CALIFORNIA	
Population	66,790 ¹		1,781,642 ¹		37,253,956 ¹	
Employed persons	31,096 ²		867,212 ²		16,529,777 ²	
MODE SPLIT	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
Drove Alone	24,815	79.8%	663,417	76.5%	12,108,062	73.3%
Bike	62	0.2%	15,610	1.8%	181,828	1.1%
Walk	249	0.8%	16,477	1.9%	446,304	2.7%
Public Transit	933	3.0%	31,220	3.6%	859,548	5.2%
Carpool	3,763	12.1%	90,190	10.4%	1,843,070	11.2%
Other	311	1.0%	10,407	1.2%	214,887	1.3%
Worked at Home	964	3.1%	39,892	4.6%	876,078	5.3%

NOTES:

¹ POPULATION DATA OBTAINED FROM 2010 CENSUS

² MILPITAS, COUNTY, AND STATE MODAL CHOICE DATA OBTAINED FROM 2010-2014 ACS 5-YEAR ESTIMATES

SOURCE: W-TRANS, 2016.

Of the 30,132 workers in Milpitas who are 16 years or older and commute to work, those who do not work at home, 21 percent (or 6,499 workers) have a travel time to work of 15 minutes or less. Travel time to work for Milpitas residents and the rest of the California workforce is shown in Table 2.0-2 below.

TABLE 2.0-2: 2014 TRAVEL TIME TO WORK

	MILPITAS ¹		CALIFORNIA ¹
	NUMBER	PERCENTAGE	WORKFORCE
Workforce	30,132	100%	15,653,699
TRAVEL TIME	NUMBER	PERCENTAGE	PERCENTAGE
Less than 15 minutes	6,499	20.9%	23.9%
15 to 29 minutes	13,288	44.1%	35.9%
30 to 44 minutes	7,111	23.6%	21.6%
45 minutes or more	3,465	11.5%	18.6%

NOTES:

¹ MILPITAS AND STATE TRAVEL TIME DATA OBTAINED FROM 2010-2014 ACS 5-YEAR ESTIMATES

SOURCE: W-TRANS, 2016.

VEHICLE MILES TRAVELED

A common indicator used to quantify the amount of motor vehicle use in a specified area is Vehicle Miles Traveled (VMT). VMT represents the total number of miles driven by persons traveling to and from a defined regional area, which for the purposes of this study is the City of Milpitas. Many factors affect VMT including the average distance residents commute to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. Areas that have a diverse land use mix and ample facilities for non-automobile modes, including transit, tend to generate lower VMT than auto-oriented suburban areas.

Sophisticated travel demand models are often used to calculate VMT estimates. The C/CAG-VTA Countywide Travel Demand Model operated by the Santa Clara Valley Transportation Authority (VTA) was utilized during the General Plan Update to estimate the changes in VMT resulting from buildout of the Plan.

ROADWAY SYSTEM

This section describes the physical characteristics of Milpitas' roadway network. Figure 2.0-1 shows the major routes in Milpitas and the roadway classification system.

FEDERAL HIGHWAYS

Two federal highways operated and maintained by Caltrans pass through Milpitas: I-680 and I-880.

I-680 is a primary route connecting the City of San Jose to I-80 through Milpitas, Dublin, Walnut Creek, and Fairfield. I-680 is fully grade separated with at least three lanes per direction through Milpitas. A high-occupancy toll lane is provided in the southbound direction for most of I-680 in Milpitas.

I-880 is a primary route connecting the City of San Jose to I-80 through Milpitas, Fremont, Hayward, and Oakland. I-880 is fully grade separated with at least four lanes (one high-occupancy vehicle and three general purpose) per direction through Milpitas.

STATE HIGHWAYS

One state highway, operated and maintained by Caltrans, passes through Milpitas: SR 237.

SR 237 is at State Highway running through Milpitas that connects I-680 to I-880 then continues to US-101 in Mountain View. SR 237 between I-680 and I-880 is a six-lane arterial street (East Calaveras Boulevard) which transitions into a fully grade separated highway west of I-880. Arterial sections of SR 237 within the City of Milpitas include Calaveras Boulevard.

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Calaveras Boulevard is designated as an arterial by the City of Milpitas. It connects I-680 to I-880 and is the major east-west route in the City.

COUNTY EXPRESSWAYS

One expressway operated and maintained by Santa Clara County passes through Milpitas: the Montague Expressway.

Montague Expressway is a major east-west route in Santa Clara County that connects US-101 and the San Tomas Expressway in San Jose to McCarthy Boulevard, I-880, Great Mall Parkway/East Capitol Avenue, and I-680 in Milpitas. Montague Expressway turns into Landess Road east of I-680. Existing daily traffic on the expressway averages 40,000 vehicles per day based on 2016 24-hour traffic counts.

LOCAL ARTERIAL STREETS

Abel Street is an arterial that connects North Milpitas Avenue, West Calaveras Expressway/SR-237, the Great Mall Parkway, and South Main Street. Abel Street turns into Jacklin Road east of North Milpitas Avenue. Existing daily traffic on the street averages 22,000 vehicles per day based on 2016 24-hour traffic counts.

Dixon Landing Road is an arterial in northern Milpitas that connects North McCarthy Boulevard and I-880 to North Milpitas Boulevard and the surrounding neighborhoods. Existing daily traffic on the street averages 36,000 vehicles per day based on 2016 24-hour traffic counts.

East Capitol Avenue is an arterial in southern Milpitas between the Montague Expressway and the Milpitas-San Jose city limit. East Capitol Avenue turns into the Great Mall Parkway west of the Montague Expressway, and into North Capitol Avenue east of the City Limits.

East Tasman Drive is an arterial that extends west from I-880 and connects with McCarthy Road before entering San Jose, where it continues to Levi's Stadium. East Tasman Drive becomes the Great Mall Parkway east of I-880. Existing daily traffic on the arterial averages 38,000 vehicles per day based on 2016 24-hour traffic counts.

Great Mall Parkway is a major east-west arterial that connects I-880 to South Abel Street, South Main Street, the Montague Expressway, and the Great Mall. It turns into East Tasman Drive west of I-880, and into East Capitol Avenue east of the Montague Expressway. Existing daily traffic on the parkway averages 32,000 vehicles per day based on 2016 24-hour traffic counts.

Jacklin Road is an arterial that connects I-680 to North Park Victoria Drive, Escuela Parkway, and North Milpitas Boulevard. Jacklin Road turns into North Abel Street west of North Milpitas Boulevard.

McCarthy Boulevard is an arterial on the west side of the City that roughly parallels I-680. McCarthy Boulevard connects the Montague Expressway to East Tasman Avenue/Great Mall Parkway, West Calaveras/SR-237, and Dixon Landing Road. Existing daily traffic on the boulevard averages 35,000 vehicles per day based on 2016 24-hour traffic counts.

Milpitas Boulevard is a north-south arterial bisecting the City parallel to both I-880 and I-680. Milpitas Boulevard connects the Montague Expressway to Yosemite Drive, East Calaveras Street/SR-237, Escuela Parkway, Jacklin Road, and Dixon Landing. Existing daily traffic on the boulevard averages 20,000 vehicles per day based on 2016 24-hour traffic counts.

Park Victoria Drive parallels I-680 and is a north-south arterial between Landess Road and Jacklin Road, and a collector north of Jacklin Road. Existing daily traffic on the street averages 10,000 vehicles per day based on 2016 24-hour traffic counts.

LOCAL COLLECTOR STREETS

Escuela Parkway is a collector that connects Jacklin Road and North Milpitas Boulevard through several neighborhoods.

Landess Road is a collector that connects I-680 to South Park Victoria Road and Piedmont Road. This roadway turns into the Montague Expressway west of I-680.

Piedmont Road is a collector on the eastern edge of Milpitas that connects Landess Avenue to East Calaveras Drive.

Serra Way is a short collector in the historic commercial area that connects West Calaveras Boulevard to South Abel Street and South Main Street.

South Main Street is a collector from Serra Road, in the historic commercial area, to South Abel Road just past the Great Mall Parkway. At South Abel Street, the roadway turns into an arterial and connects to the Montague Expressway. Existing daily traffic on the street averages 20,000 vehicles per day based on 2016 24-hour traffic counts.

Trade Zone Boulevard is a collector on the southern border of Milpitas that connects the Montague Expressway to North Capitol Avenue in San Jose.

Yosemite Drive is an east-west collector that connects I-680 to South Milpitas Boulevard, South Park Victoria Drive, and Piedmont Road.

TRAFFIC VOLUME PATTERNS

As in many communities, vehicular traffic volumes in Milpitas tend to peak during weekday commute periods. 24-hour traffic volume counts collected on various arterials throughout the City confirm these trends. For example, Montague Expressway has a notable plateau in traffic with over 2,000 vehicles per hour for several hours during the morning and evening commute in each direction. The existing segment volumes are shown in Figure 2.0-2.

PUBLIC TRANSPORTATION SYSTEM

BUS TRANSIT OPERATIONS

Bus service in Milpitas is provided by VTA for travel within Santa Clara County and by Alameda-Contra Costa (AC) Transit District, for travel to and from Alameda County. An exhibit showing bus routes in and surrounding Milpitas is provided in Figure 2.0-3.

VTA Express Bus Routes

VTA operates Express bus routes that link residential centers of Santa Clara County to Silicon Valley industrial centers. The following regularly-scheduled fixed-route Express routes serve the City of Milpitas:

Route 104 is an express route that connects Milpitas to Palo Alto, Mountain View, San Jose, and the Penitencia Creek Transit Center from the Great Mall/Main Transit Center. Route 104 operates Monday

through Friday with two runs in each direction daily. The westbound runs are 37 minutes apart during the morning peak hours, and the eastbound runs are 29 minutes apart during the evening peak hours.

Route 120 is an express route that connects Milpitas to Mountain View, Sunnyvale, Fremont, the Fremont BART station, and the Lockheed Martin Transit Center. Route 120 operates Monday through Friday with six runs in each direction daily between the Lockheed Martin Transit Center and Fremont BART station, with two runs in each direction continuing on through Mountain View. The southbound direction operates at 15 to 60 minute headways during the morning peak hours, and the northbound direction operate at 20 to 30 minute headways during the evening peak hours.

Route 140 is an express route that connects Milpitas to San Jose, Fremont, the Fremont BART station, the Great America Park, and Levi's Stadium. Route 140 operates Monday through Friday with three runs in each direction. The southbound direction operates at 45 minute headways during the morning peak hours, and the northbound direction operates at 45 to 60 minute headways during the evening peak hours.

Route 180 is an express route that connects Milpitas to San Jose, Fremont, the Fremont BART station, and the Eastridge Transit Center from the Great Mall/Main Transit Center. The southbound direction operates between the Fremont BART station and Great Mall/Main Transit Center Monday to Friday from 6:00 a.m. to 10:00 p.m., with 30 to 60 minute headways and three evening peak route extensions to downtown San Jose. The northbound direction operate between the Great Mall/Main Transit Center and the Fremont BART station Monday to Friday from 6:00 a.m. to 10:00 p.m., with 30 to 45 minute headways and three morning peak routes originating in downtown San Jose.

Route 181 is an express route that connects the Great Mall/Main Transit Center to the Fremont BART station and San Jose Diridon Transit Center. While Route 181 has frequent Monday to Friday service in both directions throughout the day from San Jose to Fremont, only a few trips service Milpitas. Four southbound weekday trips stop in Milpitas from 10:30 p.m. to 12:30 a.m. with 40 minute headways, and three northbound weekday trips stop in Milpitas from 10:00 p.m. to 11:20 p.m. with 45 minute headways. On the weekends, Route 181 serves Milpitas fall day at approximately 20 to 45 minute headways.

VTA Limited Stop Bus Routes

VTA operates a select number of limited stop bus routes that link important destinations throughout the county, but offer more regularly-scheduled stops along the fixed route. The following limited stop routes serve the City of Milpitas:

Route 321 is a limited route that connects Milpitas to San Jose, Santa Clara, and Sunnyvale. Route 321 operates one trip in each direction on weekday mornings.

Route 330 is a limited route that connects Milpitas to San Jose, Santa Clara, and Campbell, primarily along Tasman and San Tomas Expressways. Route 330 operates four trips in each direction on weekdays. The northbound trips are during the morning peak period operate with approximately 25 minute headways. The southbound trips are during the evening peak period and operate with 30 to 60 minute headways.

VTA Local Bus Routes

VTA operates a network of local bus routes that serve the urbanized portions of Santa Clara County. These routes serve arterial streets, neighborhoods, schools, shopping areas, and employment centers. The following local routes serve the City of Milpitas:

Route 46 is a local route that connects the Great Mall to the eastern and northern neighborhoods of Milpitas, primarily along the Montague Expressway, Park Victoria, and Jacklin. Route 46 operates service from the morning through afternoon Monday to Saturday, with 30 to 60 minute headways.

Route 47 is a local route that connects the Great Mall to the Valley Health Center and McCarthy Ranch Shopping Center, primarily along the Montague Expressway, Park Victoria Road, Calaveras Boulevard, and McCarthy Boulevard. Route 47 operates service from the mornings through early evenings daily, with 30 minute headways on Monday to Saturday mornings and afternoons, 40 to 65 minute headways on Monday to Saturday evenings, and 45 to 60 minute headways on Sundays.

Route 66 is a local route that connects Milpitas to Santa Teresa in San Jose. Route 66 operates daily with 10-20 minute headways Monday to Saturday during the day, 30 to 60 minute headways Monday to Saturday late evenings, 20 minute headways on Sunday during the day, and 45 to 60 minute headways Sunday evenings.

Route 70 is a local route that connects Milpitas to the Capitol Light Rail Station in San Jose. Route 70 operates daily, with 15 to 20 minute headways Monday to Saturdays during the day, 30 to 60 minute headways Monday to Saturday late evenings, 20 minute headways Sunday during the day, and 40 to 60 minute headways Sunday mornings and evenings.

Route 71 is a local route that connects the Great Mall and Milpitas to the Eastridge Transit Center, primarily along Piedmont/White Road. Route 71 operates daily, with 20 to 30 minute headways, Monday to Saturday, during the day, 60 minute headways Monday to Saturday evenings, and 45 to 60 minute headways on Sundays.

Route 77 is a local route that connects the Great Mall and Milpitas to the Eastridge Transit Center, primarily along McCandless Drive, and Lundy Avenue/King Road. Route 77 operates service from the mornings through evenings every day of the week, with 15 to 20 minute headways on weekday mornings through early evenings, 45 to 60 minute headways on weekday evenings, and 30 to 45 minute headways on weekends.

AC Transit Bus Routes

AC Transit provides regularly-scheduled fixed-route service throughout Alameda and Contra Costa Counties. One AC Transit route, Route 217, provides service to the City of Milpitas.

Route 217 is a local route that connects the Great Mall and Milpitas to Fremont and the Fremont BART station, primarily along Mission Boulevard, Warm Springs Boulevard, and North Milpitas Boulevard. Route 217 operates daily, with 20 to 30 minute headways on weekdays and 30 minute headways on weekends.

ACE Shuttle Bus Routes

Altamont Commuter Express (ACE) provides regularly-scheduled fixed-route bus service from rail stations in Santa Clara County. These shuttle buses are coordinated to connect with ACE train departures. Eight shuttle routes serve the Great America ACE Station in the City of Santa Clara, two of which connect to the City of Milpitas.

The **Purple Shuttle** is a local route that connects the ACE Great America Station in the City of Santa Clara to Milpitas along Tasman Drive and McCarthy Boulevard. This route operates on weekdays with four trips in each direction. The eastbound trips operate on approximately 60 minute headways during the morning peak hours, and the westbound trips operate on a 60 minute headway during the evening peak hours.

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The **Violet Shuttle** is a local route that connects the ACE Great America Station in the City of Santa Clara to Milpitas along McCarthy Boulevard and the Montague Expressway. This route operates on weekdays with four runs in each direction. The eastbound trips operate on approximately 60 minute headways during the morning peak hours, and the westbound trips operate on a 60 minute headway during the evening peak hours.

Paratransit

Paratransit, also known as dial-a-ride or door-to-door service, is available for those that are unable to independently use the transit system due to a physical or mental disability. Individuals must be registered and certified as ADA eligible before using the service. Paratransit operators are required by the ADA to service areas within three-quarters of a mile of their respective, public fixed-route service. VTA Access Paratransit is operated by Outreach & Escort, Inc. and is available only during the regularly scheduled operating hours of the bus or light rail route the paratransit trip is replacing. Ride reservations can be scheduled in advance.

VTA LIGHT RAIL TRANSIT OPERATIONS

VTA operates light rail routes that link various Santa Clara Valley residential and employment centers to downtown San Jose. One light rail route directly serves the City of Milpitas.

The **Alum Rock – Santa Teresa Route** connects Milpitas to Santa Clara and San Jose, with three stops in Milpitas at I-880 and Tasman Drive, the Great Mall Transit Station, and Montague Station. This line will ultimately directly connect to the future Milpitas BART station. Service is provided daily with 15 minute headways during the day, and 20 to 30 minute headways during the early morning and late evening.

BAY AREA RAPID TRANSIT (BART) OPERATIONS

BART operates five heavy rail intercity transit lines in Contra Costa, Alameda, San Francisco, and San Mateo counties. These lines typically operate at high speeds and frequencies of 15 to 20 minutes per line. BART is currently undertaking a number of extension projects, one of which will bring direct service to the City of Milpitas.

The **Fremont to San Jose BART Extension** will bring high-frequency heavy rail service to Milpitas at the Milpitas Station, currently under construction on the south side of Montague Expressway across from the Great Mall Transit Station. This service will connect Milpitas to locations in Contra Costa, Alameda, San Francisco, San Mateo, and Santa Clara counties, including downtown San Francisco and Oakland, and San Francisco and Oakland international airports. Service will most likely operate on 15 to 20 minute headways from 4 a.m. to 12 a.m. weekdays, 6 a.m. to 12 a.m. Saturdays, and 8 a.m. to 12 a.m. Sundays.

PARK AND RIDE LOTS

Milpitas has two park and ride lots, both located at VTA light rail stations. One is located at the I-880/Milpitas Station on East Tasman Drive and the other is located at the Great Mall/Main Street Station on Great Mall Parkway. Both lots provide bus service in addition to light rail service.

ON-DEMAND TRANSPORTATION SERVICES

Taxi service in Milpitas is provided by private operators that serve the greater Santa Clara County area and beyond. Taxi service is available 24 hours a day, seven days a week by calling in a service request.

Other ride-hailing applications are also available in Milpitas and provide transportation throughout the Bay Area.

BICYCLE AND PEDESTRIAN SYSTEM

The following section describes the bicycle and pedestrian network and activities in Milpitas. Bicycle and pedestrian volumes were collected during typical weekday PM peak hour in September and October, 2016 at the study intersections. The bicycle and pedestrians volumes are shown in Table 2.0-3.

TABLE 2.0-3: MILPITAS BICYCLE AND PEDESTRIAN VOLUMES (PM PEAK HOUR VOLUMES)

INTERSECTION	TOTAL NUMBER OF BICYCLES	TOTAL NUMBER OF PEDESTRIANS
1. Dixon Landing Road/I-880 Southbound Ramp	2	0
2. Dixon Landing Road/I-880 Northbound Ramps	6	0
3. California Circle/I-880 Northbound Ramps	2	6
4. Dixon Landing Road and Milmont Drive	3	48
5. North Milpitas Boulevard/Dixon Landing Road	14	59
6. North Milpitas Boulevard/Jacklin Road-North Abel Street	9	21
7. Hillview Drive and Jacklin Road	2	20
8. I-680 Southbound Ramps/Jacklin Road	8	15
9. I-680 Northbound Ramps/Jacklin Road	5	21
10. North McCarthy Boulevard/Ranch Drive South	9	26
11. McCarthy Boulevard/SR 237 Westbound Ramp	14	2
12. McCarthy Boulevard/SR 237 Eastbound Ramp	14	10
13. McCarthy Boulevard/Technology Drive-Bellew Drive	6	11
14. SR 237 – West Calaveras Blvd/I-880 Southbound Ramps	4	8
15. I-880 Northbound Ramp/West Calaveras Boulevard	2	2
16. South Abbott Street/West Calaveras Boulevard	9	15
17. Serra Way/West Calaveras Boulevard	12	31
18. Abel Street/West Calaveras Boulevard	14	18
19. North Milpitas Boulevard/East Calaveras Boulevard	9	30
20. East Calaveras Blvd/Hillview Drive	18	54
21. East Calaveras Blvd/Park Victoria Drive	11	60
22. McCarthy Boulevard/Alder Drive	0	11
23. McCarthy Boulevard/East Tasman Drive	4	5
24. Alder Drive/East Tasman Drive	8	103
25. East Tasman Drive/I-880 Southbound Ramp	32	12
26. I-880 Northbound Ramp – Thompson Street/Great Mall Parkway	6	6
27. South Abel Street/Great Mall Parkway	10	12
28. South Main Street/Great Mall Parkway	11	126
29. South Main Street/South Abel Street	2	32
30. Great Mall Drive/Great Mall Parkway	7	37
31. Great Mall Parkway/Centrepointe Drive	1	19
32. Montague Expressway/Great Mall Parkway – East Capitol Avenue	6	16
33. South Milpitas Boulevard/Montague Expressway	1	4
34. I-680 Northbound Ramp/Dempsey Road – Landess Avenue	4	16
35. McCarthy Boulevard – O’Toole Avenue/Montague Expressway	6	4
36. South Main Street – Oakland Road/Montague Expressway	3	9
37. Montague Expressway/Trade Zone Boulevard – McCandless Drive	6	25

SOURCE: W-TRANS, 2016.

BICYCLE FACILITIES

Bicycle circulation in Milpitas is supported by an existing network of multi-use paths, on-street bike lanes, and bicycle routes. Notable facilities include the Coyote Creek Trail, which is part of the San Francisco Bay Trail and follows the western City Limits and extends from San Jose to Fremont, and the Berryessa Creek

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Trail, which provides north-south connectivity in Milpitas from North Abel Street to East Calaveras Boulevard. Other Class I trails include the Augustine Park Trail and the Oliver Jones Park Trail, both of which connect the City of Fremont to the Berryessa Creek Trail. An extensive network of Class II, on-street bike lanes, and Class III, bicycle routes, along major arterials connects many destinations in the City to Class I trails. The City's Bikeway Master Plan Update proposes extending the Berryessa Creek Trail south to the site of the future BART Station and upgrading some Class III bicycle routes to Class II facilities to improve connectivity. The existing and proposed bicycle network is shown in Figure 2.0-4.

Bicycle racks for short-term parking are provided at various locations in Milpitas including City Hall, the Great Mall of the Bay Area, and all schools in Milpitas. The Bikeway Master Plan Update lists the available short-term bicycle parking locations. Bicycle lockers are available at the I-880/Milpitas and Great Mall/Main VTA light rail stations.

PEDESTRIAN FACILITIES

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal infrastructure, curb ramps, and streetscape amenities. These facilities are provided at most every intersection, with only a few exceptions detailed by intersection in the Study Intersections section below. Milpitas has very thorough sidewalk coverage, despite several obstacles that present north-south barriers through the City, namely I-880, I-680, and the Union Pacific Railroad tracks.

While marked crosswalks and signal pedestrian crossing phasing is provided at most signalized intersections, in some situations, a pedestrian may need to cross six or more travel lanes. Some pedestrians may find this experience uncomfortable or perceive it to be unsafe, effectively resulting in a barrier to these users.

GOODS MOVEMENT SYSTEM

Section §100-12.05 of the Milpitas Municipal Code establishes the City's ability to designate truck routes within the City. The Municipal Code allows truck drivers to use other City streets as well, as long as those streets comprise the most direct route between the nearest truck route and the freight origin or destination, unless such movements are expressly prohibited by posted signs. The truck routes in Milpitas are shown in Figure 2.0-5.

LEVEL OF SERVICE

Level of Service (LOS) is used to rank traffic operations on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions.

STUDY INTERSECTIONS

The following 37 study intersections were identified as those most crucial to Milpitas' local circulation system and its connectivity to the regional transportation network. The locations of the study intersections are shown in Figure 2.0-6.

1. Dixon Landing Road/I-880 Southbound Ramp
2. Dixon Landing Road/I-880 Northbound Ramps
3. California Circle/I-880 Northbound Ramps
4. Dixon Landing Road and Milmont Drive
5. North Milpitas Boulevard/Dixon Landing Road

6. North Milpitas Boulevard/Jacklin Road-North Abel Street
7. Hillview Drive and Jacklin Road
8. I-680 Southbound Ramps/Jacklin Road
9. I-680 Northbound Ramps/Jacklin Road
10. North McCarthy Boulevard/Ranch Drive South
11. McCarthy Boulevard/SR 237 Westbound Ramp
12. McCarthy Boulevard/SR 237 Eastbound Ramp
13. McCarthy Boulevard/Technology Drive-Bellew Drive
14. SR 237 – West Calaveras Blvd/I-880 Southbound Ramps
15. I-880 Northbound Ramp/West Calaveras Boulevard
16. South Abbott Street/West Calaveras Boulevard
17. Serra Way/West Calaveras Boulevard
18. Abel Street/West Calaveras Boulevard
19. North Milpitas Boulevard/East Calaveras Boulevard
20. East Calaveras Blvd/Hillview Drive
21. East Calaveras Blvd/Park Victoria Drive
22. McCarthy Boulevard/Alder Drive
23. McCarthy Boulevard/East Tasman Drive
24. Alder Drive/East Tasman Drive
25. East Tasman Drive/I-880 Southbound Ramp
26. I-880 Northbound Ramp – Thompson Street/Great Mall Parkway
27. South Abel Street/Great Mall Parkway
28. South Main Street/Great Mall Parkway
29. South Main Street/South Abel Street
30. Great Mall Drive/Great Mall Parkway
31. Great Mall Parkway/Centrepointe Drive
32. Montague Expressway/Great Mall Parkway – East Capitol Avenue
33. South Milpitas Boulevard/Montague Expressway
34. I-680 Northbound Ramp/Dempsey Road – Landess Avenue
35. McCarthy Boulevard – O’Toole Avenue/Montague Expressway
36. South Main Street – Oakland Road/Montague Expressway
37. Montague Expressway/Trade Zone Boulevard – McCandless Drive

North Milpitas Boulevard/Dixon Landing Road is a four-legged signalized intersection with protected left-turn phasing on all approaches. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

North Milpitas Boulevard/Jacklin Road – North Abel Street is a four-legged intersection with split phasing on the Jacklin Road and North Abel Street approaches (in other words, the two approaches operate separately) and protected left-turn phasing on the North Milpitas Boulevard approaches. North Abel Street on the west leg turns into Jacklin Road on the east leg. The southbound North Milpitas approach has a channelized right turn onto westbound North Abel Street. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

North Milpitas Boulevard/East Calaveras Boulevard is a four-legged signalized intersection with protected left-turn phasing on all approaches. All approaches have channelized right turns, except for northbound Milpitas Boulevard onto eastbound East Calaveras Boulevard. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

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South Milpitas Boulevard/Montague Expressway is under construction, but will be a four-legged signalized intersection with right turn channelization on westbound Montague Expressway and southbound South Milpitas Boulevard. The right-most westbound Montague Expressway through lane will be designated as an HOV lane.

South Main Street/Great Mall Parkway is a four-legged signalized intersection with protected left-turn phasing on all approaches. South Main Street has channelized right turns onto Great Mall Parkway in both directions. Additionally, westbound Great Mall Parkway has a channelized left turn onto southbound South Main Street. Union Pacific Railroad tracks run parallel to and along the east side of South Main Street and pass through the eastern leg of the intersection. Railroad signal infrastructure and crossing arms are located across the intersection's eastern leg. The Santa Clara VTA's Alum Rock – Santa Teresa light rail line runs on elevated tracks above the median of Great Mall Parkway, including a grade-separated station above the intersection. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

South Main Street/South Abel Street is a tee signalized intersection with protected left-turn phasing on the westbound South Main Street and southbound South Abel Street approaches. South Main Street continues from the south leg to the east leg, as the north leg turns into South Abel Street. Northbound South Main Street has a channelized right turn onto eastbound South Main Street. Marked crosswalks and pedestrian signals are provided across all three legs, as well as pedestrian curb ramps.

I-880 Northbound Off-Ramp/West Calaveras Boulevard is a tee signalized intersection with protected left-turn phasing on the northbound I-880 off-ramp approach. Marked crosswalks and pedestrian signals are provided across the northbound I-880 off-ramp and east West Calaveras Boulevard legs, as well as pedestrian curb ramps.

South Abbott Avenue/West Calaveras Boulevard is a four-legged signalized intersection with protected left-turn phasing on the West Calaveras Boulevard approaches. Southbound South Abbot Avenue has a channelized right turn onto westbound West Calaveras Boulevard. Marked crosswalks and pedestrian signals are provided across both South Abbot Avenue legs, as well as pedestrian curb ramps.

Serra Way/West Calaveras Boulevard is a four-legged signalized intersection with protected left-turn phasing on both West Calaveras Boulevard approaches. Right turn channelization is provided from eastbound West Calaveras Boulevard onto eastbound Serra Way, and from westbound Serra Way onto eastbound Calaveras Boulevard. Marked crosswalks and pedestrian signals are provided across the east West Calaveras Boulevard leg and both Serra Way legs, as well as pedestrian curb ramps.

Abel Street/West Calaveras Boulevard is a four-legged signalized intersection with protected left-turn phasing on all approaches. Both West Calaveras Boulevard approaches have channelized right turns onto Abel Street. A right turn overlap is provided from northbound South Abel Street to eastbound West Calaveras Boulevard. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

South Abel Street/Great Mall Parkway is a four-legged signalized intersection with protected left-turn phasing on all approaches. Right turn channelization is provided from northbound South Abel Street to eastbound Great Mall Parkway. VTA's Alum Rock – Santa Teresa light rail line runs along the median of Great Mall Parkway and is grade separated above the intersection. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

South Main Street-Oakland Road/Montague Expressway is a four-legged signalized intersection with protected left-turn phasing and right turn channelization on all approaches. South Main Street on the north leg turns into Oakland Road on the south leg. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

North McCarthy Boulevard/Ranch Drive South is a four-legged signalized intersection with protected left-turn phasing on all approaches. Northbound North McCarthy Boulevard has a right turn overlap onto eastbound Ranch Drive. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

McCarthy Boulevard/SR-237 Westbound Ramps is a four-legged signalized intersection with protected left-turn phasing on northbound McCarthy Boulevard onto the westbound SR-237 onramp. Marked crosswalks and pedestrian signals are provided across the North McCarthy Boulevard leg and both SR-237 legs, as well as pedestrian curb ramps.

McCarthy Boulevard/SR-237 Eastbound Ramps is a four-legged signalized intersection with protected left-turn phasing on southbound McCarthy Boulevard onto the eastbound SR-237 onramp. A bike path joins the intersection on the southwest corner. Marked crosswalks and pedestrian signals are provided across the south North McCarthy Boulevard leg and both SR-237 legs, as well as pedestrian curb ramps.

McCarthy Boulevard/Technology Drive-Bellew Drive is a four-legged signalized intersection with protected left-turn phasing on all approaches and a right turn overlay on the westbound Bellew Drive approach. Bellew Drive on the east leg turns into Technology Drive on the west leg. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

McCarthy Boulevard/Alder Drive is a tee signalized intersection with protected left-turn phasing on the southbound McCarthy Boulevard approach. A marked crosswalk and pedestrian signals are provided across the Alder leg, as well as pedestrian curb ramps.

McCarthy Boulevard/East Tasman Drive is a four-legged signalized intersection with protected left-turn phasing on all approaches. The southbound McCarthy Boulevard approach has a right turn overlap. VTA's Alum Rock – Santa Teresa light rail line runs along the median of East Tasman Drive and crosses McCarthy Boulevard in the intersection. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

Alder Drive/East Tasman Drive is a four-legged signalized intersection with protected left-turn phasing on all approaches. VTA's Alum Rock – Santa Teresa light rail line runs along the median of East Tasman Drive and crosses McCarthy Boulevard in the intersection. The I-880/Milpitas VTA station is located in the median of the west leg of East Tasman Drive. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

McCarthy Boulevard – O'Toole Avenue/Montague Expressway is a four-legged signalized intersection with protected left-turn phasing on all approaches, and right turn channelization on all approaches except for eastbound Montague Expressway. McCarthy Boulevard on the north leg turns into O'Toole Avenue on the south leg. Marked crosswalks and pedestrian signals are provided across all legs except the east Montague Expressway leg, as well as pedestrian curb ramps on all corners except for on the northeast side of the intersection where there is no sidewalk.

I-880 Northbound Ramps – Thompson Street/Great Mall Parkway is a four-legged signalized intersection with protected left-turn phasing on both Great Mall Parkway approaches, and left turn splits on the

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Thompson Street and I-880 northbound off-ramp approaches. Right turn channelization is provided on eastbound Great Mall Parkway onto the I-880 northbound onramp. VTA's Alum Rock – Santa Teresa light rail line runs along the median of the Great Mall Parkway and crosses Thompson Street and the I-880 northbound ramps in the intersection. Thompson Street on the north leg turns into the I-880 northbound ramps on the south leg. Marked crosswalks and pedestrian signals are provided across all legs except the east Great Mall Parkway leg, as well as pedestrian curb ramps.

Great Mall Drive – McCandless Drive/Great Mall Parkway is a four-legged signalized intersection with protected left-turn phasing on all approaches. VTA's Alum Rock – Santa Teresa light rail line runs along the median of Great Mall Parkway and is grade separated above the intersection. Great Mall Drive on the north leg turns into McCandless Drive on the south leg. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

Montague Expressway/Great Mall Parkway – East Capitol Avenue is a four-legged signalized intersection with protected left-turn phasing on all approaches, and right turn channelization on all approaches except for southbound Montague Expressway. Southbound Montague Expressway has a channelized left turn, as well as a future HOV designation on the outermost through lane. Great Mall Parkway on the west leg turns into East Capitol Avenue on the east leg. Marked crosswalks and pedestrian signals are provided across all legs, as well as pedestrian curb ramps on all corners except for on the southwest side of the intersection where there is no sidewalk.

I-680 Southbound Ramps/Jacklin Road is a four-legged signalized intersection, with protected left-turn phasing on the westbound Jacklin Road approach and right turn channelization on the eastbound Jacklin Road approach. Marked crosswalks and pedestrian signals are provided across all legs except the west Jacklin Road leg, as well as pedestrian curb ramps.

I-680 Northbound Ramps/Jacklin Road is a four-legged signalized intersection with protected left-turn phasing on the eastbound Jacklin Road approach. Marked crosswalks and pedestrian signals are provided across all legs except the west Jacklin Road leg, as well as pedestrian curb ramps.

I-680 Northbound Off-Ramp/Dempsey Road – Landess Avenue is a four-legged signalized intersection, with protected left-turn phasing on the eastbound Landess Road approach and a right turn overlap on the I-680 northbound off-ramp approach. The I-680 northbound off-ramp on the south leg turns into Dempsey Road on the north leg. Marked crosswalks and pedestrian signals are provided across all legs except the east Landess Road leg, as well as pedestrian curb ramps.

Montague Expressway/Trade Zone Boulevard – McCandless Drive is a four-legged signalized intersection, with protected left-turn phasing on both Montague Expressway approaches, split phasing on the McCandless Drive and Trade Zone Boulevard approaches, and a right turn overlay on the eastbound Montague Expressway approach. Right turn channelization is provided on all approaches. McCandless Drive on the north leg turns into Trade Zone Boulevard on the south leg. Marked crosswalks and pedestrian signals are provided on the east Montague Expressway and McCandless Drive legs, as well as pedestrian curb ramps.

Dixon Landing Road/Southbound I-880 Off-Ramp is a tee signalized intersection. Free-flowing right turns are provided from both directions of Dixon Landing Road onto I-880 south. A marked crosswalk is provided across the free-flowing eastbound Dixon Landing Road onramp onto I-880 south, as well as pedestrian curb ramps, but no pedestrian signal is provided.

Dixon Landing Road/Northbound I-880 Ramps – California Circle is a four-legged signalized intersection with protected left-turn phasing on all approaches except eastbound Dixon Landing Road, where left turns are prohibited. A right turn overlay is provided on the northbound California Circle approach. The Northbound I-880 ramps on the north leg turn into California Circle on the south leg. A marked crosswalk and pedestrian signals are provided across the south California Circle leg, as well as pedestrian curb ramps.

California Circle/Northbound I-880 Ramps is a tee signalized intersection, with protected left-turn phasing on the northbound California Circle approach and a right turn overlay on the I-880 off-ramp approach. A marked crosswalk and pedestrian signals are provided across the south California Circle leg, as well as pedestrian curb ramps.

Dixon Landing Road/Milmont Drive is a four-legged signalized intersection, with protected left-turn phasing on both Dixon Landing Road approaches, and split phasing on the Milmont Drive approaches. A right turn overlay is provided on the southbound Milmont Drive approach. Marked crosswalks and pedestrian signals are provided across all legs except the west Dixon Landing Road leg, as well as pedestrian curb ramps.

Hillview Drive/Jacklin Road is a four-legged signalized intersection with protected left-turn phasing on both Jacklin Road approaches, and split phasing on the Hillview Drive approaches. Marked crosswalks and pedestrian signals are provided across all four legs, as well as pedestrian curb ramps.

SR-237 – Calaveras Blvd/Southbound I-880 Off-Ramp is a tee signalized intersection with a free-flowing right turn from westbound Calaveras Boulevard onto the I-880 southbound onramp. Marked crosswalks and pedestrian curb ramps are provided across the I-880 leg, as well as pedestrian signals across the southbound I-880 off-ramp approach.

Calaveras Boulevard/Hillview Drive is a four-legged signalized intersection, with protected left-turn phasing on both Calaveras Boulevard approaches, and split phasing on the Hillview Drive approaches. Marked crosswalks and pedestrian signals are provided across all legs except the east Calaveras Boulevard leg, as well as pedestrian curb ramps.

Calaveras Boulevard/Park Victoria Drive is a four-legged signalized intersection. This intersection has protected left-turn phasing on both Calaveras Boulevard approaches, and split phasing on the Park Victoria Drive approaches. Marked crosswalks and pedestrian signals are provided across all legs, as well as pedestrian curb ramps.

Tasman Drive/I-880 Southbound Ramps is a four-legged signalized intersection with protected left-turn phasing on the westbound Tasman Drive approach. VTA's Alum Rock – Santa Teresa light rail line runs along the median of Tasman Drive and crosses the I-880 southbound ramps in the intersection. Marked crosswalks and pedestrian signals are provided across both I-880 ramp legs, as well as pedestrian curb ramps.

Great Mall Parkway/Centre Pointe Drive – Mustang Drive is a four-legged signalized intersection with protected left-turn phasing on all approaches. VTA's Alum Rock – Santa Teresa light rail line runs along the median of the Great Mall Parkway and is grade-separated above the intersection. Mustang Drive on the north leg turns into Centre Pointe Drive on the south leg. Marked crosswalks and pedestrian signals are provided across all legs, as well as pedestrian curb ramps.

Traffic volumes were obtained in September and October 2016, while schools were in session. Operating conditions during the a.m. and p.m. peak periods were evaluated to capture the highest volumes on the

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local and regional transportation network. The morning peak hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

The existing lane configurations for the study intersections are shown in Figure 2.0-7 and the existing peak hour traffic volumes are shown in Figure 2.0-8.

STUDY ROADWAY SEGMENTS

The following 32 study roadway segments were identified as those most crucial to Milpitas' local circulation system and its connectivity to the regional transportation network. The locations of the study segments were shown in Figure 2.0-1.

1. N. Milpitas Boulevard southbound south of Dixon Landing Road
2. N. Milpitas Boulevard northbound south of Dixon Landing Road
3. N. Abel Street southbound west of N. Milpitas Boulevard
4. N. Abel Street northbound west of N. Milpitas Boulevard
5. McCarthy Boulevard northbound south of SR 237
6. McCarthy Boulevard southbound south of SR 237
7. Great Mall Parkway westbound west of Montague Expressway
8. Great Mall Parkway eastbound west of Montague Expressway
9. Montague Expressway westbound west of Great Mall Parkway
10. Montague Expressway eastbound west of Great Mall Parkway
11. SR 237/East Calaveras Boulevard westbound east of North Main Street
12. SR 237/East Calaveras Boulevard eastbound east of North Main Street
13. I-880 northbound between SR 237 and Dixon Landing Road
14. I-880 southbound between Dixon Landing Road and SR 237
15. I-880 northbound between Tasman Drive-Great Mall Parkway and SR 237
16. I-880 southbound between SR 237 and Tasman Drive-Great Mall Parkway
17. I-880 northbound between Montague Expressway and Tasman Drive-Great Mall Parkway
18. I-880 southbound between Tasman Drive-Great Mall Parkway and Montague Expressway
19. I-680 northbound between SR 237 and Jacklin Road
20. I-680 southbound between Jacklin Road and SR 237
21. I-680 northbound between Montague Expressway and SR 237
22. I-680 southbound between SR 237 and Montague Expressway
23. S. Milpitas Blvd northbound north of Montague Expressway
24. S. Milpitas Blvd southbound north of Montague Expressway
25. Dixon Landing Road eastbound between I-880 and Milmont Drive
26. Dixon Landing Road westbound between I-880 and Milmont Drive
27. Tasman Drive eastbound between Alder Drive and I-880 SB ramps
28. Tasman Drive westbound between Alder Drive and I-880 SB ramps
29. S. Main Street northbound north of Montague Expressway
30. S. Main Street southbound north of Montague Expressway
31. S. Park Victoria Drive southbound south of Calaveras Blvd
32. S. Park Victoria Drive northbound south of Calaveras Blvd

Caltrans traffic volumes were obtained for 2014 from the Caltrans Traffic Census Program. Operating conditions were evaluated over a 24-hour period to capture the total number of daily trips along these segments in the local and regional transportation network.

LEVEL OF SERVICE METHODOLOGY

Intersection Level of Service

The study intersections were analyzed using the methodology published in the *Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority, Congestion Management Program, 2003 which has been modified from the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000. These sources contain methodologies for various types of intersection controls, all of which are related to a measurement of delay in average number of seconds per vehicle. The signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. The City of Milpitas utilizes the CMP Traffix default values for analysis parameters.

VTA has adopted modified default values for HCM analysis as well as modified LOS thresholds. These modified default values were applied for intersections located within the City of Milpitas, which uses the VTA analysis methodologies and standards. The VTA approved LOS thresholds are shown in Table 2.0-4.

TABLE 2.0-4: SANTA CLARA VTA LEVEL OF SERVICE CRITERIA

LOS	CONTROL DELAY (SEC PER VEH)	DESCRIPTION
A	delay ≤ 10.0	Free Flow; minimal to no delay.
B+	10.0 < delay ≤ 12.0	Stable flow, but speeds are beginning to be restricted by traffic conditions; slight delays
B	12.0 < delay ≤ 18.0	
B-	18.0 < delay ≤ 20.0	
C+	20.0 < delay ≤ 23.0	Stable flow, but most drivers cannot select their own speeds and feel somewhat restricted; acceptable delays.
C	23.0 < delay ≤ 32.0	
C-	32.0 < delay ≤ 35.0	
D+	35.0 < delay ≤ 39.0	Approaching unstable flow, and drivers have difficulty maneuvering; tolerable delays.
D	39.0 < delay ≤ 51.0	
D-	51.0 < delay ≤ 55.0	
E+	55.0 < delay ≤ 60.0	Unstable flow with stop and go; delays.
E	60.0 < delay ≤ 75.0	
E-	75.0 < delay ≤ 80.0	
F	delay > 80.0	Total breakdown; congested conditions with excessive delays.

SOURCE: *TRAFFIC LEVEL OF SERVICE ANALYSIS GUIDELINES*, SANTA CLARA VALLEY TRANSPORTATION AUTHORITY.

Freeway Level of Service

Freeways in the Planning Area identified as being in the CMP in Santa Clara County were analyzed using the data published in VTA's *2014 Annual Monitoring and Conformance Report*, which is based on the density of traffic flow using methods described in the 2000 HCM. Density is expressed in passenger's cars per mile per lane. Vehicle density is calculated using the following formula:

$D = V/(N \cdot S)$, where:

D = density in vehicles per mile per lane (vpmpl)

V = peak hour volume, in vehicles per hour (vph)

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N = number of travel lanes

S = average travel speed, in miles per hour (mph)

The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV carpool lanes. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments three lanes or wider in one direction, a capacity of 2,200 vphpl be used for segments two lanes wide in one direction, and a capacity of 1800 vphpl be used on HOV lanes. VTA CMP definitions for freeway segment levels of service are summarized in Table 2.0-5.

TABLE 2.0-5: FREEWAY SEGMENT LEVEL OF SERVICE

LOS	DENSITY	DESCRIPTION
A	Density<11.0	Free flow operations
B	11.0<density<18.0	Reasonably free flow, and free flow speeds are maintained
C	18.0<density<26.0	Flow with speeds and or near the free-flow speed
D	26.0<density<46.0	Level at which speed begins to decline with increasing flow
E	46.0<density<58.0	Operation at capacity
F	58.0<density	Breakdown in vehicular flow

SOURCE: SANTA CLARA VALLEY TRANSPORTATION AUTHORITY, 2014 MONITORING AND CONFORMANCE REPORT.

Roadway Level of Service

The study roadway segments represent a combination of arterial, collector, and local streets. Because of this, not all streets fit the HCM's standard definition of an arterial roadway. Therefore, study roadway segments were analyzed using their volume-to-capacity ratio (V/C) methodology, which is based on a comparison of directional p.m. peak hour traffic volumes to that particular roadway's theoretical capacity in that direction when it is operating at LOS D.

LEVEL OF SERVICE STANDARDS

The City of Milpitas has adopted the VTA Congestion Management Authority's standards for acceptable operations. While the Congestion Management Authority strives to maintain LOS D or better operations, LOS E is considered to be acceptable. Intersections that have a baseline (1991) LOS F are grandfathered in as LOS F.

LEVEL OF SERVICE ANALYSIS

INTERSECTIONS

Currently, 34 of the 37 study intersections are operating acceptably according the City of Milpitas Level of Service Standards. The intersections of Montague Expressway at Trade Zone Boulevard – McCandless Drive and at South Main Street – Oakland Road are grandfathered in at LOS F. The intersection of Dixon Landing Road and Milmont Drive is operating unacceptably at LOS F during the p.m. peak hour. A summary of the intersection LOS calculations is contained in Table 2.0-6. LOS calculations are included in Appendix A.

TABLE 2.0-6: SUMMARY OF EXISTING PEAK HOUR INTERSECTION LEVELS OF SERVICE

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
	DELAY	LOS	DELAY	LOS
1. Dixon Landing Road/I-880 Southbound Ramp	11.3	B+	10.5	B+
2. Dixon Landing Road/I-880 Northbound Ramps	19.5	B-	28.1	C
3. California Circle/I-880 Northbound Ramps	10.2	B+	11.2	B+
4. Dixon Landing Road/Milpitas Drive	71.2	E	86.4	F
5. North Milpitas Boulevard/Dixon Landing Road	67.7	E	56.6	E+
6. North Milpitas Boulevard/Jacklin Road-North Abel Street	55.7	E+	54.9	D-
7. Hillview Drive/ Jacklin Road	43.4	D	34.7	C-
8. I-680 Southbound Ramps/Jacklin Road	12.4	B	15.9	B
9. I-680 Northbound Ramps/Jacklin Road	18.9	B-	15.4	B
10. North McCarthy Boulevard/Ranch Drive South	30.3	C	32.7	C-
11. McCarthy Boulevard/SR 237 Westbound Ramp	22.1	C+	23.5	C
12. McCarthy Boulevard/SR 237 Eastbound Ramp	24.5	C	27.0	C
13. McCarthy Boulevard/Technology Drive-Bellew Drive	31.4	C	66.2	E
14. SR 237 – West Calaveras Blvd/I-880 Southbound Ramps	13.4	B	12.2	B
15. I-880 Northbound Ramp/West Calaveras Boulevard	15.4	B	22.2	C+
16. South Abbott Street/West Calaveras Boulevard	26.7	C	28.2	C
17. Serra Way/West Calaveras Boulevard	11.0	B+	17.6	B
18. Abel Street/West Calaveras Boulevard	41.9	D	77.8	E-
19. North Milpitas Boulevard/East Calaveras Boulevard	42.8	D	32.5	C-
20. East Calaveras Blvd/Hillview Drive	21.6	C+	31.3	C-
21. East Calaveras Blvd/Park Victoria Drive	42.2	D	37.8	D+
22. McCarthy Boulevard/Alder Drive	16.9	B	19.4	B-
23. McCarthy Boulevard/East Tasman Drive	51.8	D-	43.7	D
24. Alder Drive/East Tasman Drive	14.8	B	58.7	E+
25. East Tasman Drive/I-880 Southbound Ramp	22.5	C+	23.2	C
26. I-880 Northbound Ramp – Thompson Street/Great Mall Parkway	37.2	D+	39.9	D
27. South Abel Street/Great Mall Parkway	44.7	D	36.7	D+
28. South Main Street/Great Mall Parkway	31.3	D	42.2	D
29. South Main Street/South Abel Street	15.3	B	12.0	B
30. Great Mall Drive/Great Mall Parkway	22.1	C+	25.6	C
31. Great Mall Parkway/Centrepointe Drive	15.4	B	14.2	B
32. Montague Expressway/Great Mall Parkway – East Capitol Avenue	57.6	E+	64.7	E
33. South Milpitas Boulevard/Montague Expressway	35.6	D+	28.5	C
34. I-680 Northbound Ramp/Dempsey Road – Landess Avenue	49.0	D	42.5	D
35. McCarthy Boulevard – O'Toole Avenue/Montague Expressway	46.5	D	54.9	D-
36. South Main Street – Oakland Road/Montague Expressway	65.2	E	***	F
37. Montague Expressway/Trade Zone Boulevard – McCandless Drive	***	F	72.4	E

NOTE: DELAY IS MEASURED IN AVERAGE SECONDS PER VEHICLE; LOS = LEVEL OF SERVICE; **BOLD** = DEFICIENT OPERATION; *** = DELAY EXCEEDS 120 SECONDS.

SOURCE: W-TRANS, 2016.

FREEWAY SEGMENTS

In Milpitas, mixed-flow lanes on two of the directional freeway segments analyzed operate at an unacceptable LOS F during at least one of the peak hours. Northbound I-880 between SR 237 and Dixon Landing Road and southbound I-680 between SR 237 and Montague Expressway operate at LOS F during the evening peak hour. For HOV lanes, one of the segments analyzed operate at an unacceptable LOS F. The HOV lane of southbound I-880 between Dixon Landing Road and SR 237 operates at LOS F during the morning peak hour. The freeway level of service results are summarized in Table 2.0-7.

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TABLE 2.0-7: EXISTING FREEWAY LEVEL OF SERVICE

SEGMENT #	FREEWAY	SEGMENT	DIRECTION	PEAK HOUR	MIXED-FLOW LANE					HOV LANE				
					AVG. SPEED ^A	# OF LANES	VOLUME ^A	DENSITY	LOS	AVG. SPEED ^A	# OF LANES	VOLUME ^A	DENSITY	LOS
13	I-880	SR 237 to Dixon Landing Road	NB	AM	66	3.0	4,490	22	C	67	1.0	610	9	A
				PM	20	3.0	5,580	93	F	40	1.0	2,320	58	E
14	I-880	Tasman Drive-Great Mall Parkway to SR 237	NB	AM	66	3.0	4,360	22	C	66	1.0	1,320	20	C
				PM	64	3.0	5,540	28	D	70	1.0	910	13	B
15	I-880	Montague Expressway to Tasman Drive-Great Mall Parkway	NB	AM	66	3.0	4,560	23	C	67	1.0	1,140	17	B
				PM	63	3.0	6,300	33	D	70	1.0	1,610	23	C
16	I-680	SR 237 to Jacklin Road	NB	AM	66	3.0	4,760	24	C	--	--	--	--	--
				PM	66	3.0	4,950	25	C	--	--	--	--	--
17	I-680	Montague Expressway to SR 237	NB	AM	65	4.0	7,540	29	D	--	--	--	--	--
				PM	66	4.0	6,660	25	C	--	--	--	--	--
18	I-880	Dixon Landing Road to SR 237	SB	AM	46	3.0	7,360	53	E	33	1.0	1,980	60	F
				PM	66	3.0	5,840	29	C	70	1.0	1,260	18	B
19	I-880	SR 237 to Tasman Drive-Great Mall Parkway	SB	AM	41	3.0	6,280	51	E	66	1.0	1,260	19	C
				PM	66	3.0	4,360	22	C	70	1.0	910	13	B
20	I-880	Tasman Drive-Great Mall Parkway to Montague Expressway	SB	AM	51	3.0	6,580	43	D	67	1.0	1,140	17	B
				PM	65	3.0	5,660	29	D	70	1.0	1,470	21	C
21	I-680	Jacklin Road to SR 237	SB	AM	66	3.0	5,150	26	C	67	1.0	810	12	C
				PM	66	3.0	5,310	27	D	70	1.0	560	8	A
23	I-680	SR 237 to Montague Expressway	SB	AM	65	4.0	7,800	30	D	--	--	--	--	--
				PM	21	4.0	6,720	80	F	--	--	--	--	--

NOTES: **BOLD** INDICATES SEGMENT OPERATING AT LOS F CONDITIONS; (--) = NO HOV LANE PROVIDED ON SEGMENT; ^(a) REFERENCE: SANTA CLARA VALLEY TRANSPORTATION AUTHORITY CONGESTION MANAGEMENT PROGRAM MONITORING STUDY, 2014

SOURCE: W-TRANS, 2016.

ROADWAY SEGMENTS

Of the 22 roadway segments evaluated within the City, the majority of streets are carrying traffic volumes that are within a range of operation that is indicative of LOS D or better. East Calaveras Boulevard operates below LOS D westbound during the morning peak hour and eastbound during the evening peak hour. Tasman Drive operates below LOS D westbound during the morning peak hour. A summary of existing roadway segment operation during both the a.m. and p.m. peak hours is shown in Table 2.0-8.

TRAFFIC SAFETY

The collision histories for the study intersections were reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is July 1, 2011 through June 30, 2016.

The collisions were analyzed using the Transportation Injury Mapping System (TIMS) developed by UC Berkeley. TIMS does not report “property damage only” vehicle collisions, however the more severe collisions are reported and these are the ones that would be more likely to indicate the geometric/driver behavior issues at certain intersections.

INTERSECTION COLLISION RATES

As presented in Table 2.0-9, the calculated collision rates for the study intersections, measured in collisions per million vehicles entering the intersection (c/mve), were compared to average collision rates for similar intersection types statewide, as indicated in 2009 Accident Data on California State Highways, California Department of Transportation. Intersection types are defined by the type of traffic control, location (urban, suburban, or rural), and number of legs. The collision rate calculation sheets are provided in Appendix B.

Of the 37 existing study intersections, 19 were found to have experienced a collision rate that is higher than the statewide average for similar facilities. The collision records for these intersections were reviewed to determine if any trends exist that could indicate a potential safety issue. Following is a discussion of these intersections.

I-880 Northbound Ramps/Dixon Landing Road

There were 40 collisions reported at the I-880 northbound ramp at Dixon Landing Road during the review period. The injury rate at this study intersection was above the state average for similar facilities. Broadside collisions accounted for 14 of the reported collisions.

North Milpitas Boulevard/Dixon Landing Road

During the five-year period, there were 40 reported collisions at the intersection of North Milpitas Boulevard and Dixon Landing Road. The predominate collision types were sideswipe (13), rear-end (12), and broadside (8) collisions. Of the 40 collisions, four were vehicle-pedestrian collisions, resulting in one fatality, and three were vehicle-bicycle collisions.

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TABLE 2.0-8: SUMMARY OF EXISTING PEAK HOUR ROADWAY SEGMENT OPERATIONS

ROADWAY SEGMENT	DIRECTION	CLASS	CAPACITY (VEH/HR)	AM PEAK HOUR		PM PEAK HOUR	
				VOLUME	V/C	VOLUME	V/C
1. N. Milpitas Boulevard south of Dixon Landing Road	NB	Arterial	2030	661	0.33	931	0.46
2. N. Milpitas Boulevard south of Dixon Landing Road	SB	Arterial	2030	809	0.40	889	0.44
3. N. Abel Street west of N. Milpitas Boulevard	NB	Arterial	1750	1725	0.99	914	0.52
4. N. Abel Street west of N. Milpitas Boulevard	SB	Arterial	1750	898	0.51	1124	0.64
5. McCarthy Boulevard south of SR 237	NB	Arterial	2625	1193	0.45	1790	0.68
6. McCarthy Boulevard south of SR 237	SB	Arterial	2625	2310	0.88	1566	0.60
7. Great Mall Parkway west of Montague Expressway	WB	Arterial	2805	1839	0.66	828	0.30
8. Great Mall Parkway west of Montague Expressway	EB	Arterial	2805	792	0.28	1955	0.70
9. Montague Expressway west of Great Mall Parkway	WB	Expressway	3045	2212	0.73	1133	0.37
10. Montague Expressway west of Great Mall Parkway	EB	Expressway	3045	1149	0.38	2096	0.69
11. SR 237/East Calaveras Boulevard east of North Main Street	WB	Arterial	1870	2526	1.35	1401	0.75
12. SR 237/East Calaveras Boulevard east of North Main Street	EB	Arterial	1870	1023	0.55	1906	1.02
13. S. Milpitas Blvd north of Montague Expressway	NB	Collector	1660	N/A - Under Construction		N/A - Under Construction	
14. S. Milpitas Blvd north of Montague Expressway	SB	Collector	1660	N/A - Under Construction		N/A - Under Construction	
15. Dixon Landing Road between I880 and Milmont Drive	WB	Arterial	2805	2098	0.75	1037	0.37
16. Dixon Landing Road between I880 and Milmont Drive	EB	Arterial	2805	939	0.33	1823	0.65
17. Tasman Drive between Alder Drive and I880 SB ramps	WB	Arterial	2805	3347	1.19	1043	0.37
18. Tasman Drive between Alder Drive and I880 SB ramps	EB	Arterial	2805	1077	0.38	2395	0.85
19. S. Main Street north of Montague Expressway	NB	Arterial	1870	660	0.35	766	0.41
20. S. Main Street north of Montague Expressway	SB	Arterial	1870	861	0.46	922	0.49
21. S. Park Victoria Drive south of Calaveras Blvd	NB	Collector	1660	682	0.41	526	0.32
22. S. Park Victoria Drive south of Calaveras Blvd	SB	Collector	1660	593	0.36	633	0.38

NOTES: **BOLD** INDICATES VOLUMES GREATER THAN EXISTING CAPACITIES. CAPACITY REPRESENTS LOW END OF LEVEL OF SERVICE D (CRANE TRANSPORTATION GROUP, HCM 2000).

SOURCE; W-TRANS, 2016.

TABLE 2.0-9: INTERSECTION COLLISION RATES AND STATEWIDE COMPARISON

INTERSECTION	NUMBER OF COLLISIONS JULY 1, 2011- JUNE 30, 2016	CALCULATED COLLISION RATE (C/MVE)	STATEWIDE COLLISION RATE (C/MVE) ¹
1. Dixon Landing Road/I-880 Southbound Ramp	4	0.10	0.27
2. Dixon Landing Road/I-880 Northbound Ramps	40	0.66	0.43
3. California Circle/I-880 Northbound Ramps	4	0.13	0.27
4. Dixon Landing Road/Milmont Drive	21	0.38	0.43
5. North Milpitas Boulevard/Dixon Landing Road	40	0.82	0.43
6. North Milpitas Boulevard/Jacklin Road-North Abel Street	23	0.42	0.43
7. Hillview Drive/Jacklin Road	17	0.43	0.43
8. I-680 Southbound Ramps/Jacklin Road	31	0.73	0.43
9. I-680 Northbound Ramps/Jacklin Road	15	0.37	0.43
10. North McCarthy Boulevard/Ranch Drive South	22	0.33	0.43
11. McCarthy Boulevard/SR 237 Westbound Ramp	56	0.73	0.43
12. McCarthy Boulevard/SR 237 Eastbound Ramp	42	0.55	0.43
13. McCarthy Boulevard/Technology Drive-Bellew Drive	18	0.30	0.43
14. SR 237 – West Calaveras Blvd/I-880 Southbound Ramps	56	0.69	0.27
15. I-880 Northbound Ramp/West Calaveras Boulevard	62	0.70	0.27
16. South Abbott Street/West Calaveras Boulevard	54	0.57	0.43
17. Serra Way/West Calaveras Boulevard	30	0.36	0.43
18. Abel Street/West Calaveras Boulevard	50	0.51	0.43
19. North Milpitas Boulevard/East Calaveras Boulevard	67	0.83	0.43
20. East Calaveras Blvd/Hillview Drive	38	0.49	0.43
21. East Calaveras Blvd/Park Victoria Drive	22	0.33	0.43
22. McCarthy Boulevard/Alder Drive	4	0.11	0.27
23. McCarthy Boulevard/East Tasman Drive	18	0.28	0.43
24. Alder Drive/East Tasman Drive	20	0.34	0.43
25. East Tasman Drive/I-880 Southbound Ramp	33	0.46	0.43
26. I-880 Northbound Ramp – Thompson Street/Great Mall Parkway	35	0.56	0.43
27. South Abel Street/Great Mall Parkway	31	0.40	0.43
28. South Main Street/Great Mall Parkway	25	0.42	0.43
29. South Main Street/South Abel Street	15	0.54	0.27
30. Great Mall Drive/Great Mall Parkway	32	0.56	0.43
31. Great Mall Parkway/Centrepointe Drive	34	0.65	0.43
32. Montague Expressway/Great Mall Parkway – East Capitol Avenue	75	0.73	0.43
33. South Milpitas Boulevard/Montague Expressway	21	0.37	0.27
34. I-680 Northbound Ramp/Dempsey Road – Landess Avenue	35	0.58	0.43
35. McCarthy Boulevard – O’Toole Avenue/Montague Expressway	13	0.10	0.43
36. South Main Street – Oakland Road/Montague Expressway	36	0.28	0.43
37. Montague Expressway/Trade Zone Boulevard – McCandless Drive	22	0.23	0.43

C/MVE = COLLISIONS PER MILLION VEHICLES ENTERING; BOLD INDICATES A CALCULATED COLLISION RATE HIGHER THAN THE STATEWIDE AVERAGE: 12012 COLLISION DATA ON CALIFORNIA STATE HIGHWAYS, CALTRANS.

SOURCE: W-TRANS, 2016.

North Milpitas Boulevard/Jacklin Road-North Abel Street

While the collision rate at the intersection of North Milpitas Boulevard and Jacklin Road – North Abel Street is below the statewide average for similar facilities, the fatality and injury rates are well above the statewide average. Over half of all collisions involved injuries and one collision resulted in a fatality.

Hillview Drive/Jacklin Road

Jacklin Road at Hillview Drive had 17 reported collisions during a five year period that resulted in 20 injuries. The collision rate at this intersection is the same as the statewide average. The predominate collision type is broadside collisions, which accounted for 11 out of 17 collisions.

I-680 Southbound Ramps/Jacklin Road

There were 31 collisions reported at the I-680 southbound ramp at Jacklin Road during the five-year review period. A majority of these collisions occurred on the off-ramp from I-680 including 13 where the primary collision factor was determined to be unsafe speeds.

McCarthy Boulevard/SR 237 Eastbound Ramps & McCarthy Boulevard/SR 237 Westbound Ramps

During the five-year review period, there were 56 reported collisions at the SR 237 westbound ramp at McCarthy Boulevard and 42 reported collisions at the SR 237 eastbound ramp at McCarthy Boulevard. A majority of the collisions at these intersections were rear-end collisions with unsafe speed attributed as the primary collisions factor. Improper turning movements also were determined to cause hit object and broadside collisions.

West Calaveras Boulevard/I-880 Southbound Ramps & West Calaveras Boulevard/I-880 Northbound Ramps

There were 56 collisions reported at the I-880 southbound ramp at West Calaveras Boulevard and 62 collisions reported at the I-880 northbound ramp at West Calaveras Boulevard during the five-year review period. Approximately a quarter of the reported collisions at this study intersection were broadside collisions involving vehicles making conflicting turning movements.

South Abbott Street/West Calaveras Boulevard

South Abbott Street at West Calaveras Boulevard had 55 reported collisions during the study period. Twenty-five were rear-end collisions and three collisions involved cyclists traveling against traffic. Over half of all collisions resulted in an injury to one or more parties involved, which is well above the state average for similar facilities.

Abel Street/West Calaveras Boulevard

Abel Street at West Calaveras Boulevard had 52 reported collisions during the study period. Approximately two-thirds of the 52 reported collisions were rear-end collisions. Improper turning movements were attributed as a frequent primary collision factor at this study intersection.

North Milpitas Boulevard/East Calaveras Boulevard

During the five-year review period, there were 67 reported collisions at the intersection of North Milpitas Boulevard and East Calaveras Boulevard. The predominate primary collision factor was unsafe speeds. Over half of reported collisions at this study intersection were rear-end collisions. The collision rate at this intersection is nearly double the statewide average for similar facilities.

East Calaveras Boulevard/Hillview Drive

East Calaveras Boulevard at Hillview Drive had 38 reported collisions during the five-year review period. Unsafe speed was determined as the primary collisions factor for 13 collisions. A majority of collisions occurred in the westbound direction.

East Tasman Drive/I-880 Southbound Ramps & Great Mall Parkway/I-880 Northbound Ramps

At the I-880 southbound ramp at East Tasman Drive, there were 33 reported collisions during the five-year study period. There were 35 collisions reported at the I-880 northbound ramp at Great Mall Parkway. The injury rate at both intersections exceeded the statewide average for similar facilities.

South Main Street/South Abel Street

South Main Street at South Abel Street had 15 reported collisions during the five-year review period. The primary collision factor for seven of the reported collisions was driving under the influence. Ten of the reported collisions involved a vehicle colliding with a fixed object.

Great Mall Drive/Great Mall Parkway

There were 32 reported collisions at the intersection of Great Mall Drive and Great Mall Parkway during the review period. Eighteen of the collisions were broadside collisions, one of which involved a bicycle.

Great Mall Parkway/Centrepointe Drive

Great Mall Parkway at Centrepointe Drive had 34 reported collisions during the review period. Similar to the intersection of Great Mall Drive and Great Mall Parkway, this study intersection had a large number of broadside collisions, which accounted for 16 of the reported collisions. In addition, 12 collisions were rear-end collisions involving unsafe driving behavior.

Montague Expressway/Great Mall Parkway – East Capitol Avenue

Montague Expressway at Great Mall Parkway – East Capitol Avenue had 75 reported collisions during the review period. Rear-end collisions accounted for nearly half of the reported collisions, 38 collisions, while 20 collisions were sideswipe collisions. During the review period, there was one fatal collision involving a bicycle and a vehicle.

South Milpitas Boulevard/Montague Expressway

There were 21 collisions at South Milpitas Boulevard and Montague Expressway during the review period, 14 of which were rear-end collisions.

I-680 Northbound Off-Ramp/Dempsey Road-Landess Avenue

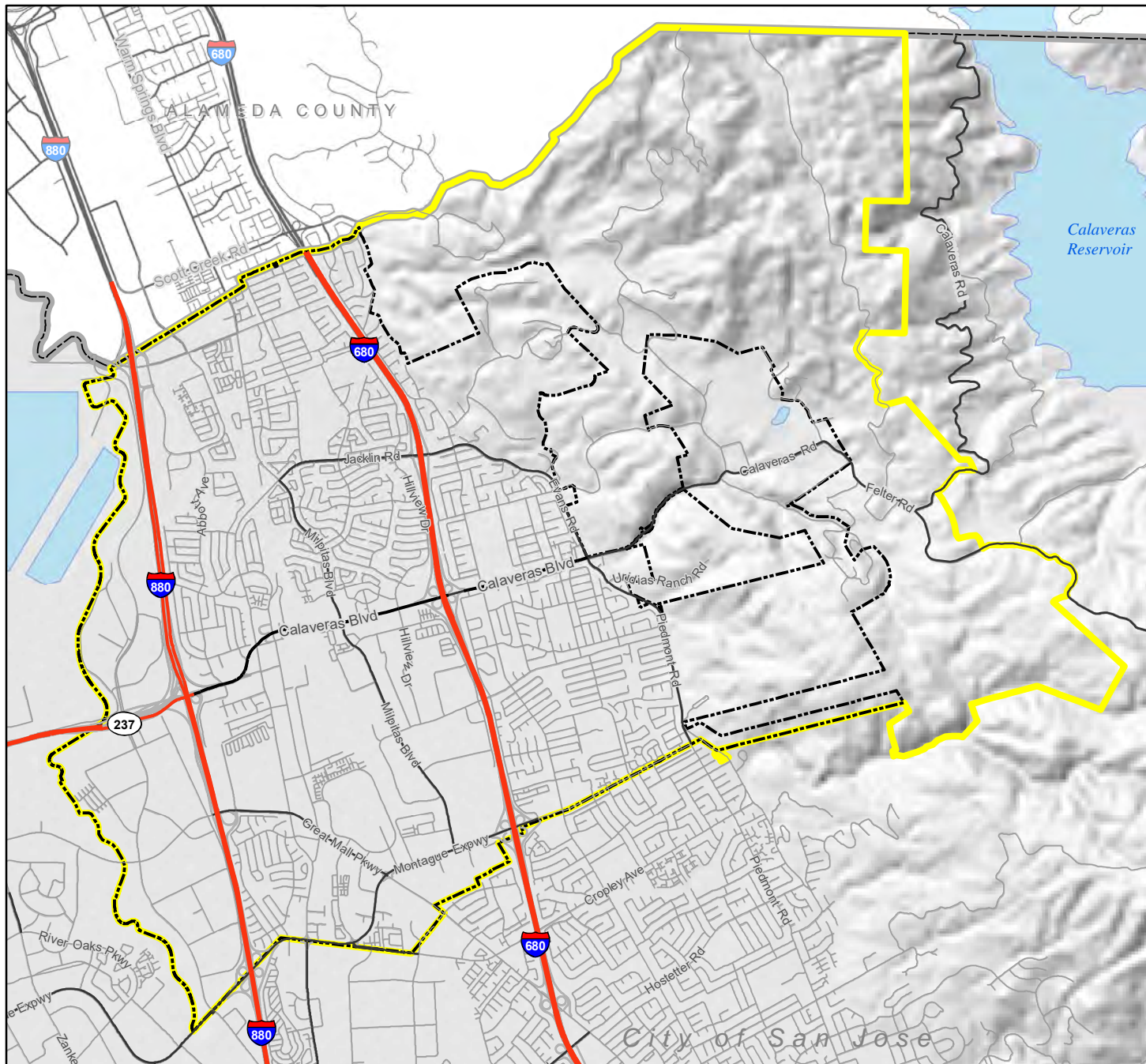
I-680 Northbound Off-Ramp at Dempsey Road and Landess Avenue had 35 reported collisions during the review period. The main collision types were rear-end collisions (15) and broadside collisions (14). The primary collision factor for a majority of collisions at this study intersection was unsafe speeds.

ELECTRIC VEHICLE CHARGING STATIONS

According to the U.S. Department of Energy's Alternative Fuels Data Center, in Milpitas drivers can utilize 12 locations throughout the City to charge their electric vehicles.

REFERENCES

W-Trans. 2016. Traffic Study for the City of Milpitas General Plan – Existing Conditions Report.



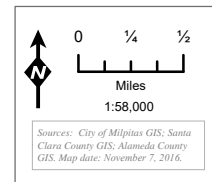
CITY OF MILPITAS GENERAL PLAN UPDATE **Figure 2.0-1: Roadway Classifications**

Planning Areas

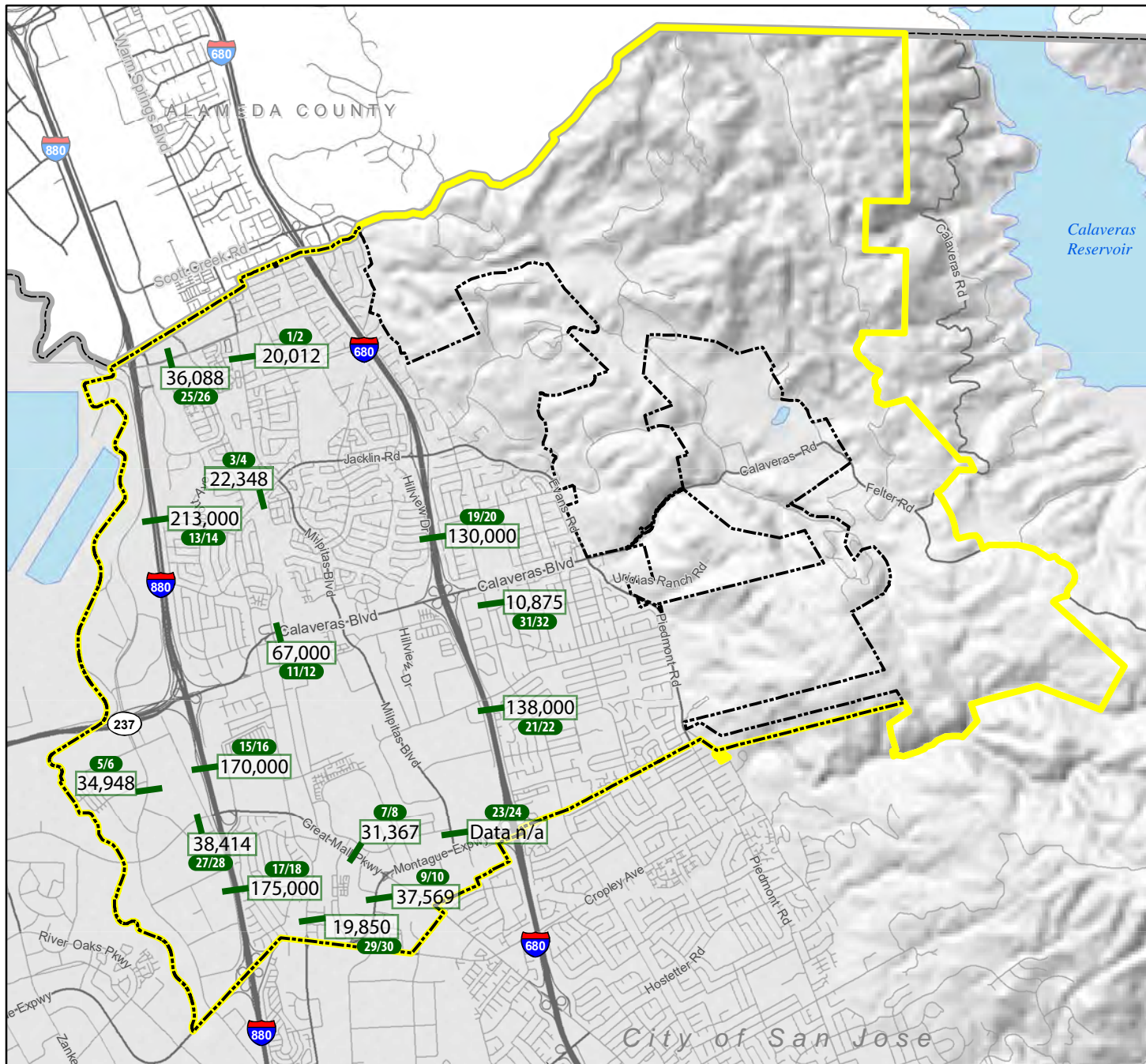
- City of Milpitas
- Milpitas Sphere of Influence

Roadway Classification

- Primary Hwy Limited Access
- Primary Road without Limited Access
- Special Characteristics
- Secondary and Connecting Rd
- Local Neighborhood and Rural Rd



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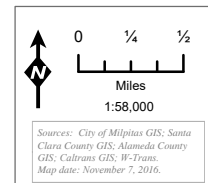
**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-2: Study Segments and
Bidirectional Volumes

Planning Areas

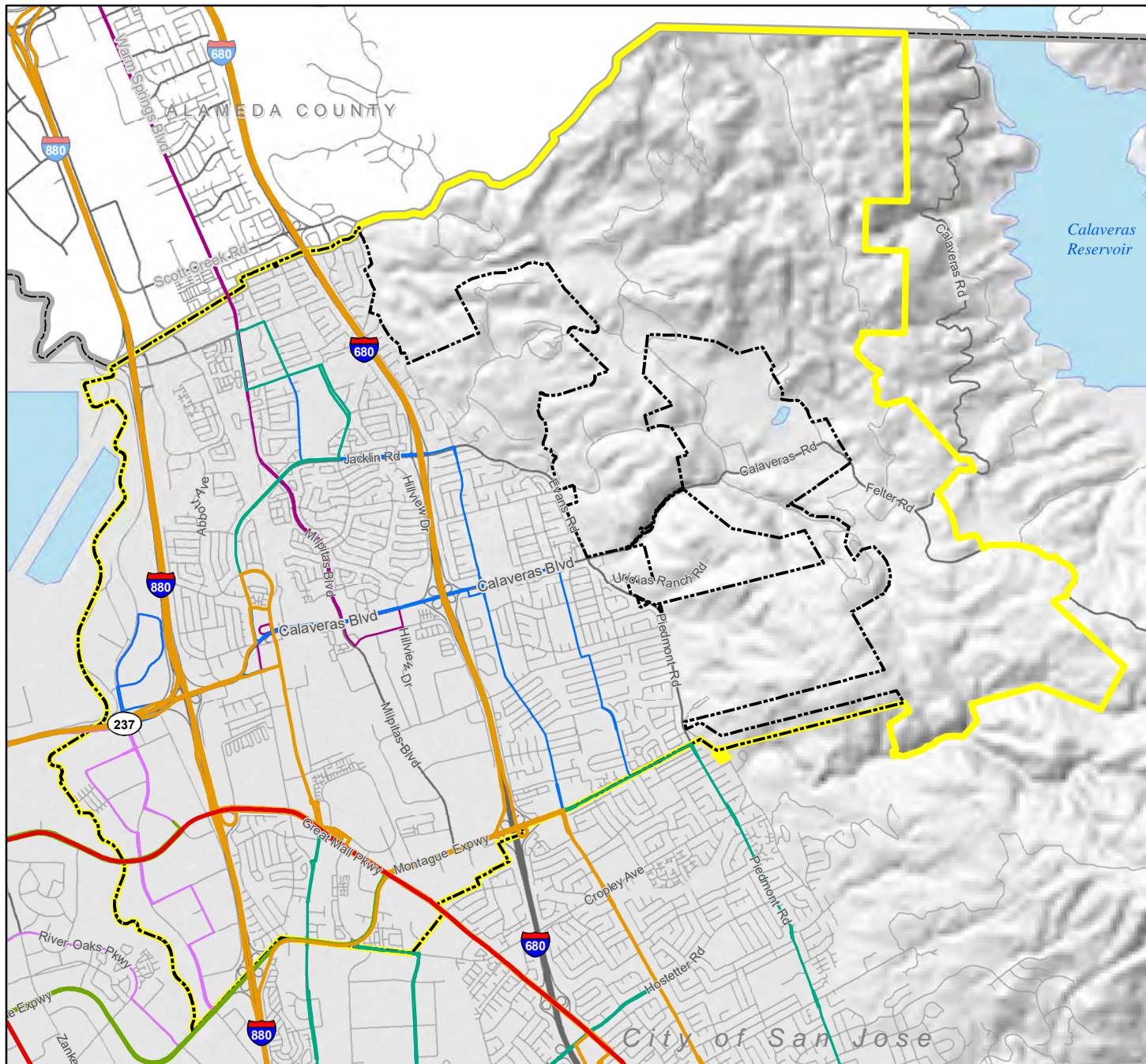
- City of Milpitas
- Milpitas Sphere of Influence

Study Area

- Study Segment Location and Number
- Segment Volume



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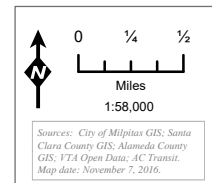
**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-3: Transit Routes

Planning Areas

- City of Milpitas
- Milpitas Sphere of Influence

VTA Routes

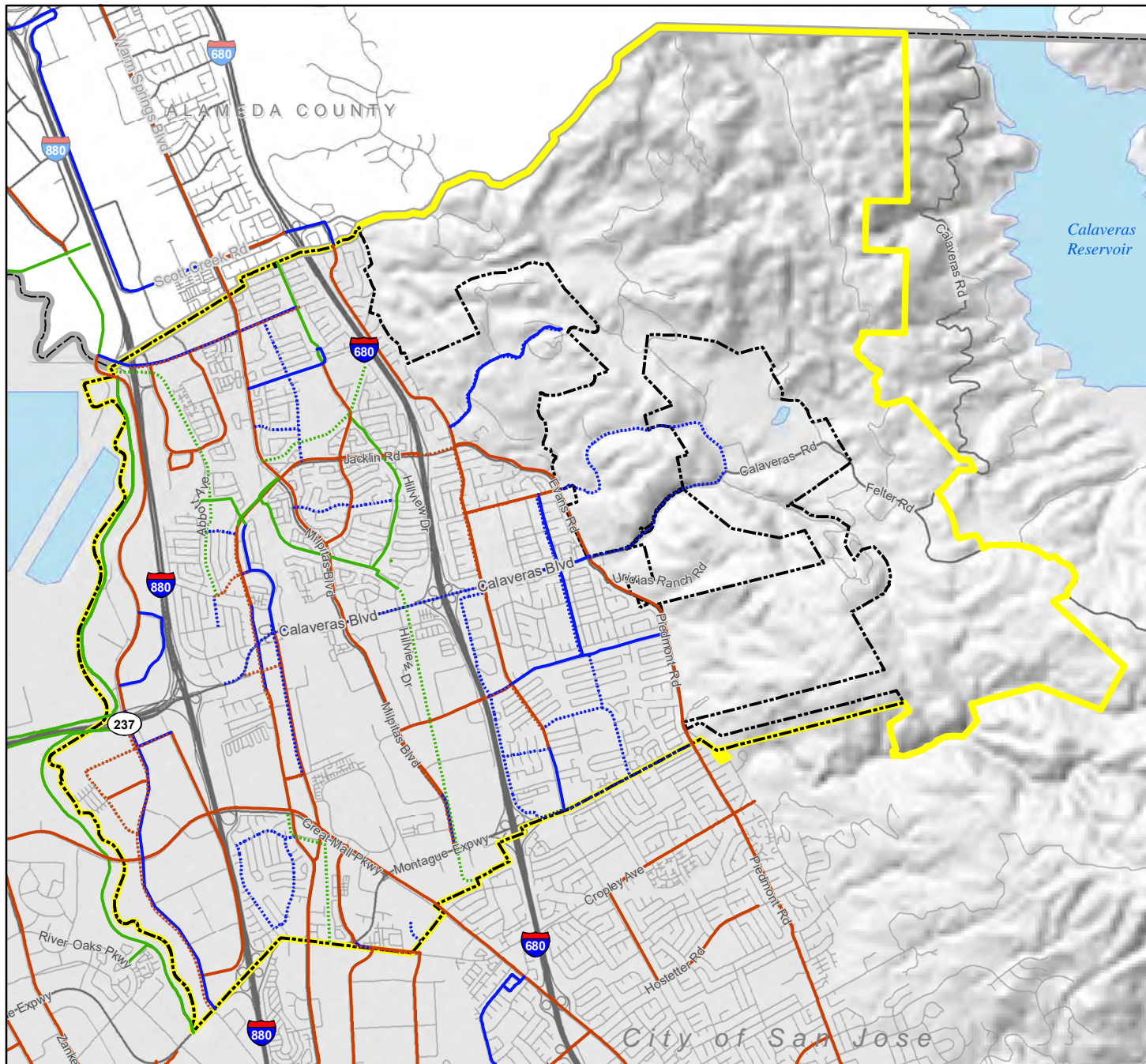
- Light Rail
- Express
- Limited
- Core
- Local
- Shuttle - ACE
- AC Transit Route 217



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CITY OF MILPITAS GENERAL PLAN UPDATE

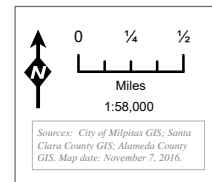
**Figure 2.0-4: Existing and Planned
Bicycle Facilities**

Planning Areas

- City of Milpitas
- Milpitas Sphere of Influence

Bicycle Facilities

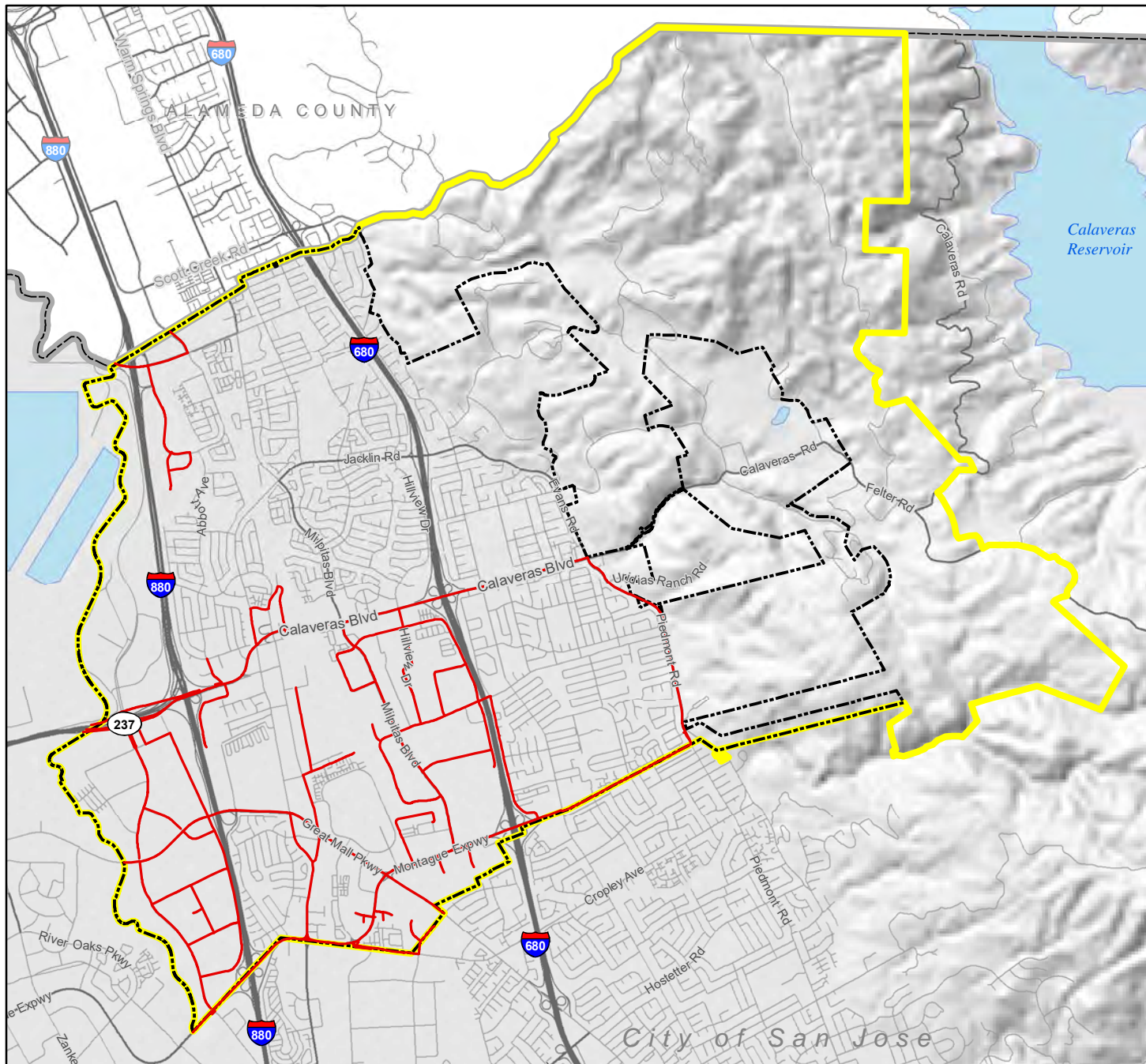
- Class I (Bike Path)
- Class II (Bike Lane)
- Class III (Bike Route)
- ⋯ Proposed Class I
- ⋯ Proposed Class II
- ⋯ Proposed Class III



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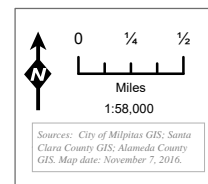
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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-5: Truck Routes

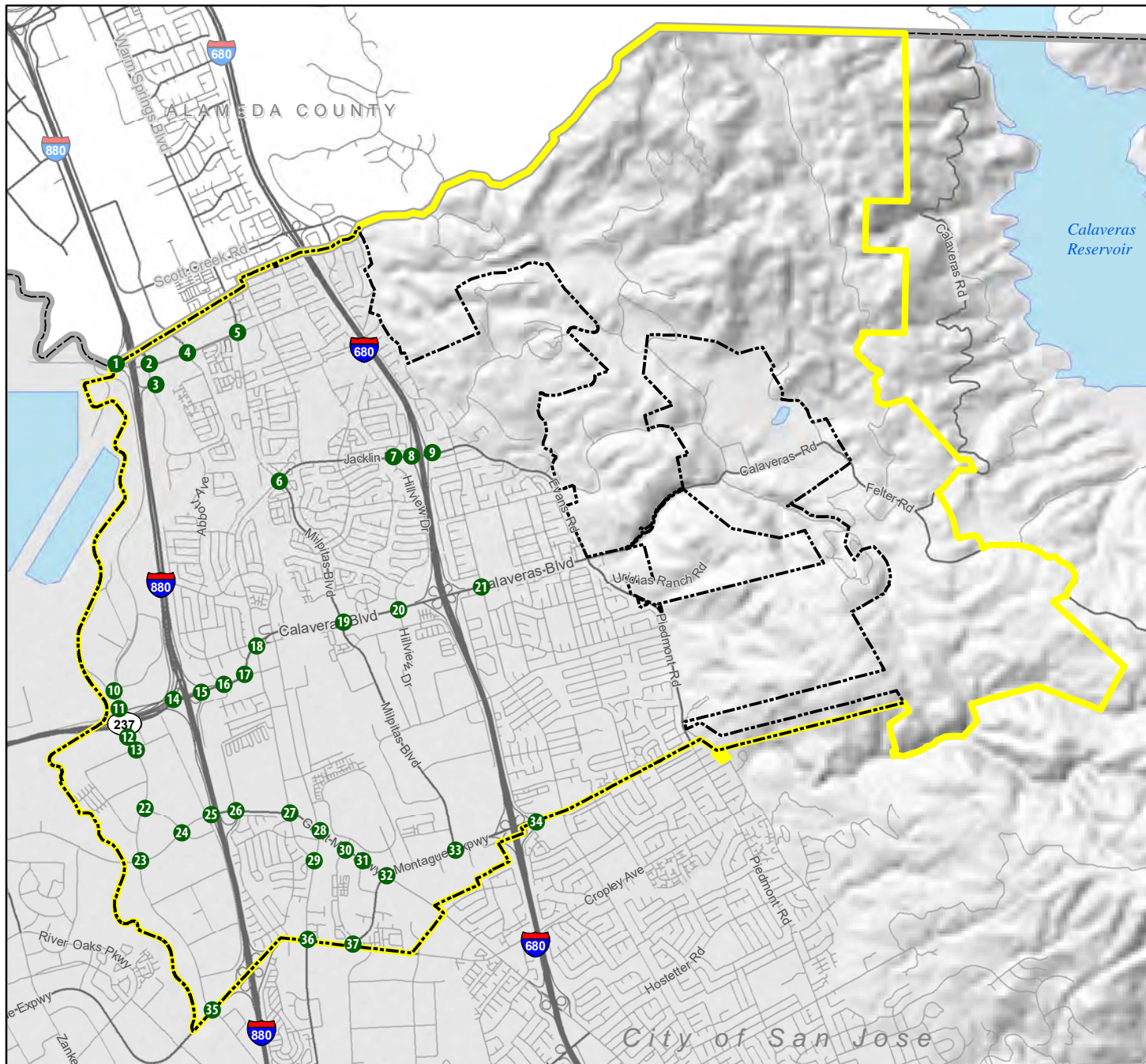
Planning Areas

- City of Milpitas
- Milpitas Sphere of Influence
- Truck Route



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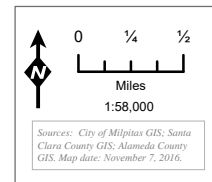
**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-6: Study Intersections

Planning Areas

- City of Milpitas
- Milpitas Sphere of Influence

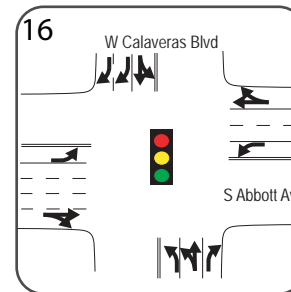
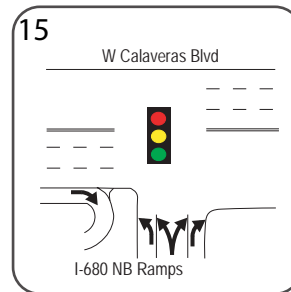
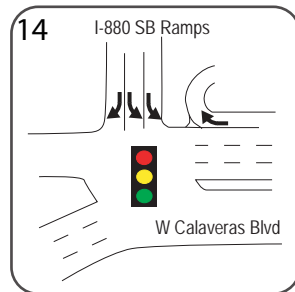
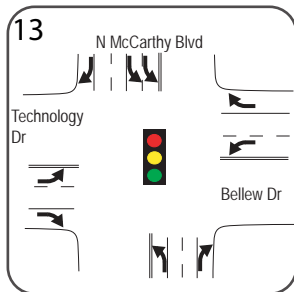
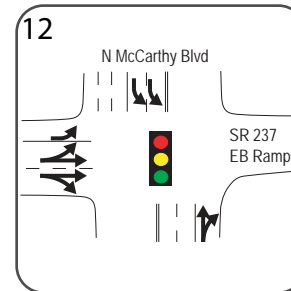
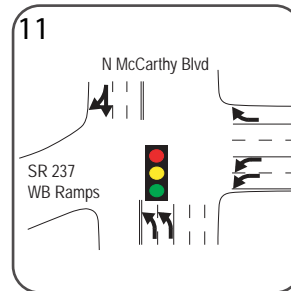
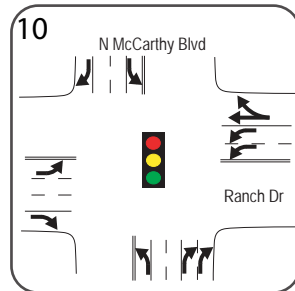
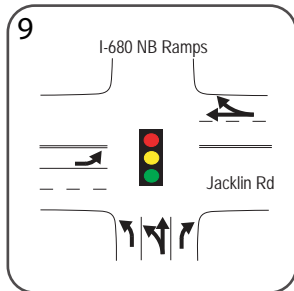
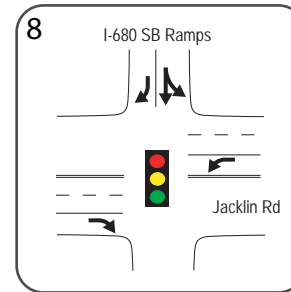
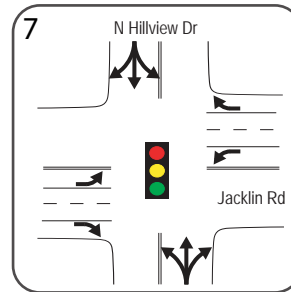
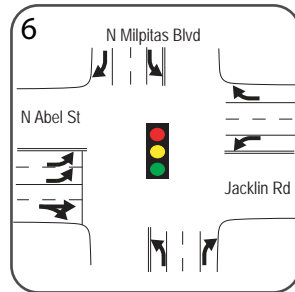
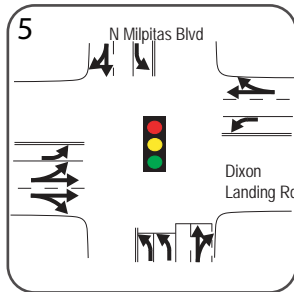
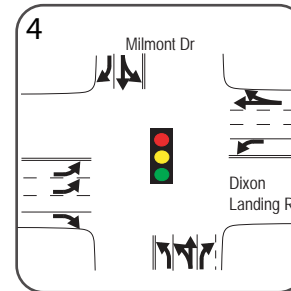
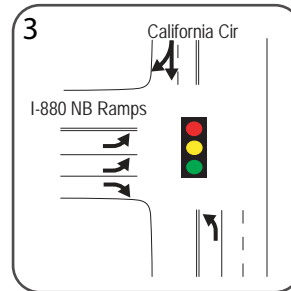
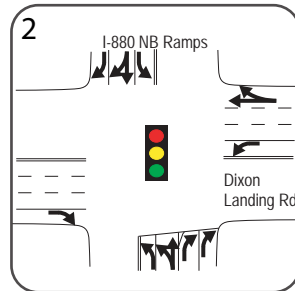
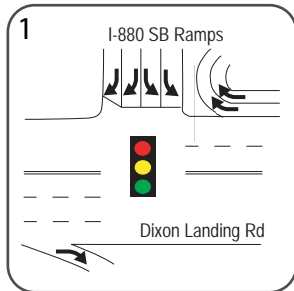
Study Area

- 1 Study Intersection



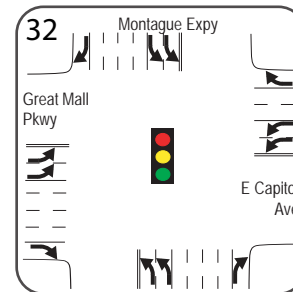
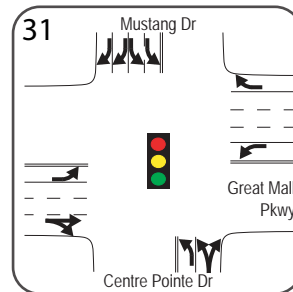
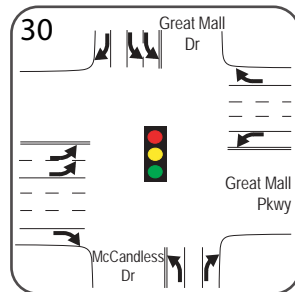
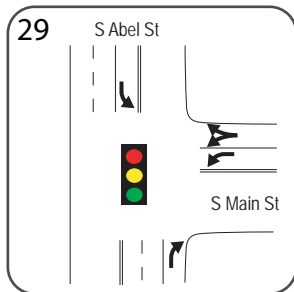
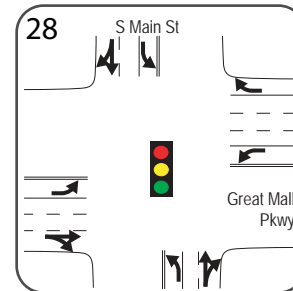
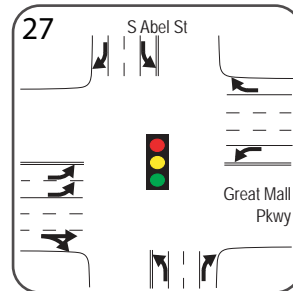
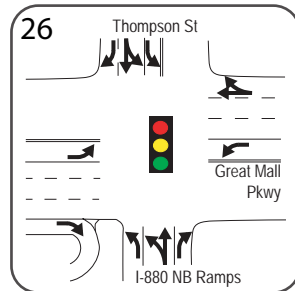
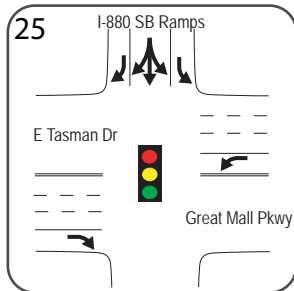
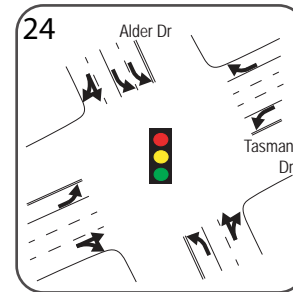
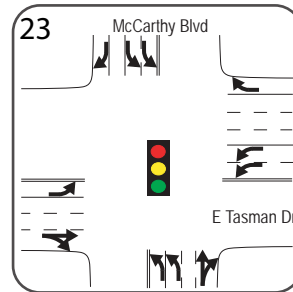
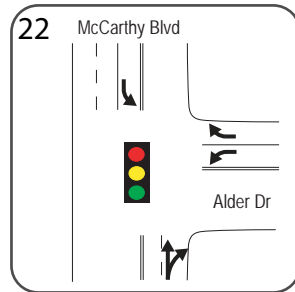
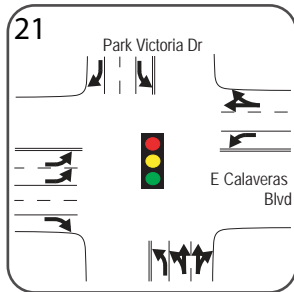
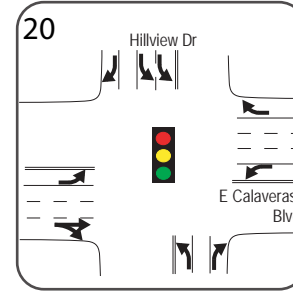
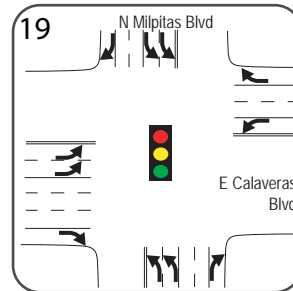
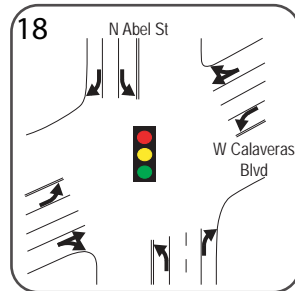
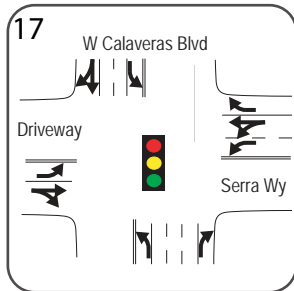
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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-7.1 Lane Configurations



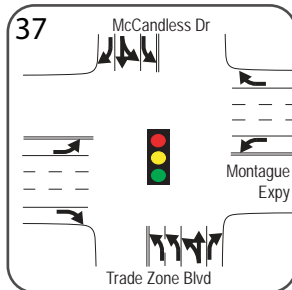
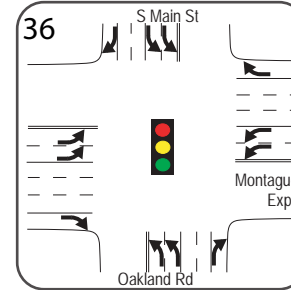
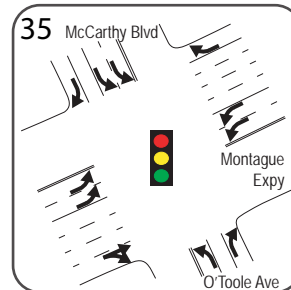
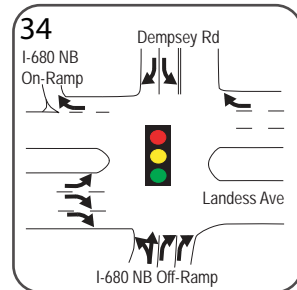
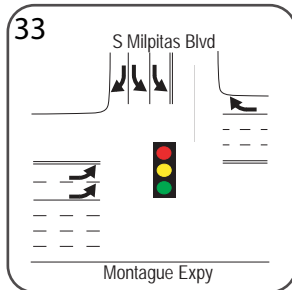
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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-7.2 Lane Configurations



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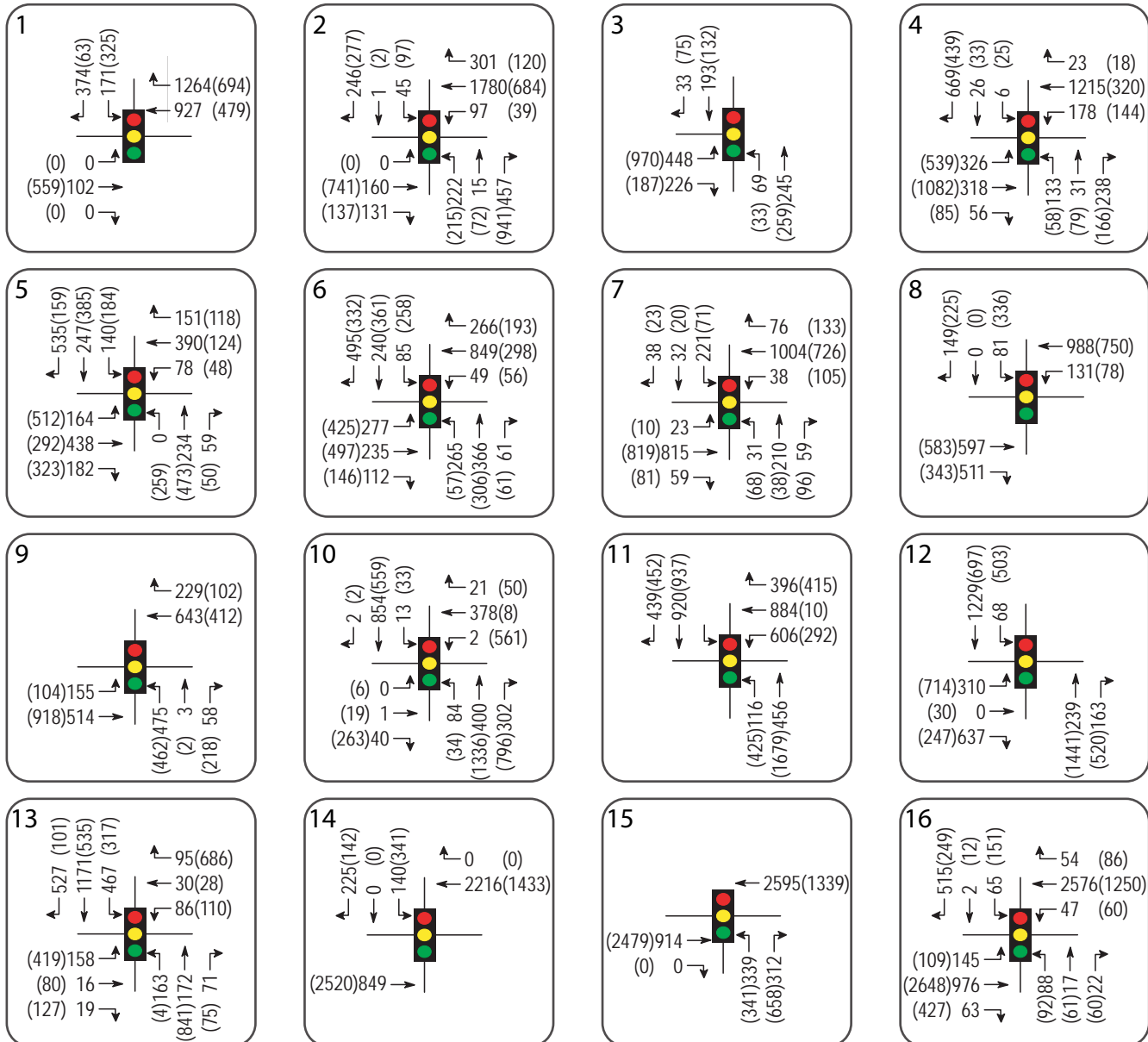
**CITY OF MILPITAS
GENERAL PLAN UPDATE
Figure 2.0-7.3 Lane Configurations**



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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-8.1 Existing Traffic Volumes

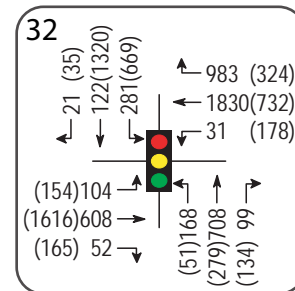
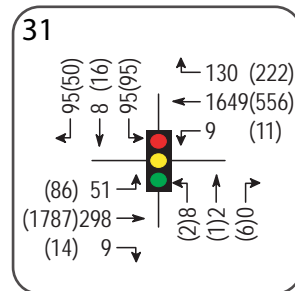
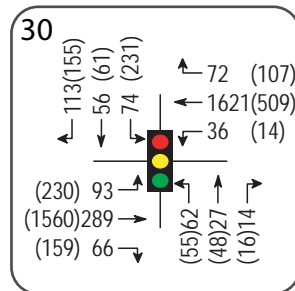
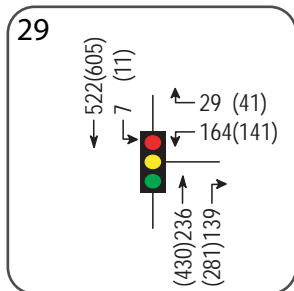
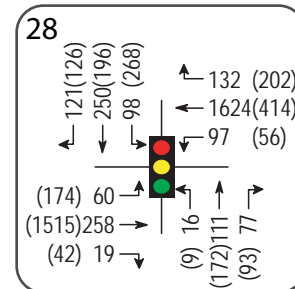
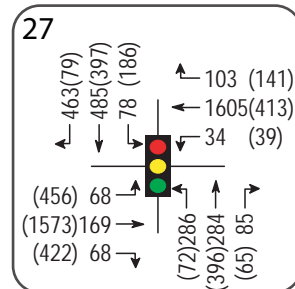
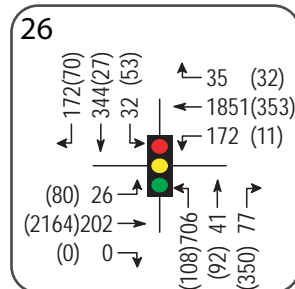
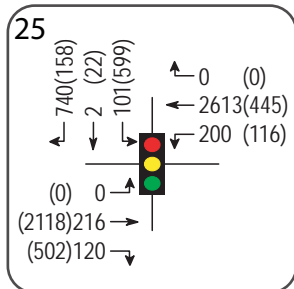
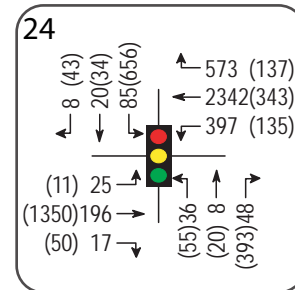
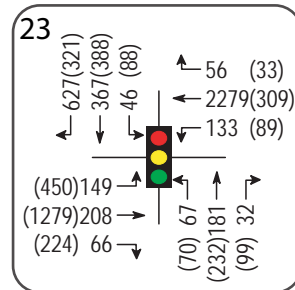
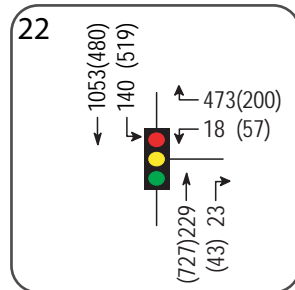
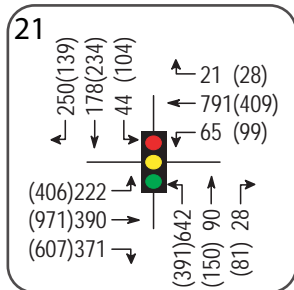
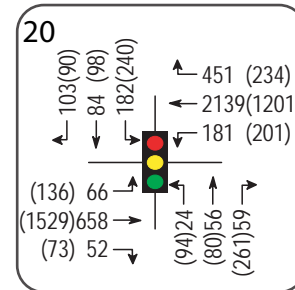
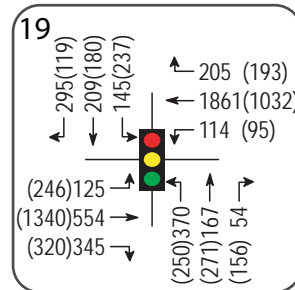
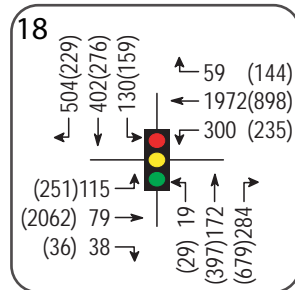
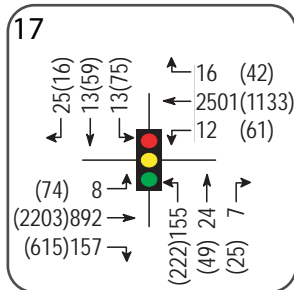
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(xx) PM Peak Hour Volume



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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-8.2 Existing Traffic Volumes

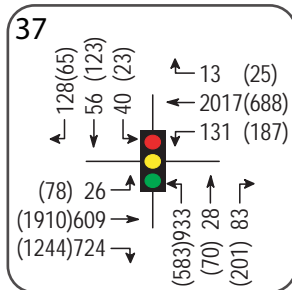
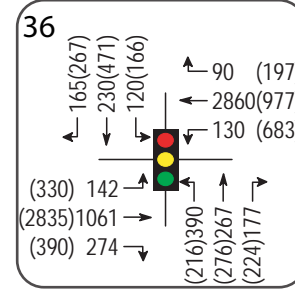
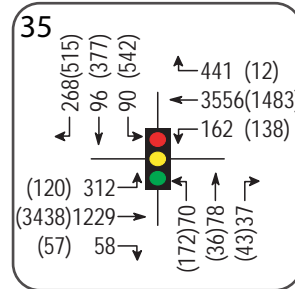
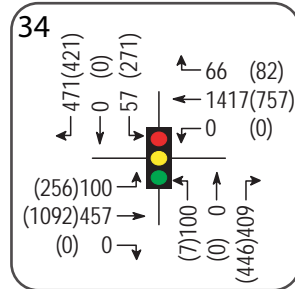
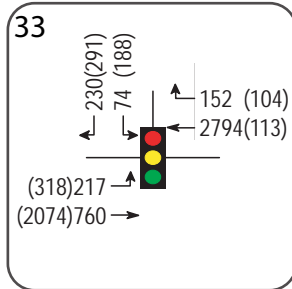
xx AM Peak Hour Volume
(xx) PM Peak Hour Volume



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**CITY OF MILPITAS
GENERAL PLAN UPDATE**
Figure 2.0-8.3 Existing Traffic Volumes

xx AM Peak Hour Volume
(xx) PM Peak Hour Volume



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