4.13 TRANSPORTATION AND CIRCULATION

This chapter describes the regulatory framework and existing conditions related to transportation and circulation, the potential impacts on the transportation system from future development that could occur by adopting and implementing the proposed project, and the recommended mitigation measures for identified significant impacts.

The information in this chapter is based in part on travel demand modeling, transportation impact analysis and identification of mitigations conducted by TJKM Transportation Consultants. The analyses were conducted in accordance with the standards and methodologies set forth by the City of Menlo Park (City) and City/County Association of Governments of San Mateo County (C/CAG). The technical appendices are included in Appendix K, Transportation Data, of this Draft EIR.

4.13.1 ENVIRONMENTAL SETTING

4.13.1.1 REGULATORY FRAMEWORK

Federal Regulations

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency of the United States (U.S.) Department of Transportation (DOT) responsible for the federally-funded roadway system, including the interstate highway network and portions of the primary State highway network, such as Interstate 280 (I-280).

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent Federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

State Transportation Improvement Program

The California Transportation Commission (CTC) administers the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. CTC's programming includes the State Transportation Improvement Program (STIP), a multi-year capital improvement program of transportation projects on and off the State highway system, funded with revenues from the State Highway

TRANSPORTATION AND CIRCULATION

Account and other funding sources. The California Department of Transportation (Caltrans) manages the operation of State highways.

California Department of Transportation

Caltrans is responsible for planning, design, construction, and maintenance of all interstate freeways and State routes. Caltrans sets design standards for State roadways that may be used by local governments. Caltrans requirements are described in their Guide for Preparation of Traffic Impact Studies,[1] which covers the information needed for Caltrans to review the impacts to State highway facilities; including freeway segments, on- and off-ramps, and signalized intersections.

Assembly Bill 1358

Originally passed in 2008, Assembly Bill (AB) 1358 or California's Complete Streets Act, came into effect in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a "complete streets" approach to mobility. "Complete streets" comprises a suite of policies and street design guidelines which provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, the elderly, and the disabled. From 2011 onward, any local jurisdiction—county or city—that undertakes a substantive update of the circulation element of its general plan must consider complete streets and incorporate corresponding policies and programs.

Senate Bill 375

As a means to achieve the statewide emission reduction goals set by AB 32 or The California Global Warming Solutions Act of 2006, Senate Bill (SB) 375 or "The Sustainable Communities and Climate Protection Act of 2008," directs the California Air Resources Board (CARB) to set regional targets for reducing greenhouse gas (GHG) emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce vehicle miles traveled (VMT) through modified land use patterns.

There are five basic directives of the bill: 1) creation of regional targets for GHG emissions reduction tied to land use; 2) a requirement that regional planning agencies create a Sustainable Communities Strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB); 3) a requirement that regional transportation funding decisions be consistent with the SCS; 4) a requirement that the Regional Housing Needs Allocation numbers for municipal general plan housing element updates must conform to the SCS; and 5) California Environmental Quality Act (CEQA) exemptions and streamlining for projects that conform to the SCS.[2] The implementation mechanism for SB 375 that applies to land use in Menlo Park is *Plan Bay Area* (discussed more below).

[1] California Department of Transportation, *Guide for the preparation of Traffic Impact Studies*, December 2002.

[2] William Fulton, 2008. *SB 375 Is Now Law – But What Will It Do,* California Planning and Development Report.

Senate Bill 743

On September 27, 2013, SB 743 was signed into law.[3] The Legislature found that with the adoption of SB 375, the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by the AB 32. Additionally, AB 1358 requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32 and AB 1358, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

SB 743 initiated a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes are anticipated to include the elimination of auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). SB 743 includes amendments that allow cities and counties to opt out of traditional level of service standards where Congestion Management Programs (CMPs) are used and requires the Office of Planning and Research (OPR) to update the CEQA Guidelines and establish "criteria for determining the significance of transportation impacts of projects within transit priority areas.[4] As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of GHGs, the development of multimodal transportation networks, and a diversity of land uses."

OPR is in the process of investigating alternative metrics, but a preliminary metrics evaluation[5] suggests that auto delay and level of service may work against goals such as GHG reduction and accommodation of all transportation modes. New criteria for determining the significance of transportation impacts may include, but are not limited to, "VMT, VMT per capita, automobile trip generation rates, or automobile trips generated."[6]

OPR is still in the process of preparing the Guidelines and has submitted drafts for public comment in 2014, 2015 and as recently as January 20, 2016 with a public comment period ending on February 29, 2016. It is the goal of OPR to then make one more set of revisions and submit the final Guidelines to the Natural Resources Agency in the summer of 2016. This will start the formal 'rulemaking' process, which is anticipated to last about six months. Upon completion, there is a 60-day administrative law review before the Guidelines are formally law. After that date though, lead agencies still have 120 days to update their guidance to comply with SB 743. Additional time may be available before full implementation is required. Once the Guidelines are prepared and certified, "automobile delay, as described solely by level of service

[3] An act to amend Sections 65088.1 and 65088.4 of the Government Code, and to amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of, to add Section 21155.4 to, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of, to add and repeal Section 21168.6.6 of, and to repeal and add Section 21185 of, the Public Resources Code, relating to environmental quality.

[4] A "transit priority area" is defined in as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in Public Resources Code Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[5] Office of Planning and Research, *Updating the Analysis of Transportation Impacts Under CEQA,* opr.ca.gov/docs/PreliminaryEvaluationTransportationMetrics.pdf, accessed on May 20, 2016.

[6] Public Resources Code Section 21099(b)(1)

or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment."[7] This, however, does not prohibit local agencies from considering level of service in the local planning process.

California Building Code

The California Building Code (CBC), Title 24 of the California Code of Regulations, provides fire and emergency equipment access standards for public roadways in Part 9, Appendix D. These standards include specific width, grading, design and other specifications for roads that provide access for fire apparatuses; the code also indicates which areas are subject to requirements for such access. The CBC also incorporates by reference the standards of the International Fire Code (IFC). The future construction of streets in the study area would be subject to these and any modified State standards.

Regional Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including San Mateo County. It also functions as the federally mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

The Bay Area's current 25-year RTP, *Plan Bay Area*, was adopted on July 18, 2013. *Plan Bay Area* was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). The MTC updates the RTP every four (4) years. *Plan Bay Area* specifies a detailed set of investments and strategies throughout the region from 2013 through 2040 to maintain, manage, and improve the surface transportation system, specifying how anticipated federal, State, and local transportation funds will be spent. The update *Plan Bay Area, Plan Bay Area 2040*, is currently underway.

Plan Bay Area sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from cars and light trucks beyond the per capita reduction targets identified by CARB pursuant to SB 375. As part of the implementation framework for *Plan Bay Area*, local governments may identify "Priority Development Areas" (PDAs) to focus growth. The PDAs are transit-oriented, infill development opportunity areas within existing communities. Over two-thirds of overall Bay Area growth through 2040 is allocated to the PDAs, which are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs in the region.[8] Menlo Park currently has one PDA that surrounds El Camino Real and includes areas in and around Downtown Menlo Park. The area covered by the El Camino Real and Downtown Specific Plan falls within Menlo Park's PDA. The SCS does not directly govern land uses within Menlo Park and does not affect local decision-making authority. However, there are a number of benefits

[7] Public Resources Code Section 21099(b)(2)

[8] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. *Final Plan Bay Area, Strategy for a Sustainable Region.*

available to the City from being consistent with *Plan Bay Area*, including potential streamlining of CEQA review for certain transit priority, residential, and/or mixed-use projects, as well as high eligibility for transportation funding, provided that policies and land use patterns proposed in the General Plan align with SCS goals.

The 2013 *Plan Bay Area* EIR[9] also included an evaluation of VMT per capita. These regional thresholds are applied in this document for the purpose of evaluating the VMT of the proposed project.

MTC has established its policy on Complete Streets for the Bay Area. The policy states that projects funded all, or in part, with regional funds (e.g., federal, State Transportation Improvement Program, bridge tolls) must consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64. These recommendations do not replace locally-adopted policies regarding transportation planning, design, and construction. Instead, these recommendations facilitate the accommodation of pedestrians, including wheelchair users, and bicyclists into all projects where bicycle and pedestrian travel is consistent with current adopted regional and local plans.

With the passage of AB 32, the State of California committed itself to reducing statewide GHG emissions to 1990 levels by 2020. Subsequent to adoption of AB 32, the State adopted SB 375 as the means for achieving regional transportation-related GHG targets. Among the requirements of SB 375 are the adoption of targets to be met by 2020 and 2035 for each MPO in the state, as well as the creation of a SCS that provides a plan for meeting regional targets. The SCS and the RTP must be consistent with one another, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative approach to meet the target. Finally, MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the State CTC. The RTPs, cities, and counties are encouraged, but not required, to use travel demand models consistent with the State CTC guidelines. The provisions of AB 32 and SB 375 and the project's relationship to GHG reduction are discussed in detail in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

San Mateo City/County Association of Governments

2011 Congestion Management Plan

C/CAG is designated as the Congestion Management Agency (CMA) for the County. C/CAG's CMP identifies strategies to respond to future transportation needs, identifies procedures to alleviate and control congestion, and promotes countywide solutions. Pursuant to the United States Environmental Protection Agency's (US EPA) transportation conformity regulations and the *Bay Area Conformity State Implementation Plan* (also known as the Bay Area Air Quality Conformity Protocol), the CMP is required to be consistent with the MTC planning process including regional goals, policies, and projects for the Regional Transportation Improvement Program (RTIP).[10] MTC cannot approve any transportation plan, program, or project unless these activities conform to the State Implementation Plan (SIP).

[9] The existing Plan Bay Area was adopted and companion EIR was certified jointly by ABAG and MTC in July 2013.

[10] City/County Association of Governments of San Mateo (C/CAG), 2011. Final San Mateo County Congestion Management Program (CMP) 2011. http://www.ccag.ca.gov/pdf/Studies/Final%202011%20CMP_Nov11.pdf.

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C/CAG has adopted guidelines to evaluate the impacts of net new vehicle trips generated by new developments on the CMP network. These guidelines apply to all developments that generate 100 or more net new peak period[11] vehicular trips on the CMP network and are subject to CEQA review. C/CAG also has guidelines that "the developer and/or tenants will reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development" through the use of a trip credit system. C/CAG has published a list of mitigation options in a memorandum that also outlines a process for obtaining C/CAG approval.

The CMP roadway system is comprised of 53 roadway segments and 16 intersections, including all of the State highways within the county in addition to Mission Street, Geneva Avenue, and Bayshore Boulevard. The intersections are located mostly along El Camino Real.

Countywide Transportation Plan

The Countywide Transportation Plan (CTP) was adopted by C/CAG in 2001, to reduce traffic congestion, increase demand for transit, decrease demand for automobile travel, and increase capacity for all modes. The plan also sets targets to increase the safety, reliability, and convenience of all transportation systems.

San Mateo County Comprehensive Bicycle and Pedestrian Plan

The C/CAG, with support from the San Mateo County Transportation Authority (SMCTA) have developed the 2011 *San Mateo County Comprehensive Bicycle and Pedestrian Plan* (CBPP) to addresses the planning, design, funding, and implementation of bicycle and pedestrian projects of countywide significance. The CBPP identifies El Camino Real as the corridor in the county with the highest densities of population and employment, and thus pedestrian activity. The CBPP notes that the high level of through-movement along this corridor necessitates the need for bicycle and pedestrian improvements. Although biking, walking, and transit percentages in San Mateo County are lower than the averages for the Bay Area, Menlo Park has one of the highest percentages of commuters commuting by bicycle in the Bay Area. In 2000, this figure was 3.7 percent (three times the Bay Area average) and rose to 7.2 percent of workers in 2006-2008. Relevant goals of the CBPP are listed as follows:

- Goal 2: More People Riding and Walking for Transportation and Recreation.
- Goal 4: Complete Streets and Routine Accommodation of Bicyclists and Pedestrians.

San Francisco Bay Trail Plan

The San Francisco Bay Trail Plan (Bay Trail) (ABAG, 1989) and *Enhanced San Francisco Bay Area Water Trail Plan* (California Coastal Conservancy, 2011) provide guidance to the development of a shared-use bicycle and pedestrian path that will one day allow continuous travel around the San Francisco Bay. The Bayfront Area includes a segment of the Bay Trail.

[11] Peak periods refer to typical weekday a.m. and p.m. highest travel demand periods (i.e. 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., respectively).

Bay Area Air Quality Management District

The air quality district that addresses air pollution in the study area is the Bay Area Air Quality Management District (BAAQMD). Since a primary source of air pollution in the Menlo Park region is from motor vehicles, air district regulations affect transportation planning in the study area. The BAAQMD is a public agency tasked with regulating air pollution in the nine-county Bay Area, including San Mateo County. The BAAQMD's goals include reducing health disparities due to air pollution, achieving and maintaining air quality standards, and implementing exemplary regulatory programs and compliance of federal, State, and regional regulations. Air quality impacts are discussed in detail in Chapter 4.2, Air Quality, of this Draft EIR.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.13.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 13, Street, Sidewalks, and Utilities, includes regulations relevant to transportation and circulation in Menlo Park, as discussed below.

Chapter 13.26, Transportation Impact Fee[12]

The City of Menlo Park initiated a transportation impact fee (TIF) in 2009 to help fund transportation improvements that are needed in conjunction with new development. The intent of the fee is to maintain adequate service levels as new development places a strain on existing roadway capacity. The TIFs ensure that development pays a proportional fair share of the cost of transportation infrastructure deemed necessary and reasonably related to accommodating the impact of development in Menlo Park.

As described in Section 13.26.020, the City levies a TIF by establishing the nexus among the trips associated with development, their impacts on the transportation system, and the cost to improve the City's impacted transportation system. The detailed TIF study, the current version of which was developed in 2009, establishes the required nexus between anticipated future development in Menlo Park and the need for certain improvements to the local transportation facilities. The City updates TIF rates for each land use annually based on the Engineering News Record (ENR) Construction Cost Index percentage change for the San Francisco Bay Area.

[12] The City of Menlo Park Transportation Impact Fee was enacted pursuant to the Mitigation Fee Act contained in Government Code Section 66000 et seq. (Ordinance 964 Section 2 (part), 2009).

TRANSPORTATION AND CIRCULATION

The TIF study reviewed the improvement measures on a preliminary level. TIF's may only be used for the building of new arterial streets, sidewalks, bicycle lanes, and other physical enhancements to the City's multi-modal transportation network. The adoption of the TIF ordinance does not require the City to construct all of the improvements in the plan. The mix of projects and the details related to each individual project can be modified and prioritized by the Council over time. A more detailed design would need to be developed for each improvement measure prior to implementation.

City's Public Works Department

The City of Menlo Park maintains several environmental programs under the City's Public Works Department. The City's Public Works Department is responsible for developing a more functional and efficient roadway network for the effective movement of people and goods. The division promotes the use of public transit, ride sharing, bicycles, and walking as commuting alternatives to single-occupant automobiles. The City operates a trip reduction program and was the first city on the Peninsula to establish a shuttle program. Transit programs are discussed below under Existing Roadway Network.

Comprehensive Bicycle Development Plan

The 2005 *Comprehensive Bicycle Development Plan* (Bike Plan) provides a broad vision, strategies, and actions for the improvement of bicycling in the city. The Bike Plan recommends the enhancement of the existing network with the addition of approximately 0.3 miles of new Class I Bike Paths, 3.6 miles of new Class II Bike Lanes, and 16.8 miles of new Class III Bike Routes.[13] Several long-term projects are also identified; including two short Class I connector segments near the Bayfront Expressway and two new bicycle/pedestrian undercrossings, including the Caltrain crossing near Middle Avenue.

The Bike Plan outlines new educational and promotional programs aimed at bicyclists and motorists. These programs include bicycle parking improvements, multi-modal (transit) support facilities, bicycle safety and education programs for cyclists and motorists, safe routes to schools programs, community and employer outreach programs, continued development of bikeway network maps, and bike-to-work and school day events, among others. The prioritization and budgeting of individual bicycle improvements takes place through City Council approval of the five-year Capital Improvement Program (CIP). This process incorporates public comment.

The goals of the Bike Plan provide the context for the specific policies and actions discussed in the Bike Plan. The goals provide the long-term vision and serve as the foundation of the Bike Plan, while the policies of the Bike Plan provide more specific descriptions of actions to undertake to implement the Bike Plan.

[13] City of Menlo Park, 2005. *Menlo Park Comprehensive Bicycle Development Plan*. See Section 4.13.1.2, Existing Transportation and Circulation System, below for a description of bike classifications.

The relevant bicycle-related goals are as follows:

- Goal 1: Expand and Enhance Menlo Park's Bikeway Network.
- Goal 2: Plan for the Needs of Bicyclists.
- Goal 3: Provide for Regular Maintenance of the Bikeway Network.
- Goal 4: Encourage and Educate Residents, Businesses, and Employers in Menlo Park on Bicycling.

Sidewalk Master Plan

The 2009 *City of Menlo Park Sidewalk Master Plan* (Sidewalk Plan) identifies segments with no standard walkway or discontinuous walkway facilities; identifies opportunities and constraints for future walkway facilities; recommends changes and additions to existing programs, policies, and municipal codes; and develops prioritization criteria and procedures for installing standard sidewalks. The Sidewalk Plan identified priority streets as those roadways that provide network connectivity and access to important pedestrian destinations, such as schools, parks, and downtown. The priority streets make up over a third of the roadways under Menlo Park's jurisdiction. As with bicycle improvements, the prioritization and budgeting of individual sidewalk improvements takes place through City Council approval of the five-year CIP.

Menlo Park Complete Streets Policy

The City's Complete Streets policy was adopted by Resolution No. 6123 by the City Council on March 22, 2013 consistent with AB 1358 to ensure that local streets meet the needs of all users. As described in the Complete Streets Policy, the City of Menlo Park is committed to creating and maintaining complete streets that provide safe, comfortable, and convenient travel along and across streets (including streets, roads, highways, bridges, and other portions of the transportation system) through a comprehensive, integrated transportation network that serves all categories of users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and families, emergency vehicles and freight. The proposed Circulation Element includes complete streets-focused goals, policies and programs and would replace this stand-alone policy.

Neighborhood Traffic Management Plan

Established in 2004, the *Neighborhood Traffic Management Plan* (NTMP) is intended to provide consistent, citywide policies for neighborhood traffic management to ensure equitable and effective solutions that enhance the safety and livability of neighborhoods in Menlo Park. The document provides instruction for residents in identifying appropriate neighborhood traffic management measures such as driver education, enforcement, and physical improvements that can be utilized in addressing specific neighborhood traffic issues. An important component of the NTMP is to build consensus through neighborhood and stakeholder meetings, resident surveys, as well as trial installations prior to permanent installation of physical improvements.

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Transportation Demand Management Guidelines

The City of Menlo Park Transportation Demand Management (TDM) Guidelines provides options for the City to encourage the use of innovative strategies to mitigate the traffic impact of new development projects.

TDM measures identified in the Guidelines include, but are not limited to:

- Charging employees for parking.
- Employer subsidized transit tickets.
- Preferential parking for carpools/vanpools.
- Employer shuttles.
- Parking cash-out.
- Shared parking.
- Provision of bicycle storage and showers.

In addition to the City's TDM Guidelines, as previously described, the C/CAG's CMP guidelines that must be followed for all development projects that a) generate a net 100 or more peak hour trips on the CMP roadway network; and b) the project is subject to CEQA review. The C/CAG list of acceptable TDM measures is similar to the City TDM Guidelines list.

El Camino Real/Downtown Specific Plan

The El Camino Real/Downtown Specific Plan focuses on new development in an area well-served by transit with a host of mixed uses, it encourages transit and non-motorized modes to reduce reliance on single-occupant vehicles, minimize congestion, limit land dedicated to parking, and reduce GHG emissions. The El Camino Real/Downtown Specific Plan envisions the following:

- A vehicular system that accommodates local traffic on El Camino Real.
- An integrated pedestrian network of expansive sidewalks, promenades and paseos along El Camino Real and within Downtown Menlo Park.
- A bicycle network that builds on existing plans and integrates more fully with Downtown and proposed public space improvements in the area.
- Modified parking rates for private development based on current industry standards.

The City is currently conducting a related study, the El Camino Real Corridor Study, to review potential transportation and safety improvements to El Camino Real between Sand Hill Road and Encinal Avenue. The study will evaluate potential impacts to traffic, active transportation, safety, parking and aesthetics.

4.13.1.2 EXISTING TRANSPORTATION AND CIRCULATION SYSTEM

This section describes the existing transportation environment in the study area, including roadway network, bicycle facilities, pedestrian facilities and available transit services. While this Draft EIR addresses citywide impacts to the transportation and circulation system, as discussed throughout this Draft EIR, the Bayfront Area is the location where the new development potential under the proposed project would occur. Therefore, the existing conditions below focuses on the transportation and circulation setting in the Bayfront Area.

City of Menlo Park Roadway System

This section describes existing roadway facilities in the study area. The San Mateo County CMP Land Use Analysis Program guidelines require that Routes of Regional Significance be evaluated in land use impact analysis to identify potential candidates for the capital improvement program.

The existing roadway network serving the study area is shown on Figure 4.13-1 and described as follows:

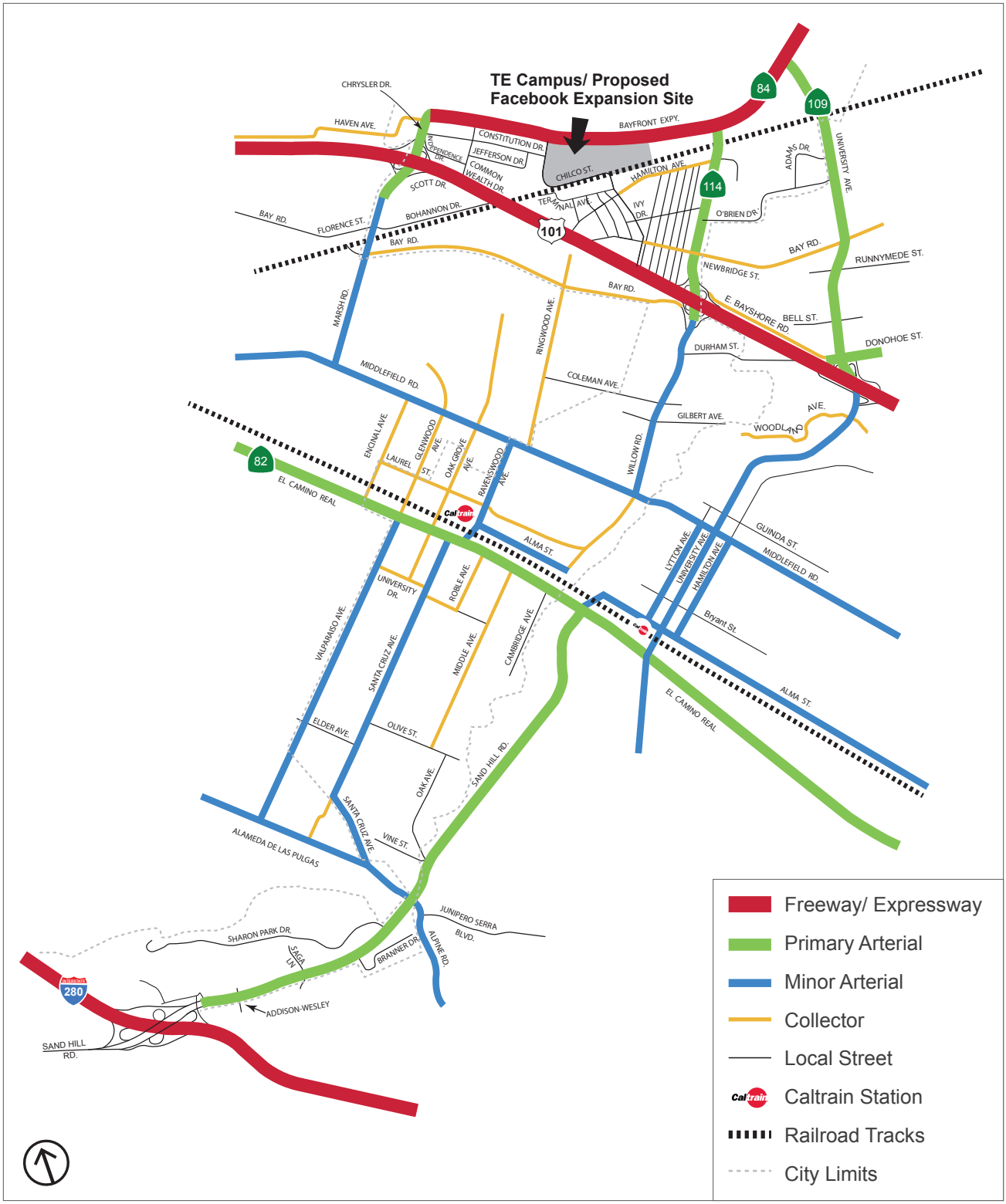
- US 101 (Bayshore Freeway) is an eight-lane north-south freeway that runs between Los Angeles, California and Olympia, Washington and is a major regional freeway on the San Francisco Peninsula. It connects Menlo Park with the other cities in the San Francisco Peninsula from San Jose to San Francisco. There is one high occupancy vehicle (HOV) lane on both directions within the City of Menlo Park. Two interchanges serve Menlo Park at Willow Road and Marsh Road.
- I-280 (Junipero Serra Freeway) is an eight-lane north-south freeway that connects San Jose with San Francisco. There is one HOV lane on both directions within the City of Menlo Park. Two interchanges serve Menlo Park at Sand Hill Road and Alpine Road.
- SR 84 (Bayfront Expressway) is a six-lane, east-west Expressway that connects the Peninsula to the east via the Dumbarton Bridge. Within the City of Menlo Park, it connects Marsh Road with the Dumbarton Bridge. On-street parking is not permitted on Bayfront Expressway and the speed limit is 50 miles per hour (mph). A segment of the San Francisco Bay Trail accommodates bicycle and pedestrian circulation adjacent to Bayfront Expressway.
- SR 82 (El Camino Real) is a primary north-south Primary Arterial that connects San Jose with San Francisco. It enters Menlo Park north of Sand Hill Road as a six-lane arterial, becomes a four-lane arterial near Downtown Menlo Park, and exits the city as a five-lane arterial (three southbound lanes and two northbound lanes) north of Encinal Avenue. There are no bicycle lanes on El Camino Real.
- SR 114 (Willow Road) is an east-west roadway that connects Bayfront Expressway with US 101 and Middlefield Road. Between Bayfront Expressway and US 101, Willow Road is a Major Arterial with four motor vehicle lanes and bicycle lanes. Between US 101 and Middlefield Road, Marsh Road is a Minor Arterial with two motor vehicle lanes and bicycle lanes.
- SR 109 (University Avenue) is a four-lane, east-west Arterial Street that connects Bayfront Expressway with US 101 via East Palo Alto, and connects US 101 with El Camino Real via downtown Palo Alto. Bicycle lanes are provided on University Avenue between Bayfront Expressway and Middlefield Road, except for a gap in the bicycle lanes where University Avenue approaches and crosses US 101.

- Marsh Road is an east-west roadway that connects Bayfront Expressway with US 101 and Middlefield Road. Marsh Road has six motor vehicle lanes between Bayfront Expressway and US 101, and four motor vehicle lanes between US 101 and Fair Oaks Avenue. Marsh Road narrows to two lanes between Fair Oaks and Middlefield Road. There are no bicycle lanes on Marsh Road.
- Chilco Street is an east-west roadway with two motor vehicle lanes that connects Bayfront Expressway with the adjacent Belle Haven neighborhood. Bicycle lanes are provided on the portion of Chilco Road between Bayfront Expressway and the Dumbarton rail tracks. There are no sidewalks on the portion of Chilco Road between Constitution Drive and the Dumbarton rail tracks at the time this document was prepared.
- Middlefield Road is a north-south Minor Arterial with two-to-four motor vehicle lanes that connects Mountain View, Palo Alto, Menlo Park, Atherton and Redwood City. Bicycle lanes are provided on segments of Middlefield Road within Menlo Park.
- Sand Hill Road is an east-west Primary Arterial street that connects El Camino Real with I-280.

Existing Bicycle Facilities

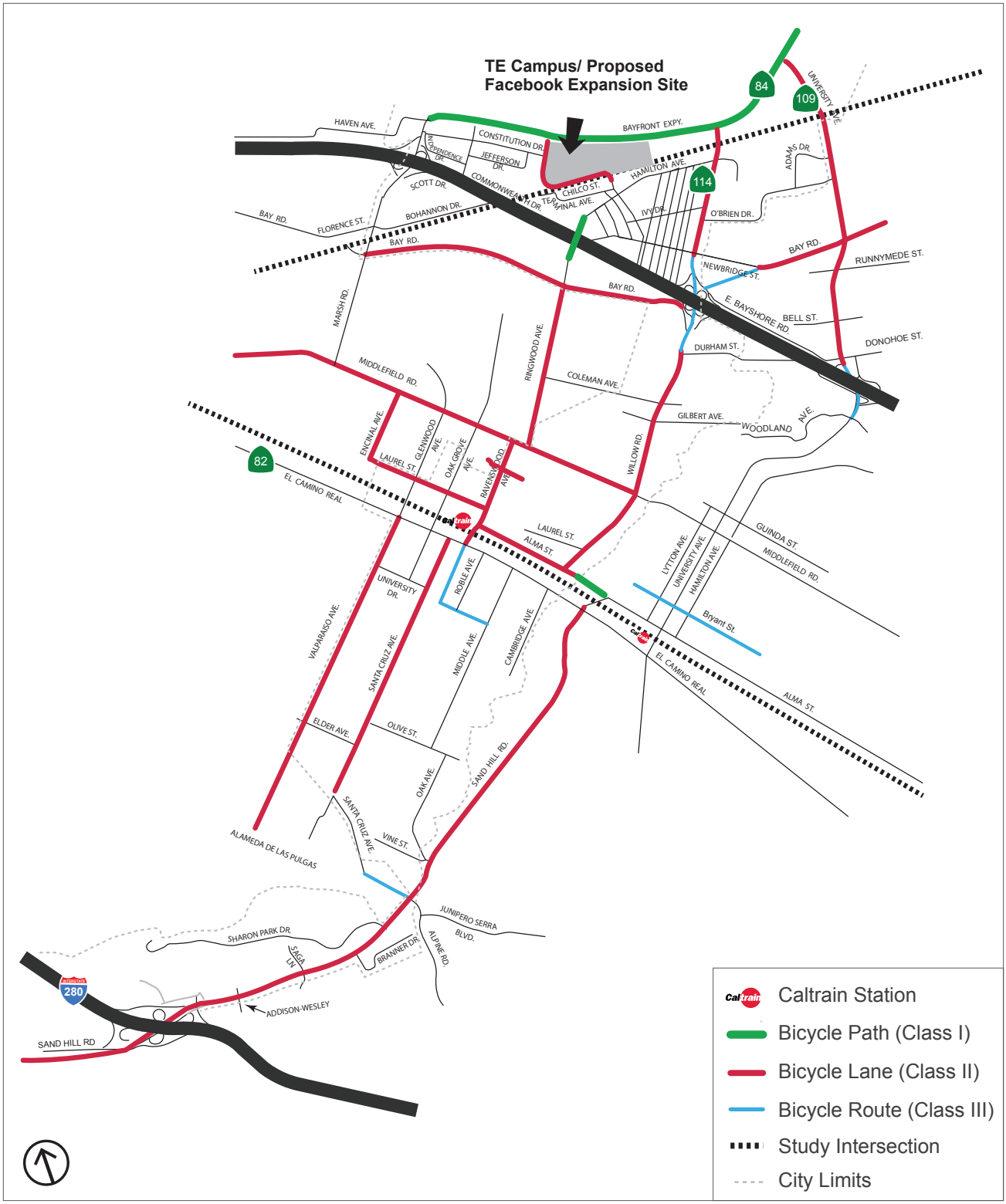
The City's existing bicycle facilities in the study area are identified on Figure 4.13-2. Menlo Park has an existing bicycle network with connections to neighboring city facilities. The bicycle network contains a variety of facilities and is labeled according to California's system of classification of bikeways:

- Class I Bikeway. Typically called a "bike path," a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway; these are sometimes shared with pedestrians.
- Class II Bikeway. Often referred to as a "bike lane" for bike use only, a Class II bikeway provides a striped and stenciled lane for one-way travel on a street or highway.
- Class III Bikeway. Generally referred to as a "bike route," a Class III bikeway provides for shared use with pedestrian or motor vehicle traffic and are identified only by signing. Class III bikeways may be defined by a wide curb lane and/or use of a shared use arrow stencil marking on the pavement known as a "sharrow."
- Class IV Bikeway. These bikeways include cycle tracks or separated bikeways that contain dedicated right of way with physical separation, such as grade separation, flexible posts, or on-street parking.



Source: TJKM, 2016.

Figure 4.13-1
Existing Roadway Network



Source: TJKM, 2016.

Figure 4.13-2
Existing Bicycle Network

As shown on Figure 4.13-2, the Bicycle facilities in the Bayfront Area are provided on Willow Road, University Avenue, and a short portion of Chilco Street between Bayfront Expressway and the Dumbarton rail tracks. The San Francisco Bay Trail borders Bayfront Expressway. However, the Marsh Road, Willow Road, and University Avenue interchanges contain no bicycle facilities, and the lack of such connections may discourage bicycle trips between the Bayfront Area and destinations west of US 101, including the Caltrain station and downtown Menlo Park. The only bicycle and pedestrian connection towards Caltrain and the retail center of Menlo Park is via a bridge crossing US 101 at Ringwood Avenue between the Belle Haven and Flood Triangle neighborhoods. Under California Law, bicyclists are allowed to use all roadways in California unless posted as closed. Therefore, even for the roadways that have no designated (or planned) bikeways identified, a majority are open for cycling.

Existing Pedestrian Facilities

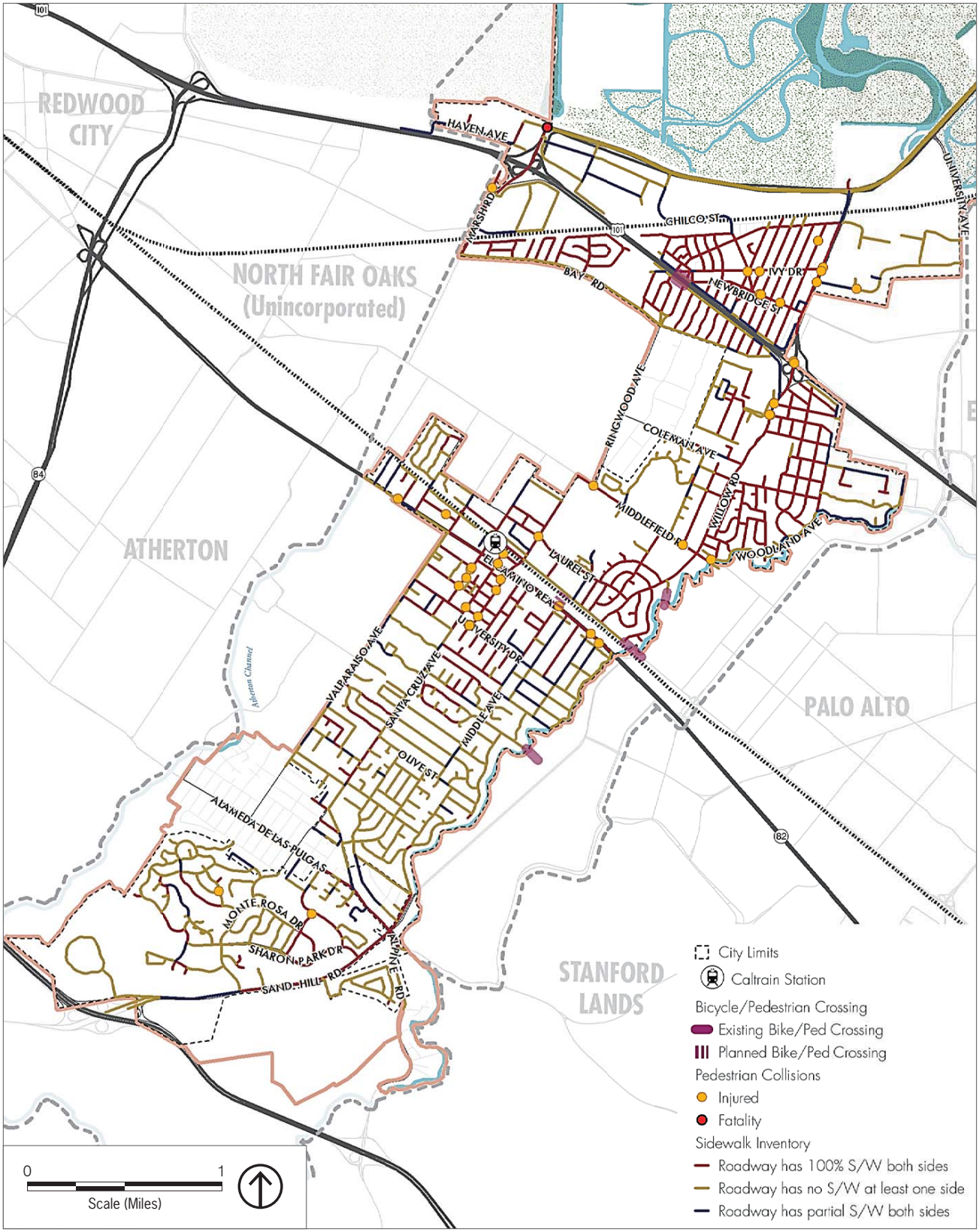
A survey of the existing pedestrian facilities was prepared as part of the City of Menlo Park's 2009 Sidewalk Plan. Existing pedestrian facilities within the study area are shown on Figure 4.13-3. The existing pedestrian facilities within the study area include off-street paths, sidewalks along roadways, pedestrian signals, and crosswalks. Specifically in the Bayfront Area, the existing pedestrian facilities are limited, with many streets in the area having partial or no sidewalks. The only street segment with sidewalks on both sides of the street is on the Marsh Road overpass at US 101. The Dumbarton Rail Corridor and US 101 also limit pedestrian access and isolate the project site and Belle Haven areas from the rest of the community.

Two main types of crosswalks exist: marked (striped) crosswalks and unmarked (no striping) crosswalks. Controlled, marked crosswalks include those striped and controlled by traffic/pedestrian signals or stop signs. Uncontrolled, marked crosswalks can exist mid-block or at intersections with side-street stop control only (or all-way yield control intersection with low volumes).

Existing Transit Facilities

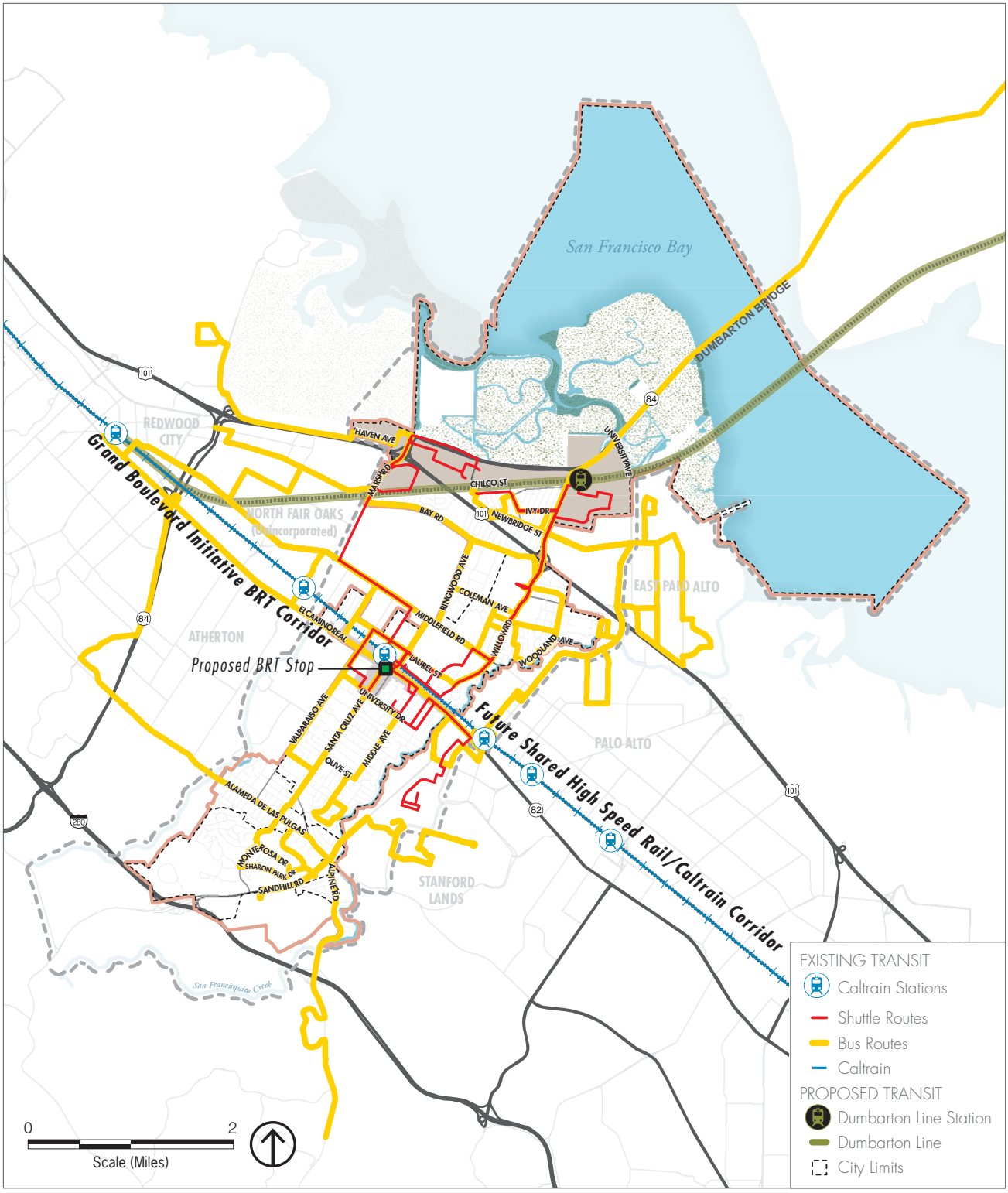
The study area is served by major transit providers and free shuttles services. San Mateo County Transit District (SamTrans) provides local and regional bus service, Caltrain provides commuter rail service and Alameda-Contra Costa County Transit District (AC Transit) provides service between Menlo Park from the Union City Bay Area Rapid Transit (BART) Station. Local shuttles are provided by Menlo Park to/from the Caltrain station during commute hours and during midday hours, and several local private agencies and employers provide private shuttles as well.

Transit service and facilities, including bus routes, major bus stops, Caltrain tracks, and the Caltrain station are shown on Figure 4.13-4 and listed in Table 4.13-1. A description of each major transit provider and the transit facilities in proximity to the Bayfront Area that have the potential to be affected by the proposed project's new development potential are described below.



Source: TJKM, 2016.

Figure 4.13-3
Existing Sidewalk Map



Source: TJKM, 2016.

Figure 4.13-4
Existing Transit Infrastructure Map

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TABLE 4.13-1 EXISTING PUBLIC TRANSIT SERVICE

Service Provider	Peak Headway	Service Hours
Caltrain	32 minutes (average)	5:04 a.m. to 12:56 a.m. (weekdays) 7:34 a.m. to 1:02 a.m. (weekends)
SamTrans 80	No peak service	1:40 p.m. to 3:30 p.m. (weekdays)
SamTrans 82	1 run (morning) 60 minutes (afternoon)	7:47 a.m. to 3:47 p.m. (weekdays)
SamTrans 83	5 minutes (morning)	7:38 a.m. to 3:52 p.m. (weekdays)
SamTrans 84	1 run (morning)	7:52 a.m. to 3:45 p.m. (weekdays)
SamTrans 85	1 run (morning)	7:09 a.m. to 3:45 p.m. (weekdays)
SamTrans 86	40 minutes	7:04 a.m. to 4:05 p.m. (weekdays)
SamTrans 87	55 minutes	7:10 a.m. to 4:01 p.m. (weekdays)
SamTrans 88		
SamTrans 89	1 run (afternoon)	1:33 p.m. to 3:39 p.m. (weekdays)
SamTrans 270[a]	60 minutes	6:30 a.m. to 7:12 p.m. (weekdays) 7:30 a.m. to 7:08 p.m. (weekends)
SamTrans 276[a]	60 minutes	6:00 a.m. to 6:46 p.m. (weekdays)
SamTrans 281[a]	15 minutes	6:00 a.m. to 10:32 p.m. (weekdays) 8:03 a.m. to 7:58 p.m. (weekends)
SamTrans 286[a]	65-74 minutes	7:16 a.m. to 5:59 p.m. (weekdays only)
SamTrans 296[a]	15 minutes	5:18 a.m. to 11:00 p.m. (weekdays) 8:45 a.m. to 7:59 p.m. (weekends)
SamTrans 297[a]	60 minutes	12:43 p.m. to 12:22 a.m. (weekdays) 12:43 p.m. to 12:22 a.m. (weekends)
SamTrans 397	60 minutes	12:48 p.m. to 6:22 pm (weekdays only)
SamTrans ECR	11-13 minutes	3:56 p.m. to 2:09 a.m. (weekdays) 4:47 p.m. to 2:21 a.m. (weekends)
AC Transit DB	16-34 minutes	5:22 a.m. to 8:51 p.m. (weekdays)
AC Transit DB1*Limited stop	15-26 minutes	5:26 a.m. to 7:39 p.m. (weekdays)
Caltrain Shuttle (Marsh and Willow Routes)	60 minutes	6:39 a.m. to 6:28 p.m. (weekdays)
Menlo Park Midday Shuttle	No peak hour service	9:30 a.m. to 3:30 p.m. (weekdays)
Menlo Park Shoppers Shuttle	No peak hour service	9:30 a.m. to 1:00 p.m. (Tuesday/Wednesday/Saturday)

Notes: a. SamTrans routes in proximity to the Bayfront Area.
Source: TJKM Transportation Consultants, 2016.

SamTrans

SamTrans operates bus service in San Mateo County. There are 54 routes in the county categorized as community, express, BART connection, Caltrain connection, and BART and Caltrain connection routes. These routes serve approximately 1.5 million annual riders. Most bus routes typically operate along major arterial corridors and operate from early morning into the late evening. SamTrans routes that serve the Bayfront Area and provide service to Caltrain Stations include the following:

- Route 270: Serves the area near Marsh Road and Haven Avenue, the Bayfront Expressway, and serves a connection to the Redwood City Transit Center and Caltrain.
- Route 276: Travels to Redwood City Transit Center, Kaiser Hospital, and Redwood City Hall via Marsh/Haven/Bayfront Expressway. Route 276 terminates at Marsh Road and also serves the Redwood City Caltrain Station.
- Route 281: Serves the Palo Alto Transit Center at Downtown Palo Alto Caltrain station, University Village Shopping Center, and Onetta Harris Community Center. This route terminates at the Onetta Harris Community Center located just south of the Dumbarton rail corridor. The route connects to Downtown Palo Alto and Stanford Shopping Center.
- Route 286: Connects to Menlo-Atherton High School, Menlo Park Caltrain Station, and La Entrada Middle School.
- Route 296: Serves Menlo Park Caltrain Station, VA Medical Center, Redwood City Caltrain Station, Sequoia High School, and East Palo Alto.
- Route 297: Connects to University Village Shopping Center, VA Medical Center, Palo Alto Transit Center, and Redwood City Transit Center.

SamTrans Short Range Transit Plan

Planned short-range improvements to SamTrans service focus on optimizing the current system's condition and performance.[14] These planned improvements include vehicle replacement, vehicle expansion, adding Clipper (formerly TransLink) and other fare collection equipment, installing information technology, and planning for transit-oriented development (TOD), defined as being within a reasonable walking distance of a transit station. SamTrans planning efforts are being curtailed by their current financial constraints.

Caltrain

Caltrain operates 50 miles of commuter rail between San Francisco and San Jose, and limited service trains to Morgan Hill and Gilroy during weekday commute periods. Caltrain is owned by the Peninsula Corridor Joint Powers Board, operated under contract with Amtrak, and managed under contract with SamTrans.

[14] San Mateo County Transit District (SamTrans), 2014. *Short Range Transit Plan 2014-2023*.

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On weekdays, Caltrain operates approximately 100 trains per day including local, limited stop, and express services in both directions. The Menlo Park Caltrain Station is located east of El Camino Real between Ravenswood Avenue and Santa Cruz Avenue. Lockable, sheltered bike parking is provided adjacent to the station platform, and bus and shuttle access is provided at the nearby bus transfer facility. Caltrain services the Menlo Park Station with three (3) types of commuter-rail service: Local, Limited Stop, and Baby Bullet. During peak hours, Caltrain runs Local and Limited Stop service every six (6) minutes to 54 minutes, with an average interval of 32 minutes. For northbound service, three (3) Baby Bullet trains operate in the evening peak, and southbound trains have Baby Bullet service in the morning peak. Caltrain allows residents to connect with job centers around the Silicon Valley, as well as San Francisco and San Jose.

Caltrain Short-Range Transit Plan

Planned short-range improvements to Caltrain focus on a strategy called the State of Good Repair which will concentrate on a systematic approach in optimizing the current system's condition and performance.[15] These planned improvements include upgrading signaling and communications systems, replacing old bridges, enhancing approach speeds and flexibility at the San Francisco terminus, and eliminating all of the remaining hold-out stations. Hold-out stations are areas where trains are required to wait while another train is in the main station and therefore increase service delays. Planned long-range improvements to Caltrain include electrification of the entire line to improve operating efficiency and provide environmental benefits. Caltrain planning efforts are being curtailed by their current financial constraints.

City of Menlo Park Shuttles

Two free employee shuttles are provided between the Menlo Park Caltrain station and Marsh Road/Willow Road office buildings during the commute hours. The Marsh Road Shuttle and Willow Road Shuttle, operated by the City of Menlo Park during the AM and PM peak hours, take passengers from Caltrain to their workplaces, schools, shopping, or appointments. These two shuttles are funded jointly by C/CAG, Peninsula Corridor Joint Powers Board, and the City of Menlo Park and local employers. The shuttles operate based on the Caltrain schedule.

The City provides a free Midday Shuttle during weekdays approximately every hour. The Midday Shuttle is a community service route open to the general public, focusing on the senior community. The major stops include Menlo Park Library, Belle Haven library, Menlo Park Senior Center, downtown Menlo Park, Caltrain, Menlo Medical Clinic, Safeway, Little House, Stanford Shopping Center, and Stanford Medical Center. The shuttle stops at all SamTrans stops. It is also a flag down service for the convenience of passengers.

For residents who do not live within an easy walking distance of a SamTrans stop or the Midday Shuttle stop, Menlo Park offers a shuttle service that picks up passengers at their homes and provides rides to specific shopping areas, the Shoppers Shuttle.[16] The Shoppers Shuttle is specifically designed to accommodate seniors, operating three days per week to Sharon Heights Safeway, downtown Menlo Park,

[15] Peninsula Corridor Joint Powers Board (Caltrain), 2008. *Short Range Transit Plan 2008-2017*.

[16] City/County Association of Governments of San Mateo (C/CAG), Final San Mateo County Congestion Management Program (CMP) 2015. http://ccag.ca.gov/programs/transportation-plans/congestion-management/, accessed on May 9, 2016.

and Stanford Shopping Center. The Shoppers Shuttle can accommodate two wheelchairs and multiple walkers, with operator assistance available for passengers with packages.

The City's shuttle program carried over 81,000 passengers in 2015, and service enhancements are being developed for 2016.

Other Transit Services

The Dumbarton Express Bus Service line DB and DB1, administered and governed by the AC Transit, serves commuters between Stanford University and the East Bay, via SR 84, Willow Road, and University Avenue. These bus routes cross the Dumbarton Bridge with stops near the project site on Willow Road. Both routes provide service between Menlo Park from Union City BART Station with different operational hours. The Marguerite Shuttle is Stanford's free public shuttle service, which travels around campus and connects to nearby transit, shopping, dining, and entertainment. The main shuttle lines traverse the campus Monday through Friday all year (except university holidays). Private developers (e.g., Facebook and Tarlton Properties) also provide shuttle services for their employees.

Airport Land Use Comprehensive Plans

The City of Menlo Park does not host any public or private airports or airstrips. Menlo Park is located approximately 6 miles to the northwest of Moffet Federal Airfield, 14 miles to the northwest of the San Jose International Airport, 15 miles to the southeast of San Francisco International Airport, and 18 miles to the south of Oakland International Airport. The study area is also located in close proximity to two smaller airports; with portions of Menlo Park as near as 2 miles from the Palo Alto Airport and other areas of the study area as near as approximately 4 miles from the San Carlos Airport. Additional small airports in the vicinity include the Hayward Executive Airport, at 11 miles away, and the Half Moon Bay airport, at 16 miles away.

The Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport was adopted by the Santa Clara County Airport Land Use Commission in 2008. The CLUP is intended to safeguard the general welfare of the inhabitants within the vicinity of Palo Alto Airport and ensure that new surrounding uses do not affect continued safe airport operation. Specifically, the CLUP seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace.[17] Menlo Park does not fall within the Airport Influence Area of this facility, and none of the noise or safety zones for the Palo Alto airport fall within the boundaries of Menlo Park; however, extreme eastern portions of Menlo Park in the vicinity of O'Connor Street and Byers Avenue fall within the 354-foot FAR Part 77 Surfaces for the Palo Alto Airport.[18]

[17] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* page 1-1, November 19, 2008.

[18] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* Figures 4, 5, 6, 7, and 8, November 19.

4.13.1.3 TRAFFIC ANALYSIS OVERVIEW

This section presents the methods used to determine Existing (2014) and Cumulative (2040) traffic conditions, including descriptions of the data requirements and analysis methodologies.

Analysis Scenarios

The following traffic analysis scenarios are described in this chapter:

- 2014 Existing Conditions: This scenario evaluates the existing traffic demand volumes on local roads and freeway segments based on counts collected in Fall 2014 and existing lane configurations.
- 2040 No Project Conditions: This scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, and the remaining General Plan buildout potential.
- 2040 Plus Project Conditions: This scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, plus the ongoing development potential under the Current General Plan and the proposed new development potential in the Bayfront Area under the proposed project.

Travel Demand Modeling Methodology

Menlo Park City Model

A new Menlo Park City Travel Demand Model (MPM) was developed for the purposes of developing traffic forecasts for analysis of the proposed project. The MPM is based on the latest C/CAG Model developed by the VTA. The most current version of C/CAG Model, received on July 19, 2015, was still under development by VTA at that time. Three model years – namely, 2013, 2020, and 2040 – of the C/CAG model were obtained. The same land use data categories, modeling technical assumptions, time-of-day, and regional origin-destination travel patterns as in the current C/CAG Model were maintained in the MPM model to ensure consistency with the regional forecasts.

The C/CAG model incorporates regional housing and jobs data and future-year forecasts for 2040 – derived from the VTA and MTC models – to ensure that the MPM takes into account the regional nature of travel patterns affecting Menlo Park. The MPM outputs were utilized to determine the net change in VMT and traffic volumes that would occur under each analysis scenario.

The MPM model is suitable for forecasting realistic peak hour traffic volumes, travel speeds, and travel times on local roadways and intersections due to future congestion within the City sphere of influence. The MPM model also produces VMT information for the entire trip length required by SB 743 guidelines because the trip generation, distribution, and mode choice models were done at the regional scale. VMT methodology is discussed more under the subheading “Vehicles Miles Traveled” below.

The zonal details in the Menlo Park city area were enhanced by nesting within the C/CAG Model refined traffic analysis zones (TAZs) to guarantee interoperability between the new TAZ structure and the regional model TAZs. The City of Menlo Park provided refined TAZ boundary definitions and land use data. The number of TAZs within city boundaries increased from 24 in the C/CAG Model to 80 in the MPM. The new

TAZ structure provides the detailed information required to support the traffic analysis for the proposed project.

The network details of local streets in the study area were enhanced based on the latest MTC Travel Model Two (TM2) network. The key link attributes required for demand modeling such as facility type, area type, and link class were coded to be consistent with the C/CAG model.

Dynamic Traffic Assignment (DTA)

A well-known issue with the static traffic assignment in traditional travel demand models is the overestimation of link volumes because physical congestion was not represented in vehicle routing. It is not unusual to see unrealistic volume-to-capacity ratios, sometimes greater than 1.5, in future conditions. This overestimation issue is especially problematic during peak hour congestion because not all trips can reach their destinations during the peak hour. A new Dynamic Traffic Assignment (DTA) methodology, that simulates the progression of vehicles on the network with physical congestion explicitly considered was used to provide a more realistic forecast of vehicle routing under peak hour congestion. Vehicles will reroute when a link is blocked, the volume-to-capacity ratios will rarely exceed one.

Thus, in addition to the C/CAG time-of-day models, a DTA Model for AM/PM peak hour conditions was developed to enhance the modeling of vehicle speed and vehicle miles traveled of projects under congested conditions on local streets. A subarea extraction procedure was conducted to obtain a citywide trip table that contains origin-destination trips between MPM TAZs and external stations that is consistent with regional origin-destination travel patterns in the C/CAG Model. The citywide trip tables were then assigned using the DTA peak hour model to obtain peak hour link volumes.

The MPM model is suitable for forecasting realistic peak hour traffic volumes, travel speeds, and travel times on local roadways and intersections due to future congestion within the city sphere of influence.

Intersection Level-of-Service Analysis Methodology

The operational performance of a roadway network is commonly described with the term level of service (LOS). Level of service is a qualitative description of operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The level-of-service analysis methods outlined in the Highway Capacity Manual (HCM) (Transportation Research Board, 2010) were used in this study. This methodology provides for more reliable analysis of actual intersection operations by incorporating characteristics such as the signal timing plan, the effects of pedestrians on signal phase duration, traffic volume peaking characteristics, motorist behavioral characteristics, and others. The 2010 HCM is used for assessing intersection operations and defining impacts, and allows for the definition of vehicular mitigation measures, such as lengthening or adding turning lanes, modifying the signal phasing or timing, and other options. The HCM methods for calculating level of service for signalized and unsignalized intersections are described below.

Signalized Intersections

Traffic operations at signalized intersections are evaluated using the level-of-service method described in the 2010 Highway Capacity Manual. A signalized intersection's level of service is based on the weighted

average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Table 4.13-2 summarizes the relationship between the control delay and LOS for signalized intersections.

TABLE 4.13-2 LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual, 2010.

Unsignalized Intersections

The level of service for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street.

At side-street stop-controlled intersection, delay and level of service are reported for the worst movement. At all-way stop-controlled intersections, delay and level of service are reported based on the intersection average including all approaches. Table 4.13-3 summarizes the relationship between delay and level of service for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

TABLE 4.13-3 LEVEL OF SERVICE DEFINITIONS FOR STOP-CONTROLLED INTERSECTIONS

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual, 2010.

Vehicle Miles Traveled

In anticipation of the expected implementation of SB 743 and the transition to VMT analysis to determine environmental impacts rather than level of service, this analysis includes a discussion of VMT per capita for each scenario. VMT is a measure of the amount of miles travelled for a proposed development or area.

As discussed above in Section 4.13.1.1, Regulatory Framework, SB 743 requires impacts to transportation network performance to be viewed through a filter that promotes the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. VMT per capita was identified as the preferred metric in the Draft CEQA Guidelines for Transportation Analysis[19] published in January 2016.

VMT refers to trips multiplied by the trip distances. For purposes of the proposed project, all trips that either start or end in Menlo Park are accounted for in the VMT analysis. Generally, trips have two ends, in that every trip has an origin and a destination. The VMT estimate is based on total vehicle for trips occurring wholly within the city, and one-half of all vehicle miles for trips that begin or end outside the city. The other one-half of trips that begin or end outside the city is attributed to the location of that trip. Trips that are only passing through the city are not accounted for in Menlo Park's VMT estimate. However, the location of the trip origin and destination accounts for the VMT attributable for that trip.

VMT per capita is the VMT of the development or the area divided by the population and the number of jobs in the development or area. VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per capita VMT.

[19] Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA; Implementing Senate Bill 743 (Steinberg, 2013). Available: www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf

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As previously discussed in Section 4.13.1.1, Regulatory Framework, VMT is an important metric in the evaluation and management of travel and congestion on both a regional and local level. For example, VMT is a key factor that influences transportation GHG emissions because the level of travel activity is a determinant of fuel consumption. VMT is also used in noise and air quality analyses because it provides an indication of the overall performance of the automobile and truck transportation system within the city. A greater VMT means more noise and more air pollution. For a discussion of VMT as it relates to air quality, GHG emissions and noise, see Chapter 4.2, Air Quality, Chapter 4.6, Greenhouse Gas, and Chapter 4.10, Noise, of this Draft EIR.

Study Locations

This section evaluates the impacts of the proposed project on 64 intersections and 87 roadway segments. The study area for the traffic analysis was selected based on consultation with City staff to capture the roadway facilities likely to experience impacts due to buildout of the proposed project.

Study Intersections

The 64 study intersections are shown in Table 4.13-4 by intersection number, name, control type jurisdiction. The level-of-service threshold for each intersection is also listed.

Study Roadway Segments

The study segments, shown in Table 4.13-5, were selected for analysis of average daily traffic (ADT) based on 24-hour traffic count data provided by the City. Table 4.13-5 is organized by segment number and name, the streets the segment is between and the City's street classification – either primary arterial, minor arterial, collector or local.

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
1	Sand Hill Road and I-280 NB Off-Ramp	Signal	Caltrans	D
2	Sand Hill Road and I-280 NB On-Ramp	Signal	Caltrans	D
3	Sand Hill Road and Addison-Wesley	Signal	Menlo Park	D
4	Saga Lane and Sand Hill Road	Signal	Menlo Park	D
5	Branner Drive and Sand Hill Road	Signal	Menlo Park	D
6	Sharon Park Drive and Sand Hill Road	Signal	Menlo Park	D
7	Alpine Road/Santa Cruz Avenue and Junipero Serra Boulevard	Signal	Menlo Park	D
8	Santa Cruz Avenue and Sand Hill Road	Signal	Menlo Park	D
9	Oak Avenue/Vine Road and Sand Hill Road	Signal	Menlo Park	D
10	Santa Cruz Avenue and Elder Avenue	Signal	Menlo Park	D
11	Valparaiso Avenue and University Drive	Signal	Menlo Park	D

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
12	Santa Cruz Avenue and University Drive (S)	Signal	Menlo Park	D
13	Oak Grove Avenue and Laurel Street	Signal	Menlo Park	C
14	Ravenswood Avenue and Laurel Street	Signal	Menlo Park	D
15	Middlefield Road and Ravenswood Avenue	Signal	Menlo Park	D
16	Middlefield Road and Ringwood Avenue	Signal	Menlo Park	D
17	Middlefield Road and Willow Road	Signal	Menlo Park	D
18	Willow Road and Gilbert Avenue	Signal	Menlo Park	D
19	Willow Road and Coleman Avenue	Signal	Menlo Park	D
20	Willow Road and Durham Street	Signal	Menlo Park	D
21	Marsh Road and Bay Road	Signal	Menlo Park	D
22	Marsh Road and Bohannon Drive	Signal	Menlo Park	D
23	Marsh Road and Scott Drive	Signal	Menlo Park	D
24	El Camino Real and Encinal Avenue	Signal	Caltrans	D
25	El Camino Real and Glenwood Avenue	Signal	Caltrans	D
26	El Camino Real and Oak Grove Avenue	Signal	Caltrans	D
27	El Camino Real and Santa Cruz Avenue	Signal	Caltrans	D
28	El Camino Real and Ravenswood Avenue	Signal	Caltrans	D
29	El Camino Real and Roble Avenue	Signal	Caltrans	D
30	El Camino Real and Middle Avenue	Signal	Caltrans	D
31	El Camino Real and Cambridge Avenue	Signal	Caltrans	D
32	Willow Road and Bay Road	Signal	Menlo Park	D
33	Willow Road and Newbridge Street	Signal	Caltrans	D
34	Willow Road and O'Brien Drive	Signal	Caltrans	D
35	Willow Road and Ivy Drive	Signal	Caltrans	D
36	Willow Road and Hamilton Avenue	Signal	Caltrans	D
37	Willow Road and Bayfront Expressway	Signal	Caltrans (CMP)	D
38	Bayfront Expressway and University Avenue	Signal	Caltrans (CMP)	D
39	University Avenue and O'Brien Drive	Signal	Caltrans	D
40	Bayfront Expressway (SR 84) and Chilco Street	Signal	Caltrans	D
41	Bayfront Expressway (SR 84) and Chrysler Drive	Signal	Caltrans	D
42	Bayfront Expressway and Marsh Road	Signal	Caltrans (CMP)	D
43	Marsh Road and US 101 SB	Signal	Caltrans	D
44	Marsh Road and US 101 NB	Signal	Caltrans	D

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
45	Chilco Street and Constitution Drive	All Way Stop	Menlo Park	C
46	Chrysler Drive and Constitution Drive	All Way Stop	Menlo Park	C
47	University Avenue and Adams Drive	Side-street Stop	Caltrans	D
48	Chrysler Drive and Jefferson Drive	Side-street Stop	Menlo Park	C
49	Chrysler Drive and Independence Drive	Side-street Stop	Menlo Park	C
50	Jefferson Drive and Constitution Drive	Side-street Stop	Menlo Park	C
51	University Avenue and Bay Road	Signal	East Palo Alto	D
52	University Avenue and Runnymede Street	Signal	East Palo Alto	D
53	University Avenue and Bell Street	Signal	East Palo Alto	D
54	University Avenue and Donohoe Street	Signal	Caltrans	D
55	US 101 NB Ramps and Donohoe Street	Signal	Caltrans	D
56	University Avenue and US 101 SB Ramps	Signal	Caltrans	D
57	University Avenue and Woodland Avenue	Signal	East Palo Alto	D
58	University Avenue and Middlefield Road	Signal	Palo Alto	D
59	Middlefield Road and Lytton Avenue	Signal	Palo Alto	D
60	Chilco Street and Hamilton Avenue	All-way Stop	Menlo Park	C
61	Chilco Street and Terminal Avenue	All-way Stop	Menlo Park	C
62	Chilco Street and Ivy Drive	All-way Stop	Menlo Park	C
63	Chilco Street and Newbridge Street	All-way Stop	Menlo Park	C
64	Marsh Road and Middlefield Road	Signal	Menlo Park	D

Notes: CMP = C/CAG Congestion Management Plan
Source: TJKM Transportation Consultants May 2016.

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
1	Alameda de las Pulgas	Avy Avenue	Santa Cruz Avenue	Minor Arterial	12,450
2[a]	Alameda de las Pulgas	Valparaiso Avenue	Avy Avenue	Minor Arterial	15,330
3[a]	Alameda de las Pulgas	City Limit	Valparaiso Avenue	Minor Arterial	16,140
4	Alma Street	Ravenswood Avenue	Oak Grove Avenue	Collector	1,640
5	Alma Street	Willow Road	Ravenswood Avenue	Collector	3,240
6	Alpine Road	City Limit	Junipero Serra Boulevard	Minor Arterial	23,310
7[b]	Avy Avenue	City Limit	Alameda de las Pulgas	Collector	4,610
8	Avy Avenue	Alameda de las Pulgas	Santa Cruz Avenue	Collector	5,940
9	Bay Road	Greenwood Drive	Marsh Road	Collector	5,550
10	Bay Road	Ringwood Avenue	Greenwood Drive	Collector	5,660
11	Bay Road	Willow Road	Ringwood Avenue	Collector	7,580
12	Bohannon Drive	Campbell Avenue	Marsh Road	Collector	3,910
13	Chilco Street	Constitution Drive	Bayfront Expressway	Collector	7,000
14	Chrysler Drive	Constitution Drive	Bayfront Expressway	Collector	4,070
15	Constitution Drive	Chilco Street	Chrysler Drive	Collector	2,360
16	Crane Street	Oak Grove Avenue	Santa Cruz Avenue	Collector	2,660
17	Crane Street	Santa Cruz Avenue	Menlo Avenue	Collector	2,420
18	Encinal Avenue	El Camino Real	Laurel Street	Collector	5,600
19	Encinal Avenue	Laurel Street	Middlefield Road	Collector	4,950
20	Glenwood Avenue	El Camino Real	Laurel Street	Collector	5,980
21	Hamilton Avenue	Willow Road	Chilco Street	Collector	2,770
22	Haven Avenue	Bayfront Expressway/Marsh Road	City Limit	Collector	7,400
23	Junipero Serra Boulevard	City Limit	Alpine Road	Primary Arterial	16,010
24	Laurel Street	Oak Grove Avenue	Glenwood Avenue	Collector	4,060
25	Laurel Street	Ravenswood Avenue	Oak Grove Avenue	Collector	4,410

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
26	Laurel Street	Willow Road	Ravenswood Avenue	Collector	4,470
27	Marsh Road	City Limit	Bay Road	Minor Arterial	22,850
28	Marsh Road	Bay Road	Bohannon Drive	Primary Arterial	25,830
29	Marsh Road	Bohannon Drive	Scott Drive	Primary Arterial	32,410
30	Menlo Avenue	University Avenue	Crane Street	Collector	7,360
31	Menlo Avenue	Crane Street	El Camino Real	Collector	8,650
32	Middle Avenue	Olive Street	University Drive	Collector	7,250
33	Middle Avenue	University Drive	El Camino Real	Collector	8,920
34[b]	Middlefield Road	Ravenswood Avenue	Oak Grove Avenue	Minor Arterial	14,760
35	Middlefield Road	Willow Road	Ravenswood Avenue	Minor Arterial	19,690
36	Middlefield Road	City Limit	Willow Road	Minor Arterial	18,420
37	Newbridge Street	Willow Road	Chilco Street	Collector	7,070
38	Oak Grove Avenue	University Drive	Crane Street	Collector	6,360
39	Oak Grove Avenue	Crane Street	El Camino Real	Collector	7,700
40	Oak Grove Avenue	El Camino Real	Laurel Street	Collector	9,570
41	Oak Grove Avenue	Laurel Street	Middlefield Road	Collector	8,650
42	O'Brien Drive	Kavanaugh Drive	Willow Road	Collector	6,370
43	O'Brien Drive	University Avenue	Kavanaugh Drive	Collector	3,280
44	Ravenswood Avenue	El Camino Real	Alma Street	Minor Arterial	23,980
45	Ravenswood Avenue	Alma Street	Laurel Street	Minor Arterial	18,760
46	Ravenswood Avenue	Laurel Street	Middlefield Road	Minor Arterial	16,550
47[a]	Ringwood Avenue	Middlefield Road	Bay Road	Collector	7,300
48	Sand Hill Road	I-280	Sharon Park Drive	Primary Arterial	28,050
49	Sand Hill Road	Santa Cruz Avenue	Sharon Park Drive	Primary Arterial	30,790
50	Sand Hill Road	Santa Cruz Avenue	City Limit	Minor Arterial	32,740

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
51	Santa Cruz Avenue	Junipero Serra Blvd.	Sand Hill Road	Minor Arterial	26,480
52[a]	Santa Cruz Avenue	Sand Hill Road	Alameda de las Pulgas	Minor Arterial	23,230
53	Santa Cruz Avenue	Alameda de las Pulgas	Avy Avenue/Orange Avenue	Minor Arterial	10,900
54	Santa Cruz Avenue	Avy Avenue/Orange Avenue	Olive Street	Minor Arterial	14,520
55	Santa Cruz Avenue	Olive Street	University Drive	Minor Arterial	15,320
56	Santa Cruz Avenue	University Drive	Crane Street	Minor Arterial	7,620
57	Santa Cruz Avenue	Crane Street	El Camino Real	Minor Arterial	7,370
58	Scott Drive	Marsh Road	Campbell Avenue	Collector	4,820
59	Sharon Park Drive	Sand Hill Road	Sharon Road	Collector	9,970
60	Sharon Road	Sharon Park Drive	Alameda de las Pulgas	Collector	3,780
61	University Drive	Middle Avenue	Menlo Avenue	Collector	5,840
62	University Drive	Menlo Avenue	Santa Cruz Avenue	Collector	9,310
63	University Drive	Santa Cruz Avenue	Oak Grove Avenue	Collector	7,160
64	University Drive	Oak Grove Avenue	Valparaiso Avenue	Collector	5,110
65	Valparaiso Avenue	Alameda de las Pulgas	Cotton Street	Minor Arterial	12,050
66	Valparaiso Avenue	Cotton Street	University Avenue	Minor Arterial	14,440
67	Valparaiso Avenue	University Drive	El Camino Real	Minor Arterial	13,010
68	Willow Road	Alma Street	Laurel Street	Collector	3,360
69	Willow Road	Laurel Street	Middlefield Road	Collector	5,250
70	Willow Road	Middlefield Road	Gilbert Avenue	Collector	24,330
71	Chilco Street	Hamilton Avenue	Terminal Avenue	Collector	4,780
72	Chilco Street	Ivy Drive	Hamilton Avenue	Collector	2,650
73	Chilco Street	Newbridge Street	Ivy Drive	Collector	2,110
74	Hamilton Avenue	Willow Road	Hamilton Court	Collector	2,640
75	Willow Road	Gilbert Avenue	Coleman Avenue	Minor Arterial	24,350

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
76	Willow Road	Coleman Avenue	Durham Street	Minor Arterial	41,190
77	Willow Road	Durham Street	Bay Road	Minor Arterial	34,150
78	Chilco Street	Terminal Avenue	Constitution Drive	Collector	5,100
79	Chrysler Drive	Constitution Drive	Independence Drive	Collector	3,270
80	Chrysler Drive	Independence Drive	Commonwealth Drive	Collector	1,110
81	Adams Drive	University Drive	Adams Court	Local	1,260
82	Olive Street	Santa Cruz Avenue	Middle Avenue	Local	2,450
83	Olive Street	Middle Avenue	Oak Avenue	Local	3,050
84	Cambridge Avenue	University Drive	El Camino Real	Local	1,600
85	Linfield Drive	Middlefield Road	Waverley Street	Local	1,760
86	Waverley Street	Laurel Street	Linfield Drive	Local	1,650
87	Ivy Drive	Chilco Street	Willow Road	Local	3,200

a. San Mateo County jurisdiction
b. Town of Atherton jurisdiction
Source: TJKM Transportation Consultants, January 2016.

4.13.1.4 2014 EXISTING CONDITIONS

This scenario evaluates each of the study locations based on existing traffic volumes, controls, and lane geometries. As previously described under Section 4.13.1.3, Traffic Analysis Overview, this scenario evaluates the existing traffic demand volumes on local roads and freeway segments based on counts collected in Fall 2014 and existing lane configurations. Buildout under 2014 Existing conditions is shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

Vehicle Miles Traveled

The MPM model was utilized to provide an estimate of VMT for vehicle trips beginning and/or ending in Menlo Park. The VMT estimate is based on total vehicle for trips within the city, and one-half of all vehicle miles for trips that begin or end outside the city. Per capita VMT is based on VMT divided by the population (both residents and number of jobs within the city). Table 4.13-6 summarizes the estimated daily VMT per capita under 2014 Existing conditions. As shown, the VMT per capita under 2014 Existing conditions is 15 miles per person. In comparison to the regional average, VMT per person described in the 2013 *Plan Bay Area* EIR is 20.8 miles per person.

TABLE 4.13-6 2014 EXISTING DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
Existing Conditions	934,722	32,900	30,900	15

Source: TJKM Transportation Consultants, January 2016.

Roadway Segments Daily Traffic Volumes

The 2014 Existing daily traffic volumes on all study segments are shown in Table 4.13-5 above. Key findings, as applicable by street classification, are as follow:

- City Arterials:
  City arterial streets that carry more than 18,000 daily vehicles include:
  - Willow Road (41,200 daily vehicles between Coleman Avenue and Durham Street).
  - Marsh Street (32,700 daily vehicles between Bohannon and Scott Drive).
  - Sand Hill Road (30,800 daily vehicles between Sharon Park Drive and Santa Cruz Avenue).
  - Ravenswood Avenue (24,600 daily vehicles between El Camino Real and Alma Street).
  - Middlefield Road (19,700 daily vehicles between Willow Road and Ravenswood Avenue).

  City arterial streets that carry fewer than 18,000 daily vehicles include:
  - Segments of Santa Cruz Avenue (volumes range from 7,000 to just over 15,000 daily vehicles).
  - Alameda de las Pulgas, which carries 12,500 vehicles near Santa Cruz Avenue.
- City Collectors: Four out of 50 collector study segments exceed 9,000 daily vehicles under existing conditions. The majority of collector study segments carry between 3,000 and 9,000 daily vehicles.

- Local Streets: Six out of the seven local street study segments carry more than 1,350 daily vehicles under existing conditions, with volumes ranging from 1,600 daily vehicles on Cambridge Avenue to 3,200 daily vehicles on Ivy Drive; the seventh local street segment, Adams Drive, currently carries just under 1,300 daily vehicles.

Peak Hour Traffic Operations

The 2014 Existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning and evening peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were conducted during typical weekday AM and PM peak periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., respectively) at the study intersections in Fall 2014.

Appendix K of this Draft EIR includes all data sheets for the collected vehicle, bicycle, and pedestrian counts.

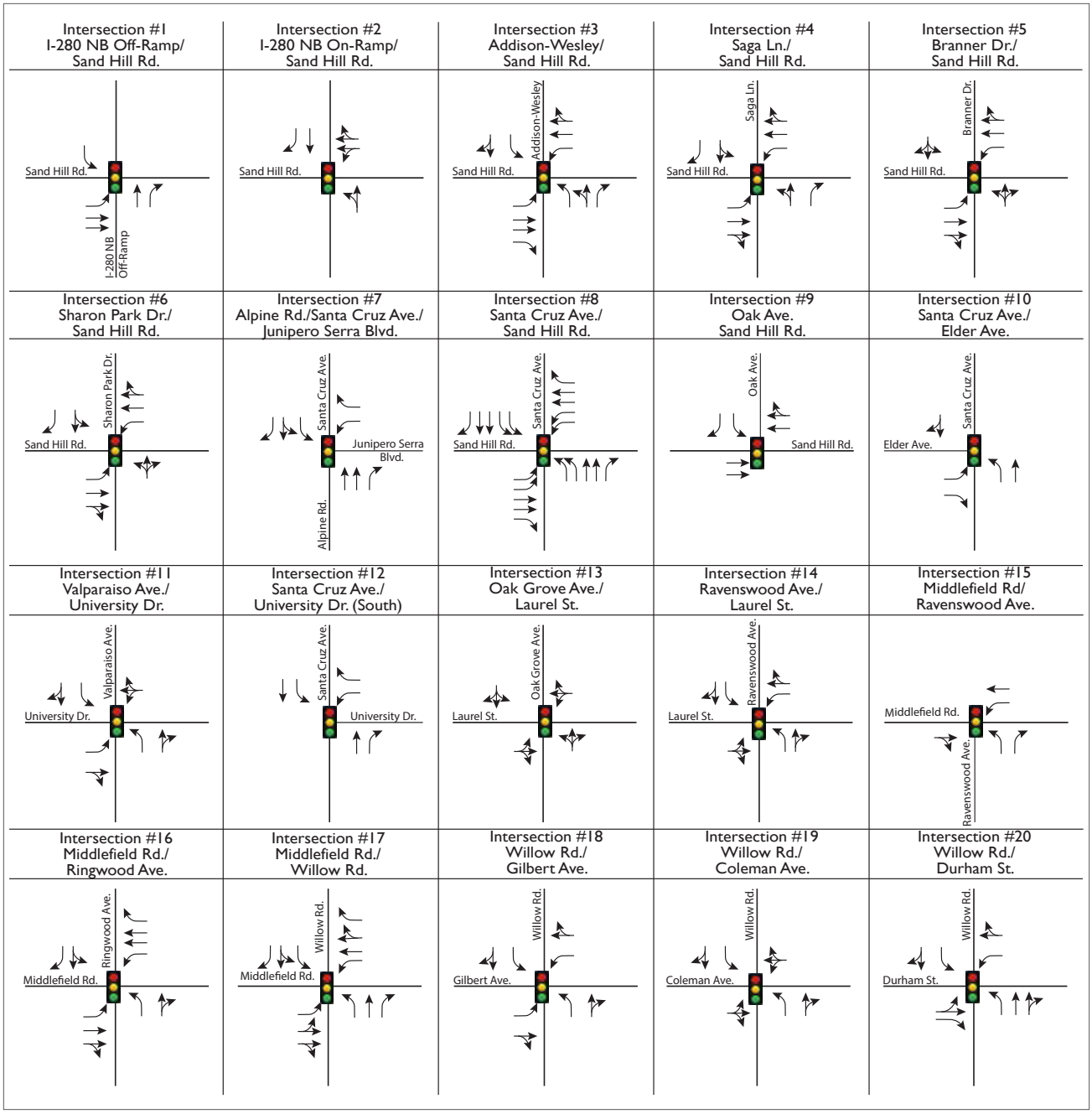
Traffic operations for the study intersections were evaluated under 2014 Existing for the weekday AM and PM peak hours based on the turn movement count data. 2014 Existing lane configurations, signal timings, and peak hour turning movement volumes were used to calculate the levels of service for the study intersections during each peak hour.

Figures 4.13-5a, 4.13-5b and 4.13-5c illustrate the existing lane configurations and traffic control at each study intersection. Figures 4.13-6a, 4.13-6b and 4.13-6c illustrate the existing peak hour vehicle turning movement volumes, lane geometry, and traffic controls at each study intersections. City of Menlo Park staff provided the signal timing sheets for each signalized intersection. Observed peak hour factors were used for all intersections for the existing conditions analysis.

Detailed LOS calculations are contained in Appendix K of this Draft EIR.

Along the Willow Road corridor – from Bayfront Expressway to Middlefield Road – City staff indicated that that counted traffic volumes do not appropriately reflect demand, and isolated intersection operations limit the ability of the Vistro program to capture these results. Therefore, instead of calculated level of service, the level of service results are based on level of service as identified by the City to reflect "unserved demand."[20] Specifically, this pertains to study intersections #s 17 through 20, and 32 through 38 during one or both peak hours, as described in the references to unserved demand summarized below. The 2014 Existing peak hour level of service for each study intersection is illustrated on Figure 4.13-7 and summarized in Appendix K of this Draft EIR. All study intersections currently operate at acceptable levels with the exception of 18 intersections. Table 4.13-7 includes a list of the 18 intersections that are currently operating at unacceptable levels under 2014 Existing conditions.

[20] Unserved demand refers to the upstream and downstream congestion results in delay that are not captured by VISTRO analysis.



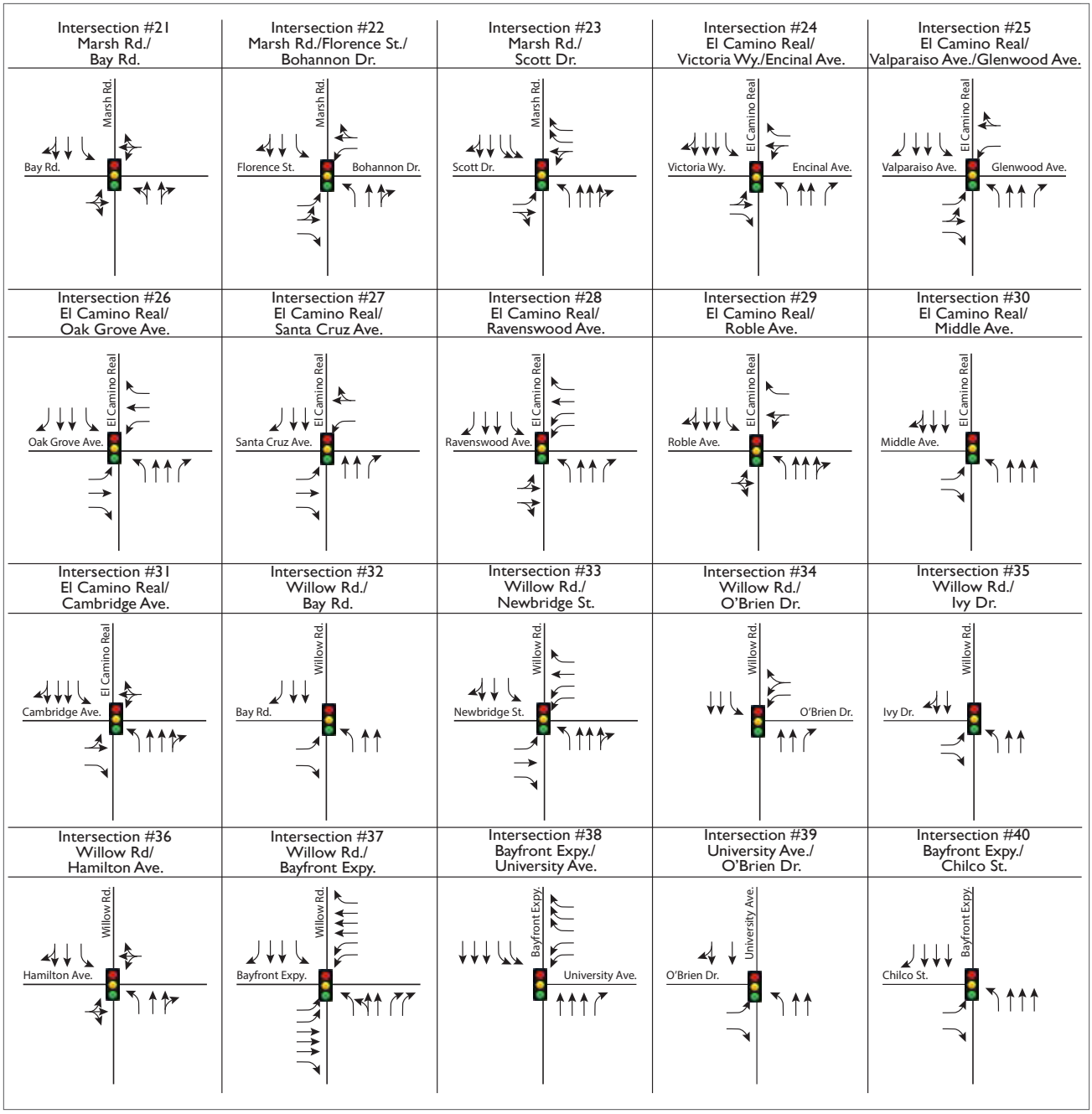
Source: TJKM, 2016.

Traffic Signal

Stop Sign

Figure 4.13-5a

2014 Existing Lane Geometry and Signal Controls



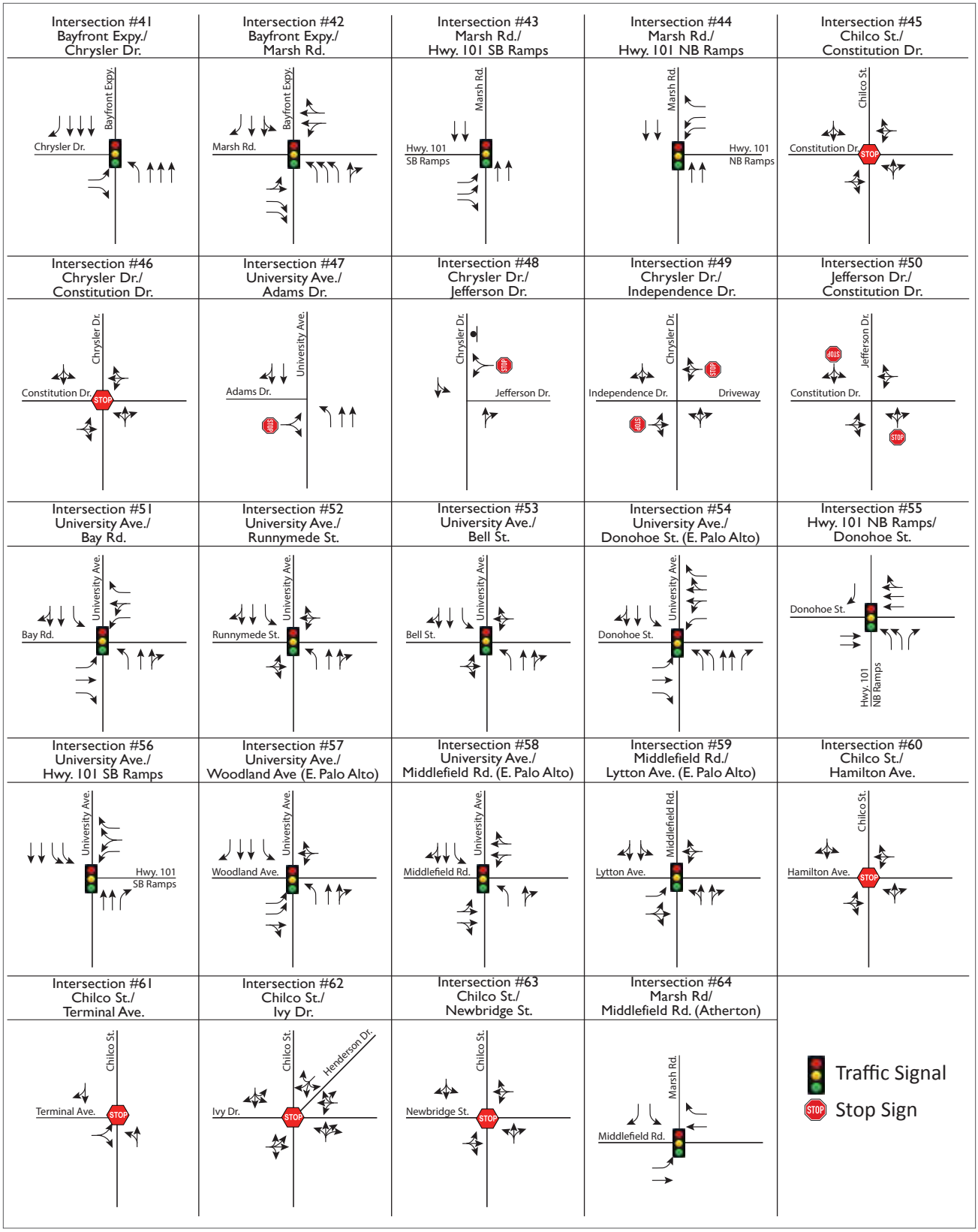
Source: TJKM, 2016.

Traffic Signal

Stop Sign

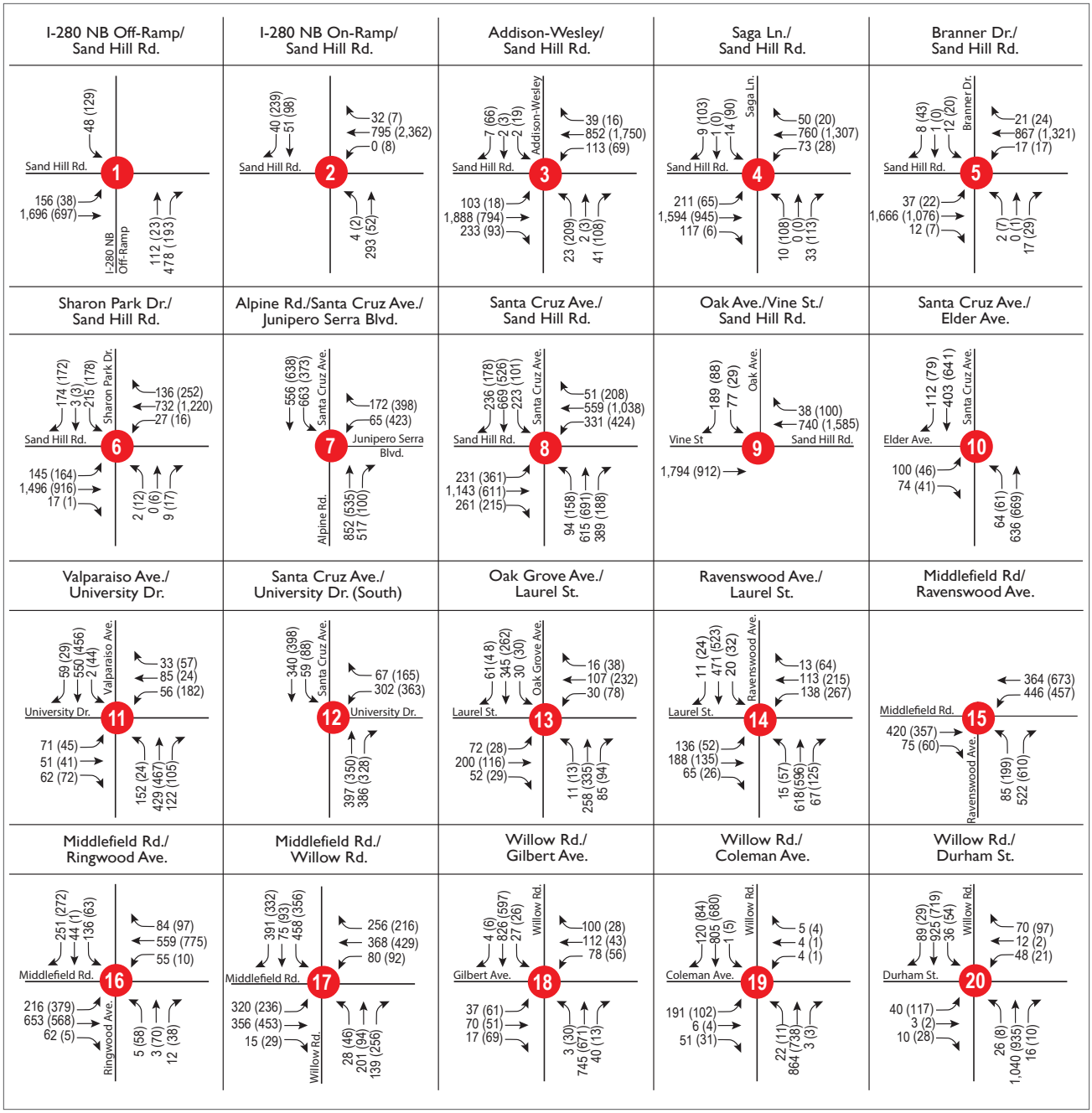
Figure 4.13-5b

2014 Existing Lane Geometry and Signal Controls



Source: TJKM, 2016.

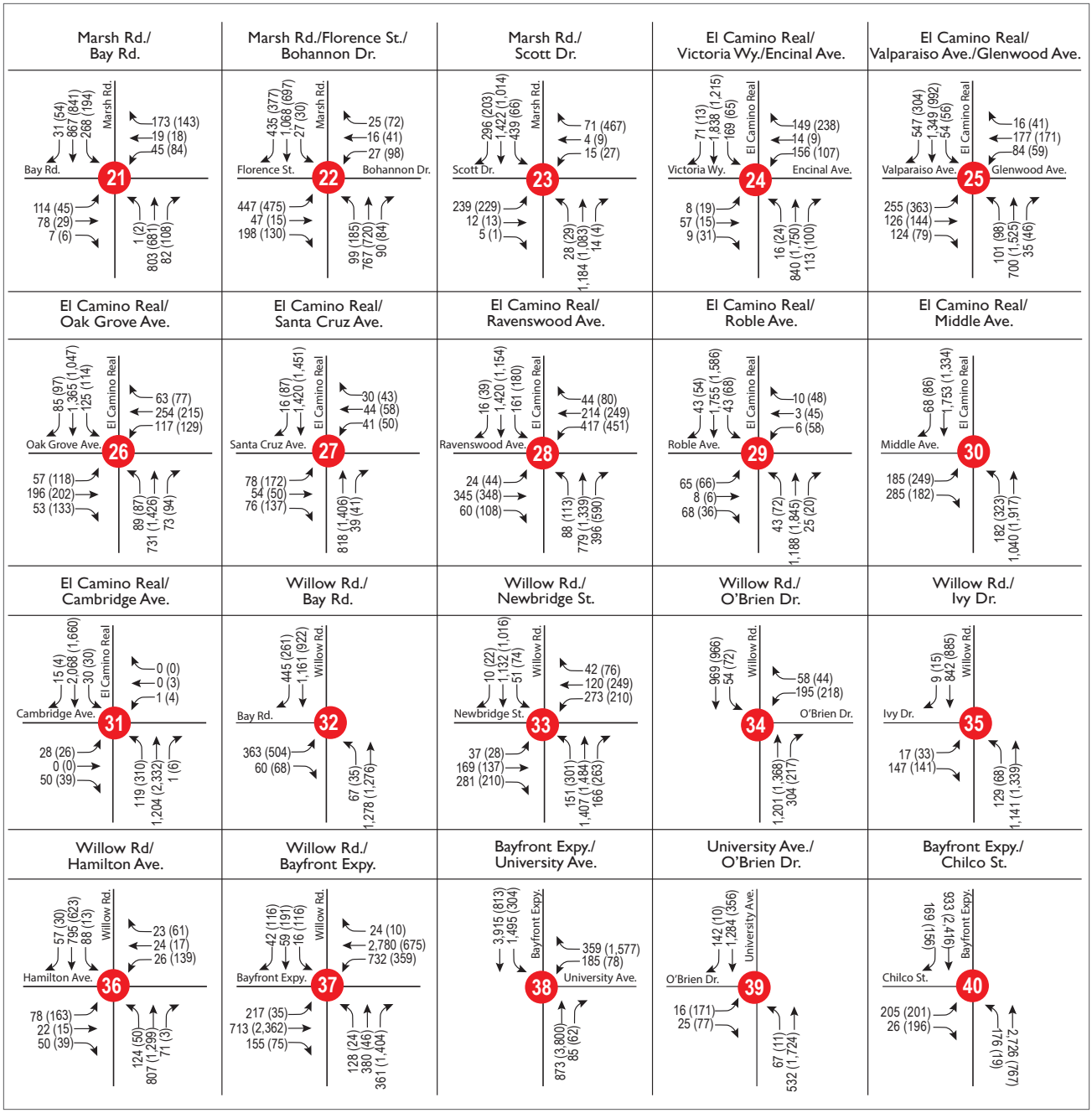
Figure 4.13-5c
2014 Existing Lane Geometry and Signal Controls



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

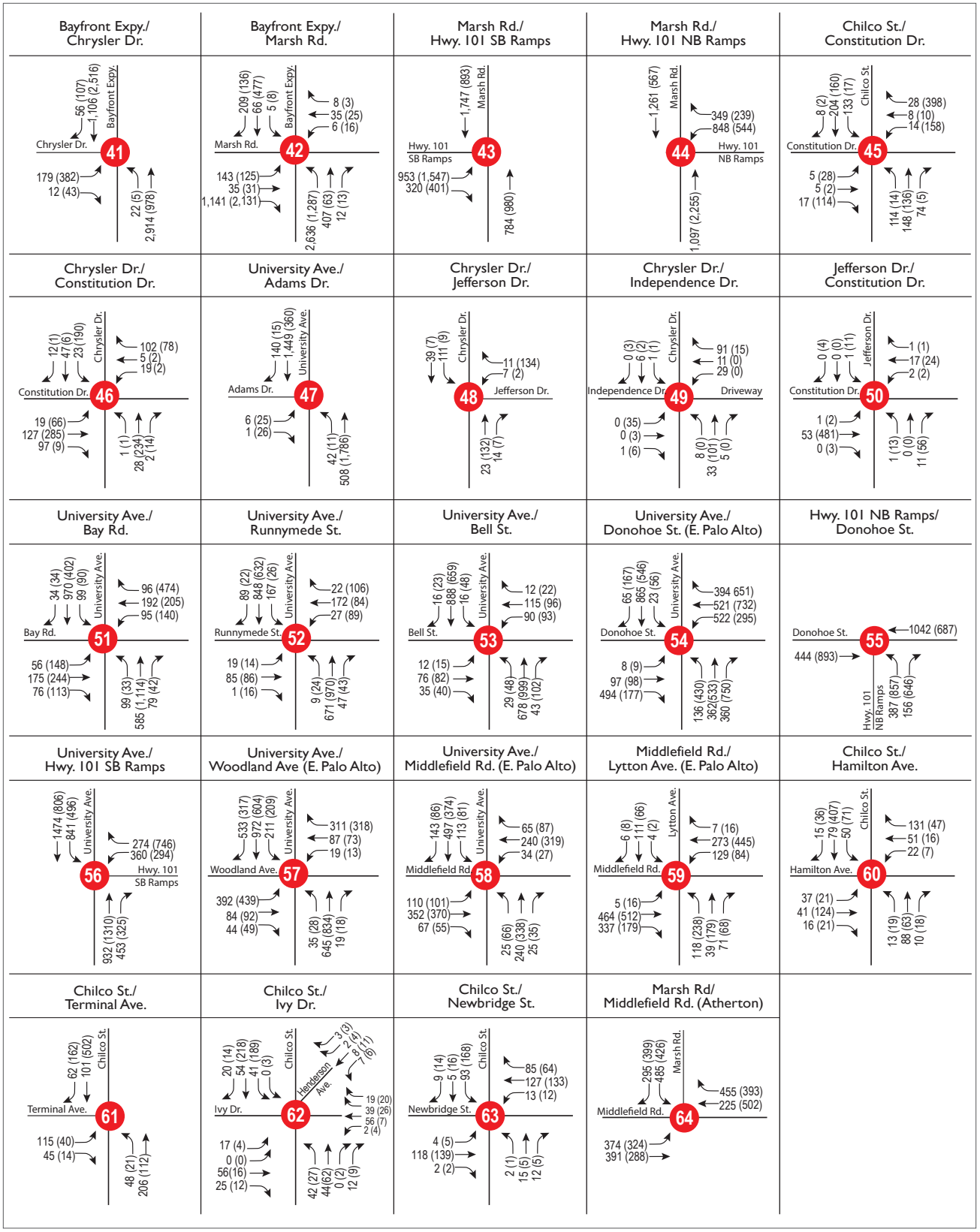
Figure 4.13-6a
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

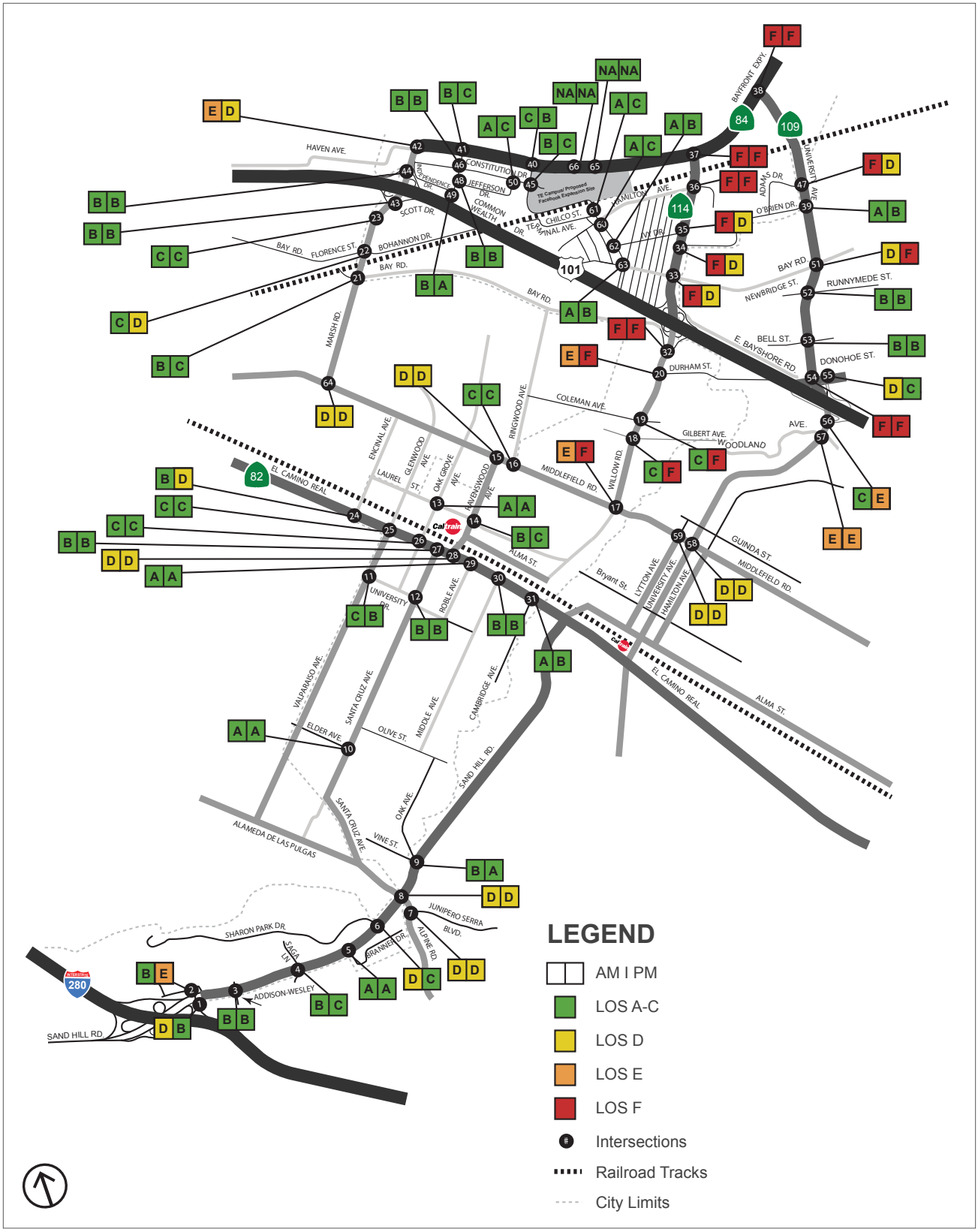
Figure 4.13-6b
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-6c
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-7
2014 Existing Intersection LOS

TABLE 4.13-7 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2014 EXISTING CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
2	Sand Hill Rd. and Hwy 280 NB On-Ramp	D	B	14.5	**E**	**74.0**	n/a
17	Middlefield Rd. and Willow Rd.	D	**E**	**61.9**	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand due to delay approaching the intersection that are not measured by the VISTRO delay calculations
18	Willow Rd. and Gilbert Ave.	D	C	20.7	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand
19	Willow Rd. and Coleman Ave.	D	C	21.1	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand
20	Willow Rd. and Durham St.	D	**E**	**>55***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
32	Willow Rd. and Bay Rd.	D	**F**	**>80***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
33	Willow Rd. and Newbridge St.	D	**F**	**>80***	D	38.0	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80***	D	>35*	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
35	Willow Rd. and Ivy Dr.	D	**F**	**>80***	D	>35*	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
37	Willow Rd. and Bayfront Expwy.	D	**F**	**>80***	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand affecting the northbound right-turn movements
38	Bayfront Expwy. and University Ave.	D	**F**	**>80***	**F**	**>128.3**	During the AM peak hour, this finding reflects unserved demand affecting the westbound left-turn movement
42	Bayfront Expwy. and Marsh Rd.	D	**E**	**65.0**	D	44.0	n/a
47	University Ave. and Adams Dr.	D	**F**	**>50**	D	33.2	Level of service at this side-street controlled intersection reflects delay to the low-volume side-street on Adams Drive approaching the stop-sign
51	University Ave. and Bay Rd.	D	D	38.0	**F**	**100.6**	n/a
54	University Ave. and Donohoe St.	D	**F**	**115.5**	**F**	**128.8**	n/a
56	University Ave. and US 101 SB Ramps	D	C	30.9	**E**	**59.3**	n/a
57	University Ave. and Woodland Ave.	D	**E**	**58.6**	**F**	**71.2**	n/a

Notes: Bold and highlighted indicates unacceptable LOS. LOS=Level of Service. Delay=average control delay per vehicle. (Delay at side-street stop-controlled intersections is shown for worst movement.)
*Indicates LOS based on "unserved demand." At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, May 2016.

4.13.1.5 2040 NO PROJECT CONDITIONS

This section describes traffic conditions that would occur in 2040 without the adoption of the proposed project, as described in Chapter 3, Project Description, of this Draft EIR. Therefore, this scenario is called the "2040 No Project" scenario. As previously described under Section 4.13.1.3, Traffic Analysis Overview, this scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, and the remaining General Plan buildout potential. Buildout under the No Project conditions is shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

A significant transportation project scheduled for Menlo Park under the 2040 No Project conditions is the reconstruction of the Willow Road and US 101 interchange, including future signalized intersections at the junction of the ramps and Willow Road. The project is anticipated to be completed by 2018.

Existing lane configurations, signal timings, and peak hour turning movement volumes would remain at most study intersections. However, improvement projects that are planned and funded are assumed to be in place under the 2040 No Project conditions, including those that would expand approach capacity at the following study intersection locations:

- Bayfront Expressway and Chilco Street (#40): planned installation of a second northbound left-turn lane and a longer right-lane in conjunction with bicycle lane modifications and installation of a crosswalk across the south leg of the intersection.
- Bayfront Expressway and Chrysler Drive (#41): planned installation of a second northbound left-turn lane and a longer right-lane in conjunction with installation of a crosswalk across the south leg of the intersection.
- Bayfront Expressway and Marsh Road (#40): planned installation of a third eastbound right-turn lane.
- Chrysler Drive and Constitution Drive (#46): installation of a traffic signal.

Additional improvements that have been identified as mitigation measures necessary for the Facebook Campus Expansion Project, that is currently undergoing separate environmental review, are not assumed to be in place in this analysis, since the Facebook Campus Expansion Project has not been approved at the time of the preparation of this Draft EIR.

Vehicle Miles Traveled

The MPM model was utilized to provide an estimate of VMT for vehicle trips beginning and/or ending in Menlo Park. The VMT estimate is based on total vehicle trips within the city, and one-half of all vehicle miles for trips that begin or end outside the city. Per capita VMT is based on VMT divided by the population (both residents and number of jobs within the city). Table 4.13-8 compares the estimated daily VMT per capita under 2014 Existing scenario and the 2040 No Project scenario. As shown, the VMT per capita under 2040 No Project increases to 19 miles per person as compared to 2014 Existing conditions with 15 miles per person. This is due to the growth in jobs outpacing planned residential growth, exacerbating the jobs-to-housing ratio within the city.

TABLE 4.13-8 DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA COMPARISON: 2014 EXISTING AND 2040 NO PROJECT

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
2014 Existing	934,722	32,900	30,900	15
2040 No Project	1,655,624	38,780	47,750	19

Source: TJKM Transportation Consultants, January 2016.

Roadway Segment Daily Traffic Volumes

The 2040 No Project scenario compares projected traffic growth with 2014 Existing conditions using the Impact Criteria described in the Section 4.13.2, Standards of Significance, of this chapter. The criteria require evaluation of each roadway classification according to the ADT level of the segment in question.

Daily traffic volumes with the 2040 No Project conditions for all study roadway segments are shown in the Appendix K of this Draft EIR. The forecasted net change in average daily traffic (ADT) between 2014 Existing conditions and 2040 No Project conditions exceeds the significance threshold at the majority of study segments, as summarized in Table 4.13-9 below.

Peak Hour Traffic Operations

Peak-hour traffic volumes under 2040 No Project conditions at each study intersection were forecasted based on anticipated changes to peak-hour traffic volumes that will result from buildout under the 2040 No Project scenario. By utilizing the MPM model, this forecast also incorporates anticipated changes to the jobs/housing balance in adjacent cities and throughout the region by 2040 that will affect peak-hour traffic patterns.

Figures 4-14-8a, 4.14-8b and 4.14-8c illustrate the forecasted peak hour vehicle turning movement volumes at each study intersection under 2040 No Project conditions. The forecasted peak-hour traffic volumes reflect the anticipated net change that would result from the 2040 No Project conditions.

The peak hour level of service for each study intersection under the 2040 No Project conditions is illustrated on Figure 4.13-9, and summarized in Appendix K of this Draft EIR. A majority of study intersections currently operate at acceptable levels, but 23 intersections do not. Table 4.13-10 includes a list of the 23 intersections that would operate at unacceptable levels of service under 2040 No Project conditions.

Same as the 2014 Existing conditions scenario, the level of service results are based on level of service as identified by the City to reflect unserved demand. Specifically, this pertains to study intersections numbers 17 through 20, and 32 through 36, during one or both peak hours, as described in the references to unserved demand summarized in Table 4.13-10 below.

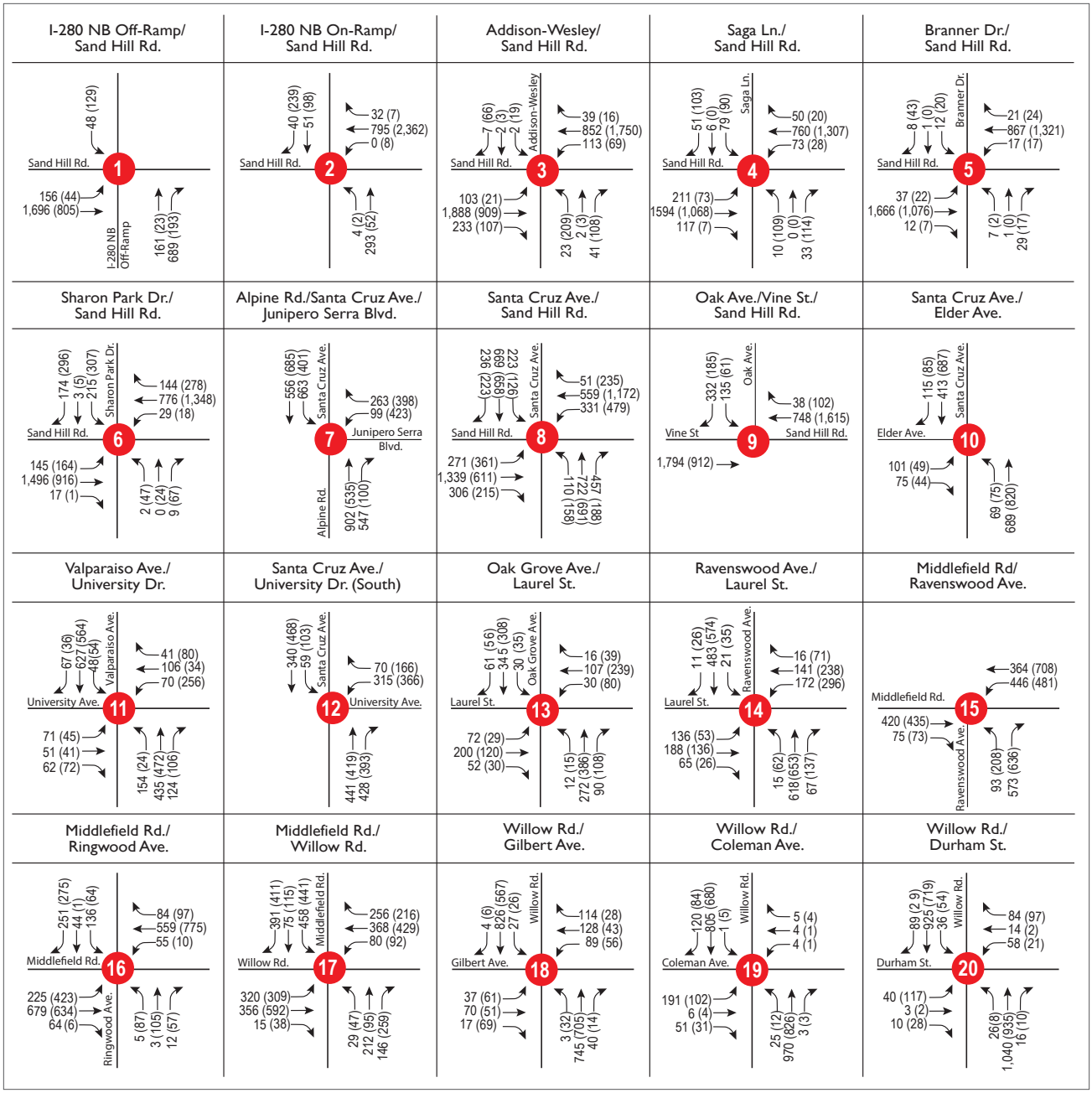
TABLE 4.13-9 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 NO PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project
1	Alameda De Las Pulgas	Avy Ave.	Santa Cruz Ave.	Minor Arterial	12,450	14,710
2	Alameda De Las Pulgas	Valparaiso Ave.	Avy Ave.	Minor Arterial	15,330	18,250
3	Alameda De Las Pulgas	City Limit	Valparaiso Ave.	Minor Arterial	16,140	19,330
5	Alma St.	Willow Rd.	Ravenswood Ave.	Collector	3,240	4,910
6	Alpine Rd.	City Limit	Junipero Serra Blvd.	Minor Arterial	23,310	26,330
9	Bay Rd.	Greenwood Dr.	Marsh Rd.	Collector	5,550	10,190
10	Bay Rd.	Ringwood Ave.	Greenwood Dr.	Collector	5,660	10,100
11	Bay Rd.	Willow Rd.	Ringwood Ave.	Collector	7,580	9,580
13	Chilco St.	Constitution Dr.	Bayfront Expwy.	Collector	7,000	17,380
15	Constitution Dr.	Chilco St.	Chrysler Dr.	Collector	2,360	6,680
18	Encinal Ave.	El Camino Real	Laurel St.	Collector	5,600	6,050
19	Encinal Ave.	Laurel St.	Middlefield Rd.	Collector	4,950	5,840
21	Hamilton Ave.	Willow Rd.	Chilco St.	Collector	2,770	3,480
22	Haven Ave.	Bayfront Expwy./Marsh Rd.	City Limit	Collector	7,400	15,120
23	Junipero Serra Blvd.	City Limit	Alpine Rd.	Primary Arterial	16,010	18,530
24	Laurel St.	Oak Grove Ave.	Glenwood Ave.	Collector	4,060	5,520
25	Laurel St.	Ravenswood Ave.	Oak Grove Ave.	Collector	4,410	6,190
26	Laurel St.	Willow Rd.	Ravenswood Ave.	Collector	4,470	5,590
27	Marsh Rd.	City Limit	Bay Rd.	Minor Arterial	22,850	25,180
28	Marsh Rd.	Bay Rd.	Bohannon Dr.	Primary Arterial	25,830	33,040
29	Marsh Rd.	Bohannon Dr.	Scott Dr.	Primary Arterial	32,410	42,390
35	Middlefield Rd.	Willow Rd.	Ravenswood Ave.	Minor Arterial	19,680	21,920
36	Middlefield Rd.	City Limit	Willow Rd.	Minor Arterial	18,420	21,810
37	Newbridge St.	Willow Rd.	Chilco St.	Collector	7,070	12,160
38	Oak Grove Ave.	University Dr.	Crane St.	Collector	6,350	7,670
39	Oak Grove Ave.	Crane St.	El Camino Real	Collector	7,700	10,940
40	Oak Grove Ave.	El Camino Real	Laurel St.	Collector	9,570	11,760

TABLE 4.13-9 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 NO PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project
42	O'Brien Dr.	Kavanaugh Dr.	Willow Rd.	Collector	6,370	7,880
43	O'Brien Dr.	University Ave.	Kavanaugh Dr.	Collector	3,280	3,600
44	Ravenswood Ave.	El Camino Real	Alma St.	Minor Arterial	23,980	25,690
47	Ringwood Ave.	Middlefield Rd.	Bay Rd.	Collector	7,300	9,500
48	Sand Hill Rd.	I-280	Sharon Park Dr.	Primary Arterial	28,050	30,120
49	Sand Hill Rd.	Santa Cruz Ave.	Sharon Park Dr.	Primary Arterial	30,790	33,870
50	Sand Hill Rd.	Santa Cruz Ave.	City Limit	Minor Arterial	32,740	35,010
51	Santa Cruz Ave.	Junipero Serra Blvd.	Sand Hill Rd.	Minor Arterial	26,480	30,860
52	Santa Cruz Ave.	Sand Hill Rd.	Alameda de las Pulgas	Minor Arterial	23,230	26,730
54	Santa Cruz Ave.	Avy Ave./Orange Ave.	Olive St.	Minor Arterial	14,520	16,160
59	Sharon Park Dr.	Sand Hill Rd.	Sharon Rd.	Collector	9,970	10,610
68	Willow Rd.	Alma St.	Laurel St.	Collector	3,360	5,010
69	Willow Rd.	Laurel St.	Middlefield Rd.	Collector	5,250	7,620
70	Willow Rd.	Middlefield Rd.	Gilbert Ave.	Collector	24,330	23,610
71	Chilco St.	Hamilton Ave.	Terminal Ave.	Collector	4,780	10,990
72	Chilco St.	Ivy Dr.	Hamilton Ave.	Collector	2,650	8,280
73	Chilco St.	Newbridge St.	Ivy Dr.	Collector	2,110	7,210
75	Willow Rd.	Gilbert Ave.	Coleman Ave.	Minor Arterial	24,350	24,520
76	Willow Rd.	Coleman Ave.	Durham St.	Minor Arterial	41,190	41,290
77	Willow Rd.	Durham St.	Bay Rd.	Minor Arterial	34,150	35,850
78	Chilco St.	Terminal Ave.	Constitution Dr.	Collector	5,100	11,250
81	Adams Dr.	University Dr.	Adams Ct.	Local	1,260	3,490
82	Olive St.	Santa Cruz Ave.	Middle Ave.	Local	2,450	2,560
83	Olive St.	Middle Ave.	Oak Ave.	Local	3,050	3,280
86	Waverley St.	Laurel St.	Linfield Dr.	Local	1,650	1,860
87	Ivy Dr.	Chilco St.	Willow Rd.	Local	3,200	3,910

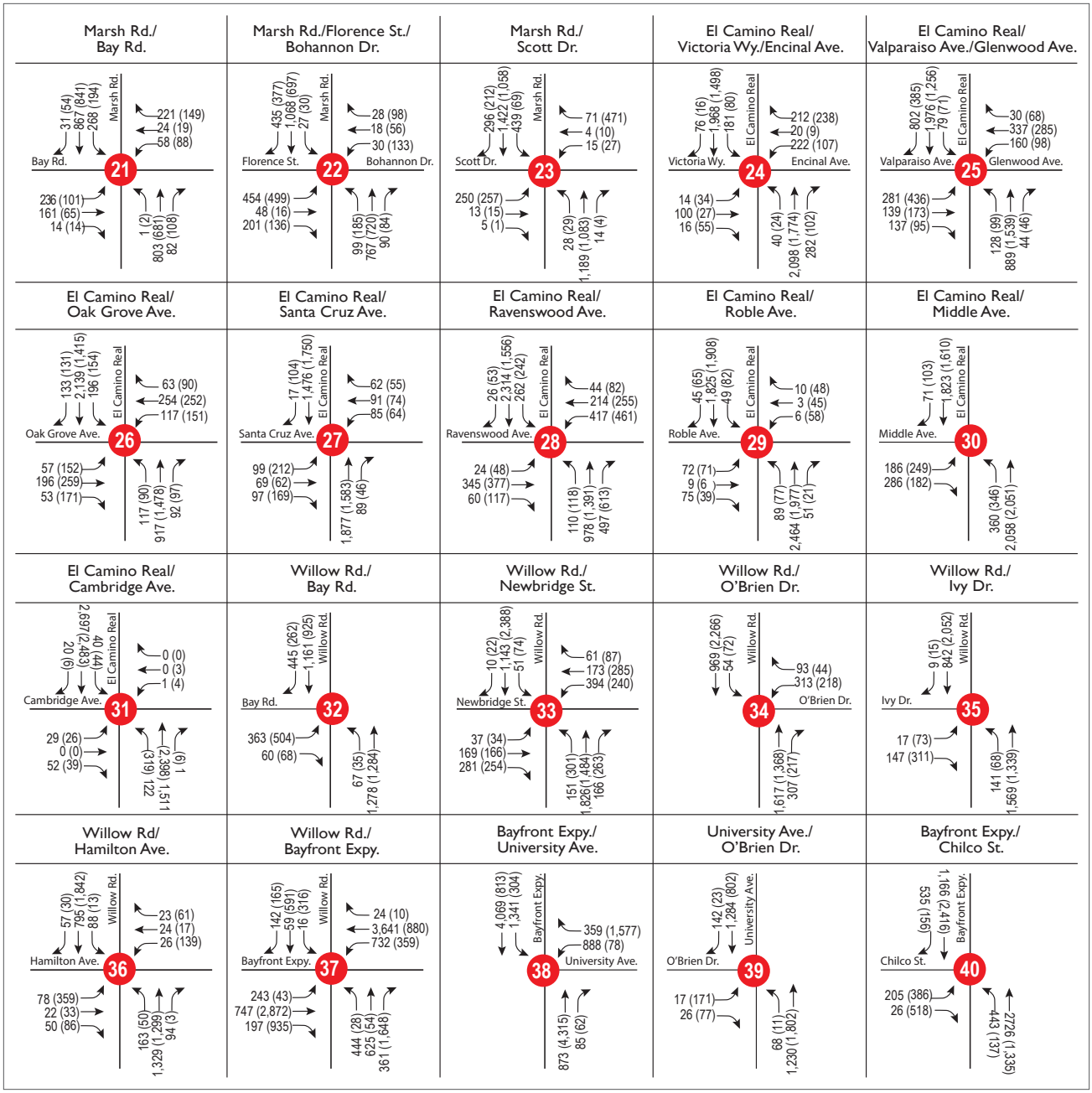
Source: TJKM Transportation Consultants, 2016



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

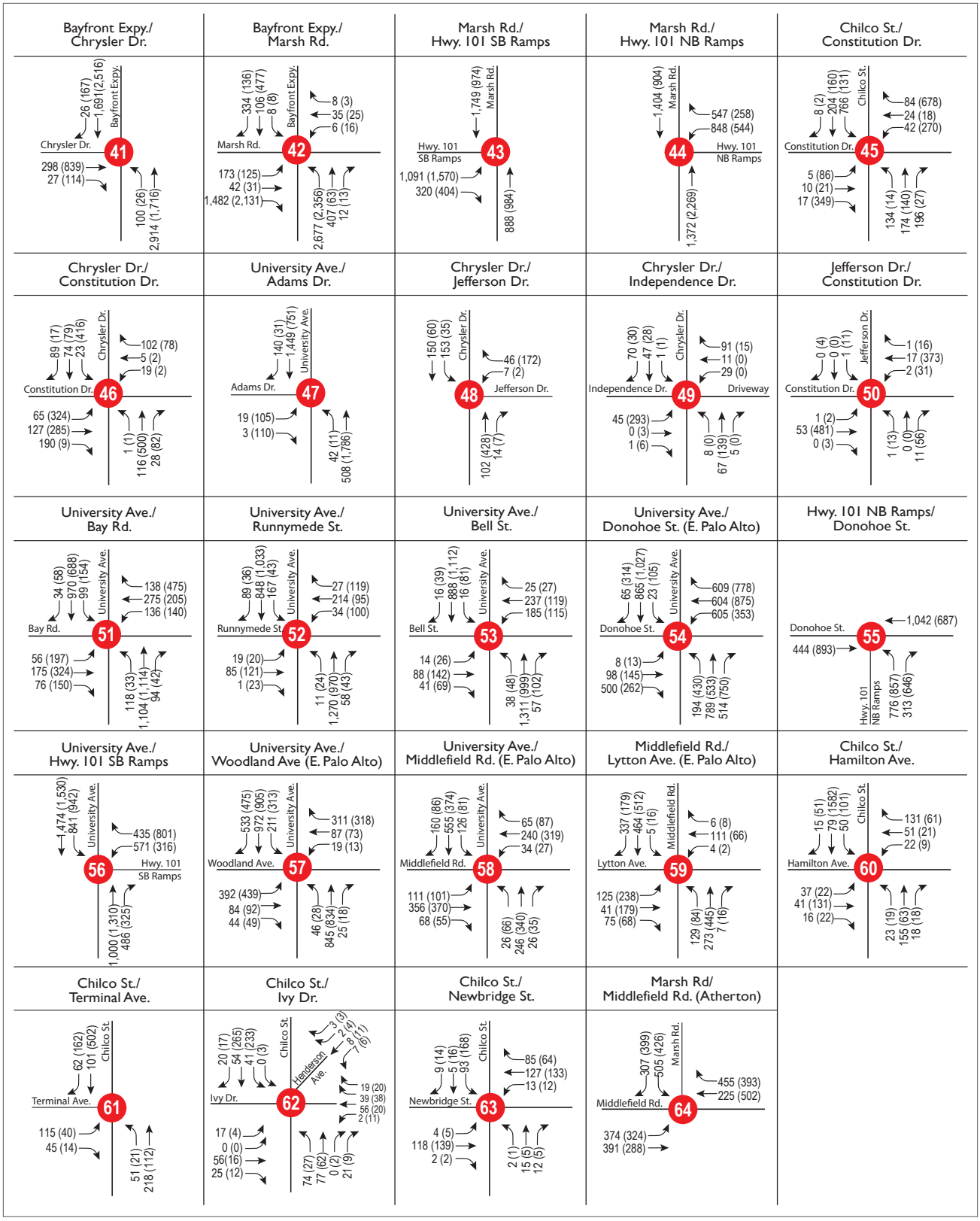
Figure 4.13-8a
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

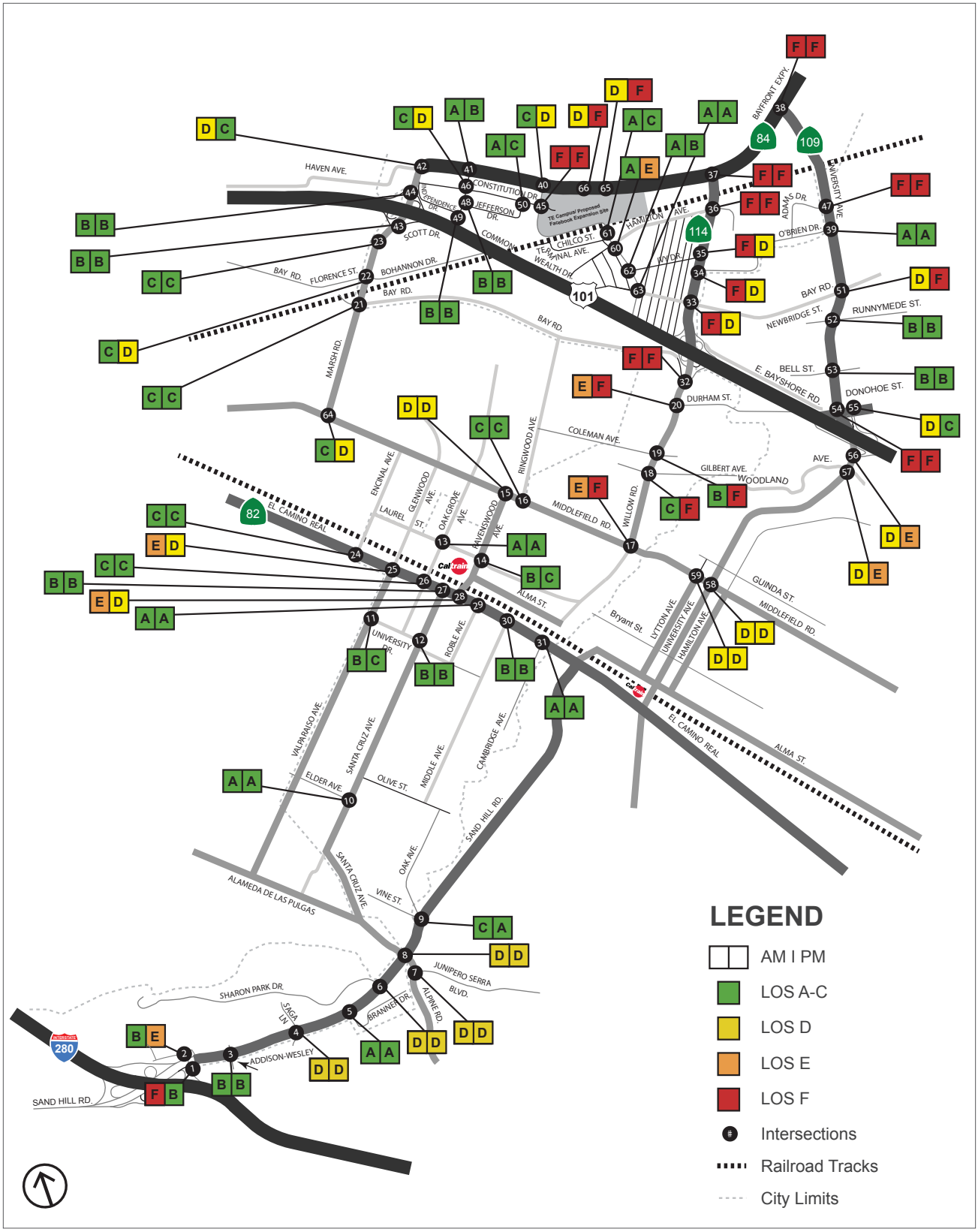
Figure 4.13-8b
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-8c
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-9
2040 No Project Intersection LOS

TABLE 4.13-10 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 NO PROJECT CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
1	Sand Hill Rd. and I-280 NB Off-Ramp	D	**F**	**85.6**	B	10.5	n/a
2	Sand Hill Rd. and I-280 NB On-Ramp	D	B	14.5	**E**	**74.0**	n/a
17	Middlefield Rd. and Willow Rd.	D	**E**	**58.9**	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand due to upstream delay
18	Willow Rd. and Gilbert Ave.	D	C	21.3	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand.
19	Willow Rd. and Coleman Ave.	D	B	19.4	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand.
20	Willow Rd. and Durham St.	D	**E**	**>55 ***	**F**	**>80 ***	During both the AM and PM peak hour, this finding reflects unserved demand.
25	El Camino Real and Glenwood Ave.	D	**E**	**64.9**	D	49.0	n/a
28	El Camino Real and Ravenswood Ave.	D	**E**	**73.0**	D	48.1	n/a
32	Willow Rd. and Bay Rd.	D	**F**	**>80 ***	**F**	**>80 ***	During both peak hours, this finding reflects delay due to unserved demand and downstream queues (southbound approaching the US 101 ramps during the AM peak hour, and northbound approaching the Willow/Bayfront intersection during the PM peak hour).
33	Willow Rd. and Newbridge St.	D	**F**	**>80 ***	D	50.2	During the AM peak hour, this finding reflects delay from downstream queues (southbound approaching the US 101 ramps)
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80 ***	D	>35	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during AM peak hour
35	Willow Rd. and Ivy Dr.	D	**F**	**>80 ***	D	>35	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during AM peak hour
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80 ***	**F**	**98.5**	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during a.m. peak hour
37	Willow Rd. and Bayfront Expwy.	D	**F**	**141.9**	**F**	**123.9**	n/a
38	Bayfront Expwy. and University Ave.	D	**F**	**97.6**	**F**	**151.4**	During the AM peak hour, this finding reflects unserved demand

TABLE 4.13-10 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 NO PROJECT CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
							affecting the westbound left-turn movement
45	Chilco St. and Constitution Dr.	C	**F**	**>50**	**F**	**>50**	n/a
46	Chrysler Dr. and Constitution Dr.	C	C	26.1	**D**	**51.6**	n/a
47	University Ave. and Adams Dr.	D	**F**	**>50**	**F**	**>50**	n/a
51	University Ave. and Bay Rd.	D	D	37.2	**F**	**107.5**	n/a
54	University Ave. and Donohoe St.	D	**F**	**120.2**	**F**	**>160**	n/a
56	University Ave. and US 101 SB Ramps	D	D	39.8	**E**	**69.7**	n/a
57	University Ave. and Woodland Ave.	D	D	49.0	**E**	**58.1**	n/a
60	Chilco St. and Hamilton Ave.	C	A	9.2	**E**	**41.6**	n/a

Notes: Bold and highlighted indicates unacceptable LOS.
LOS=Level of Service. Delay=average control delay per vehicle.
* Indicates LOS based on unserved demand. At these locations, upstream and downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, 2016.

4.13.2 STANDARDS OF SIGNIFICANCE

Per the Appendix G, Environmental Checklist, of the CEQA Guidelines, implementation of the proposed project would result in a significant impact if it would:

1. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit, non-motorized travel, and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
2. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

This Draft EIR applies the significance criteria as discussed below to evaluate the impacts of the proposed project per the standards of significance listed above.

Significant Impact Criteria

The City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, Caltrans, and the County of San Mateo each have transportation impact guidelines and standards of significance. The transportation items of the CEQA checklist are addressed through these local, regional and state guidelines. The proposed project analysis includes the City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, and Caltrans facilities. As such, the appropriate standard of significance is applied to respective intersections, roadway segments, or Routes of Regional Significance.

The following standards of significance are prescribed by the City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, and Caltrans.

Level of Service Standards

Peak hour traffic impacts would be potentially significant if:

- City Arterial Intersections. Project traffic increment causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of an arterial intersections operating at LOS E or F prior to the addition of project traffic.

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- Local Approaches to State-Controlled Intersections. Project traffic increment causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of an arterial intersections operating at LOS E or F prior to the addition of project traffic.
- Other City Intersections (Collector and Local streets). Project traffic increment causes an intersection operating at LOS C or better to reach LOS D, E, or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of a collector or local street intersection operating at LOS D, E, or F prior to the addition of project traffic.
- State (Caltrans) Controlled Intersections. At State-controlled intersections currently operating at LOS D or better, the project would have an impact if the cumulative analysis indicates that the combination of the project and future cumulative traffic demand would result in the intersection operating at a LOS that violates the standard adopted and the project increases control delay at the intersection by four (4) seconds or more. For intersections operating at LOS E or F, the project would have an impact if the cumulative analysis indicates that the combination of the project and future cumulative traffic demand would result in increasing the average control delay at the intersection by four (4) seconds or more.
- Atherton Intersections. At Town of Atherton-controlled intersections currently, operating at LOS D or better, the project would have an impact if the project traffic increment results in an intersection LOS of E or F or increases the critical worst approach delay by four (4) seconds or more if the LOS is E or F.
- Palo Alto and East Palo Alto Intersections. At City of Palo Alto and East Palo Alto-controlled intersections currently operating at LOS D or better, the project would have an impact if the LOS becomes E or F or the average control delay for the critical movements deteriorates by four (4) seconds or more and the critical volume-to-capacity ratio (v/c) value increases by 0.01 or more if the LOS is currently E or F.
- Routes of Regional Significance. LOS for freeway segments is based on the C/CAG impact criteria from the 2013 CMP. According to the 2013 CMP, for freeway segments currently in compliance with the adopted LOS standard, a project is considered to have an impact if the project will cause the freeway segments to operate at an LOS that violates the standard adopted. Additionally, a project would have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand would result in the freeway segment to operate at an LOS that violates the adopted standard. An impact could also occur if the project increased traffic demand on the freeway segment by an amount equal to one (1) percent or more of the segment capacity, or would cause the freeway segment v/c ratio to increase by one (1) percent. If the freeway segment is not in compliance with the adopted LOS standard, the project is considered to have an impact if the project will add traffic demand equal to one (1) percent or more of the segment capacity of causes the freeway segment v/c ratio to increase by one (1) percent.

The following facilities are designated as Routes of Regional Significance by the San Mateo County CMP. The applicable standards for those CMP facilities are summarized below.

- LOS Standards for CMP Roadway Segments (based on hourly lane capacity and peak-hour volumes):
  - State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road, LOS D.

- SR 84 (Bayfront Expressway) from Willow Road to University Avenue, LOS E.
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County line, LOS F.
- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive, LOS E.
- SR 114 (Willow Road) from US 101 to SR 84, LOS E.
- US 101, from Whipple Avenue to Santa Clara County Line, LOS F.

- LOS Standards for CMP Intersections:
  - Willow Road (SR 114) and Bayfront Expressway (SR 84) (#37), LOS F for AM and PM Peak Hours.
  - Bayfront Expressway (SR 84) and University Avenue (SR 109) (#38), LOS F for AM and PM Peak Hours.
  - Bayfront Expressway (SR 84) and Marsh Road (#42), LOS F for AM and PM Peak Hours.

Roadway Segment Daily Traffic Volume Standards

As part of the proposed project, the street classifications would be changed. These are described in Table 3-1 in Chapter 3, Project Description, of this Draft EIR. However, for the purposes of this Draft EIR, the adopted standards are applied in order to assess impacts of land use changes on existing standards. Therefore, by applying the City's existing standards, the impacts to study segments, which are based on average daily traffic (ADT), would be potentially significant if:

- City Arterials. The existing ADT is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.
- City Collectors. The existing ADT is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.
- Local Streets. The existing ADT is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project-related traffic increases the ADT by 25 percent.

Pedestrian and Bicycle Standards

Impacts to pedestrian and/or bicycle facilities would be potentially significant if:

- The project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system, or vehicles would cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards, or project design would cause increased potential for bicycle/vehicle conflicts. The project would include elements that conflict with applicable pedestrian and bicycle polices.

Transit Standards

Impacts to transit facilities would be potentially significant if:

- The project would generate a substantial increase in transit riders that cannot be adequately serviced by the existing transit services; or the project would generate demand for transit services in an area that is more than one-quarter mile from existing transit routes. The project would include elements that conflict with applicable transit polices.

Vehicle Miles Traveled Standards

For purposes of this analysis, impacts on VMT are considered potentially significant if:

- The proposed project results in citywide VMT per capita that would exceed 15 percent below VMT per capita for the region. For purposes of this analysis, data from the 2013 *Plan Bay Area* EIR was used to determine the regional average VMT per capita at 20.8 miles per person. The threshold is therefore 15 percent of 20.8 miles, or 17.7 miles per person.

4.13.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to the transportation and circulation network in the study area.

TRANS-1	**Implementation of the proposed project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit, non-motorized travel, and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.**

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project includes an update to the General Plan Circulation Element. The proposed Circulation Element includes a new emphasis on complete streets, multi-modal transportation, and community circulation benefits from private development, transportation system safety and efficiency, and community transit services. The proposed Circulation Element includes new street classifications that adopt a multi-modal approach that establishes and promotes the suitability of streets for various travel modes and adjacent land uses. The goals, policies, and programs of the proposed Circulation Element address the topics of safe transportation system, complete streets, sustainable transportation, health and wellness (through transportation enhancements), transit opportunities, transportation demand management, and parking, and also apply citywide.

As described in the threshold statement above, a significant impact could occur if the proposed project would conflict with the applicable regulation taking into account all modes of transportation. The following impact discussion focuses on vehicular transportation, while impacts related to other modes of transportation, including consistency with applicable regulations, are discussed under TRANS-5 below.

As previously described under Section 4.13.1.3, Traffic Analysis Overview, this chapter includes an evaluation of three scenarios: 2014 Existing, 2040 No Project, and 2040 Plus Project. This section focuses on 2040 Plus Project, which evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, plus the ongoing development potential under the Current General Plan and the proposed new development potential in the Bayfront Area under the proposed project. The 2040 Plus Project scenario compares projected traffic growth with 2014 Existing conditions. Additionally, the 2040 No Project scenario results are shown for information and comparison purposes only. The roadway network is assumed to be the same as under the 2040 No Project scenario as described above in Section 4.13.1.5, 2040 No Project Conditions.

Roadway Segment Daily Traffic Volumes

The 2040 Plus Project scenario compares projected traffic growth with 2014 Existing conditions using Impact Criteria described in the Section 4.13.2, Standards of Significance of this chapter. The criteria require evaluation of each roadway classification according to the ADT level of the segment in question.

Daily traffic volumes with the 2040 Plus Project conditions for all study roadway segments are shown in Appendix K of this Draft EIR.

Table 4.13-11 below shows the roadway segments that would exceed the City's impact thresholds under 2040 Plus Project conditions on study area roadway segments compared to 2014 Existing conditions. Table 4.13-11 is organized by roadway segment number and name, the streets the roadway segment is between, and the City's street classification – either primary arterial, minor arterial, collector or local. All impacted segments are under Menlo Park's jurisdiction with the exception of Segment #52, which is under San Mateo County's jurisdiction.

As discussed under the 2040 No Project scenario, the Dynamic Traffic Assignment (DTA) procedures result in some traffic being rerouted to avoid congested locations within the region. While the 2040 Plus Project scenario actually increases traffic volumes overall compared to 2014 Existing conditions, sometimes the volumes occur on streets whose background traffic has been shifted to different locations, resulting in apparent decreases in traffic. Because the 2040 Plus Project scenario introduces new housing to the currently jobs-rich area, significant changes in traffic patterns are seen under this scenario, especially compared to 2040 No Project conditions.

The proposed Circulation (CIRC) Element contains general goals, policies and programs that would be adopted as part of the proposed project. Instead of applying solely capacity-enhancing strategies to reduce the potential impacts, the Circulation Element incorporates strategies to reduce or manage travel demand. These would require local planning and development decisions to consider circulation-related impacts.

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions[b]
1	Alameda De Las Pulgas	Avy Ave.	Santa Cruz Ave.	Minor Arterial	12,450	14,710	14,810	2,360
2	Alameda De Las Pulgas	Valparaiso Ave.	Avy Ave.	Minor Arterial	15,330	18,250	18,130	2,800
3	Alameda De Las Pulgas	City Limit	Valparaiso Ave.	Minor Arterial	16,140	19,330	19,280	3,140
5	Alma St.	Willow Rd.	Ravenswood Ave.	Collector	3,240	4,910	5,070	1,830
6	Alpine Rd.	City Limit	Junipero Serra Blvd.	Minor Arterial	23,310	26,330	26,170	2,860
9	Bay Rd.	Greenwood Dr.	Marsh Rd.	Collector	5,550	10,190	10,190	4,640
10	Bay Rd.	Ringwood Ave.	Greenwood Dr.	Collector	5,660	10,100	10,110	4,450
11	Bay Rd.	Willow Rd.	Ringwood Ave.	Collector	7,580	9,580	9,670	2,090
13	Chilco St.	Constitution Dr.	Bayfront Expwy.	Collector	7,000	17,380	9,320	2,320
15	Constitution Dr.	Chilco St.	Chrysler Dr.	Collector	2,360	6,680	5,300	2,940
18	Encinal Ave.	El Camino Real	Laurel St.	Collector	5,600	6,050	6,420	820
19	Encinal Ave.	Laurel St.	Middlefield Rd.	Collector	4,950	5,840	6,280	1,330
21	Hamilton Ave.	Willow Rd.	Chilco St.	Collector	2,770	3,480	3,470	700
22	Haven Ave.	Bayfront Expwy./Marsh Rd.	City Limit	Collector	7,400	15,120	17,490	10,090
23	Junipero Serra Blvd.	City Limit	Alpine Rd.	Primary Arterial	16,010	18,530	18,370	2,360
24	Laurel St.	Oak Grove Ave.	Glenwood Ave.	Collector	4,060	5,520	5,570	1,510
25	Laurel St.	Ravenswood Ave.	Oak Grove Ave.	Collector	4,410	6,190	5,800	1,390
26	Laurel St.	Willow Rd.	Ravenswood Ave.	Collector	4,470	5,590	5,640	1,170
27	Marsh Rd.	City Limit	Bay Rd.	Minor Arterial	22,850	25,180	26,080	3,230
28	Marsh Rd.	Bay Rd.	Bohannon Dr.	Primary Arterial	25,830	33,040	33,930	8,100
29	Marsh Rd.	Bohannon Dr.	Scott Dr.	Primary Arterial	32,410	42,390	43,410	11,000
35	Middlefield Rd.	Willow Rd.	Ravenswood Ave.	Minor Arterial	19,680	21,920	21,790	2,110
36	Middlefield Rd.	City Limit	Willow Rd.	Minor Arterial	18,420	21,810	22,310	3,890
37	Newbridge St.	Willow Rd.	Chilco St.	Collector	7,070	12,160	8,000	930
38	Oak Grove Ave.	University Dr.	Crane St.	Collector	6,350	7,670	7,430	1,080
39	Oak Grove Ave.	Crane St.	El Camino Real	Collector	7,700	10,940	10,540	2,840
40	Oak Grove Ave.	El Camino Real	Laurel St.	Collector	9,570	11,760	11,490	1,920
42	O'Brien Dr.	Kavanaugh Dr.	Willow Rd.	Collector	6,370	7,880	13,750	7,380

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions[b]
43	O'Brien Dr.	University Ave.	Kavanaugh Dr.	Collector	3,280	3,600	5,610	2,330
44	Ravenswood Ave.	El Camino Real	Alma St.	Minor Arterial	23,980	25,690	25,910	1,930
47	Ringwood Ave.	Middlefield Rd.	Bay Rd.	Collector	7,300	9,500	8,660	1,360
48	Sand Hill Rd.	I-280	Sharon Park Dr.	Primary Arterial	28,050	30,120	29,900	1,850
49	Sand Hill Rd.	Santa Cruz Ave.	Sharon Park Dr.	Primary Arterial	30,790	33,870	33,570	2,780
50	Sand Hill Rd.	Santa Cruz Ave.	City Limit	Minor Arterial	32,740	35,010	35,170	2,430
51	Santa Cruz Ave.	Junipero Serra Blvd.	Sand Hill Rd.	Minor Arterial	26,480	30,860	30,810	4,330
52[a]	Santa Cruz Ave.	Sand Hill Rd.	Alameda de las Pulgas	Minor Arterial	23,230	26,730	26,850	3,620
59	Sharon Park Dr.	Sand Hill Rd.	Sharon Rd.	Collector	9,970	10,610	10,470	500
68	Willow Rd.	Alma St.	Laurel St.	Collector	3,360	5,010	5,180	1,820
69	Willow Rd.	Laurel St.	Middlefield Rd.	Collector	5,250	7,620	7,820	2,570
70	Willow Rd.	Middlefield Rd.	Gilbert Ave.	Collector	24,330	23,610	24,460	130
71	Chilco St.	Hamilton Ave.	Terminal Ave.	Collector	4,780	10,990	8,280	3,500
72	Chilco St.	Ivy Dr.	Hamilton Ave.	Collector	2,650	8,280	5,990	3,340
73	Chilco St.	Newbridge St.	Ivy Dr.	Collector	2,110	7,210	4,030	1,920
75	Willow Rd.	Gilbert Ave.	Coleman Ave.	Minor Arterial	24,350	24,520	25,920	1,570
76	Willow Rd.	Coleman Ave.	Durham St.	Minor Arterial	41,190	41,290	42,640	1,450
77	Willow Rd.	Durham St.	Bay Rd.	Minor Arterial	34,150	35,850	37,720	3,570
78	Chilco St.	Terminal Ave.	Constitution Dr.	Collector	5,100	11,250	8,490	3,390
81	Adams Dr.	University Dr.	Adams Ct.	Local	1,260	3,490	7,760	6,500
82	Olive St.	Santa Cruz Ave.	Middle Ave.	Local	2,450	2,560	2,560	110
83	Olive St.	Middle Ave.	Oak Ave.	Local	3,050	3,280	3,270	220
85	Linfield Dr.	Middlefield Rd.	Waverley St.	Local	1,760	1,770	1,790	30
86	Waverley St.	Laurel St.	Linfield Dr.	Local	1,650	1,860	1,900	250
87	Ivy Dr.	Chilco St.	Willow Rd.	Local	3,200	3,910	4,980	1,780

a. San Mateo County jurisdiction.
b. Represents the difference between the 2040 Plus Project and 2014 Existing Conditions.
Source: TJKM Transportation Consultants,

TRANSPORTATION AND CIRCULATION

The following General Plan goals, policies and programs, would serve to minimize potential adverse impacts on the circulation network in the study area:

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
    - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
    - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
    - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
    - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
    - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.
    - Policy CIRC-2.6: Local Streets as Alternate Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to Bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce traffic on Willow Road (State Route 114).
    - Policy CIRC-2.13: County Congestion Management. Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
    - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
    - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to coordinate transportation planning efforts and to identify and secure

adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.

- Program CIRC-2.A: Manage Neighborhood Traffic. Following the adoption of a street classification system with target design speeds, establish design guidelines for each street classification. Periodically review streets for adherence to these guidelines, with priority given to preserve the quality of life in Menlo Park's residential neighborhoods and areas with community requests. Utilize a consensus-oriented process of engagement to develop an appropriate set of modifications when needed to meet the street classification guidelines.
- Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.
- Program CIRC-2.L: Transportation Impact Analysis Guidelines. Review and update the City's Transportation Impact Analysis (TIA) Guidelines, as needed. Consider factors such as preserving quality of life, appropriate accounting for mixed land uses, use of multiple transportation modes and induced travel demand.
- Program CIRC-2.M: Transportation Management Program. Establish goals and metrics for the City's Transportation Management Program, and annually assess progress toward meeting those objectives.
- Program CIRC-2.P: Plan Lines. Review all "plan lines" indicating where City owned rights-of-way exist but have not been constructed to determine whether those alignments should be maintained, modified, or abandoned, and identify locations where additional right-of-way is needed to accommodate roadway or bicycle/pedestrian improvements.
- Program CIRC-2.Q: Caltrans. Collaborate with Caltrans to achieve and maintain travel efficiency along Caltrans rights-of-way in Menlo Park consistent with the San Mateo County Congestion Management Plan.
- Program CIRC-2.R: Caltrans Relinquishment. Investigate the potential for relinquishment by Caltrans of State Route 114 (the portion of Willow Road between Bayfront Expressway and US 101 near Bay Road).

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
  - Program CIRC-6.A: Transportation Demand Management Guidelines. Update the City's Transportation Demand Management Guidelines to require new nonresidential, mixed use and multiple-dwelling development to provide facilities and programs that ensure a majority of associated travel can occur by walking, bicycling, and/or transit, and that include vehicle trip reduction reporting goals, requirements, and monitoring and enforcement mechanisms.
  - Program CIRC-6.B: Transportation Management Association. Participate in the formation of a Transportation Management Association (TMA) to assist local residents, employees, students, and other community members in identifying and taking advantage of travel options between

employment centers and rail connections, Downtown, and nearby cities. Require new, large commercial and residential development to participate in the TMA. Establish goals for the TMA, such as those for mode share, vehicle trips, or VMT by geographic areas in the City. Collaborate or partner with adjacent cities' TMAs to ensure regional consistency. [Program CIRC-3.B]

- Program CIRC-6.C: Transportation Impact Fee. Require new and expanded development to pay a transportation impact fee, and update the fee periodically to ensure that development is paying its fair share of circulation system improvement costs for all modes of transportation. [Program CIRC-1.E]

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use. As part of the Zoning update, the project includes minimum short-term and long-term bicycle parking standards. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with General Plan policies and Zoning regulations listed above that have been prepared to minimize vehicular trips and increase use of alternative forms of transportation. The City, throughout the 2040 buildout horizon, would also implement the General Plan programs that support and implement the General Plan policies that are aimed at reduce vehicular trips. Furthermore, the proposed project would introduce development incrementally over the 24-year buildout horizon of the project, which would allow for the implementation of the strategies to reduce trips while future development occurs. However, even with these mitigating regulations, the adoption of the proposed project would result in *significant* impacts with respect to roadway segment traffic volumes from increased automobile trips.

Impact TRANS-1a: Implementation of the proposed project would exceed the City's current impact thresholds under the 2040 Plus Project conditions at some roadway segments in the study area.

Mitigation Measure TRANS-1a: Widen impacted roadway segments to add travel lanes and capacity to accommodate the increase in net daily trips.

Significance With Mitigation: Significant and unavoidable. Mitigation Measure TRANS-1a is a typical improvement strategy to manage increased net daily trips. However, adding travel lanes to accommodate increased capacity of the roadway could require additional right-of-way that is not under the jurisdiction of the City, which would affect local property owners and is considered infeasible in most locations. Also, the widening of roadways can lead to other secondary impacts, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), air quality degradation, increases in noise associated with motor vehicles, and reductions in transit use (less congestion or reduced driving time may make driving more attractive than transit travel). Wider roadways also result in a degradation of pedestrian and bicycle facilities,

including increased intersection crossing times. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a level-of-service or traffic-operation issue. For these reasons, these types of measures are considered infeasible to reduce ADT on the impacted roadway segments. Furthermore, while implementation of the proposed Zoning regulations would reduce impacts at some roadways segments, it would not necessarily reduce all the impacted segments. For example, the proposed Zoning regulations that require a 20 percent trip reduction is anticipated to eliminate impacts on eight roadway segments, including segments of Alma Street, Encinal Avenue, Hamilton Avenue, Junipero Serra Boulevard, Laurel Street, Newbridge Street, and Linfield Drive. The trip reduction requirement would reduce traffic volumes at all other locations between 1 and 17 percent, resulting in reduced impacts. Additionally, the proposed street classification system would reclassify some street segments in the Bayfront Area, including segments of Chrysler Drive, Constitution Drive, Chilco Street, Adams Drive, and others, from local streets to Mixed-Use Collectors. These reclassifications would change the street design standards and eliminate or reduce impacts as streets are rebuilt to new standards over time. Furthermore, the net growth in 2040 Plus Project conditions daily traffic volumes, which represents the net change from existing conditions, includes growth that will occur without the project under 2040 No Project Conditions. Fully mitigating the impact to less than significant levels is infeasible because it would require eliminating most of the year 2040 traffic growth on impacted segments, including background traffic growth, regional traffic growth outside the control of the City and/or not part of the project. For these reasons, impacts to roadway segments are considered significant and unavoidable. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

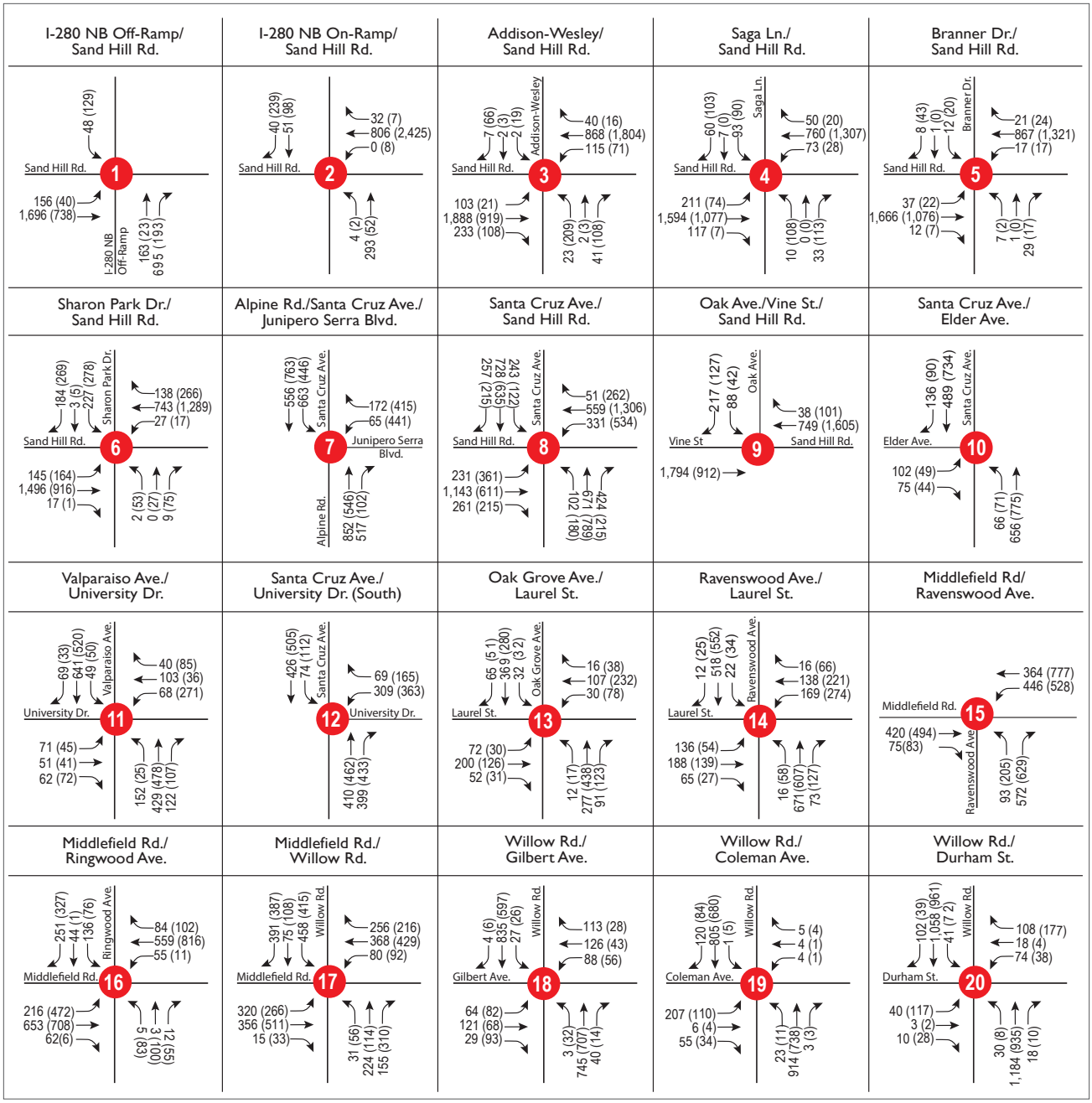
Peak Hour Traffic Operations

Peak-hour traffic volumes under 2040 Plus Project conditions at each study intersection were forecasted based on anticipated changes to peak-hour traffic volumes that will result from buildout under the 2040 Plus Project scenario. Peak-hour traffic volumes at each study intersection were forecasted based on the MPM Model. Lane configurations, signal timings, and peak hour turning movement volumes would remain consistent with 2040 No Project conditions.

Figures 4.13-10a, 4.13-10b, and 4.13-10c illustrate the forecasted peak hour vehicle turning movement volumes at each study intersection under 2040 Plus Project. The forecasted peak-hour traffic volumes reflect the anticipated net change that would result from the proposed project.

The peak hour level of service for each study intersection under 2040 Plus Project conditions is illustrated on Figure 4.13-11, and included as Appendix K of this Draft EIR. While the majority of study intersections would continue to operate at acceptable levels, some intersections would not. Table 4.13-12 includes a list of the intersections that would experience increased vehicular delay exceeding the impact thresholds during at least one peak hour under 2040 Plus Project conditions.

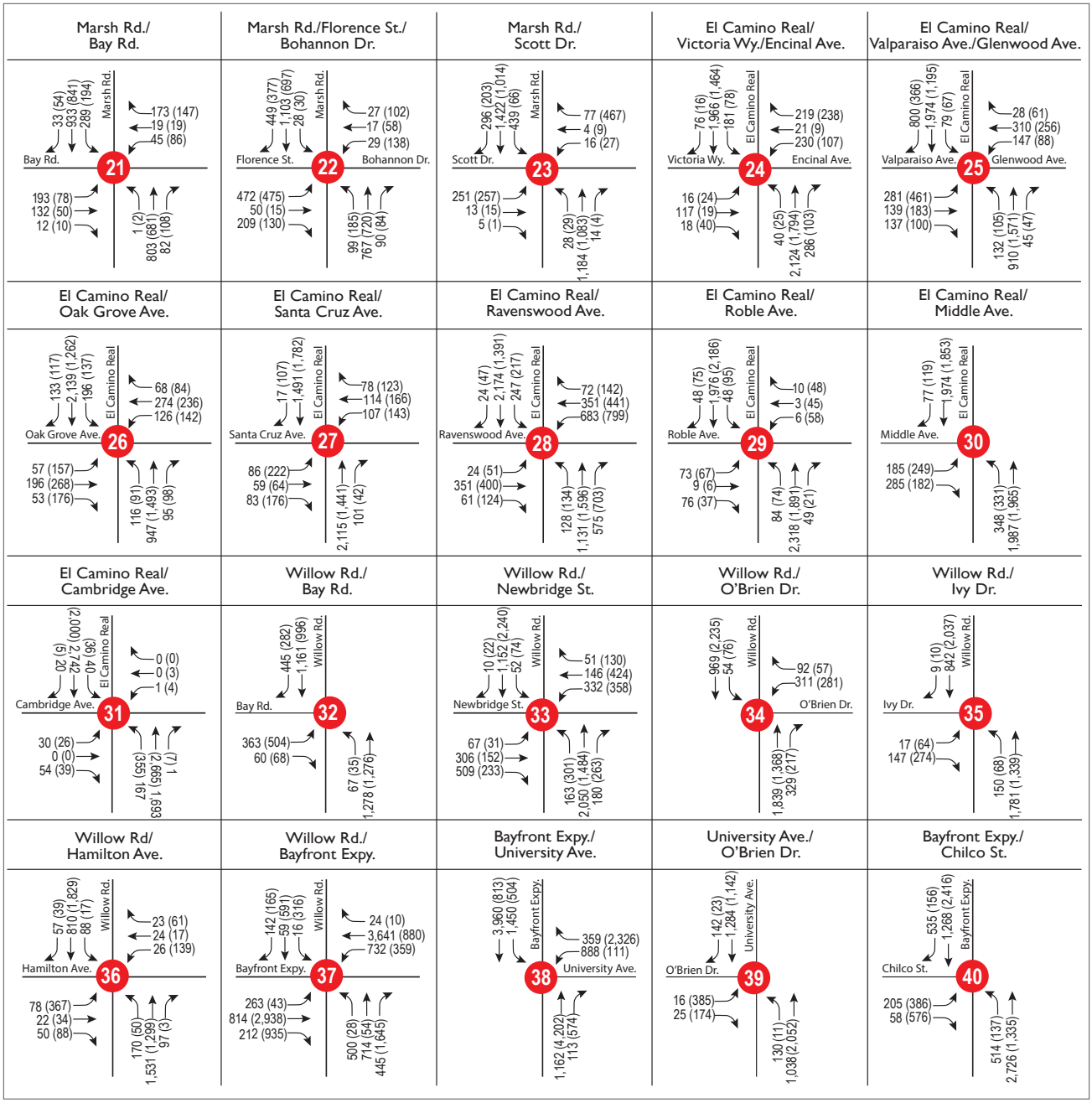
Same as the 2014 Existing scenario, the level of service results are based on level of service as observed by the City to reflect unserved demand. Specifically, this pertains to study intersections on Willow Road (#17 through #20, and #32 through #36) during one or both peak hours as shown in Table 4.13-12 below.



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

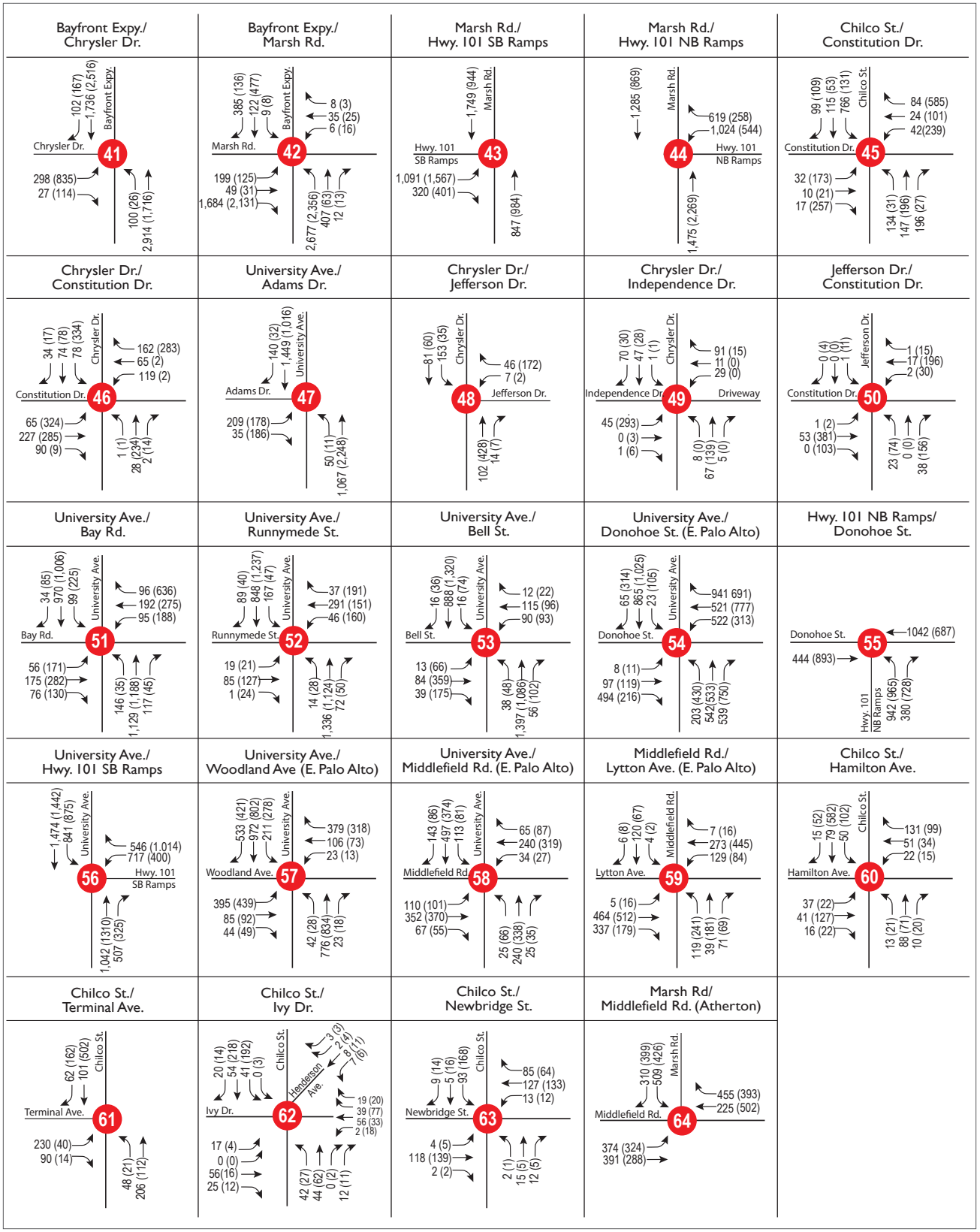
Figure 4.13-10a
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

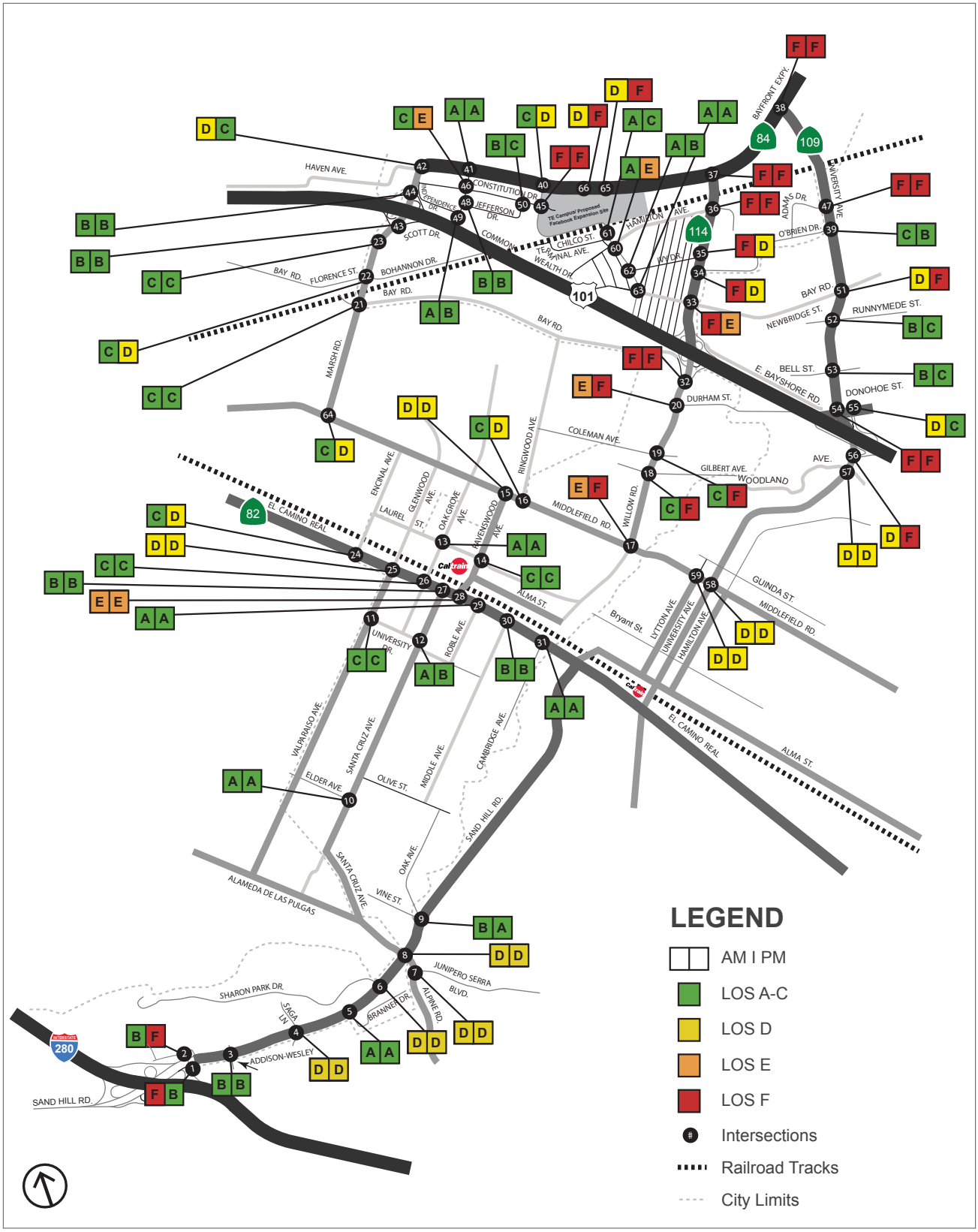
Figure 4.13-10b
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-10c
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-11
2040 Plus Project Intersection LOS

TABLE 4.13-12 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 PLUS PROJECT CONDITIONS

			2014 Existing Conditions				2040 No Project				2040 Plus Project			
			AM		PM		AM		PM		AM		PM	
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
1	Sand Hill Rd. and Hwy 280 NB Off-Ramp	D	D	43.9	B	11.0	**F**	**85.6**	B	10.5	**F**	**86.0**	B	10.3
2	Sand Hill Rd. and Hwy 280 NB On-Ramp	D	B	14.5	**E**	**74.0**	B	14.5	**E**	**74.0**	B	14.4	**F**	**84.9**
17	Middlefield Rd. and Willow Rd.	D	**E**	**61.9**	**F**	**>80 ***	**E**	**58.9**	**F**	**>80 ***	**E**	**59.0**	**F**	**>80 ***
18	Willow Rd. and Gilbert Ave.	D	C	20.7	**F**	**>80 ***	C	21.3	**F**	**>80 ***	C	23.5	**F**	**>80 ***
19	Willow Rd. and Coleman Ave.	D	C	21.1	**F**	**>80 ***	B	19.4	**F**	**>80 ***	C	20.4	**F**	**>80 ***
20	Willow Rd. and Durham St.	D	**E**	**>55 ***	**F**	**>80 ***	**E**	**>55 ***	**F**	**>80 ***	**E**	**>55 ***	**F**	**>80 ***
28	El Camino Real and Ravenswood Ave.	D	D	37.0	D	45.8	**E**	**73.0**	D	48.1	**E**	**79.2**	**E**	**75.9**
32	Willow Rd. and Bay Rd.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***
33	Willow Rd. and Newbridge St.	D	**F**	**>80 ***	D	38.0	**F**	**>80 ***	D	50.2	**F**	**>80 ***	**E**	**58.8**
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80 ***	D	>35 *	**F**	**>80 ***	D	>35	**F**	**>80 ***	D	>35
35	Willow Rd. and Ivy Dr.	D	**F**	**>80 ***	D	>35 *	**F**	**>80 ***	D	>35	**F**	**>80 ***	D	>35
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**98.5**	**F**	**>80 ***	**F**	**103.3**
37	Willow Rd. and Bayfront Expwy.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**141.9**	**F**	**123.9**	**F**	**155.7**	**F**	**113.4**
38	Bayfront Expwy. and University Ave.	D	**F**	**>80 ***	**F**	**128.3**	**F**	**97.6**	**F**	**151.4**	**F**	**82.1**	**F**	**>160**
45	Chilco St. and Constitution Dr.	C	B	11.6	C	23.7	**F**	**>50**	**F**	**>50**	**F**	**>50**	**F**	**>50**
46	Chrysler Dr. and Constitution Dr.	C	A	8.9	B	14.4	C	26.1	**D**	**51.6**	C	32.4	**E**	**68.1**
47	University Ave. and Adams Dr.	D	**F**	**>50**	D	33.2	**F**	**>50**	**F**	**>50**	**F**	**>50**	**F**	**>50**
51	University Ave. and Bay Rd.	D	D	38.0	**F**	**100.6**	D	37.2	**F**	**107.5**	D	41.1	**F**	**143.4**

TABLE 4.13-12 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 PLUS PROJECT CONDITIONS

			2014 Existing Conditions				2040 No Project				2040 Plus Project			
			AM		PM		AM		PM		AM		PM	
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
54	University Ave. and Donohoe St.	D	**F**	**115.5**	**F**	**128.8**	**F**	**120.2**	**F**	**>160**	**F**	**136.4**	**F**	**149.0**
56	University Ave. and US 101 SB Ramps	D	C	30.9	**E**	**59.3**	D	39.8	**E**	**69.7**	D	52.9	**F**	**87.1**
60	Chilco St. and Hamilton Ave.	C	A	9.2	C	16.8	A	9.2	**E**	**41.6**	A	8.7	**E**	**48.7**

Notes: **Bold** and highlighted indicates unacceptable LOS. LOS=Level of Service. Delay=average control delay per vehicle.
*Indicates LOS based on unserved demand. At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, 2016.

TRANSPORTATION AND CIRCULATION

As described above, the proposed Circulation Element contains general goals, policies and programs that would be adopted as part of the proposed project and would require local planning and development decisions to consider circulation-related impacts. The General Plan goals, policies and programs, would serve to minimize potential adverse impacts on the circulation network in the study area through reducing vehicular trips and increasing alternative modes of transportation.

Specifically, the proposed project includes Policy CIRC-6.2 that requires the City to leverage potential funding sources to supplement City and private money to support transportation demand management and Program CIRC-6.C requires the City to require new and expanded development to pay a transportation impact fee and update the fee periodically to ensure that development is paying its fair share of circulation system improvement costs for all modes of transportation. However, as shown in Table 4.13-12, the proposed project at buildout would continue to result in intersections that would experience increased delay exceeding the impact thresholds, which is considered a *significant* impact.

Impact TRANS-1b: Implementation of the proposed project would result in increased delay to peak hour motor vehicle traffic exceeding the significance threshold at some of the study intersections.

Mitigation Measure TRANS-1b: The City of Menlo Park shall update the existing Transportation Impact Fee (TIF) program to guarantee funding for roadway and infrastructure improvements that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Transportation Impact Fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified below, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary transportation mitigations that are to be funded by that project.

As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the improvements and facilities required to mitigate the impacts of new development pursuant to the proposed project. The following examples of improvements and facilities would reduce impacts to acceptable level of service standards and these, among other improvements, could be included in the TIF program impact fees nexus study:

- Sand Hill Road (westbound) and I-280 Northbound On-ramp (#1): Modify the signal-timing plan during the PM peak hour to increase the maximum allocation of green time to the westbound approach during the PM peak hour.

- Sand Hill Road (eastbound) and I-280 Northbound Off-ramp (#2): Add an additional northbound right-turn lane on the off-ramp to improve operations to acceptable LOS D during the AM peak hour.

- El Camino Real and Ravenswood Avenue (#28): One eastbound right-turn lane on Menlo Avenue to improve conditions.

- Willow Road and Newbridge Street (#33): Implement measures on Chilco Street south of Constitution Drive to reduce or prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street, and measures to enhance east/west circulation from Willow Road via O'Brien Drive and the proposed mixed-use collector street opposite Ivy Drive, extending east to University Avenue, to discourage use of Newbridge Street.

- Willow Road and Hamilton Avenue (#36): Provide primary access to potential future development sites east of Willow Road via O'Brien Drive and/or the proposed Mixed-Use Collector that would intersect Willow Road between Hamilton Avenue and O'Brien Drive. Implement measures on Chilco Street south of Constitution Drive to prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street. Although the provision of an eastbound left-turn lane on Hamilton Avenue where it approaches Willow Road would reduce the delay, this potential mitigation is not recommend because it would encourage cut-through traffic via Chilco Street and Hamilton Avenue, potentially affecting the Belle Haven neighborhood. Therefore, to avoid facilitating the use of Chilco Street and Hamilton Avenue as cut-through routes in the adjacent residential neighborhood, mitigating this traffic impact is not recommended at this time, consistent with City policies that discourage cut-through traffic in residential neighborhoods. The improvements should be incorporated into the updated fee program for ongoing consideration.

- Bayfront Expressway and Willow Road (#37): Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation.

- Bayfront Expressway and University Avenue (#38): Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation.

- Chilco Street and Constitution Drive (#45): Install a traffic signal and signalized crosswalks at the intersection. Construct three southbound lanes on the one-block segment of Chilco Street, between Bayfront Expressway and Chilco Street, to include two southbound left-turn lanes to

accommodate the volume of left-turning vehicles entering the project site. In addition, during the AM peak hour, provide a "split-phase" signal operation on Chilco Street. Construct a northbound left-turn lane on Chilco Street approaching Constitution Drive. Construct two outbound lanes on Chilco Street between Constitution Drive and Bayfront Expressway. If the Facebook Campus Expansion Project is approved, this mitigation measure would be required to be constructed as a requirement of that project.

- Chrysler Drive and Constitution Drive (#46): Construct a southbound left-turn on Chrysler Drive, approaching Constitution Drive.

- University Avenue and Adams Drive (#47): Install a traffic signal at this intersection.

- University Avenue and Bay Road (#51): Realign the eastbound and westbound approaches to allow replacement of the east/west "split-phase" signal on Bay Street with standard protected signal phases in order to allow eastbound and westbound pedestrian crossings to occur simultaneously, which would allow for an increase in green time allocated to northbound/southbound movements on University Avenue and reduce peak-hour delay at this intersection. This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- University Avenue and Donohoe Street (#54): Mitigating this impact would require providing additional westbound lane capacity on Donohoe Street, including an extended dual left-turn pocket, dedicated through lane, and dual right-turn lanes; providing a southbound right-turn lane on University Avenue and lengthening the northbound turn pockets. However, this mitigation is likely to be infeasible given right-of-way limitations, proximity to existing US 101 on- and off-ramps, and adjacent properties. In addition, this intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- University Avenue and US 101 Southbound Ramps (#56): Mitigating this impact would require modifications to the US 101 Southbound On/Off Ramps and at this location This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- Chilco Street and Hamilton Avenue (#60): Installation of a traffic signal would mitigate this impact to less than significant levels, but would have the undesirable secondary effect of encouraging the use of Chilco Street as a cut-through route, which conflicts with City goals that aim to reduce cut-through traffic in residential neighborhoods. Therefore, to avoid facilitating cut-through traffic, mitigating this traffic impact by increasing capacity is not recommended at this time, but should be incorporated into the updated fee program for ongoing consideration.

Significance With Mitigation: Significant and Unavoidable. While implementation of Mitigation Measure TRANS-1b would secure a funding mechanism for future roadway and infrastructure improvements that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at these intersections at this time. Additionally, several mitigation measures have potential secondary environmental impacts that will need to be addressed before construction could occur. This is in part because the nexus study has yet to be prepared and because some of the impacted intersections are under the jurisdiction of Caltrans or the City of East Palo Alto. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

Vehicle Miles Traveled

The MPM model was utilized to provide a comparison of estimated VMT for trips beginning or ending in Menlo Park. Table 4.13-13 compares the VMT forecast for the 2014 Existing scenario to the 2040 Plus Project scenario, and shows the resulting change in VMT per person based on the anticipated total number of Menlo Park residents and jobs under each scenario. VMT is also shown under 2040 No Project conditions for informational purposes.

TABLE 4.13-13 DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA COMPARISON: 2014 EXISTING AND 2040 PLUS PROJECT

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
2014 Existing	934,722	32,900	30,900	15
2040 No Project	1,655,624	38,780	47,750	19
2040 Plus Project	1,449,337	50,350	53,250	14

Source: TJKM Transportation Consultants, 2016.

As previously stated in Section 4.13.2, Standards of Significance, VMT related impacts will be considered potentially significant if the proposed project results in citywide VMT per capita that would exceed 15 percent below VMT per capita for the region. As discussed under Section 4.13.1.3, Traffic Analysis Scenarios, the VMT estimates in the MPM are sensitive to changes in land use and in general, land uses that reflect a more balanced jobs-housing ratio in the MPM result in lower per capita VMT. Therefore, while the proposed project would introduce new development potential in Menlo Park, as shown in Table 4.13-13, VMT under the 2040 Plus Project condition would be less than VMT under the 2040 No Project condition and 2014 Existing conditions, as well as exceeding 15 percent below the 2013 *Plan Bay Area EIR* regional average of 17.7 miles per person. The reduction in VMT per capita under the 2040 Plus Project scenario is due to the planned addition of housing in a jobs-rich area, which results in changes in trip-making behavior, travel characteristics and resulting trip lengths.

Furthermore, the proposed Circulation (CIRC) Element contains general goals, policies and programs that would be affirmed as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs,

would serve to continue to minimize potential adverse impacts on the circulation network in the study area and reduce VMT:

- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.
  - Policy CIRC-3.1: Vehicle-Miles Traveled. Support development and transportation improvements that help reduce per capita vehicle miles traveled.
  - Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita greenhouse gas emissions.
  - Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.
    - Program CIRC-3.A: Transportation Impact Metrics. Supplement Level Vehicle Miles Traveled (VMT) and greenhouse gas emissions per capita metrics with Level of Service (LOS) in the transportation impact review process, and utilize LOS for identification of potential operational improvements, such as traffic signal upgrades and coordination, as part of the Transportation Master Plan.

Additionally, as described above, the proposed Zoning update includes regulations to reduce vehicular trips and increase travel patterns that are oriented toward pedestrian, transit, and bicycle use.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with General Plan policies and Zoning regulations listed above that have been prepared to minimize vehicular trips and increase alternate forms of transportation, and the City, throughout the 2040 buildout horizon, would implement the General Plan programs that support and implement the General Plan policies that are aimed at reducing vehicular trips. For these reasons, and because the proposed project would not exceed existing VMT the threshold of significance, the adoption of the proposed project would result in *less-than-significant* impacts with respect to VMT.

Significance Without Mitigation: Less than significant.

TRANS-2	**Implementation of the proposed project would conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.**

The following facilities are designated as Routes of Regional Significance by the San Mateo County Congestion Management Program (CMP). The applicable standards for those CMP facilities are summarized in Section 4.13.2 Standards of Significance.

- State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road
- SR 84 (Bayfront Expressway) from Willow Road to University Avenue
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County Line

- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive
- SR 114 (Willow Road) from US 101 to SR 84
- US 101, from Whipple Avenue to Santa Clara County Line

Of the 87 roadway segments studied, none are CMP segments. Of the 64 study intersections studied, three are CMP intersections, each with an identified CMP standard of LOS F for peak hour conditions. Based on the CMP standard, Project impacts to CMP intersections would be less than significant. The impact discussion under TRANS-1 addresses the impacts to these CMP intersections further, by applying the City of Menlo Park's applicable impact standards to these locations.

The following Routes of Regional Significance would continue to operate at or below their level-of-service threshold under 2040 Plus Project conditions, and project traffic would be anticipated to exceed the allowable 1 percent threshold for triggering significant impacts. The following Routes of Regional Significance operate at or below their level-of-service threshold under 2040 Plus Project conditions, and the contribution of project traffic is anticipated to exceed the allowable 1 percent threshold:

- State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road
- SR 84 (Bayfront Expressway) from Willow Road to University Avenue
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County line
- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive
- SR 114 (Willow Road) from US 101 to SR 84
- US 101, from Whipple Avenue to Santa Clara County Line

The proposed Circulation (CIRC) Element contains general goals, policies and programs that would be adopted as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs would serve to reduce impacts to Routes of Regional Significance:

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.13: County Congestion Management. Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
  - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to coordinate transportation planning efforts and to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.
    - Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.

- Program CIRC-2.M: Transportation Management Program. Establish goals and metrics for the City's Transportation Management Program, and annually assess progress toward meeting those objectives.
- Program CIRC-2.Q: Caltrans. Collaborate with Caltrans to achieve and maintain travel efficiency along Caltrans rights-of-way in Menlo Park consistent with the San Mateo County Congestion Management Plan.

Impact TRANS-2: Implementation of the proposed project would result in impacts to Routes of Regional Significance.

Mitigation Measure TRANS-2: Implement Mitigation Measure TRANS-1a.

Significance With Mitigation: Significant and unavoidable. As discussed under TRANS-1, Mitigation Measure TRANS-1a is a typical improvement strategy to manage increased net daily trips. However, providing additional travel lanes would increase segment capacity but would not be feasible segments given available right-of-way and both downstream and downstream capacity limitations on facilities such as US 101 and the Dumbarton Bridge. In addition, the routes are under the control of Caltrans, and the City cannot guarantee implementation of mitigation. While some of the mitigation measures identified in TRANS-1 together with the General Plan goals, policies and programs listed above, could help reduce these impacts, the Routes of Regional Significance listed above are expected to remain congested during peak-hour conditions. Therefore the impact to regional routes of significance would remain significant and unavoidable.

TRANS-3 Implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

The study area is located approximately two miles from Palo Alto Airport, but no portions of the city are within the airport safety zones identified in the CLUP for the airport. Menlo Park is located more than two miles from the San Francisco International and San Carlos Airports to the north and Moffett Federal Airfield to the south. The proposed project would be accessed by the existing roadway infrastructure as discussed under TRANS-1 and TRANS-2. Although traffic levels would increase in the area as a result of the proposed project, these increases would not result in changes to existing roadway configurations that could interfere with flight operations. Furthermore, the proposed project does not propose any land uses which could disrupt air traffic patterns; therefore, *no impact* would occur and no mitigation measures are required.

Significance Without Mitigation: No impact.

TRANS-4 Implementation of the proposed project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Because the proposed project is a program-level planning effort, it does not directly address project-level design features or building specifications. The proposed project would result in an increase of commercial, residential and mixed-use land uses. As these land uses develop, construction of several new or realigned roadways are proposed and modifications to existing roadways may be necessary to support the growth. As with current practice, the improvements would be designed and reviewed in accordance with the City's Public Works Department Transportation Program. Future development under the proposed project would be concentrated on sites that are already developed where impacts related to incompatible traffic related land uses would not likely occur.

The proposed Land Use (LU) Element and Circulation (CIRC) Element contain general goals, policies and programs that would be adopted as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs, would serve to continue to minimize potential hazards due to roadway design or incompatible uses through promoting safety, accessibility and land use compatibility:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.6: Underground Utilities. Require all electric and communications lines serving new development to be placed underground.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.1: Vision Zero. Eliminate traffic fatalities and reduce the number of injury collisions by 50% by 2040.
  - Policy CIRC-1.2: Capital Project Prioritization. Maintain and upgrade existing rights-of-way before incurring the cost of constructing new infrastructure, and ensure that the needs of non-motorized travelers are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products.
  - Policy CIRC-1.3: Engineering. Use data-driven findings to focus engineering efforts on the most critical safety projects.
  - Policy CIRC-1.4: Education and Encouragement. Introduce and promote effective safety programs for adults and youths to educate all road users as to their responsibilities.

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- Policy CIRC-1.5: Enforcement Program. Develop and implement an enforcement program to encourage safe travel behavior and to reduce aggressive and/or negligent behavior among drivers, bicyclists, and pedestrians.
- Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
- Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
- Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
- Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
  - Program CIRC-1.A: Pedestrian and Bicyclist Safety. Consider pedestrian and bicyclist safety in the design of streets, intersections, and traffic control devices.
  - Program CIRC-1.B: Safe Routes to Schools. Work with schools and neighboring jurisdictions to develop, implement and periodically update Safe Routes to School programs. Schools that have not completed a Safe Routes to Schools plan should be prioritized before previously completed plans are updated.
  - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
  - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
  - Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
    - Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to

key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.

- Program CIRC-2.H: Zoning Requirements for Shared-Use Pathways. Establish Zoning Ordinance requirements for new development to include public easements for shared-use pathways.
- Program CIRC-2.K: Municipal Code Requirements. Establish Municipal Code requirements for all new development to incorporate safe and attractive pedestrian and bicycle facilities, including continuous shaded sidewalks, pedestrian lighting, and other amenities.

Additionally, the proposed Zoning update includes design standards that require street improvements, including the provision of sidewalks. Because future developments and roadway improvements would be designed in accordance to City standards and would be subject to existing regulations, including the General Plan policies and Zoning regulations, and because City, throughout the 2040 buildout horizon, would implement the General Plan programs that support and implement the General Plan policies that are aimed at reducing hazardous conditions with respect circulation design, the adoption of the proposed project would result in *less-than-significant* impacts with respect to hazards due to design features or incompatible uses.

Significance Without Mitigation: Less than significant.

TRANS-5 Implementation of the proposed project would not result in inadequate emergency access.

Because the proposed project is a program-level planning effort, it does not directly address project-level design features or building specifications; however, the General Plan includes polices that would ensure efficient circulation and adequate access are provided in the city, which would help facilitate emergency response.

The proposed project includes policies and programs that facilitate emergency response in the Circulation (CIRC) Element. These include Policy CIRC-1.6, which requires the identification and prioritization of emergency response routes in the citywide circulation system. This policy would be implemented through Program CIRC-1.E, which requires the City to collaborate with the Menlo Park Fire Protection District (MPFPD) and Menlo Park Police Department (MPPD), to adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress. Also, Program CIRC-1.F requires the City to coordinate and consult with the MPFPD in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the city. Policy CIRC-3.3 requires the City to support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options. This policy is implemented by Program CIRC-3.B, which requires the City to equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are

completed. Within Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements, the proposed project includes Policy S-1.30, which requires the City to encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the MPFPD prior to project approval, and Policy S-1.38, which requires that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

As discussed under TRANS-1, the implementation of the proposed project would result in increased traffic congestion and delay at some study intersections that could be used for emergency vehicle access routes. This additional traffic congestion could potentially slow emergency response and evacuation. However, future development permitted under the proposed project would be concentrated on sites that are already developed where impacts related to inadequate emergency access would not likely occur. The proposed project does not propose any new major roadways or other physical features through existing neighborhoods that would obstruct emergency access to evacuation routes. Substantial land use changes would occur to the land use map in the Bayfront Area where substantial new development potential would be permitted. However, future development in the Bayfront Area would rely on existing roadway infrastructure and would not obstruct existing emergency access to evacuation routes.

Buildings and site design for individual projects would be designed and built according to local Fire District standards and State Building Code standards, further ensuring that emergency access by fire or emergency services personnel would not be impaired. Furthermore, as discussed under TRANS-1 and TRANS-4, the proposed project includes goals, policies and programs in the Land Use (LU) and Circulation (CIRC) Elements that would reduce potential vehicular trips reducing congestion, and reduce potential roadway design hazards and promote safe design practices for vehicular, bicycle and pedestrian modes of transportation and land use compatibility to reduce potential obstructions to emergency access. Specifically, Policy LU-1.1 requires the City to coordinate with appropriate agencies to help assure coordinated land use pattern, Policy LU-2.9 requires the development of compatible land uses within mixed-use development, and Policy CIRC-3.1 requires the development of transportation improvements to reduce per capita vehicle miles.

Additionally, as part of the Zoning update, the project includes transportation demand management (TDM) standards for development in the Bayfront Area. These TDM standards require future development to reduce associated vehicle trips to at least 20 percent below standard generation rates. Each individual applicant will be required to prepare a TDM and provide an impact analysis to the satisfaction of the City's Transportation Manager. The proposed Zoning update also includes development regulations that include the provision of community amenities or the payment of impact fees by developers seeking an increase in floor area ratio and/or height, which could include support for fire protection services.

Future development under the proposed project would be reviewed by City Planning, Engineering and Building Departments as well as the MPFPD for compliance with the Zoning and Building Code and Engineering Standards, and the Fire Code to ensure adequate emergency vehicle access.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to emergency access. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City's continued

coordination with MPPD and MPFPD to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of proposed Zoning would help to minimize traffic congestion that could impact emergency access and provide additional funding to support adequate emergency services. Adherence to the State and City requirements combined with compliance the City's General Plan and Zoning regulations would ensure that the adoption of the proposed project would result in *less-than-significant* impacts with respect to inadequate emergency access.

Significance Without Mitigation: Less than significant.

TRANS-6	**Implementation of the proposed project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

The new development potential under the proposed project is anticipated to generate new transit riders, bicyclists, and pedestrians. The proposed project includes goals, policies, and programs that provide for an integrated network of bicycle and pedestrian facilities as well as for the needs of transit users.

The proposed project contains goals and policies in the Land Use (LU) and Circulation (CIRC) Elements that, once adopted, would provide for an integrated network of bicycle and pedestrian facilities as well as for the needs of transit users as follows:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.4: Education and Encouragement. Introduce and promote effective safety programs for adults and youths to educate all road users as to their responsibilities.
  - Policy CIRC-1.5: Enforcement Program. Develop and implement an enforcement program to encourage safe travel behavior and to reduce aggressive and/or negligent behavior among drivers, bicyclists, and pedestrians.
  - Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
  - Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and

street lighting are provided for pedestrian safety and convenience, including for sensitive populations.

- Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
  - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
  - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
  - Policy CIRC-2.4: Equity. Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.
  - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.
  - Policy CIRC-2.6: Local Streets as Alternate Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to Bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce traffic on Willow Road (State Route 114).
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.

- Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
- Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.
- Program CIRC-2.D: Pedestrian and Bicycle Facility Maintenance. Remove debris on roadways and pedestrian/bike facilities, monitor intersection sight clearance, and repair pavement along all roadways and sidewalks; prioritize improvements along bicycle routes.
- Program CIRC-2.E: Bikeway System Planning. Review the citywide bikeway system pursuant to the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan, and other recent planning efforts every five years and update as necessary.
- Program CIRC-2.F: Bicycle Improvement Funding. Pursue funding for improvements identified in the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan.
- Program CIRC-2.G: Zoning Requirements for Bicycle Storage. Establish Zoning Ordinance requirements for new development to provide secure bicycle and convenient storage and/or bike-sharing facilities.
- Program CIRC-2.H: Zoning Requirements for Shared-Use Pathways. Establish Zoning Ordinance requirements for new development to include public easements for shared-use pathways.
- Program CIRC-2.I: Bike Sharing Program. Work with local and regional organizations to develop and implement a citywide bike sharing program.
- Program CIRC-2.J: Multi-modal Stormwater Management. Identify funding opportunities for stormwater management that can be used to support implementation of multimodal improvements to Menlo Park's streets.
- Program CIRC-2.K: Municipal Code Requirements. Establish Municipal Code requirements for all new development to incorporate safe and attractive pedestrian and bicycle facilities, including continuous shaded sidewalks, pedestrian lighting, and other amenities.

- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

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- Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
- Policy CIRC-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
- Policy CIRC-5.3: Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
- Policy CIRC-5.4: Caltrain Enhancements. Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), electrification, and extension to Downtown San Francisco (Transbay Terminal), provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy.
- Policy CIRC-5.5: Dumbarton Corridor. Work with Caltrain and appropriate agencies to reactivate the rail spur on the Dumbarton Corridor with appropriate transit service from Downtown Redwood City to Willow Road with future extension across the San Francisco Bay.
- Policy CIRC-5.6: Bicycle Amenities and Transit. Encourage transit providers to improve bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible.
- Policy CIRC-5.7: New Development. Ensure that new nonresidential, mixed-use, and multiple-dwelling residential development provides associated needed transit service, improvements and amenities in proportion with demand attributable to the type and scale of the proposed development.
    - Program CIRC-5.A: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.
    - Program CIRC-5.B: SamTrans. Work with SamTrans to provide appropriate community-serving transit service and coordination of schedules and services with other transit agencies.

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
    - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
    - Policy CIRC-6.2: Funding Leverage. Continue to leverage potential funding sources to supplement City and private monies to support transportation demand management activities of the City and local employers.
    - Policy CIRC-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.

- Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.
    - Program CIRC-6.D: Peninsula Traffic Congestion Relief Alliance. Consider joining the Peninsula Traffic Congestion Relief Alliance ("commute.org") to assist local employers with increasing biking and walking, transit, carpool, and vanpool and shuttle use for their employees. [Program CIRC-3.C]
    - Program CIRC-6.E: Employer Programs. Work with local employers to develop programs that encourage walking, bicycling, and transit use. [Program CIRC-3.E]

Furthermore, as part of the Zoning update, the proposed project includes standards for bicycle facilities and requires future development to provide new pedestrian, bicycle, and/or vehicle connections to support connectivity and circulation. As previously discussed, the project also includes the TDM standards, which can include such measures as proximity to transit and provisions for adequate transit shelters, and carpools and transit passes.

The future development under the proposed project would be concentrated on sites either already developed and/or in close proximity to existing development, and would be served by existing transit, bicycle, and pedestrian infrastructure. Implementation of the proposed project would continue to promote the use of public transit, promote the safe use of bicycles as a commute alternative and for recreation and promotes walking as a commute alternative and for short trips, while also requiring that adequate services are provided.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to alternative modes of transportation. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes and bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards, amongst others as listed above. Furthermore, the implementation of proposed Zoning would support adequate facilities and access to alternate modes of transportation. Furthermore, as discussed Chapter 4.9, Land Use and Planning, the proposed project would be consistent with the City's Bicycle Development Plan and Sidewalk Master Plan. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Much of the anticipated development under the proposed project would occur in the Bayfront Area, including properties located east of US 101 that are not adequately connected to the pedestrian and bicycle circulation network locally or west of US 101, and properties bordering existing streets such as Constitution Drive that lack continuous sidewalks. Therefore, the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system. This impact is potentially significant.

In addition, the proposed project would generate increased demand for transit service and increased transit riders in areas not currently served by frequent public transit service, and some potential

development sites are located more than one-quarter mile from an existing transit stop. This impact is potentially significant.

Also, the project would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue and Willow Road, as identified in TRANS-1 that could decrease the performance of transit service, and result in increased operating costs to transit operators. This impact is potentially significant.

Impact TRANS-6a: Implementation of the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system.

Mitigation Measure TRANS-6a: The City of Menlo Park shall update the Transportation Impact Fee (TIF) program to provide funding for bicycle and pedestrian facilities that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward improvements that will connect development sites within the area circulation system, including the elimination of gaps in the citywide pedestrian and bicycle network. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the transportation Impact fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in this mitigation measure, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary pedestrian or bicycle facilities mitigations that are to be funded by that project.

As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the bicycle and pedestrian improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. The following examples of pedestrian and bicycle improvements would reduce impacts to acceptable standards, and these, among others improvements, could be included in the updated TIF program, also described under TRANS-1:

- US 101 Pedestrian & Bicycle Overcrossing at Marsh Road, and Marsh Road Corridor Pedestrian & Bicycle Improvements (Haven Avenue to Marsh Road/Bay Road): Provide pedestrian and bicycle circulation between the Bayfront Area east of US 101 with the area circulation system west of US 101 along Marsh Road, including access to schools and commercial sites west of Marsh Road that are accessed via Bay Road and Florence Street. Improvements should facilitate pedestrian and bicycle circulation between Haven Avenue and across US 101 near Marsh Road. The recommended improvement would include a dedicated pedestrian and bicycle crossing adjacent to Marsh Road. Alternatively, the provision of continuous sidewalks with controlled pedestrian crossings and Class IV protected bicycle lanes on the Marsh Road overpass, if feasible, could mitigate this impact.

- Ringwood Avenue Corridor Pedestrian & Bicycle Improvements (Belle Haven to Middlefield Road): Eliminate pedestrian and bicycle facility gaps on primary access routes to the Ringwood Avenue bicycle/pedestrian overcrossing of US 101 (located near the terminus of Ringwood Avenue and Market Place). Improvements should include complete sidewalks on the north side of Pierce Road and bicycle facility improvements on the proposed Ringwood Avenue-Market Place-Hamilton Avenue bicycle boulevard (see Street Classification Map in Chapter 3, Project Description). These improvements would also enhance pedestrian and bicycle access to Menlo-Atherton High School.
- University Avenue Pedestrian Improvements: Eliminate gaps in the sidewalk network on those portions of University Avenue that are within the Menlo Park City limits. The TIF Program should also include a contribution towards elimination of sidewalk gaps outside the City limits (within the City of East Palo Alto) to ensure that continuous sidewalks are provided on the west University Avenue between Adams Drive and the Bay Trail, located north of Purdue Avenue.
- Willow Road Bikeway Corridor (Bayfront Expressway to Alma Street): Provide a continuous bikeway facility that eliminates bicycle lane gaps, provides Class IV bicycle lanes on the US 101 overpass and where Willow Road intersects US 101 northbound and southbound ramps, and upgrades existing Class II bicycle lanes to Class IV protected bicycle lanes where feasible, particularly where the speed limit exceeds 35 miles per hour (mph).
- Willow Road Pedestrian Crossings (Bayfront Expressway to Newbridge Street): Provide enhanced pedestrian crossings of Willow Road at Hamilton Avenue, Ivy Drive (including proposed new street connection opposite Ivy Drive), O'Brien Drive and Newbridge Street. Enhanced crossings should include straightened crosswalks provided on each leg, high visibility crosswalk striping, accessible pedestrian signals, and pedestrian head-start signal timing (leading pedestrian intervals) where feasible. These enhanced crossings would provide improved access between the Belle Haven neighborhood and potential future development between Willow Road and University Avenue.
- Dumbarton Corridor Connections: Through separate projects, Samtrans is currently considering the potential for a bicycle/pedestrian shared-use trail along the Dumbarton Corridor right-of-way between Redwood City and East Palo Alto, through Menlo Park. If found feasible, the City's TIF Program should incorporate walking and bicycling access and connections to the proposed trail, including a potential rail crossing between Kelly Park and Onetta Harris Community Center and Chilco Street and pedestrian and bicycle improvements on streets that connect to the Dumbarton Corridor: Marsh Road, Chilco Street, Willow Road, and University Avenue.

Significance With Mitigation. Significant and unavoidable. While implementation of Mitigation Measure TRANS-6a would secure a funding mechanism for future pedestrian and bicycle improvements that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at this time. This is because the nexus study has yet to be prepared. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

TRANSPORTATION AND CIRCULATION

Impact TRANS-6b: The project would generate a substantial increase in transit riders that cannot be adequately serviced by existing public transit services, and the project would generate demand for transit services at sites more than one-quarter mile from existing public transit routes.

Mitigation Measure TRANS-6b: The City of Menlo Park shall update the existing Shuttle Fee program to guarantee funding for operations of City-sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements and right-of-way acquisition. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Shuttle fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Shuttle fees to fund operations of City-sponsored shuttle service to meet the increased demand.

As part of the update to the Shuttle Fee program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the transit improvements and facilities required to mitigate the transit impacts of new development pursuant to the proposed project. The types of transit-related improvements and facilities that would reduce impacts to acceptable standards including increasing the fleet of City-sponsored Shuttles and adding additional transit stop facilities within one-quarter mile from residential and employment centers These, among other improvements, could be included in the Shuttle Fee program impact fees nexus study.

Significance With Mitigation. Significant and unavoidable. While implementation of Mitigation Measure TRANS-6b would secure a funding mechanism for future improvements to City-sponsored shuttles services that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at this time. This is because the nexus study has yet to be prepared. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

Impact TRANS-6c: The project would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue and Willow Road, as identified in TRANS-1, that could decrease the performance of transit service and increase the cost of transit operations.

Mitigation Measure TRANS-6c: The City should continue to support the Dumbarton Corridor Study, evaluating the feasibility of providing transit service to the existing rail corridor and/or operational improvements to Bayfront Expressway, Marsh Road and Willow Road, such as a dedicated high-occupancy vehicle (HOV) lane, bus queue-jump lanes, or transit-signal priority that could reduce travel time for current bus operations.

Significance With Mitigation: Significant and unavoidable. While the provision transit service on the on the Dumbarton Corridor could mitigate this impact, because provision of Dumbarton transit service would require approval of other public agencies and is not under the jurisdiction of the City of Menlo Park, implementation of this mitigation cannot be guaranteed and this impact is significant and unavoidable. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

TRANS-7	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in additional cumulatively considerable impacts.**

The analysis of the proposed project, above, addresses cumulative impacts to the transportation network in the city and its surroundings; accordingly, cumulative impacts would be the same as those identified above.

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