DRAFT
ENVIRONMENTAL IMPACT REPORT

CITY OF EAST PALO ALTO
GENERAL PLAN UPDATE

APRIL 2016

PREPARED FOR
City of East Palo Alto

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1.0 EXECUTIVE SUMMARY

1.1 PURPOSE

This Draft Environmental Impact Report (EIR) has been prepared to inform decision makers and the public of the potentially significant environmental effects associated with the implementation of the East Palo Alto General Plan Update (General Plan). This Program EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Sections 21000, et seq.) and the State CEQA Guidelines (Title 14 California Code of Regulations, Sections 15000, et seq.).

The City of East Palo Alto (City) is the lead agency under CEQA and is responsible for preparation of the Program DEIR. The City distributed a Notice of Preparation (NOP) to define the scope of this Program EIR, and to receive any comments from interested public agencies, organizations, and the public. The NOP was distributed to City, County and State agencies; other public responsible and trustee agencies; and interested private organizations and individuals, in accordance with the requirements of the California Code of Regulations, Title 14, Sections 15082(a), 15103, and 15375. The NOP comment period occurred between September 3, 2015 and October 3, 2015. The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the proposed General Plan Update.

1.2 PROJECT LOCATION

The project area consists of all lands within the jurisdictional limits of the City; all of which are considered within the General Plan Update planning area. The City is located on the San Francisco Peninsula in the San Francisco Bay Area, in southeastern corner of San Mateo County. The City is bounded on the north and west by the city of Menlo Park, on the east by the San Francisco Bay, and on the south by the city of Palo Alto. Regional access to East Palo Alto is provided by U.S. Highway 101 and State Routes 84, 109 and 114. San Francisquito Creek runs along the south and west edges of the City and flows through the Baylands preserve into San Francisco Bay. East Palo Alto is primarily a residential community that also

contains a regional shopping center and a major hotel and office complex along U.S. Highway 101, and other commercial, industrial, and agricultural uses. **Figure 1-1** shows the Project location.

1.3 PROJECT DESCRIPTION

The City is preparing a comprehensive update and revision to its 1999 General Plan, which will serve as a blueprint to guide the City's vision (also known as "Vista 2035") for its long-term land use and development through the year 2035. See www.vista2035.epa.org for more information. There have been significant changes in the City since the adoption of the 1999 General Plan, including substantial shifts in job and housing markets, demographics, and transportation and infrastructure needs. The General Plan Update process has therefore been designed to:

- Respond to socio-economic and demographic changes;
- Encourage community members to express their values and create a common vision for the City's future;
- Update policies for land use, community design, transportation, infrastructure, and quality of life, among others;
- Prioritize community health and equity;
- Include a chapter that provides focused policies for the Westside of the City to address major concerns there such as affordable housing, risk of flooding and infrastructure deficiencies.

Legend

Project Location

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Project Location

Figure 1-1

Source: Raimi & Associates, 2013; Circlepoint, 2016

Focus on Community Health

Like most general plan updates, the General Plan Update will include a prioritized, progressive, and practical set of policy measures and implementation actions which will be addressed in separate sections as required by State law. These sections, or "elements", include land use, circulation, housing, conservation, open space, noise, and safety. The City of East Palo Alto will also include a specific focus on land use and planning goals and policies designed to positively affect the health and socio-economic well-being of the residents of East Palo Alto, who have long lagged behind other residents of San Mateo County on key indicators of public health and wellbeing. To this end, the City received a $1 million grant for the Project from the State's Strategic Growth Council. As a condition of this grant, Project success will be measured by how it addresses key indicators of public health. Health-related issues, goals, and policy measures are incorporated throughout the Plan. Creating a safe and healthy community is a policy priority for the City of East Palo Alto, and will be a focus of Vista2035. There is increasing consensus that many aspects of the built environment – streets, buildings, parks, public space, and housing – influence the health of a community's residents. Planning for a healthy community therefore involves examining a diverse set of issues, including land use, economics, transportation, air quality, parks, and demographics. Community health will be emphasized in the Project through a focus on a number of factors closely tied to health outcomes, including:

- Socioeconomic issues such as income, poverty, and educational attainment;
- Market issues such as unemployment, and the associated lack of health coverage;
- Community issues such as walkable neighborhoods, availability of healthy foods, and alcohol and liquor store densities;
- Safety issues such as pedestrian, bicycle, and automobile injuries and fatalities;
- Housing issues such as overcrowding, affordability, and homelessness;
- Open space issues such as proximity and access to parks; and
- Environmental issues such as air quality and respiratory health, water availability and quality, climate change, and noise pollution.

Land Use and Housing

Land use and housing policies also will be a major focus of the Project. Most of the City's sales tax generators are concentrated at the Ravenswood 101 shopping center, a freeway-accessible regional shopping center that includes large anchor stores like IKEA and Home Depot. The Project will consider options to re-envision this shopping center to meet the needs of the future, which could include additional land uses and increased densities. It will also consider additional retail commercial uses along the University Avenue corridor and elsewhere in the City to improve the City's existing 0.2 jobs per employed resident ratio.

Although the City currently offers some of the most affordable housing in Silicon Valley, pressures on the housing market are pushing housing costs up. The City has long supported affordable housing within its boundaries. Updates to general plan policies are expected to include new and strengthen existing strategies for preserving affordability for existing residents, while also providing opportunities for new residential and mixed use development.

Transportation and Mobility

Transportation and mobility are also key planning factors that impact the health of communities. Specific issues that will be addressed as part of the Project include:

- Auto traffic: Heavy traffic volumes, congestion, and safety, especially on and around University Avenue and other roads that have become through-routes between Silicon Valley/Peninsula employment centers and major residential communities across the Dumbarton Bridge in the East Bay.
- Pedestrians: Sidewalks in East Palo Alto can be intermittent or in poor condition, complicating and discouraging pedestrian travel.
- Bicycles: Creating a city-wide bicycle network that overcomes major barriers, such as U.S. Highway 101. The rate of bicycle trips to work by City residents is four times the countywide average, so addressing gaps and barriers is of particular importance to the community.
- Increasing transit access and availability. While transit coverage is relatively extensive, most services are infrequent, even during peak times, and are somewhat more focused on through-travel than on serving the needs of local residents.

These discussions will be integrated throughout the General Plan Update so that the many and varied connections between General Plan topics and community health are considered. Community health cannot be treated as a stand-alone topic.

1.3.1 EIR ANALYSIS

This Draft EIR will evaluate the General Plan Update for potential impacts on the environment and analyze proposed land use designations, urban design policies, and the environmental consequences of buildout of the General Plan planning area.[1] The cumulative impacts discussion will consider relevant projects in and around the General Plan planning area that are not included as part of the Project. CEQA requires that an EIR evaluate alternatives to a project that could reasonably attain the project objectives while reducing any significant impact of the project, as well as considering the "No Project Alternative".

1.3.2 POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROJECT:

The EIR will assess the Project's potential direct, indirect, and cumulative environmental impacts on all environmental factors outlined in the CEQA Environmental Checklist (CEQA Guidelines, Appendix G) as follows:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

[1] The City intends to release a comprehensive Zoning Code Update to ensure that development standards and regulations conform to the General Plan Update. This environmental document, upon approval, can be used to meet CEQA requirements for the Zoning Code Update

1.4 PROJECT OBJECTIVES

A clear statement of project objectives allows for the analysis of reasonable alternatives to the General Plan Update. A range of reasonable alternatives, both on- and off-site, that would feasibly attain most of the basic project objectives, while avoiding or substantially lessening the significant effects of the project, must be analyzed per CEQA Guidelines Section 15126.6. A list of all project objectives is located in **Chapter 3.0, Project Description**, of this Draft EIR.

1.5 SUMMARY OF ENVIRONMENTAL IMPACTS

The City determined that a Program EIR is required pursuant to the CEQA Guidelines. A summary of the environmental impacts and mitigation measures is provided in **Table 1-1**. The project is intended to guide all growth and development in the City through the year 2035. Growth and development will likely lead to population and workforce increases, which will result in increased demand for public facilities and infrastructure.

This DEIR evaluates impacts at a programmatic level. Section 15152 of the CEQA Guidelines allows the Program EIR to serve as a first-tier environmental document. Although detailed, site-specific information may not be available in many instances, the analysis of the environmental impact of later activities associated with the project may be properly deferred until such site-specific details become available. The analysis contained in this Program EIR uses the phrases “significant” and “less than significant” in the discussion of potential environmental impacts. These words specifically define the degree of impact and coincide with language used in the CEQA Guidelines. As required by CEQA, mitigation measures have been included in this Draft EIR to avoid or substantially reduce the potentially significant impacts. When these potential impacts cannot be reduced to a less than significant level, they are identified as “significant and unavoidable impacts.” **Table 1-1** identifies each potential impact, proposed mitigation measures and the status of significance following implementation of the measures and/or General Plan policies.

Table 1-1 Summary of Environmental Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Aesthetics			
New development under the General Plan Update would create additional sources of light and glare.	S	**Mitigation Measure AES-1:** Amend the General Plan Update to include the following policy: Light and Glare. Review major public and private development projects to ensure that the spillover effects of light and glare from new exterior lighting is minimized. Where feasible, require lighting fixtures to be directed downward and equipped with cut-off lenses. For development near sensitive sites, particularly undeveloped Bayfront areas, require submittal of photometric studies to demonstrate minimization of light spill-over. Ensure that all implemented lighting measures adhere to the regulations outlined in Title 24.	LTS
Agriculture			
There are no anticipated impacts to Agricultural Resources			
Air Quality			
VMT would increase at a higher rate than population with implementation of the General Plan Update, which would lead to greater regional emissions of non-attainment air pollutants (or their precursors) than assumed in the latest Air Quality Plan	SU	Although the project would adhere to the Bay Area Air Quality Management District's air quality control measures, there are no feasible mitigation measures that would reduce this impact to a less-than-significant level.	SU

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Construction-related emissions would result in a cumulatively considerable net increase of $PM_{2.5}$ and PM_{10} criteria pollutants for which the project region is nonattainment. Additionally, implementation of the General Plan Update would result in long-term area and mobile source emissions from operation and use of subsequent development.	SU	***Mitigation Measure AQ-1:*** Implement BAAQMD-Recommended Measures to Control Particulate Matter Emissions during Construction. Measures to reduce DPM and PM_{10} from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided. These measures are listed below: *Dust (PM_{10}) Control Measures:* ▪ Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times. ▪ Cover all hauling trucks or maintain at least two feet of freeboard. ▪ Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads. ▪ Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (i.e., previously-graded areas that are inactive for 10 days or more). ▪ Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles. ▪ Limit traffic speeds on any unpaved roads to 15 mph. ▪ Replant vegetation in disturbed areas as quickly as possible. ▪ Suspend construction activities that cause visible dust plumes to extend beyond the construction site.	SU

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		▪ Post a publically visible sign(s) with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. *Measures to reduce exhaust emissions from large construction projects:* ▪ The developer or contractor shall provide a plan for approval by the City or BAAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOX reduction and 45 percent particulate reduction compared to the most recent CARB fleet average for the year 2011. ▪ Clear signage at all construction sites will be posted indicating that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite or adjacent to the construction site. ▪ The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g. compressors). ▪ Properly tune and maintain equipment for low emissions.	

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Subsequent land use activities associated with implementation of the General Plan Update could potentially include short-term construction sources of TACs and long-term operational sources of TACs, including stationary and mobile sources - the emission of which could expose sensitive receptors to substantial pollutant concentrations.	SU	**Mitigation Measure AQ-2:** Require Project-Level Construction Health Risk Assessment. Construction health risk assessment will be required on a project-by-project basis, either through screening or refined modeling, to identify impacts and, if necessary, include measures to reduce exposure. Reduction in health risk can be accomplished through, though is not limited to, the following measures: ▪ Construction equipment selection; ▪ Use of alternative fuels, engine retrofits, and added exhaust devices; ▪ Modify construction schedule; and ▪ Implementation of BAAQMD Basic and/or Additional Construction Mitigation Measures for control of fugitive dust.	SU
The General Plan Update would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector roadways, highways, and stationary sources of TAC emissions. Screening levels indicate that sensitive receptors within the Planning Area would be exposed to levels of TACs and/or $PM_{2.5}$ that could cause an unacceptable cancer risk or hazard near highways and stationary sources. TAC sources were identified within a 1,000 foot radius from the Planning Area. These sources include: stationary sources permitted by BAAQMD, roadways with more than 10,000 annual average daily traffic (AADT), and highways or freeways.	SU	**Mitigation Measure AQ-3:** The following measures shall be utilized in site planning and building designs to reduce TAC and $PM_{2.5}$ exposure where new receptors are located within the setback distances identified in **Section 4.3, Air Quality**; **Table 4.3-5** and **Table 4.3-6**. This setback distance ranges from <50 feet to 1,000 feet, depending on the TAC source. Future development under the General Plan Update that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within the setback distances from highways, railroads, local roadways, and stationary sources shall require site-specific analysis to determine the level of TAC and $PM_{2.5}$ exposure. This analysis shall be conducted following procedures outlined by BAAQMD. If the site-specific analysis reveals significant exposures, such as cancer risk greater than 10 in one million or cumulative cancer risk greater than 100 in one million, additional measures shall be employed to reduce the risk to below the threshold. If this is not possible, the sensitive	SU

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		receptors shall be relocated. Future non-residential developments would be evaluated through the CEQA process or BAAQMD permit process to ensure that they do not cause a significant health risk in terms of excess cancer risk greater than 10 in one million, acute or chronic hazards with a Hazard Index greater than 1.0, or annual $PM_{2.5}$ exposures greater than 0.3 µg/m^3, or a significant cumulative health risk in terms of excess cancer risk greater than 100 in one million, acute or chronic hazards with a Hazard Index greater than 10.0, or annual $PM_{2.5}$ exposures greater than 0.8 µg/m^3. For significant cancer risk exposure, as defined by BAAQMD, indoor air filtration systems shall be installed to effectively reduce particulate levels to a less-than-significant level. Project sponsors shall submit performance specifications and design details to demonstrate that lifetime residential exposures would result in less-than-significant cancer risks (less than 10 in one million chances or 100 in one million for cumulative sources). Air filtration systems installed shall be rated MERV-13 or higher and a maintenance plan for the air filtration system shall be implemented. Trees and/or vegetation shall be planted between sensitive receptors and pollution sources, if feasible. Trees that are best suited to trapping particulate matter shall be planted, including the following: Pine (*Pinus nigra* var. *maritime*), Cypress (X *Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids* X *trichocarpa*), and Redwoods (*Sequoia sempervirens*). Sites shall be designed to locate sensitive receptors as far as possible from any freeways, roadways, refineries, diesel generators, distribution centers, and rail lines. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a	

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		distribution center, residents shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.	
Subsequent land use activities associated with implementation of the General Plan Update could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development.	S	**Mitigation Measure AQ-4:** The General Plan Update shall be amended to include the following goal and policies: New Goal: *Avoid Odor Conflicts*. Coordinate land use planning to prevent new odor complaints. ▪ New Policy: *Identify Potential for Odor Complaints.* Use BAAQMD Odor Screening Distances or City-specific screening distances to identify odor potential. Evaluate odors from sources within these screening distances based on odor potential, wind conditions, setback distance and receptor type. ▪ New Policy: *Odor Sources*. Prohibit new sources of odors that have the potential to result in frequent odor complaints unless it can be shown that potential odor complaints can be mitigated. ▪ New Policy: *Limit Sensitive Receptors Near Odor Sources.* Prohibit sensitive receptors from locating near odor sources where frequent odor complaints would occur, unless it can be shown that potential odor complaints can be mitigated.	LTS
Biological Resources			
There are no anticipated significant impacts to Biological Resources			
Cultural Resources			
There are no anticipated significant impacts to Cultural Resources			

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Geology and Soils			
There are no anticipated significant impacts to Geology and Soils			
Greenhouse Gas Emissions and Energy			
There are no anticipated significant impacts to Greenhouse Gas Emissions and Energy			
Hazards and Hazardous Materials			
A major Pacific Gas & Electric Company (PG&E) pipeline is located in south-central East Palo Alto, extending in a general east-west direction. There is a distinct possibility that the pipeline could be breached or disturbed so that an explosion or similar incident could occur.	S	**Mitigation Measure HAZ-1:** Amend the General Plan Update to include the following policy in the Safety and Noise Element Goal SN-4: The City shall coordinate with the Menlo Park Fire Protection District, and other local, regional, and state agencies to ensure that emergency evacuation plans are in place and any major pipelines in the community are appropriately inspected and marked to prevent accidental rupture.	LTS
Hydrology and Water Quality			
There are no anticipated significant impacts to Hydrology and Water Quality			
Land Use and Planning			
There are no anticipated significant unavoidable impacts to Land Use and Planning			
Noise and Vibration			
Demolition and construction activities required for projects implemented by the General Plan Update project may generate perceptible vibration.	S	**Mitigation Measure NOI-1:** The General Plan Update shall be amended to include the following policy: The City shall require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV	LTS

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.	
Development facilitated by the General Plan could expose persons to excessive groundborne vibration levels attributable to proposed DRC trains. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located in close proximity to the DRC tracks could be exposed to ground vibration levels exceeding FTA guidelines.	S	**Mitigation Measure NOI-2:** The City shall require the preparation of a site-specific vibration study for any residential or vibration sensitive development proposed for within 100 feet of the centerline of the railroad tracks. The study shall include recommended measures to reduce vibration to a less-than-significant level. These measures may include, but are not limited to modifications in site planning or building construction. The City shall include the recommendation(s) of site-specific vibration studies as conditions of any subsequent project approvals involving potentially significant vibration impacts.	LTS
The proposed General Plan Update project would facilitate the construction of new projects throughout the City. Residences and businesses located adjacent to development sites would be affected at times by construction noise. Temporary construction-related noise would be considered significant if noise levels would exceed 60 dBA Leq at noise-sensitive land uses (e.g., residential land uses) or 70 dBA Leq at sensitive industrial, office, or commercial land uses when the noise would exceed the ambient noise environment by 5 dBA Leq or more for a period of more than one construction season.	S	**Mitigation Measure NOI-3:** The General Plan Update shall be amended to include the following policy: The City shall require that contractors use available noise suppression devices and techniques and limit construction hours near residential uses. Reasonable noise reduction measures shall be incorporated into the construction plan and implemented during all phases of construction activity to minimize the exposure of neighboring properties. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would: ▪ Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months. For such large or complex projects, a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise	LTS

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses. A typical construction noise logistics plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical: ▪ Limit construction activity to weekdays between 7:00 am and 7:00 pm and Saturdays and holidays between 9:00 am and 7:00 pm, with no construction on Sundays; ▪ Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists; ▪ Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment; ▪ Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses; ▪ Locate staging areas and construction material areas as far away as possible from adjacent land uses; ▪ Prohibit all unnecessary idling of internal combustion engines; ▪ If impact pile driving is proposed, multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced; ▪ If impact pile driving is proposed, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses.	

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		Such noise control blanket barriers can be rented and quickly erected; ▪ If impact pile driving is proposed, foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile. Pre-drilling foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile. Notify all adjacent land uses of the construction schedule in writing; ▪ Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. ▪ Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction	
Population and Housing			
Potential development and redevelopment under the project may decrease the availability of affordable housing.	S	**Mitigation Measure POP-1:** The General Plan Update shall be amended to include the following policies under Land Use and Urban Design Element Goal LU-3. ▪ *Consider Provision of Affordable Housing a Community Benefit*. Consider the provision of additional or replacement affordable housing units to be a component of community benefits when considering legislative land use changes, development agreements, or statements of overriding consideration, in particular for residential projects. ▪ *Replacement Affordable Housing for Density Bonus Projects.* Require that density bonus projects for properties with	LTS

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		existing rental dwelling units subject to affordability requirements, or which had such dwelling units that were demolished within the five-year period prior to application, provide for replacement units to the extent required and permissible under applicable law.	
Public Services and Recreation			
There are no anticipated significant impacts to Public Services and Recreation			
Transportation and Traffic			
Under Cumulative with Project conditions, relative to existing conditions, significant automobile delay impacts are projected to occur at the following five study intersections and three roadway segments: **University Avenue and Bayfront Expressway:** Under existing conditions, this intersection operates at an acceptable LOS B during the AM peak hour and at an unacceptable LOS F during the PM peak hour. The addition of cumulative and project-generated traffic would be expected to cause the AM peak hour level of service to change from LOS B to LOS C, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the PM peak hour, level of service would remain at LOS F and delay would increase by 76 seconds. This constitutes a significant impact according to the thresholds established by the Cities of East Palo Alto and Menlo Park. **Willow Road and Bayfront Expressway:** Under existing conditions, this intersection operates at an acceptable LOS C during the AM peak hour and at an unacceptable LOS F during the PM peak hour. The addition of cumulative and project-generated traffic would be expected to cause the AM peak hour level	SU	Fully mitigating traffic impacts under cumulative conditions associated with implementation of the General Plan Update at the affected intersections and roadway segments, discussed above, would require adding through lanes or additional lanes. Because such improvements would entail extensive right-of-way acquisition and roadway widening (which Policy 8.2 in the General Plan Update's Transportation Element seeks to avoid), this is considered to be infeasible. Building and operating the pedestrian, bicycle, and transit facilities and services outlined in the General Plan Update and in the Ravenswood/4 Corners Specific Plan, and implementing the TDM policies in those plans, may cause a reduction in the vehicle trips generated by buildout under the General Plan Update. Implementation of some transit facilities and services, such as building and operating a new high-capacity transit service on the Dumbarton Rail Corridor, would require additional funding from outside agencies, and coordination with and approval by other jurisdictions, such as the San Mateo County Transportation Authority and the San Mateo County Transit District. Because implementation of some transit facilities and services would require additional funding from outside agencies and the approval of outside agencies and the City cannot guarantee they would be implemented, and because the	SU

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
of service to change from LOS C to LOS E and the PM peak hour level of service to remain at LOS F and delay to increase by 46 seconds. This constitutes a significant impact according to the thresholds established by the Cities of East Palo Alto and Menlo Park. **University Avenue and Bay Road:** Under existing conditions, this intersection operates at an acceptable LOS D during the AM and PM peak hours. During the AM peak hour, the level of service would be expected to remain at LOS D with the addition of cumulative and project-generated traffic, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the PM peak hour, level of service would change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto. **University Avenue and Woodland Avenue:** Under existing conditions, this intersection operates at an acceptable LOS D during the AM and PM peak hours. During the PM peak hour, the level of service would be expected to remain at LOS D with the addition of cumulative and project-generated traffic, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the AM peak hour, level of service would change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto. **Bay Road and Newbridge Street:** Under existing conditions, this intersection operates at an acceptable LOS C during the AM peak hour and an acceptable LOS B during the PM peak hour. The addition of cumulative and project-generated traffic would		effects of the pedestrian, bicycle, transit, and TDM measures on vehicle trips are uncertain, the impact would be considered to be significant and unavoidable.	

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
change level of service for both the AM or PM peak hours at this intersection to an unacceptable LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto. **University Avenue between Michigan Avenue and Bay Road:** This roadway segment operates at LOS B under existing conditions. The addition of cumulative and project-generated traffic would be expected to cause the level of service to change from LOS B to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto. **Donohoe Street between University Avenue and Capitol Avenue:** Under existing conditions, this roadway segment operates at LOS E. The addition of cumulative and project-generated traffic would be expected to cause the V/C ratio to change from 0.91 to 1.00, with the roadway segment continuing to operate at LOS E. This increase in the V/C ratio could be considered a "substantial increase in traffic on a roadway already projected to operate at LOS E or F." This could be considered to constitute a significant impact according to the thresholds established by the City of East Palo Alto. **East Bayshore Road between Clarke Avenue and Pulgas Avenue:** This roadway segment operates at LOS C under existing conditions. The addition of cumulative and project-generated traffic would be expected to cause the level of service to change from LOS C to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.			

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
Utilities and Service Systems			
Development facilitated by the General Plan Update may require or result in the need for new water or wastewater treatment facilities or the expansion of existing facilities.	SU	The exact sizing, location, and extent of future improvements are not known at this time. As such, the impact would be considered significant and unavoidable.	SU
Development facilitated by the General Plan Update may require or result in the construction of new stormwater drainage facilities or the expansion of new facilities.	SU	There are no feasible mitigation measures that would reduce this impact to a less-than-significant level.	SU
Development allowed by the General Plan Update would generate an increase in future water demand that would not be fully met by the City's existing and future water supplies.	SU	**Mitigation Measure UTL-1:** The General Plan Update shall be amended to include the following policy under Infrastructure, Services, and Facilities Goal ISF-2: Require new or intensified development to demonstrate that adequate water is available before project approval. Before new or intensified development projects are approved, the development proponent must provide the City with enforceable, verifiable proof that adequate water supply exists to supply the new or intensified development. The enforceable proof can take three forms: 1) Depending on the location of the development, a will-serve letter or similar instrument from the City of East Palo Alto, the Palo Alto Park Mutual Water Company, or the O'Connor Tract Co-Operative Water Company. 2) A verifiable recordable water demand offset project or program that ensures that there is no net increase in new water demand. 3) Verifiable and enforceable proof that the developer has secured new water supplies necessary to serve the project.	SU

Source: Circlepoint, 2016

1.6 POTENTIAL AREAS OF CONTROVERSY

Pursuant to CEQA Guidelines Section 15123(b)(2) and (3), the summary section of EIR must identify areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. The City issued a Notice of Preparation (NOP) describing the original concept and issues to be addressed in the EIR on September 3, 2014; the NOP was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period (concluding October 3, 2014). A scoping meeting for the EIR was held during the September 22, 2014 East Palo Alto Planning Commission meeting. Potential areas of controversy raised during that meeting and in comments received during the public review period include:

- Effects associated with potential changes to City regulations regarding second dwelling units
- The potential for socioeconomic effects to occur following any potential changes to land use designations/zoning
- Potential direct and secondary effects associated with possible land use designation changes in the Westside area, including effects in neighboring jurisdictions
- Transportation effects, especially those associated with congestion and bicycle safety
- Effects of sea level rise
- Possible effects related to water quality
- Possible effects related to parks and open space

1.7 PROJECT ALTERNATIVES

The alternatives evaluated during the analysis of the General Plan Update include:

Alternative 1 (No Project): Under Alternative 1, the City would not adopt the proposed General Plan Update. The No Project Alternative is not a "no build" alternative. Instead, the City's existing (1999) General Plan would remain in place, and this alternative would retain allowable development densities and intensities of the existing General Plan. Alternative 1 assumes that, by 2040, an increment of new development would follow the existing General Plan's land use designations and circulation plan, largely maintaining and extending current development patterns.

Alternative 2 (Reduced Intensity): Development under Alternative 2 would occur as under the policies of the General Plan Update, but with less intensive development of office and mixed uses, achieved through height restrictions, setbacks, and reduced floor-area ratios.

This alternative would reduce development intensity over the General Plan Update's 25-year planning horizon by approximately 25 to 40 percent through land use designation changes (i.e., policy changes) in certain areas of the City. Locations where densities could be reduced to mitigate potential negative environmental impacts are:

- Lowering the maximum FAR in Commercial land use designations to 1.0 FAR (from 2.0 FAR)
- Converting the Gateway 101 Shopping Center land use designation from Mixed Use High to Commercial
- Changing the land use designation along the University Avenue corridor from Mixed Use Corridor (1.75 FAR and 5 stories) to Mixed Use Low (up to 21 dwelling units per acre [du/ac] and 0.35 FAR)
- Changing the land use designation at the University Avenue/Donohoe Street (north) parcel from Mixed Use High to Mixed Use Low or Commercial
- Changing the land use designation for residential parcels south of Ravenswood from High Density Residential to Medium Density Residential
- Prohibiting accessory dwelling units on residential parcels less than 6,000 square feet

Alternative 3 (Employment Focus): Alternative 3 would replace residential development with commercial development, particularly along University Avenue, and other locations listed below. This would result in a 25 percent reduction in residential land uses and a 25 percent increase in commercial land uses.

- University Avenue: change Mixed Use Corridor land use designations to General Commercial
- East Bayshore Road: change Mixed Use Low land use designations to General Commercial
- Westside, south of University Avenue: change a small amount of High Density Residential land use designations to General Commercial or Office
- Gateway 101 Shopping Center: change Mixed Use High land use designations to Office
- South of the Ravenswood/4 Corners Specific Plan area: change High Density Residential parcels to Industrial Buffer/Flex Overlay

Alternative 4 (Residential Focus): Alternative 4 considers the possibility of replacing proposed commercial development in some portions of East Palo Alto with residential development, such as adjacent to Highway 101 in the Gateway 101 Shopping Center area. This alternative would also include increasing the amount of residential development on

properties designed for mixed land uses and potentially integrating a residential component into office developments.

The rationale for this alternative is to provide greater housing opportunities to support existing and future development within San Mateo and Santa Clara Counties. A greater array of housing could help alleviate the regional housing shortage and reduce the cost of housing in this high-priced housing market, as well as potentially reduce some amount of regional commuting. However, this alternative would negatively impact economic development opportunities in East Palo Alto and further exacerbate the City's jobs per employed resident imbalance

Specific areas that would see a change under Alternative 4 are:

- Westside: Eliminate all new commercial development; allow only residential
- University Avenue: Allow residential-only buildings, assume second Sobrato site develops as residential, not office.
- Gateway 101 Shopping Center: Allow residential-only buildings on portions of the site. This would eliminate some of the office in favor of more residential.
- East Bayshore Road: Convert Mixed Use Low land uses to residential-only and remove the potential for new commercial development.

Alternative 4 would redistribute development capacity from employment uses to residential uses in the Westside area, University Avenue corridor, Gateway district, and East Bayshore Road corridor. The overall outcome would be an additional 400 multi-family housing units and a decrease of 800 jobs.

Alternative 5 (Theoretical Maximum Buildout): Alternative 5 evaluates the theoretical possibility that every parcel in East Palo Alto would be built out to the new maximum level permissible under the General Plan Update.[2] This buildout estimate is based on current growth projections, knowledge of local sites within the City, and other demographic information. Under Alternative 5, overall development would be substantially greater than the project's land use development program. As compared with the General Plan Update, Theoretical Maximum Buildout would comprise approximately:

- 39 percent more population growth
- 53 percent more residential development
- 73 percent more retail development
- 63 percent more office development
- 90 percent more industrial development

[2] General Plan Update growth projections assume a more targeted, realistic number based on an analysis of local sites, potential for turnover, etc.

The likelihood of "maximum buildout" is highly unlikely; nevertheless, this EIR includes an analysis of this scenario because the General Plan Update land use classifications do provide the capacity for the buildout estimates presented above. As such, Alternative 5 serves as a theoretical "worst-case" scenario in this evaluation.

These alternatives are discussed in **Chapter 6.0, Alternatives**, of this document. Alternative 2 (Reduced Intensity) was determined to be the environmentally superior alternative. However, Alternative 2 would not meet many of the City's key project objectives, such as improving the jobs-housing balance and, thus, reducing regional commuting.

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2.0 INTRODUCTION

This Draft Environmental Impact Report (EIR) assesses the potential environmental effects of the adoption and long-term implementation of the proposed General Plan Update for the City of East Palo Alto (City). The General Plan is a comprehensive and long-range guide to the physical development of the incorporated City, and also provides guidance regarding lands outside City boundaries that have a relationship to the City's planning activities. Goals, policies, and programs are outlined in the General Plan Update to guide the overall growth, change, and governance in the City.

This Draft EIR has been prepared in accordance with the California Environmental Quality Act of 1970 (Public Resources Code, Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines) published by the Public Resources Agency of the State of California (California Code of Regulations, Title 14, Section 15000 et seq.), and in accordance with the City's independent policies and regulations.

The City is the lead agency for the preparation of this Draft EIR as defined by CEQA (Public Resources Code Section 21067 as amended), and the content of the document reflects the independent judgment of the City.

The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (Public Resources Code Section 21002.1[a]). This Program EIR is intended to provide information to public agencies, the general public and decision makers regarding potential environmental impacts related to implementation of the General Plan Update.

According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project, are related geographically, and as logical parts in the chain of contemplated actions in connection with issuance of rules, regulations, or plans. The Program EIR allows for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on separate individual actions. Moreover, a Program EIR ensures consideration of cumulative impacts that might be missed on a case by-case basis.

This Program EIR provides a first tier analysis of the potential environmental effects of the General Plan Update. Section 15152 of the CEQA Guidelines indicates that tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy or program of lesser scope, or to a site specific EIR or negative declaration if additional analysis is necessary. Subsequent activities in accordance with the project examined in light of this Program EIR to determine whether an additional environmental document must be prepared. If a subsequent project or later activity would have effects that were not examined in this Program EIR, or not examined at an appropriate level of detail to be used for the later activity, an initial study would need to be prepared to determine the appropriate environmental document. If the City finds that pursuant to Section 15152 of the CEQA Guidelines, no new effects could occur or new mitigation measures would be required on a subsequent project, the City can approve the activity as being within the scope of the project covered by this Program EIR, and no new environmental documentation would be required. In addition, the standards relating to subsequent EIRs at CEQA Guidelines Section 15162-15164 and Public Resources Code Section 21166 are applicable to this Program EIR.

This Draft EIR serves as an information document for use by public agencies, the general public, and decision makers. This Draft EIR is not a City of East Palo Alto policy document; it does, however, disclose the potential environmental impacts reasonably foreseeable if the City were to adopt the proposed General Plan Update. Following publication of this document, the City will prepare responses to public comments on the Draft EIR. The responses to comments document, along with any revisions to the Draft EIR, will collectively constitute the Final EIR for the project. The City must certify the Final EIR prior to approving the General Plan Update project.

2.1 BACKGROUND

The Program EIR serves as the basis for environmental review and impact mitigation for adoption and implementation of the General Plan Update. The City will review subsequent projects for consistency with the Program EIR and prepare appropriate environmental documentation pursuant to CEQA provisions for Program EIRs and subsequent projects. Subsequent projects under the Program EIR may include but, are not necessarily limited to the following implementation activities:

- Rezoning of properties and amendment of development standards;
- Approval of Specific Plans;

- Approval of development plans, including tentative maps, variances, conditional use permits, and other land use permits;
- Approval of development agreements;
- Approval of facility and service master plans and financing plans;
- Approval and funding of public improvement projects;
- Approval of resource management plans;
- Issuance of municipal bonds;
- Issuance of permits and other approvals necessary for implementation of the General Plan;
- Acquisition of property by purchase or eminent domain; and
- Annexations into the City.

To define the scope of the Program EIR, the City distributed a Notice of Preparation (NOP). The NOP was issued on September 3, 2014, and the public comment period remained open until October 3, 2014. Consistent with the requirements of the California Code of Regulations, Title 14, Sections 15082(a), 15103, and 15375, the NOP was broadly distributed to public agencies, interested private organizations, and individuals. Consistent with CEQA Guidelines Section 15063, the City declined to prepare an Initial Study, as the City determined that an EIR would clearly be required for the General Plan Update project. The purpose of the NOP was to elicit comments on the scope of the prospective environmental analysis. Comment letters were received from the following agencies, organizations, and individuals during the scoping period:

Agencies/Organizations

- United States Fish and Wildlife Service
- California Public Utilities Commission
- San Francisco Public Utilities Commission
- San Francisco Bay Conservation and Development Commission
- Santa Clara Valley Transportation Authority
- Envision, Transform, Build – East Palo Alto Coalition
- Woodland Creek Homeowners Association
- Silicon Valley Bicycle Coalition
- The St. Francis of Assisi Local Organizing Committee of SFOP/PIA

- James Keene, City Manager, City of Palo Alto

In addition to these letters, City Planning staff received oral comments at the public scoping meeting on September 22, 2014. Scoping letters received during the public review period for the NOP issued are available for review at the East Palo Alto Planning and Housing Division at 1960 Tate Street East Palo Alto, CA 9430. Written comments were sorted and reviewed, and **Appendix A** of this EIR includes compiled comments received.

2.2 SCOPE OF THIS DRAFT EIR

In accordance with Public Resources Code Section 21002.1, the purpose of this EIR is to address the potential environmental impacts resulting from the construction and operation of the proposed project, proposed mitigation measures to reduce potentially significant environmental impacts, and identify and evaluate alternatives, which could reduce or avoid the significant effects of the proposed project. Although most of the project involves "paper" components - meaning the goals, policies and programs proposed in the General Plan Update do not have direct, immediate physical impacts, the analysis in this EIR addresses the foreseeable physical impacts of implementing the General Plan Update as a blueprint of future development in the City. The EIR process provides an opportunity for the public to review and comment upon the potential environmental impacts of the project proposed.

2.3 REPORT ORGANIZATION

This Draft EIR is organized into eight chapters:

Chapter 1.0: Executive Summary includes a brief project description and summarizes project objectives, alternatives, impacts, and mitigation measures.

Chapter 2.0: Introduction provides an introduction and overview of the purpose and scope of this Draft EIR, a brief summary of the CEQA process to date, as well as the format of the document is established.

Chapter 3.0: Project Description describes the project, including the project setting and project characteristics as well as build-out projections.

Chapter 4.0: Setting, Impacts and Mitigation Measures describes the environmental setting; applicable plans and policies; an analysis of the environmental impacts of the project; and mitigation measures that would reduce their significance.

Chapter 5.0: Cumulative Impacts provides an analysis of cumulative impacts, growth inducing impacts, and areas of no significant impact.

Chapter 6.0: Alternatives considers alternatives to the project and compares the impacts of these alternatives to the project.

Chapter 7.0: Other CEQA Required Discussions provides an analysis of growth inducing impacts, significant irreversible impacts, and areas of no significant impact.

Chapter 8.0: Document Preparers and References provide lists of document preparers and references used in this EIR.

The **Appendices** include the NOP, comments received on the NOP, and technical reports prepared by environmental and technical specialists for the evaluation of the project

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3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

Pursuant to Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, this project description contains the following information:

a) The location and boundaries of the proposed project shown on a detailed map;
b) Project objectives;
c) A description of the project's technical, economic, and environmental characteristics; and
d) A statement of the intended uses of this EIR.

3.2 PROJECT BACKGROUND

Under California state law,[1] every city and county is required to have a general plan. The general plan is to be comprehensive and long-range in guiding physical development, and establishing both physical and policy frameworks for transportation, safety, and many other issues of critical importance. The California Supreme Court has called the general plan "the constitution for all future development" within a given community.

Since its incorporation in 1983, the City of East Palo Alto (City) has only conducted a single comprehensive General Plan update (in 1999). Since the 1999 General Plan was created, there have been significant shifts in economic and housing markets, demographics, land use, the transportation system, community character, and infrastructure demands. Other portions of the 1999 General Plan are outdated, unable to adapt to existing conditions, or no longer reflect community consensus for the future. This General Plan Update seeks to bring the plan up to date.

In addition to bringing the 1999 General Plan up to date, this comprehensive update to the General Plan will also address some significant issues and challenges facing the City. These include improving public health outcomes, enhancing economic

[1] Government Code Section 65300 et seq.

development, improving the transportation system, preserving diversity, and addressing housing affordability challenges.

In 2012, the City began a process to prepare a comprehensive General Plan Update focused on addressing several key community issues not adequately addressed in the existing (1999) General Plan. These issues include:

- Responding to socio-economic and demographic changes in the community.
- Engaging community members to express their collective values to create a new common vision for the City's future.
- Using the new common vision to set forth policies regarding land use, community design, transportation, infrastructure, and quality of life.
- Giving priority to the enhancement of community health and equity.
- Providing detailed policy guidance for the Westside Area to better address issues facing this area of the City, including a loss of affordable housing, lack of parks and open space, infrastructure deficiencies, and a desire for additional connections to the rest of East Palo Alto.

Therefore, the project analyzed in this Environmental Impact Report (EIR) is the adoption and long-term implementation of a comprehensive update and revision of the 1999 East Palo Alto General Plan. The project, (hereinafter also referred to as the "General Plan Update"), if adopted, would serve as the blueprint for the future development and enhancement of the City through a series of goals, policies, and programs intended to guide development, improve quality of life, and enhance public safety. The proposed General Plan Update includes a land use designation map that replaces the land use designation map associated with the 1999 General Plan.[2] The General Plan Update also includes several maps intended to guide transportation in the City by all modes of traffic (further described below).

The City initially established 2035 as the horizon year for the General Plan Update; in other words, the year by which the City would expect that policies and programs would be fully realized and a further comprehensive review of the plan may be warranted. However, regional projections to the year 2040 became available around the time the Draft General Plan was released. In particular, year 2040 information became available through the regional transportation model produced

[2] The City intends to release a comprehensive Zoning Code Update to ensure that development standards and regulations conform to the General Plan Update. This environmental document, upon approval, can be used to meet CEQA requirements for the Zoning Code Update

by the City/County Association of Governments (C/CAG) of San Mateo County. Therefore, this EIR considers 2040 as the horizon year of the project.

This EIR is being prepared in accordance with CEQA (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines. This EIR is a Program EIR prepared in accordance with CEQA Guidelines Section 15168. Section 15168 allows for the preparation of a Program EIR for a series of actions that can be characterized as a single project. This project description is intended to describe the General Plan Update's technical, economic, and environmental characteristics, pursuant to CEQA Guidelines Section 15124.

3.3 PROJECT LOCATION

Figure 3-1 shows the project's regional location. The City is located in the southeastern corner of San Mateo County and borders Santa Clara County. Neighboring cities include Menlo Park to the north and west and Palo Alto to the south. The City borders the San Francisco Bay on the east. San Francisquito Creek forms the southeast border.

Figure 3-1 Project Location

In some jurisdictions surrounded by unincorporated land that may be annexed in the future, a general plan may cover not only the jurisdiction but a surrounding "sphere of influence" area, comprising adjacent unincorporated lands. There is no unincorporated land adjacent to the City, so the area considered in the General Plan Update is coterminous with the City's incorporated limits. The City is approximately 2.6 square miles in area. The City's location between Highway 101 and the Dumbarton Bridge (State Route [SR] 84) are important defining elements insofar as both Highway 101 and SR 84 are major through routes connecting the Peninsula, Silicon Valley, and East Bay areas of the San Francisco Bay Area. **Figure 3-2** shows the generally recognized neighborhoods of the City.

3.3.1 VISION, GUIDING PRINCIPLES AND VALUES, AND IMPLEMENTATION STRATEGIES

In preparing the General Plan Update, the City embarked on a multi-faceted, multi-media, multi-generational, and multi-lingual public outreach and engagement process to better understand community values, needs, and goals. This outreach and engagement process included dozens of community meetings attended by hundreds of community members who contributed comments and ideas. Workshops, surveys, open-house meetings, and a project website were a few of the tools used to elicit comments and ideas from community members. Several workshops and meetings were focused on particular neighborhoods or topics, such as the Westside area, land use, economic development, and other matters related to the General Plan Update. At several meetings, childcare services were provided as a means to facilitate the attendance of people who might not otherwise be able to attend a public meeting. Details of previous public engagement efforts are available on the project website the City established for the General Plan Update: www.vista2035epa.org.

Source: 2000/2010 U.S. Census, San Mateo County GIS Enterprise Database and Santa Clara County, 2012.

Figure 3-2 Neighborhoods in East Palo Alto

In addition to these workshops and forums, the City also convened a General Plan Advisory Committee (GPAC) as well as a Westside Area Plan Advisory Committee (WAPAC). These committees grappled with certain specific issues and developed a vision statement for East Palo Alto for the next 20 to 30 years. Through collective efforts of these committees, City staff, and the project consultant team, the General Plan Update includes a distillation of visionary feedback as a set of ***Guiding Principles and Values***. These Guiding Principles and Values represent the City's desired long- and short-term outcomes for the General Plan Update. As a further evolution of these Guiding Principles and Values, the City has preliminarily identified a number of ***Implementation Strategies*** that articulate specific desired physical improvements or other outcomes that are consistent with the Guiding Principles and Values. The Vision, Guiding Principles and Values, and Implementation Strategies outlined below were developed through extensive public participation processes and represent the community's goals and aspirations for its future; as such, these also serve as project objectives in this EIR.

The Guiding Principles and Values and Implementation Strategies are built around a simple idea articulated in the Overview of the General Plan Update:

> This General Plan seeks to improve the public health and welfare of residents, while preserving what is great about the City and maintaining the core values of affordability, community, and diversity.

Vision

Key elements of the new vision for East Palo Alto over the next 20 to 30 years include:

- Be welcoming to all people and become the most diverse, peaceful, healthy, and balanced community in the San Francisco Bay Area
- Create a more sustainable jobs-housing balance
- Transform Ravenswood from empty lots into a thriving business, research and development (R&D), and commercial center
- Develop a new "main street" on Bay Road that serves as the City's downtown with a City Hall and a variety of locally-owned neighborhood retail stores, restaurants, and services
- Transform University Avenue from a cut-through corridor into a beautiful mixed-use boulevard with high-density housing and neighborhood-serving businesses and offices that capitalize on the City's proximity to Silicon Valley
- Add new housing throughout the City along with neighborhood shopping areas, and renovate and improve existing housing

- Transform the Gateway 101 Shopping Center into a dense retail and office district
- Develop the Westside of the City as a beautiful residential area with high-quality affordable housing, parks, community facilities, and enhanced connections to the rest of the City
- Strengthen and diversify the City's tax base and enhance public services
- Support small, locally-owned businesses
- Strengthen educational and recreational opportunities for youth
- Support a high quality of life for all residents
- Build new parks and recreational facilities, add new trees and landscaping, and improve access to the San Francisco Bay and Don Edwards San Francisco Bay National Wildlife Refuge
- Work collaboratively to become financially stable and strong and grow sustainably and inclusively

Guiding Principles and Values

The General Plan Update identified the following principles and values to achieve the community's vision for the future.

1. **A City for all people.** East Palo Alto will be a city free of discrimination and prejudice, embracing the City's history and founding vision as a place where everyone can thrive, regardless of race, class, income, age, culture, or sexual orientation. We will honor the personal history and unique point of view of every individual, acknowledging the inherent wisdom and value that they possess.
2. **A safe and healthy community.** We will protect the personal safety and welfare of people who live in, work in, and visit East Palo Alto, including from crime, pollution, natural disasters, and other threats and emergencies. We will improve the health of our community by supporting active transportation, access to healthy food, access to parks, access to healthcare, improved mental health, preventive care and fitness, and economic opportunity for residents.
3. **Fiscal health and stability.** We acknowledge that, to achieve our goals, it is critical to create a revenue base sufficient to provide municipal services comparable with cities of a similar size. We recognize that achieving and maintaining fiscal health will require a consistent and multi-faceted strategy. Our land use, budgetary, program, and staffing strategies will improve the City's fiscal health, and we will continue to make efforts to strategically phase growth to increase and stabilize City revenues and expenditures over time.
4. **Housing opportunity for all.** We recognize that providing safe, healthy, and affordable housing options will be one of the City's major challenges for the

future, and we will commit resources, political will, creativity, and persistent effort to this issue. We will seek to protect fair access to housing, reduce displacement of existing residents, decrease homelessness, and provide a diversity of housing types and affordability levels to serve a broad and diverse community of new and existing residents.

5. **Economic equity, vitality, and diversity.** We will increase East Palo Alto's economic vitality and diversity for the equitable benefit of the entire community. We will leverage our unique and powerful Silicon Valley location to expand job opportunities and support a range of businesses and economic sectors. We will also seek to increase the balance between East Palo Alto jobs and residents, pursuing a citywide mix of employment and housing that allows families to both live and work in the City.
6. **High quality public facilities and infrastructure.** Well-functioning, reliable infrastructure and facilities are core requirements for a successful community and without them residents and businesses cannot thrive. Recognizing this, the City will execute its responsibility to provide functional, safe, and well-maintained infrastructure for all residents, businesses, and institutions in East Palo Alto. The City will ensure the continued provision of reliable and continuously improving public services, including fire and police services, and will work to address any adverse impacts of development on these services.
7. **Arts, culture, and education.** Arts, culture, and education are central components of human happiness. We embrace East Palo Alto's creative culture and the artistic pursuits of our community. We endorse and support access to education as a human right, and a pathway to our residents' success. We will enhance the cultural and creative life of the community, cultivating the talents, expertise, and wisdom of the East Palo Alto community.
8. **Sustainability and environmental protection.** We will strive for environmental responsibility and sustainability in our community. We are committed to preserving a healthy and ecologically flourishing planet for our children and grandchildren. We will support innovative programs and policies for environmental sustainability, climate change mitigation and adaptation, livability, and resource protection.
9. **Strong and unique neighborhoods.** East Palo Alto's neighborhoods are at the core of its identity and unique character, and make up the majority of the City's land area. We will continue to protect, improve, and equitably re-invest in these neighborhoods, creating beautiful, livable places that our diverse population can call home.
10. **Transportation choices.** East Palo Alto will have equitable, safe, healthy, and reliable transportation choices for those living in, working in, and visiting the City. The network will equally feature motor vehicle and active transportation

modes, and it will connect our city and the surrounding region while improving the quality and safety of neighborhoods, allowing residents to move freely and comfortably to meet their daily needs.

11. **Social capital and community connections.** We will cultivate social connections between neighbors, neighborhoods, and those who visit and work in the City, acknowledging that our community is stronger when we work together. Our efforts at community building will foster connections between people and promote trust amongst neighbors. The fabric of the City will be enlivened by vibrant public spaces, attractive civic facilities, successful retail destinations, public spaces for gathering and socializing, public events and festivals, civic organizations and programming, and safe streets where residents can participate in the social life of the City.
12. **Increase organizational effectiveness and efficiency.** The City's operations and organizational effectiveness should be a model for the rest of the community. We will hold ourselves to a high standard of excellence to increase the quality of governance, improve its organizational practices, enhance civic participation, and serve the community with professionalism and commitment.
13. **Strategic engagement within the region.** We will engage strategically and proactively with the region to solve regional problems, understanding that East Palo Alto's fortunes are tied to the broader community. We will continue to develop solutions to City problems in coordination with adjacent cities, regional agencies, and nearby funders, businesses, or investors.
14. **Citywide greening.** We recognize the physical and mental health benefits that come from a close connection to nature, and commit to protecting and enhancing East Palo Alto's natural environment. This will include expanding the urban forest, greening public spaces, and protecting nature and habitat. We will improve our maintenance of the existing tree canopy and shift to drought-tolerant vegetation throughout City facilities.
15. **Revitalize and beautify the City.** We will create a beautiful City with a vibrant sense of place by providing well-designed public spaces and human-scale streets and streetscape design. The City will be an aesthetically pleasing, engaging place to live, work, and visit. Public art will be supported and included in major civic projects and spaces.

Implementation Strategies

The General Plan Update identified the following primary strategies and physical improvements to implement the General Plan's vision and guiding principles over the next 20 to 30 years. These strategies range from specific physical improvements

to long-term transformations of areas within the City. **Figure 3-3** depicts many of the following major strategies, with numbers corresponding to the list below.

1. **Implement the Ravenswood/4 Corners Transit-Oriented Development (TOD) Specific Plan.** The largest potential for new development, increased parklands/open space, enhanced economic activity, and an improved jobs-housing balance is implementing the vision in the Ravenswood TOD Specific Plan. To do so, the City should enhance public-private partnerships, seek funding for infrastructure improvements, market the area to technology companies, secure long-term sources of water, and pursue catalytic development projects that attract additional development. The improvements must also be done in a way that is sensitive to the educational levels of existing residents to ensure that the changes not only bring in increased tax revenue but also advance the economic conditions of East Palo Alto residents.
2. **Create a main street on Bay Road.** The City of East Palo Alto lacks a traditional main street that serves as the central meeting, gathering, and shopping location for residents. This lack of a main street has impacted social cohesion and connectedness. The Ravenswood TOD Specific Plan envisions a pedestrian-friendly main street along Bay Road with ground floor retail and residential uses on the upper floors. Making this vision a reality is a critical component of the General Plan.
3. **Revitalize University Avenue.** Transform University Avenue from a through-traffic corridor with a diversity of low density uses into a beautiful, mixed use corridor designed for all modes of travel. Specific activities will include streetscape improvements, incentivizing mixed use development with ground floor retail at key nodes, and pedestrian amenities.
4. **Enhance the Westside.** The area west of Highway 101 presents one of the biggest planning challenges over the next generation. The community aims to preserve the affordability levels that provide housing for the working class while also beautifying the area with new streets, parks and open spaces, community facilities, flood protection, new pedestrian connections (including the pedestrian bridge over Highway 101), and an improved Newell Bridge. In the affordable housing area the City will review projects to ensure that there is to be no net loss in the number of residential units or the number of deed-restricted affordable housing units during any future reconstruction or renovation on the Westside.
5. **Redevelop the Gateway 101 shopping center.** The Gateway 101 Shopping Center presents a long-term opportunity to add jobs and expand the tax base. The General Plan envisions redeveloping portions of this shopping center with neighborhood-serving office development on the upper floors to capitalize on

the freeway access and visibility, and the booming office market in Silicon Valley.

6. **Construct office uses at University Avenue and Highway 101.** The General Plan envisions an office/R&D area near the intersection of Donohoe Street and University Avenue, just north of Highway 101. This area has the potential to add hundreds of new jobs, expand the tax base, and improve the jobs-housing balance.
7. **Preserve and enhance residential neighborhoods.** Residential neighborhoods are the heart and soul of East Palo Alto, a melting pot of races, ethnicities, and cultures. The General Plan envisions preserving and enhancing the residential neighborhoods in the City. Activities include upgrading all streets with curbs, gutters, and sidewalks wherever possible, developing neighborhood parking strategies, planting street trees to green the area, and allowing second units where feasible to increase the housing supply and accommodate multi-generational housing.
8. **Expand neighborhood retail areas.** East Palo Alto residents desire quality and affordable retail and services within walking distance of their homes. The General Plan builds off of the existing retail areas and identifies multiple retail "nodes" for enhancement and expansion.
9. **Add middle density and multi-family housing.** The community desires a diverse and affordable housing stock. The new General Plan land use designations allow multi-family housing at moderate densities in selected locations. This housing will diversify the existing housing stock east of Highway 101 and support new retail and services.
10. **Build new parks and open spaces.** The City currently lacks parks, green spaces, and access to the Bay Trail and National Wildlife Refuge – specifically, there is a shortfall of 56 acres with respect to the 3 acres/1,000 residents standard. Since significant new park facilities are unrealistic beyond the 30 acres contemplated in the Ravenswood TOD Specific Plan given the built-out nature of the City, this General Plan envisions a layered network of new parks and open spaces that includes new mini-parks, improved access to the Bay Trail at key junctures, multiple new linear parks on existing public rights of way (including the San Francisquito Creek in the Westside), shared streets that provide recreation for residents, and greening existing streets with new trees and landscaping.
11. **Implement citywide traffic calming.** The City suffers from significant cut-through traffic due to its location within the region and the large number of commuters who must pass through the City to travel from homes in the East Bay to jobs in Silicon Valley. To offset the impact, the General Plan envisions a citywide traffic calming effort that includes roundabouts, bulbouts, and road diets (that is, reducing the number of travel lanes) on key thoroughfares

including Pulgas Road, Clarke Road, east and west Bayshore and Bay Road. Priority locations for improvements should be on the major cut-through streets and near schools and parks as these areas have the highest levels of pedestrian and bicycle activity.

12. **Expand the educational hub.** Enhancing the educational quality and attainment is critical to the long-term success of the City. With multiple schools already in existence, the area around Pulgas Avenue, Clarke Road, Myrtle Street, and O'Connor Street is emerging as an educational hub with multiple schools and educational facilities. The City should build on the success of this area to create a beautiful, diverse, and high-quality educational hub that serves both East Palo Alto residents and residents from neighboring communities. Improvements include streetscape enhancements and marketing the area as an educational hub.
13. **Build connections across Highway 101.** The Westside is physically isolated from the rest of the City and the University Avenue overpass is unsafe for pedestrians and cyclists. The General Plan includes new connections across Highway 101 – a bridge south of University Avenue and re-opening up an existing underpass north of University Avenue and enhanced multi-modal opportunities along University Avenue.
14. **Enhance gateways to the City.** To enhance the City's identity and character, new gateway treatments should be developed at key entry points to the City, including University Avenue at Highway 101, Adams Drive, and Woodland Avenue; on Newbridge Road at Willow Road; and along East Bayshore.
15. **Build new civic and public uses.** The City currently does not have a stand-alone City Hall and public offices are spread throughout the City. In the future, the City will build a new City Hall with public meeting and gathering spaces, Council Chambers, and offices. New public uses, such as community centers and libraries, will be spread throughout the City to meet the needs of existing and future residents.
16. **Secure stable water resources for new development.** Adding new housing and jobs in the City is constrained by a lack of water to support development. A critical step to strengthen the economy and achieve fiscal stability is to address the water shortage in the City, which may include: securing additional water from SFPUC, diversifying the City's sources of water supply, establishing a water offset policy for new development, and implementing water efficiency/conservation measures. Once this occurs, intensification and redevelopment can occur in areas such as along University Avenue and in the Ravenswood TOD Specific Plan area.
17. **Comprehensively address flooding.** Throughout its history, the City has suffered from flooding from the San Francisquito Creek. The City will continue

to work collaboratively with regional agencies and surrounding jurisdictions to address this issue and develop a comprehensive plan to mitigate potential impacts to residents and businesses in the City.

Note: Numbers correspond to the list of implementation strategies described above.

Figure 3-3 General Plan Update Major Strategies Map

3.4 PROJECT OBJECTIVES

In addition to the Vision, Guiding Principles and Values, and Implementation Strategies articulated directly above, the City sets forth the following as further objectives for the General Plan Update.

1. Replace the current General Plan prepared in 1999 with an updated plan that better reflects the goals and aspirations of the community through the year 2040.
2. Ensure that the General Plan Update achieves compliance with all applicable state laws and regulations.

3.5 PROJECT COMPONENTS

Under California Government Code Section 65302, a general plan is required to contain seven "elements" or chapters. The General Plan Update meets the requirements for all seven state-mandated elements, including Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety, as well as several optional elements. Within the General Plan Update, the City sets forth its overall principles for growth, change, and governance in a series of goals, policies, and implementation programs that build on the community's assets, while constructively addressing its challenges and opportunities. The goals, policies, and implementation actions provide a prioritized, progressive, and practical set of policy measures within each element of the General Plan Update.

The format of the General Plan Update groups the required elements into nine major chapters to ensure internal consistency and improve readability. The chapters are:

Land Use and Urban Design: This element presents the approach to land use and urban design, in addition to policies regarding the fiscal health of the City. Within this element are the General Plan land use designations, the designation map, and goals and policies that indicate the community's preferences and priorities for the character and appearance of the City. Finally, the chapter includes in-depth policies for each sub-area in the City.

Economic Development: This element provides goals and policies to guide sustainable and equitable growth of East Palo Alto's economy. Topics include business attraction and retention, providing high-quality job opportunities and training for local residents, and maintaining the city's ability to provide services through sustainable fiscal health.

Transportation: While land use and land use designations are often considered the critical elements of a general plan, also of tremendous importance is the transportation element. The General Plan Update is grounded in an understanding of the City's unique transportation issues—including many related to the presence of two major regional highways (Highway 101 and SR 84) that create substantial quantities of "cut-through" traffic that in turn dramatically shape the character of and quality of life in the City. The Transportation Element recognizes all modes of mobility, giving new emphasis to non-motorized transportation, not only as a means of increasing mobility, but also towards achieving larger goals of community health and well-being. To this end, the Transportation Element includes a diagram proposing City bicycle and pedestrian networks, truck routes, priority areas for traffic calming, and transit routes.

Health and Equity: This element presents the community's priorities for realizing a healthy and equitable community. It includes goals and policies that address existing community health concerns as well approaches to managing new development to prevent future health issues, covering topics such as environmental justice, mental health, access to healthy food, disease, and physical activity. The chapter also addresses economic development strategies, including unemployment, homelessness, workforce training, access to jobs, and civic engagement.

Parks, Open Space, and Conservation: This element presents the community's approach for dealing with parks, open space, conservation of natural and historic resources, wildlife and biological resources, urban forest, and recreational programs. The chapter presents a map of the envisioned open space network.

Infrastructure, Services, and Facilities: This element presents the community's intent for the maintenance and expansion of its water, wastewater, stormwater, telecommunications, utility, and energy networks. The element also includes goals and policies that address the provision of public services such as police, fire, and education. Finally, the chapter discusses civic properties such as schools, libraries, City Hall, and other government-owned lands and buildings.

Safety and Noise: This element contains the community's approach in reducing the potential risks resulting from natural and environmental hazards such as earthquakes, floods, fire, and extreme weather. The element contains goals and policies that will help guide the City's decisions related to new development and the risks to the health, safety, and welfare of local hazards. Additional content covers sea level rise and the legacy of contamination in Ravenswood.

This element also addresses the approach for minimizing the community's exposure to harmful noise levels. The element analyzes and quantifies future noise levels. It

includes a map summarizing the results and presents goals and policies for managing exposure to excessive noise.

Westside Area Plan: The General Plan Update includes an "area plan" for a sub-area of the City known as the Westside. The long, narrow planning area is geographically separated from the rest of East Palo Alto by Highway 101, and from Palo Alto by San Francisquito Creek. The Westside contains the majority of the City's multi-family housing stock and affordable rental housing, as well as major office and hotel uses. At 107 acres, the Westside comprises just eight percent of the City's land area, but 22 percent of the City's population.

Implementation: This chapter includes a detailed list of physical improvements and programs needed to implement the vision of the General Plan when feasible through staffing and yearly allocation of Capital Improvement Program funding. The list also includes departmental responsibility and a timeframe for implementation.

Housing: The state-mandated Housing Element includes a listing of the City's existing and projected housing need, and a list of opportunities for new multi-family housing development, in order for the City to meet its share of the regional housing allotment. The chapter additionally provides complimentary policies on housing affordability (rent stabilization and homeownership), housing quality (overcrowding and vacancy rates), and housing demand (displacement).

Table 3-1 shows the correspondence between the seven required general plan elements and the layout of the proposed General Plan.

Table 3-1 Locations of Required Elements within General Plan Update

Required General Plan Element	Location Within General Plan Update
Land Use	Land Use and Urban Design
Circulation	Transportation
Open Space	Parks, Open Space, and Conservation
Conservation	Infrastructure, Services, and Facilities; Parks, Open Space, and Conservation
Housing	Housing
Safety	Safety and Noise
Noise	Safety and Noise

The following summarizes the content and general direction of each element and describes example goals from each.

Land Use and Urban Design

The Land Use and Urban Design Element provides a long-term vision and associated goals and policies for land use and development in East Palo Alto over the next 20 to 30 years. Topics covered in the chapter include land use designations, neighborhood preservation, expanded economic development, fiscal stability, and corridor revitalization. In addition to the citywide goals and policies, this chapter also includes goals and policies for each of the City's unique neighborhoods and commercial areas. Goals intend to enhance community quality of life, diversify the tax base and improve the jobs-housing balance, expand housing within the City, improve parking in neighborhoods, integrate community-wide amenities with residential, commercial, and public areas, enhance the City's aesthetic appeal, and encourage pedestrian activity.

Economic Development

The Economic Development Element provides goals and policies to guide sustainable and equitable growth of East Palo Alto's economy. Topics covered in the chapter include business attraction and retention, providing high-quality job opportunities and training for residents, and maintaining the City's ability to provide services through sustainable fiscal health. Goals focus on expanding revenue sources and employment opportunities for residents, growing businesses within the community, maintaining the quality of infrastructure and supporting public facilities and services for new development, enhancing education and training for residents, and attracting businesses to the City that provide job and advancement opportunities for workers without college degrees.

Transportation

The Transportation Element defines the transportation system envisioned for East Palo Alto and contains goals and policies for different modes of transportation throughout the City. This element serves to reinforce the City's long-term strategy to improve access for all means of travel and design streets that accommodate all types of users. Goals aim to improve safety, accommodate all modes of transportation (i.e., motor vehicles, public transit, bicyclists, and pedestrians) in street design, build a comprehensive bicycle network, and provide efficient and adequate parking.

Health and Equity

The Health and Equity Element presents the community's priorities for realizing a healthy and equitable community. The element addresses existing community

health concerns, approaches to managing new development to prevent future health issues, environmental justice, mental health, access to healthy food, disease, healthy housing, and physical activity. The chapter also addresses civic engagement, including transparency and inclusivity in the decision-making process. Goals are to improve overall health conditions and set a precedent for healthy behaviors and activities in East Palo Alto; encourage physical activity through the City's land use patterns, transportation network, and parks system; protect residents and visitors from pollutants, toxins, and hazardous materials; improve pedestrian, bicycle, and vehicle safety near schools; provide easy access to healthy food; discourage smoking; provide affordable, quality healthcare; coordinate affordable, high-quality childcare options; reduce air pollution impacts; create an inclusive and welcoming community to all citizens; engage the community in the City's decision-making processes; and ensure that housing conditions are healthy, sustainable, and efficient.

Parks, Open Space, and Conservation

The Parks, Open Space, and Conservation Element acknowledges the importance of safe, accessible, and well-maintained parks and open spaces in urban areas, including valuable features in East Palo Alto such as the shoreline, the Don Edwards San Francisco Bay National Wildlife Refuge, Cooley Landing, and the San Francisquito Creek. This element contains goals and policies for protecting and enhancing public parks and open spaces, conserving biological, cultural, and natural resources, and adapting to climate change. Goals aim to enhance existing and create new parks, open spaces, trails, and urban forest, preserve wildlife habitat, promote sustainable energy generation, adapt to and mitigate climate change impacts, and protect historic, natural, mineral, and cultural resources.

Infrastructure, Services, and Facilities

The Infrastructure, Services, and Facilities Element encompasses the physical infrastructure, City-owned facilities, and civic services of East Palo Alto. This element includes goals, policies, and service standards for City-owned properties, public services (i.e., police and emergency response), and schools. Goals focus on safe and efficient stormwater management, long-term strategies to procure and manage limited water resources, sewer system maintenance, levee maintenance, solid waste reduction and management, improvement of existing infrastructure and public facilities and mitigation of additional impacts posed by new development, maintenance of telecommunications services, provision of high-quality educational, public, civic, and social services, and increased safety, health, and emergency preparedness.

Safety and Noise

The Safety and Noise Element discusses the City's approach for reducing risks to the community posed by natural and human-caused hazards, such as flooding, earthquakes, sea level rise, and soil and groundwater contamination. This element sets forth broad goals and policies to reduce harm to people and property from natural and human-caused hazards, as well as to improve the community's resilience following hazards. The chapter also addresses the potential for unhealthy levels of noise exposure from roadways and nearby airports. Goals include measures to reduce the risks to people and property from seismic events (e.g., earthquakes), flooding, fire and wildfire, aircraft, surface transportation, and hazardous materials, as well as measures to provide efficient and effective emergency response to natural and human-caused hazardous events. Goals also seek to minimize impacts of noise, especially on noise-sensitive land uses, such as residences, offices, churches, and schools.

Westside Area Plan

The Westside Area Plan Element provides a detailed vision and guiding principles, as well as goals and policies for the Westside area of East Palo Alto. The element focuses on tools to preserve a stock of affordable housing and improve the quality of life for residents. Topics addressed include land use and development policies, transportation, infrastructure, and housing. This is a stand-alone chapter of the General Plan, and goals and policies are consistent with the General Plan's other elements. Specific goals for the Westside are to provide high-quality housing for various income levels, diversify the land use mix, enhance the pedestrian environment, beautify the area through building and site design as well as natural landscaping, increase park space and natural areas for recreation, improve the street network and transportation options for pedestrians, bicycles, public transit, and automobiles, provide an adequate parking supply, address deficiencies in existing infrastructure and enhance services for new and existing development, and engage the community in future planning and development processes.

Implementation

The Implementation Element describes the implementation program for the General Plan. Implementation actions are generally one-time actions needed to mobilize and execute specific policies within the General Plan, such as creating an ordinance or updating a master plan. The element identifies programs, policy updates, planning efforts, coordination efforts, and other actions that will help implement the General Plan's vision and policies for each specific element

contained in the General Plan Update, as well as priority levels, time frames, and responsible agencies for each action. The chapter also includes specific community indicators (including, but not limited to, land uses, employment rates, vehicle trips, youth obesity, number of community gardens, greenhouse gas emissions, water quality, and violent crime) to monitor the City's progress in implementing the General Plan over time and achieving the vision for the City.

Housing Element

The Housing Element analyzes East Palo Alto's demographic and housing characteristics, assesses existing and future housing needs, reviews potential market, governmental, and environmental constraints to housing development, evaluates the land, financial, and organizational resources available to address housing needs, and develops a housing plan, including a statement of goals, policies, and actions. The City has identified a need to preserve the existing affordable rental housing stock. Key constraints to housing development include the high cost of land in the Bay Area, reduced access to home financing, land use designations (General Plan policies and zoning regulations), development standards, and infrastructure requirements. Goals plan to replace affordable housing units that were demolished due to Redevelopment Agency action, balance development to link housing to jobs, develop a range of housing types and prices, reduce constraints and enhance incentives for housing development—particularly affordable housing, provide adequate housing for special needs groups, provide financial and policy assistance for low- and moderate-income households to lower the cost burden and overcrowding, increase homeownership, minimize displacement of renters, improve housing and neighborhood conditions, provide decent, safe living environments for all citizens, and increase energy efficiency of existing and new housing development.

3.5.1 LAND USE DESIGNATIONS

The General Plan Update proposes a total of 15 land use designations, as shown on **Figure 3-4**. These land use designations would regulate the general type of use and density/intensity of use that could occur within each designation. As a comparative reference, **Figure 3-5** shows existing General Plan land use designations.

The General Plan strives to enhance the diverse character of East Palo Alto's various neighborhoods, corridors, and centers, and to decrease dependence on motor vehicles and increase pedestrian, bicycle, and transit usage through appropriate land use and transportation planning.

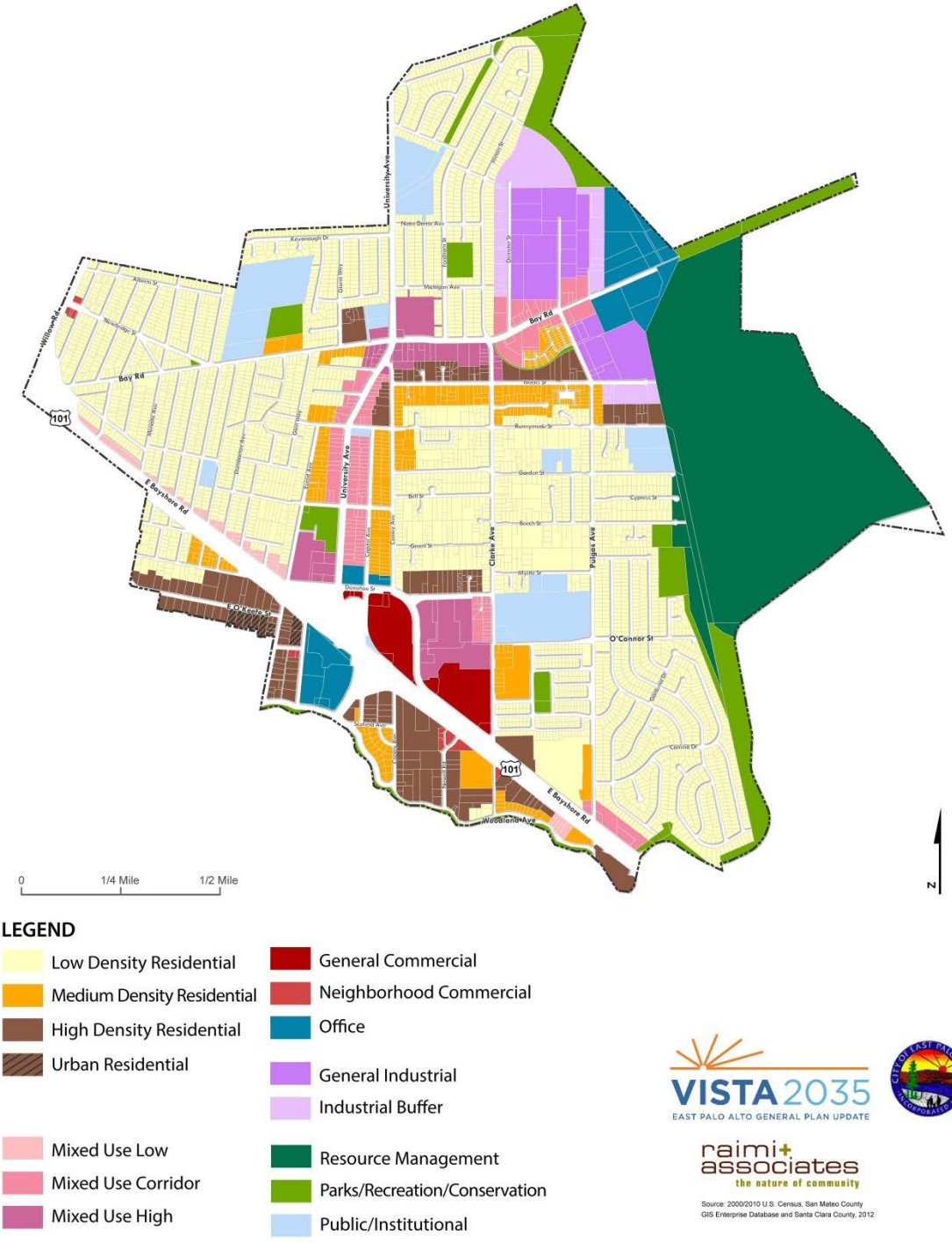
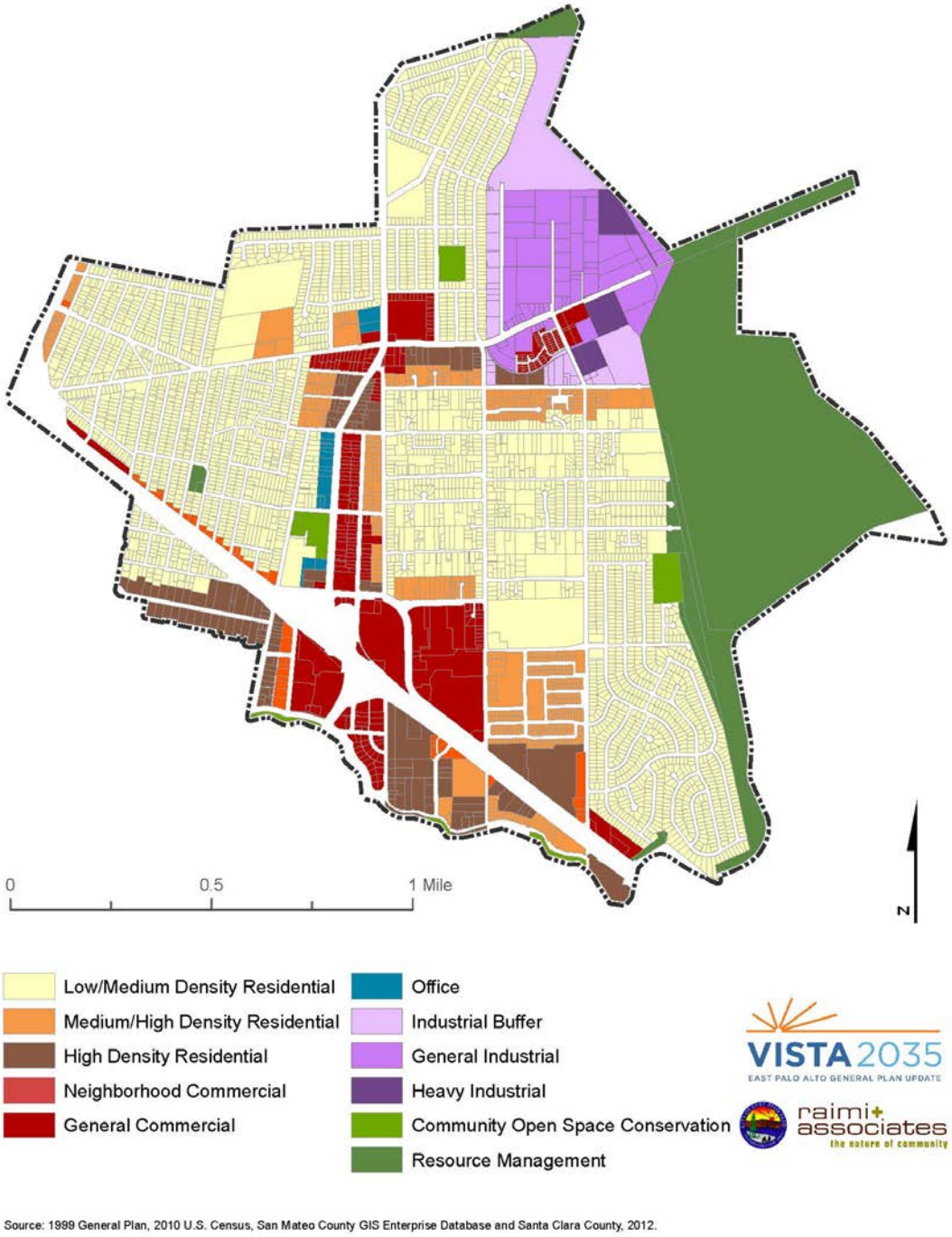


Figure 3-4 General Plan Update Land Use Map



Source: 1999 General Plan, 2010 U.S. Census, San Mateo County GIS Enterprise Database and Santa Clara County, 2012.

Figure 3-5 Existing (1999) General Plan Land Use Designations

For most City neighborhoods, the General Plan Update would not substantially change existing land use designations. Rather, changes to land use designations are focused on geographic areas that were identified as having the greatest potential for change over the planning horizon, including the following neighborhoods and districts.

- University Corridor
- Gateway District
- 4 Corners/Bay Road Corridor
- Ravenswood Employment District
- Westside Area (Willow and Woodland neighborhoods)

Table 3-2 summarizes the development standards for the new and continuing land use designations in the General Plan Update.

The General Plan Update would include a number of land use designations similar to the 1999 General Plan, including Low, Medium, and High Density Residential, General and Neighborhood Commercial, Office, General Industrial, Parks/Recreation/Conservation, and Resource Management, similar to those in the 1999 General Plan. For these designations, The General Plan Update would introduce residential densities that are slightly higher, allowing an average of four more dwelling units per acre in residential designations, as well as the addition of an Urban Residential designation for higher densities on the Westside.

Table 3-2 Land Use Classification System

Land Use Designation and Summary Description	Maximum Allowable Density/FAR
Residential	
Low Density Residential (LDR). Single-family dwellings, with second units allowed on some parcels. Maximum height of 2 stories or 26 feet.	0 – 12 dwelling units/acre (du/a)
Medium Density Residential (MDR). A range of multi-family residential uses including duplex, triplex, quadruplex, row houses/townhouses, courtyard multi-family buildings and small-scale multi-family buildings. Maximum height of 3 stories or 36 feet.	12 – 22 du/a
High Density Residential (HDR). A range of multi-family housing types are allowed ranging from townhomes to multi-family apartments at moderate to high densities. Maximum height of 5 stories or 60 feet.	22 – 43 du/a
Urban Residential (UR). High-density multi-family dwellings such as apartments, condominiums, and single room occupancy (SRO) developments. Maximum height of 7 stories or 75 feet.	43 – 86 du/a

Land Use Designation and Summary Description	Maximum Allowable Density/FAR
Mixed Use	
Mixed Use Low (MUL; New). Multi-family residential, attached single-family residential, retail, office, services, parks/plazas/open space, education, cultural, public assembly, public uses. Maximum height of 3 stories or 36 feet.	Up to 22 du/a; 1.0 floor area ratio (FAR)
Mixed Use Corridor (MUC; New). Multi-family residential, attached single-family residential, retail, services, office, hotel/lodging, public, assembly, and other similar uses. Maximum 5 stories or 60 feet.	22 – 65 du/a; 1.75 FAR
Mixed Use High (MUH; New). Multi-family residential, attached single-family residential, retail, services, office, and R&D. Maximum height of 8 stories or 90 feet.	Up to 86 du/a; 2.5 FAR
Commercial	
Neighborhood Commercial (NC). Retail, services, and related uses. Office and residential uses allowed on the upper floors. Maximum height of 3 stories or 36 feet.	Up to 22 du/a; 1.0 FAR
General Commercial (GC). Retail, office, hotel and service-oriented business activities serving a community-wide area and population or broader market. Maximum height of 3 stories or 75 feet.	Up to 2.0 FAR
Office (OC). Single-tenant or multi-tenant offices that include professional, legal, medical, financial administrative, corporate, and general business offices. Ground-floor retail at no more than 15% of total project square footage. Lodging uses also allowed. Maximum height of 8 stories or 100 feet.	Up to 3.0 FAR
Industrial	
General Industrial (I-G). Industrial (manufacturing, wholesaling, and storage), and R&D (laboratory, office, and medical). Maximum height of 3 stories or 30 feet.	Up to 1.0 FAR
Industrial Buffer (I-B). Office buildings, along with a limited range of manufacturing and repair businesses. Maximum height of 3 stories or 30 feet.	Up to 0.75 FAR
Community	
Parks/Recreation/Conservation (PRC). Public recreational uses, including public parkland, open space, and associated indoor and outdoor recreational facilities.	Determined during approval
Resource Management (RM). Conservation and preservation of the natural landscape.	N/A
Public/Institutional (PI). Education, city buildings, fire stations, police stations, city corporation yards, and other public uses.	N/A

Raimi + Associates, 2016

3.5.2 PROPOSED NEW LAND USE DESIGNATIONS

The General Plan Update includes the creation of three additional different mixed-use designations for a total of three mixed-use designations, targeted primarily at key focus areas, which are described in greater detail in subsequent paragraphs. The General Plan Update also proposes a Public/Institutional designation to recognize pre-existing civic and public uses as well as an Urban Residential designation for higher-density areas. The General Plan Update also eliminates the Heavy Industrial designation, recognizing the discontinuation of this use type as an allowed use in the City.

Among the key changes the City wishes to implement through the General Plan Update are the following:

Mixed Use Low (MUL)

Description: This designation is intended for areas with a wide variety of existing residential and commercial uses. The intent of the designation is to provide for additional housing needs in the City and to expand neighborhood-serving commercial uses where appropriate. The designation allows buildings that are residential only, commercial only or a mix of the two. Uses may be mixed either vertically or horizontally. The design of new buildings should be compatible with adjacent single-family areas of the City; as such, building heights are limited to three stories. Residential uses should be small-scale multi-family or attached single-family housing (e.g., townhomes). Commercial uses should serve the retail, shopping, and service needs of adjacent residential neighborhoods. Appropriate land uses include neighborhood convenience stores, commercial services, retail stores, restaurants, and cafés.

Allowed Land Uses: Multi-family residential, attached single-family residential (townhomes or courtyard housing), retail, office, services, parks/plazas/open space, education, cultural, public assembly, and public uses.

Mixed Use Corridor (MUC)

Description: This designation provides for vertical and horizontal mixed-use developments along arterial roads and other high-activity areas throughout the City. The designation supports buildings with different uses such as office, retail, and residential or other compatible uses. Individual parcels may contain a vertical mix of uses, or be either stand-alone residential or commercial uses. In certain locations, ground floor retail or other active ground floor uses are required for a portion of the building frontage in order to activate the public realm.

Buildings in this designation are required to front the primary roadway and shall be designed to create an attractive pedestrian environment, regardless of the ground floor use. New buildings with parking fronting the main corridor should not be allowed. Mixed-use projects along corridors should be developed in a manner that protects and preserves the adjacent residential neighborhoods by stepping down in density or height and/or by providing appropriate buffer areas between the building and the neighborhood. The maximum height shall be five stories.

This designation will be applied to a variety of parcel sizes and the City expects that parcel assembly may be necessary to build to the maximum density. The City shall implement policies and/or incentives to promote parcel aggregation along and behind University Avenue and other areas with this designation.

Under this proposed designation, the City may grant significant reductions for retail parking requirements since the parcel sizes are generally small.

Allowed Land Uses: Multi-family residential attached single-family residential, retail, services, office, lodging, public, assembly, and other similar uses.

Mixed Use High (MUH)

Description: This designation is meant to support new enlivened, thriving districts for East Palo Alto by accommodating multi-story mixed-use buildings. This designation provides for vertical and horizontal mixed-use development at key development nodes within the City, including the Highway 101 Gateway Shopping Center and 4 Corners/Bay Road. Residential only projects are not allowed; however, there may be a horizontal mix of residential and non-residential uses within a single project. At least 35 percent of the ground floor space of buildings shall be retail space. In areas where retail is removed for the construction of new buildings, the new retail space shall be greater than 85 percent of former retail space and should include similar types of retail spaces as existing uses.

Allowed Land Uses: Multi-family residential, attached single-family residential, retail, services, office, and R&D.

Urban Residential (UR)

Description: This designation is intended to support the development of very high-density housing in limited locations in the City. Mid-rise and high-rise residential development is encouraged, ideally supported by high-frequency public transit and located within walking distance of neighborhood services and amenities. Parking structures shall be designed so that they do not face the primary public streets.

Allowed Land Uses: High-density multi-family dwellings such as apartments and SRO developments. Other uses such as family day care and public facilities may be allowed if they are compatible and serve the needs of residents living in higher density residences.

3.6 POLICIES AND IMPLEMENTATION PROGRAMS

The administrative core of the General Plan Update consists of policies and implementation programs. Grounded in the Guiding Principles and Values, the policies and implementation programs are specific measures and actions City policymakers and staff can take towards realizing short- and long-range visions and goals.

3.6.1 ANTICIPATED DEVELOPMENT UNDER THE GENERAL PLAN UPDATE

The General Plan is a 20- to 30-year planning document that assigns land use policy and associated densities and intensities to all properties within the project area. In East Palo Alto, infill development represents the primary avenue for growth. Most of East Palo Alto is built out (at lower than permitted densities) and will not realistically redevelop over the life of the plan, and maximum buildout city wide would grossly overestimate and unrealistically overstate future impacts.

The General Plan Update development scenario did not assume the full buildout of the City (i.e., the theoretical amount of development that would occur if every parcel in the City were rebuilt to the new maximum allowable density and intensity set forth in the General Plan Update) because a number of limiting factors reduce the feasibility of the full buildout scenario. These factors include the existing urban context, policies, and programs that limit new growth, and the existing regulatory environment. As such, the City has assumed that not every property in the City and plan area would, by 2040, be developed at the maximum residential densities or non-residential intensities allowed by the General Plan Update. However, an analysis of a theoretical maximum buildout scenario is provided in **Chapter 6.0, Alternatives**.

With few exceptions, the City notes that most remaining opportunity sites (vacant or underutilized), which the City reasonably considers to be those most likely to be developed or redeveloped in the future, are relatively small and located within densely inhabited areas.

Table 3-3 below summarizes expected growth by 2040 by district and land use type under the General Plan Update. The projected additional residential growth is expected to increase the City's population by approximately 7,500 people. The growth anticipated for the Ravenswood/4 Corners area is based on and equivalent to the growth increment anticipated in the previously adopted 2012 specific plan and certified EIR.[3] For the Ravenswood/4 Corners area, the General Plan Update incorporates previously approved land use designations, intensities, and growth projections. The Ravenswood/4 Corners area projections are equivalent to about one-third of Citywide projected new housing units and retail space, all of the proposed new industrial space, and about 60 percent of proposed new office space.

Table 3-3 Anticipated Growth Under General Plan Update

District/Area	Net New Units	Net Retail	Net Office	Net Industrial
Ravenswood/4 Corners Area	835	112,400 sq. ft	1,235,853 sq. ft	267,987 sq. ft
Westside	900	45,000 sq. ft	0	0
2nd units on single-family parcels	119	0	0	0
All Other Areas Citywide	665	176,006 sq. ft	704,000 sq. ft	0.
TOTAL	**2,519**	**333,406 sq. ft**	**1,939,853 sq. ft**	**267,987 sq. ft**

Source: Raimi + Associates, 2015

3.7 INTENDED USES OF THIS EIR

The policy framework set forth in the proposed General Plan Update would not result in the immediate construction of any new development. All new development within the City will continue to undergo the City's development review and approval processes. Elected and appointed officials and City staff will review subsequent discretionary project applications for consistency with the General Plan Update and prepare appropriate environmental documentation in compliance with CEQA and other applicable environmental requirements.

[3] Because the City previously certified an EIR and adopted the Ravenswood/4 Corners specific plan, those previously approved land use designations, intensities, and growth projections for that part of the City are already in effect.

As provided by Section 15168 of the CEQA Guidelines, this EIR is a Program EIR. The goals, policies, land use designations, implementation measures, and other substantive components of the General Plan Update comprise the "program" that is evaluated in this Program EIR. Examination of subsequent activities undertaken by the City and project proponents to implement the General Plan Update will consider this Program EIR to determine the appropriate level of environmental review required under CEQA. Such subsequent implementation activities may include, but are not limited to, the following:

- Certification of General Plan Update and EIR
- Adoption of General Plan Update
- Comprehensive updating the East Palo Alto Zoning Ordinance Subdivision Regulations, and applicable parts of the municipal code.
- Rezoning of properties consistent with the adopted General Plan
- Approval of Specific Plans, Precise Plans, and other development plans and planning documents consistent with the proposed General Plan
- Approval of tentative maps, variances, conditional use permits, and other land use permits and entitlements
- Approval of development agreements
- Approval of facility and service master plans and financing plans
- Approval and funding of public improvement projects

Following the certification of the EIR and adoption of the proposed General Plan by the lead agency (City of East Palo Alto), other responsible agencies may use this Program EIR to assist in making approvals of subsequent implementation activities within their jurisdiction. These agencies may include, but are not limited to, federal, state, and local agencies, special districts, and joint powers authorities.

3.8 SCOPING

The City issued a Notice of Preparation (NOP) related to the General Plan Update and EIR in September 2014. The City convened a public scoping meeting in September 2014. The City received scoping comments from interested agencies and parties. Comments from the scoping letters were sorted and reviewed and are provided in **Appendix A**.

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4.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter evaluates the potential environmental impacts that would occur with implementation of the project: adoption and implementation of the East Palo Alto General Plan Update. **Sections 4.1** through **4.15** of this chapter each address a different environmental issue area, as identified below. Each section describes the existing environmental conditions in the project area, discusses the project's consistency with regulations in each issue area, considers the project impacts resulting from implementation of the project, and provides mitigation measures when feasible to reduce significant impacts of the project to the extent possible. Cumulative impacts as a result of the project in combination with other regional growth are discussed in **Chapter 5.0, Cumulative Impacts**.

4.1 ISSUES ADDRESSED IN THIS DRAFT EIR

The following environmental topics are addressed in this chapter:

4.1 Aesthetics

4.2 Agriculture and Forest Resources

4.3 Air Quality

4.4 Biological Resources

4.5 Cultural Resources

4.6 Geology and Soils

4.7 Greenhouse Gas Emissions and Energy

4.8 Hazards and Hazardous Materials

4.9 Hydrology and Water Quality

4.10 Land Use and Planning

4.11 Noise and Vibration

4.12 Population and Housing

4.13 Public Services and Recreation

4.14 Transportation and Traffic

4.15 Utilities and Service Systems

4.2 REGULATORY REQUIREMENTS

The regulatory setting section provides a description of the relevant regulations and guidelines that pertain to the issue area. This section may contain information from a variety of sources, such as from the Seaside General Plan, regional water or air quality plans, or other local, regional, state, or federal agency guidelines or regulations.

4.3 EXISTING CONDITIONS

Existing conditions are discussed in each environmental issue section with consideration of the physical setting of the project. The analysis provides information on the existing resources and, when appropriate, discusses the methodology that was used to determine these existing conditions. The information in the existing conditions discussions frequently originate from technical reports prepared for the project. In the sections related to public services/ recreation, and utilities (**Sections 4.13** and **4.15**, respectively), information is also provided on the local utility and service providers, which was generally gathered from discussion with public service providers and employees.

4.4 PROJECT IMPACTS AND MITIGATION MEASURES

The evaluation of impacts considers the significance criteria, the level of environmental impact, and makes a determination as to whether there is a "significant impact," a "less-than-significant impact," a "beneficial impact," or if there is "no impact." Under Section 21068 of the CEQA Statute, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment.

Each impact section of this chapter is prefaced by a summary of significance criteria, used to determine whether impacts are likely to occur with development of the proposed project. These criteria have been developed using Appendix G of the CEQA Guidelines as a foundation, with some refining of the criteria based on local regulations and other applicable federal, state, and local agencies' guidelines and regulations.

A "significant" designation is used under circumstances where the environmental impacts would meet or exceed one of the significance criteria. "Less-than-

significant" impacts are those project related effects that would not reach a level of significance. For example, for a sensitive biological species, impacts would be generally considered significant if there was a potential to harm members of the species, or to reduce their habitat. Conversely, impacts would be considered less than significant if the habitats and species affected were common and widespread in the region and in the state. Where a "beneficial" impact would occur, implementation of the project would improve conditions related to the significance criteria. In some cases it is determined that there is "no impact" to a resource category.

For significant impacts, mitigation measures are provided that would reduce the effects of these impacts. Many, but not all, of the significant impacts identified in this EIR can be mitigated to a "less-than-significant" level. Following the discussion of impacts and mitigation measures, there is a conclusion to each section.

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4.1 AESTHETICS

This section describes the existing visual character of East Palo Alto, including scenic vistas and other scenic resources, as well as existing sources of light and glare. The section considers the potential for the General Plan Update to positively or adversely affect existing visual character.

4.1.1 REGULATORY REQUIREMENTS

State and Regional

Title 24 Outdoor Lighting Zones

In 2001, the California Legislature passed a bill requiring the California Energy Commission (CEC) to adopt energy efficient standards for outdoor lighting for both the public and private sector. In November 2003, the CEC adopted changes to the Building Energy Efficient Standards within Title 24. These standards became effective on October 1, 2005, and specify outdoor lighting requirements for residential and nonresidential development. The intent of the new standards is to improve the quality of outdoor lighting and help reduce the impacts of light pollution, light trespass, and glare. The standard regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures in the 2010 Census and the areas can be designated as LZ1 (dark), LZ2 (low), LZ3 (medium), or LZ4 (high). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass. According to the U.S. Census Bureau, all of East Palo Alto is defined as an urban area and is therefore designated as LZ3 per the CEC classification standards.

San Francisco Bay Plan

The San Francisco Bay Plan (Bay Plan) is a policy tool that allows the San Francisco Bay Conservation and Development District (BCDC) to "exercise its authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structures within the area of its jurisdiction," which includes the San Francisco Bay and lands within 100 feet of its shoreline.

The Bay Plan serves as the guide for BCDC and includes policies applicable to visual and aesthetic resources within the City. The Bay Plan recommends that urban

development be clustered, so as to maximize views of the San Francisco Bay and to conserve natural landscape features and maximize shoreline access.

The Appearance, Design and Scenic Views Chapter of the Bay Plan contain several policies pertaining to visual quality and aesthetic character, including:

- Policy 1: To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides. The shore of the Bay should be developed in accordance with the Public Access Design Guidelines.
- Policy 2: All Bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commissions' concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.
- Policy 4: Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline.
- Policy 8: Shoreline developments should be built in clusters, leaving open area around them to permit more frequent views of the Bay. Developments along the shores of tributary waters should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay.
- Policy 9: "Unnatural" debris should be removed from sloughs, marshes, and mudflats that are retained as part of the ecological system. Sloughs, marshes, and mudflats should be restored to their former natural state if they have been despoiled by human activities.
- Policy 14: Views of the Bay from vista points and from roads should be maintained by appropriate arrangements of heights of all development and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay.

San Francisco Bay Trail Plan

The San Francisco Bay Trail Plan, adopted in 1989 by the Association of Bay Area Governments (ABAG), proposes the development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo bays. While primarily intended for recreational and transportation use, the Bay Trail also affords greater visual access to San Francisco Bay, which is a primary scenic resource for East Palo Alto. The Bay Trail Plan includes several visual policies that call for the creation and/or preservation of views along the San Francisco Bay.

Local

Zoning Ordinance

East Palo Alto's Zoning Ordinance implements the General Plan by providing detailed requirements for the allowable land uses and development standards on each parcel. The Zoning Ordinance imposes requirements such as the maximum building height and the minimum setbacks from lot lines. Similar to the General Plan's land use designations, the Zoning Ordinance includes zoning districts, which each have their own unique set of allowed uses and development standards. The Zoning Ordinance also governs Design Review guidelines, Architectural Supervision standards, and provisions related to avoiding light/glare into residential areas.

Ravenswood/4 Corners Transit Oriented Development Specific Plan

The City of East Palo Alto adopted the Ravenswood/4 Corners Transit Oriented Development Specific Plan in 2012. This document includes architectural and design standards for new development, redevelopment, and streetscape improvements in the Ravenswood/4 Corners Plan Area.

Gateway 101 Specific Plan

The City of East Palo Alto adopted the the Gateway 101 Specific Plan was adopted in 1993. This document includes architectural and design standards for new development, redevelopment, and streetscape improvements in the Ravenswood/4 Corners Plan Area.

4.1.2 ENVIRONMENTAL SETTING

Scenic Vistas and Scenic Resources

Neither the current General Plan nor the proposed General Plan Update identify scenic vistas or scenic resources within the City. Due to the City's flat topography and urban character, the potential for scenic resources and vistas is low. However, limited views of the Santa Cruz Mountains and across the San Francisco Bay to the East Bay Hills are occasionally available within the City, particularly from open space and parks near San Francisco Bay.

No state scenic highways traverse East Palo Alto. The closest state scenic highway is Interstate 280, located more than five miles west of the City, and visually obscured by flat topography and urban development.

Visual Character

The vast majority of development is East Palo Alto is relatively low in height (one to three stories), with the exception of small number of office and hotel buildings on the Westside that reach five to six stories. Industrial/employment areas are generally clustered in the northeastern portion of the City. The visual character of this area is defined by older, flat-roofed industrial buildings with expansive parking areas and limited vegetation.

Residential neighborhoods east of Highway 101 feature primarily single-family homes with fenced yards. Older housing stock is generally single-story, but many newer homes in East Palo Alto are two-story. Street trees are not evenly distributed; some neighborhoods have relatively few street trees; others like the Gardens and Palo Alto Park neighborhoods have greater numbers of street trees that contribute to a green, shaded visual character on certain streets. Utilities are generally located aboveground throughout the City.

Given its location alongside Highway 101 and the proximity of the Dumbarton Bridge, East Palo Alto has several higher-traffic corridors that disproportionately serve regional transportation needs. Corridors such as University Avenue and Bay Road are marked by wide paved areas with generally heavy traffic levels and some landscaping, including medians along portions of University Avenue. University Avenue and Donohoe Street provide connections to the Ravenswood Shopping Center, which is East Palo Alto's major retail center with large "big box" retail buildings and large landscaped parking lots.

Neighborhoods west of Highway 101 (Westside) have their own distinct visual characteristics. The University Circle area includes several five- to six-story office

and hotel buildings constructed after 2000. These buildings are set in highly landscaped areas including bermed parking and maturing trees. Elsewhere in the Westside, visual character is marked by many multifamily housing units built before 1980, many of which include extensive landscaping. Large street trees line key roadways in the Westside, such as Woodland Avenue and Cooley Avenue. Many older properties in the Westside feature relatively tall, mature trees of various deciduous and evergreen species.

Light and Glare

East Palo Alto has numerous existing sources of light and glare, including streetlights, lighted parking, commercial, and residential buildings/areas, and automobile headlights on major roadways and streets. Existing sources of light and glare are characteristic of an urbanized area, and are generally consistent with surrounding and nearby communities. Minimal light and glare is present within undeveloped areas of the City, such as the Bayfront.

4.1.3 THRESHOLDS OF SIGNIFICANCE

A significant aesthetic impact could occur if development allowed by the General Plan Update would:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

4.1.4 ENVIRONMENTAL IMPACTS

Adoption and implementation of the proposed General Plan Update would result in the following impacts with respect to aesthetics.

a) Have a substantial adverse effect on a scenic vista (less-than-significant impact).

As described above, neither the current General Plan nor the General Plan Update designates any scenic vistas. However, views of San Francisco Bay, the Santa Cruz

Mountains, and East Bay Hills are available from numerous publicly accessible areas, such as park and open space areas near the San Francisco Bay.

The General Plan Update would increase the amount of allowable new development, but such development would be slated to occur within infill or already developed parcels. Since existing vistas are primarily available from park and open space areas that would remain in such uses with adoption of and adherence to the General Plan Update, new development under the General Plan Update would be highly unlikely to substantially interfere with such vistas.

New development in the Ravenswood/4 Corners area would convert existing industrial land uses into offices. In addition, parcels between Weeks Street and Runnymede Street may transition into higher-intensity uses with adoption of the General Plan Update. This intensification pattern could lead to taller structures (up to 60 feet) in these areas. This in turn could result in interference with views of the Santa Cruz Mountains looking directly west from open space areas along the Bay. However, portions of this viewshed are already obstructed by existing infrastructure and development in the area. Such development would be unlikely to affect views towards San Francisco Bay.

The General Plan Update would introduce numerous policies and actions intended to maintain and enhance sensitive viewpoints and visual quality throughout the City.

Land Use and Urban Design Element Goal LU-13. Enable the vision and planned redevelopment of the area as described in the Specific Plan.

- *Policy 13.8, Viewsheds.* Encourage developers to design projects that capitalize on views of adjacent natural resources. Require viewshed analysis as part of any potential development application. New development shall allow for the proposed east-west view corridor through Ravenswood north of Bay Road (see Specific Plan for details).

Parks, Open Space, and Conservation Element Goal POC-1. Create new parks and open spaces throughout the City.

- *Policy 1.12, Opportunistic conversions.* Work to convert unused utility rights-of-way (including the Hetch Hetchy ROW), railroad rights-of-way (including the UP Spur), and alleys into attractive open space corridors.

Parks, Open Space, and Conservation Element Goal POC-2. Improve and enhance existing parks and trails.

- *Policy 2.8, Trash and litter.* Continue to implement and support regular trash clean-up events throughout the City, especially in and around San Francisquito

Creek, entrances to the Bay Trail, Ravenswood Open Space Preserve, and Cooley Landing.

Parks, Open Space, and Conservation Element Goal POC-6. Preserve and expand the urban forest on both public and private property.

- *Policy 6.1, Urban forestry.* Expand the urban forest in East Palo Alto by adding street trees and landscaping throughout the City.
- *Policy 6.2, New tree planting.* Prioritize the planting of new trees on sites designated as sensitive receptors (e.g., schools, health centers) or that are in close proximity to sources of air pollution such as freeways and heavily traveled road corridors.
- *Policy 6.3, Fruit trees.* Encourage planting of fruit trees and other edible landscaping in private development for food sources for residents and foraging opportunities for wildlife. Plant fruit trees when feasible on public property.

Parks, Open Space, and Conservation Element Goal POC-9. Protect historic, natural, mineral, and cultural resources.

- *Policy 92, Historic buildings and sites.* Protect and conserve buildings or sites of historic or cultural significance.

Westside Area Plan Element Goal W-5. Beautification and greening of the Westside.

- *Policy 5.1, Greening and streetscape.* Provide additional street trees, landscaping, and green space throughout the Westside to improve the area's visual appeal and increase residents' connection with nature.
- *Policy 5.2, Connections to parks and nature.* Encourage physical connections and visual sightlines to parks, public space, San Francisquito Creek, and other beautiful outdoor areas.

In addition, any new development under the General Plan Update that falls within the jurisdiction of the BCDC would also be subject to BCDC's regulations, which, as articulated above, include numerous measures intended to facilitate public access to and views of Bay shoreline areas. Adherence to the applicable goals and policies would ensure that impacts to scenic vistas are less than significant.

b) Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (no impact). There are no state scenic highways in East Palo Alto. No impact would occur.

c) Substantial degradation of the existing visual character or quality of the community and its surroundings (less-than-significant impact).

The General Plan Update would allow for an increment of new development in excess of existing levels, which will impact the visual quality of the City. However, the General Plan Update includes numerous goals and policies to ensure that new development would be of high visual quality while preserving the existing visual aesthetic characteristics of existing neighborhoods throughout the City. These goals and policies to preserve and enhance the City's existing visual characters include the following:

Land Use and Urban Design Goal LU-1. Maintain an urban form and land use pattern that enhances the quality of life and meets the community's vision for its future.

- *Policy 1.3, Coherent pattern of land use.* Ensure that new development occurs in a unified and coherent pattern that avoids conflicts between uses and promotes job creation and fiscal stability, creating a high-quality environment for East Palo Alto residents.
- *Policy 1.6, Adjacent cities.* Actively coordinate land use planning efforts with adjacent jurisdictions, establish an ongoing forum for the discussion of area-wide issues, and invite or provide constructive comments regarding the impacts that such programs will have on the City of East Palo Alto, or adjacent cities.

Land Use and Urban Design Element Goal LU-5. Preserve the character of existing single-family neighborhoods.

- *Policy 5.8, Streetscape beautification.* Proactively beautify existing streetscapes with pedestrian-scaled lighting, and drought-tolerant street trees and landscaping.

Land Use and Urban Design Element Goal LU-8. Improve the City's image and physical appearance through quality design and key interventions.

- *Policy 8.2, High-quality construction and architecture.* Require high-quality and long-lasting building materials on all new development projects in the City. Encourage innovative and quality architecture for new public and private projects.
- *Policy 8.3, Key projects.* For major vacant sites or development opportunities (such as the Bay Road/University Avenue site or new Westside development), encourage the use of visionary architects and designers to create iconic buildings and promote the use of public art.
- *Policy 8.4, Fencing guidelines.* Create design guidelines for ornamental fencing that reinforce a consistent aesthetic and enhance community character.

Consider developing a fencing improvement program that aids residents in installing or upgrading fencing on their properties, especially along major arterials.

Land Use and Urban Design Element Goal LU-9. Provide an urban environment that is tailored to the pedestrian.

- *Policy 9.2, Parking frontages.* Continue to implement parking strategies and standards that ensure parking areas do not dominate street frontages and are screened from public views whenever possible.
- *Policy 9.9, Tree planting.* Encourage the planting and maintenance of appropriate street tree species that shade the sidewalk, improve the pedestrian experience throughout the City, and enhance flood protection. Street trees should be selected that do not damage sidewalks, or block views of commercial buildings.
- *Policy 9.10, Streetscape.* Enhance the pedestrian experience through streetscape improvements that could include new street lighting, tree planting, and easement dedications to increase the size of the sidewalks and pedestrian amenities.

Land Use and Urban Design Element Goal LU-10. Transform University Avenue into a mixed-use corridor with a diversity of residential, mixed-use, and commercial development in a walkable urban fabric.

- *Policy 10.10, Architecture.* Encourage a variety of architectural styles, building forms, and building heights along University Avenue.

Land Use and Urban Design Element Goal LU-11. Encourage the transformation of the surface parked retail shopping center into a mixed-use office and shopping district.

- *Policy 11.9, Gateway.* Provide a strong visual presence from the freeway for major projects with taller buildings located facing the south creating a strong gateway character to the mixed-use neighborhood. Parking structures should not be allowed to face the freeway. Refer to the Gateway Design Guidelines (2004, Cannon Design Group).
- *Policy 11.10, Transitions.* Step down building massing and heights from Bayshore Road to Donohoe Street and Clark Avenue.

Land Use and Urban Design Element Goal LU-12. Foster the creation of a "main street," centered on University Ave and along Bay Road to enhance the City's image and identity.

- *Policy 12.6, Gateway.* Ensure that new development at 4 Corners responds to its regional significance as a gateway to East Palo Alto as a whole.

Land Use and Urban Design Element Goal LU-13. Enable the vision and planned redevelopment of the area as described in the Specific Plan.

- *Policy 13.8, Viewsheds.* Encourage developers to design projects that capitalize on views of adjacent natural resources. Require viewshed analysis as part of any potential development application. New development shall allow for the proposed east-west view corridor through Ravenswood north of Bay Road (see Specific Plan for details).
- *Policy 13.9, Landscaping.* Require that new office, industrial, and R&D uses in Ravenswood provide landscaped buffers to adjacent residential areas.

Land Use and Urban Design Element Goal LU-17. Preserve the single-family character of the University Village area.

- *Policy 17.2, Streetscape improvements.* Improve streetscapes in the neighborhood through tree plantings and sidewalk improvements.

Infrastructure, Services, and Facilities Element Goal ISF-8. Provide high-quality public and civic facilities for the community.

- *Policy 8.6, Role of civic buildings.* Require civic buildings to be distinctive, beautiful, and architecturally beneficial to the fabric of the City.

Westside Area Plan Element Goal W-4. Building and site design to support a beautiful Westside and a high-quality pedestrian environment.

- *Policy 4.1, Existing building renovation.* Encourage existing buildings to conduct small- and large-scale renovations. This could range from minor improvements to facades and interiors to structural improvements to complete renovations of individual units.
- *Policy 4.2, Building quality and character.* Improve the quality and aesthetic appeal of existing buildings and housing in the Westside, and encourage high-quality architecture, materials, and pedestrian-oriented facades in new construction.
- *Policy 4.3, Frequent pedestrian entries and windows.* Include regular pedestrian entries onto public space and transparent windows along the ground floor of new buildings, particularly in areas with ground-floor retail.
- *Policy 4.4, Building articulation.* Use articulation strategies for new development to reduce the visible bulk of buildings, add visual interest, and add pedestrian-oriented character and detail. These could include massing breaks

as well as projections, minor stepbacks, architectural details, and variations in materials to distinguish between upper and ground floors.

- *Policy 4.5, Engaging residential facades.* Encourage new ground-floor residential uses throughout the Westside with transparent windows, stoops, porches, and other façade treatments to engage the pedestrian environment, provide "eyes on the street," and create sense of ownership and stewardship among residents.
- *Policy 4.6, Elevated ground-floor residential.* Elevate new ground-floor residential space above the sidewalk level to provide privacy and ensure high-quality, usable residential spaces.
- *Policy 4.7, Parking frontage.* Whenever possible, locate parking and vehicle areas in the Westside behind or under buildings, and should not be located on street corners.
- *Policy 4.8, Building length.* Limit the length of individual new buildings or building masses along the street frontage to create human-scaled buildings with access to fresh air and daylight.
- *Policy 4.9, Garage and driveway entries.* Limit the number of new garage entries and driveway curb cuts crossing the sidewalk to encourage a more complete and comfortable pedestrian environment in the Westside.
- *Policy 4.10, Placement of utilities.* Locate visible utilities – including all "dry" utility access, above-ground equipment, trash containers, and utility boxes – behind or to the side of buildings, behind buildings, behind screening, and away from street corners.
- *Policy 4.11, Loading docks and service access.* Ensure that loading docks and service entrances in the Westside are screened from the right-of-way and adjacent properties; are accessed via alleys, side streets, or services access driveways; and are internal to the building envelop and equipped with closable doors to improve the aesthetics of the public realm and limit noise.

Westside Area Plan Element Goal W-5. Beautification and greening of the Westside.

- *Policy 5.5, Green streets.* Integrate "green streets" concepts into street, sidewalk, public space design to minimize the impacts of stormwater runoff and to add visual interest and appeal.
- *Policy 5.6, University Circle integration.* Seek opportunities to better integrate the University Circle area into the surrounding neighborhoods, including through new street and pedestrian connections, more pedestrian-focused streetscape and façade design, better public access into and across the site, and better crossings of adjacent streets.

Adherence to the above goals and policies would ensure that new development under the General Plan Update would not result in substantial degradation to existing visual character. This impact would be less than significant.

d) Create a new source of substantial light or glare (less than significant with mitigation).

New development under the General Plan Update would create additional sources of light and glare. Given the already urbanized character of the City and the numerous existing sources of lighting, the incremental increase in light and glare levels posed by new development, particularly if realized gradually over the 20-year horizon of the General Plan Update, would not be substantial.

Land Use and Urban Design Element Goal LU-5. Preserve the character of existing single-family neighborhoods.

- *Policy 5.8, Streetscape beautification.* Proactively beautify existing streetscapes with pedestrian-scaled lighting, and drought-tolerant street trees and landscaping.

Land Use and Urban Design Element Goal LU-9. Provide an urban environment that is tailored to the pedestrian.

- *Policy 9.4, Lighting.* Strive for all new gateway features in commercial areas to be pedestrian-oriented, attractively designed, compatible in design with other street furniture, and to provide adequate visibility and security.

Parks, Open Space, and Conservation Element Goal POC-4. Protect and preserve the City's natural habitat and wildlife.

- *Policy 4.4, Light pollution.* Require that new buildings located adjacent to Baylands Nature Preserve or Ravenswood Open Space Preserve shield any site lighting from the Bay.

Westside Area Plan Element Goal W-5. Beautification and greening of the Westside.

- *Policy 5.4, Street lighting.* Provide adequate and consistent street lighting for safety and nighttime pedestrian activity throughout the Westside.

The aforementioned goals and policies above related to visual character would help ensure that the General Plan Update would not create any substantial new source of light or glare. These policies, along with **Mitigation Measure AES-1,** would reduce this potential impact to a less-than-significant level.

Mitigation Measure AES-1: Amend the General Plan Update to include the following policy:

Light and Glare. Review major public and private development projects to ensure that the spillover effects of light and glare from new exterior lighting is minimized. Where feasible, require lighting fixtures to be directed downward and equipped with cut-off lenses. For development near sensitive sites, particularly undeveloped Bayfront areas, require submittal of photometric studies to demonstrate minimization of light spill-over. Ensure that all implemented lighting measures adhere to the regulations outlined in Title 24.

4.1.5 CONCLUSION

The General Plan Update would introduce numerous policies and actions intended to maintain sensitive viewpoints and enhance visual quality throughout the East Palo Alto without substantially impacting the City's existing character. Development under General Plan Update would have a less-than-significant impact to scenic resources.

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4.2 AGRICULTURE AND FOREST RESOURCES

This section describes the existing agricultural and forest resources in East Palo Alto.

4.2.1 REGULATORY REQUIREMENTS

State and Regional

California Department of Conservation

The California Department of Conservation (DOC) administers the Farmland Mapping and Monitoring Program (FMMP). The FMMP monitors the conversion of the state's farmlands to and from agricultural uses. The map identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The FMMP sets standards and relies upon information from National Resource Conservation Service (NRCS) soil surveys, NRCS land inventory and monitoring criteria, and land use and water availability.

The DOC also has certain responsibilities regarding agricultural preserves established pursuant to the California Land Conservation Act of 1965 (Williamson Act). The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. If land subject to the Williamson Act is proposed to be transferred to a public agency or used for public improvements, the DOC reviews the proposal to determine if its plan area has been designated as Williamson Act land.

Senate Bill 275

Senate Bill 275 enacts the Land Stewardship Program Act of 1995. This act grants allows the DOC to provide grants to acquire agricultural easements for conservation purposes. Once granted, these easements would prevent the land from being developed for any other purpose besides agriculture, or in exceptional cases, oil and gas development, utilities, farm buildings, and other related structures.[1]

[1] Assembly Committee on Appropriations. Agricultural land Conservation, Senate Bill 275. Retrieved from: ftp://leginfo.ca.gov/pub/95-96/bill/sen/sb_0251-0300/sb_275_cfa_950821_163117_asm_comm.html

East Palo Alto Zoning Ordinance

Section 6161 of the Zoning Ordinance permits small-scale agricultural uses in the R-1 Single Family District. These uses include growing of fruit and nut trees, vegetables, and commercial nurseries. In addition, within the Community Open Space Conservation (COSC) District, Zoning Ordinance Section 6227 permits growing of flowering crops, vegetables, truck gardens and community gardens. Nurseries and livestock/grazing are conditionally permitted.

4.2.1 ENVIRONMENTAL SETTING

Although fully urbanized in 2016, East Palo Alto has a history of agricultural uses dating back to the mid-19th and early 20thcentury. Urban development in the late 1950s and 1960s resulted in the phase-out of the agriculture in East Palo Alto. As of 2016, no substantial agricultural operation remains in East Palo Alto aside from plant nurseries.

Farmland Classification

The DOC has four classifications of valuable farmland: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Any conversion of land classified within one of these farmland categorizations is typically considered an adverse environmental impact under CEQA.

According to the DOC's 2012 Important Farmland Map for San Mateo County, East Palo Alto contains no areas of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance. The vast majority of East Palo Alto is designated as Urban and Built-Up Land.[2] The undeveloped eastern portion of the City (the Baylands area) is classed as "Other Lands", which is not protected by the DOC.

The most recent available Williamson Act Conservation Map identified Williamson Act Contracts in San Mateo County as of 2007. According to this map, there is a single approximately 1.2 acre parcel in the City with a Williamson Act Contract.[3]

Forest Land Classification

Forest land is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of

[2] California Department of Conservation (DOC), Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2012. San Mateo County Important Farmland 2012. Retrieved from ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/smt12.pdf.

[3] DOC, Division of Land Resource Protection, 2012. San Mateo County Williamson Act FY 2006/2007.

one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland is land other than land owned by the federal government and land designated by the State Board of Forestry as experimental forestland, which is available for, and capable of, commercial tree farming to produce lumber and other forest products.

There is currently no forestland or timberland located within East Palo Alto.

4.2.2 THRESHOLDS OF SIGNIFICANCE

A significant impact could occur if development allowed by the General Plan Update would:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220[g]), timberland (as defined in Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]).

d) Result in the loss of forest land or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

4.2.3 ENVIRONMENTAL IMPACTS

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use (no impact).

As discussed in **Section 4.2.2**, there are no areas of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance in the City; therefore, there is no potential to affect such resources.

b) and e) Conflict with existing zoning for agricultural use or a Williamson Act Contract or convert existing farmland to a non-agricultural use (less-than-significant impact).

As noted previously, two existing zoning districts allow for agricultural uses: R-1 and COSC. No changes are proposed to these two districts as part of the project. Moreover, the General Plan Update includes a policy intended to encourage and enhance small-scale, urban agricultural uses consistent with zoning:

Land Use and Urban Design Element Goal LU-14. Encourage compact infill development that enhances the community, improves walkability, and enhances neighborhood identity.

- *Policy 14.8, Agriculture.* Allow for agricultural uses in the Weeks neighborhood, including nurseries and greenhouses.

Review of the most recent DOC Williamson Act for San Mateo County identified a single Williamson Act property in the City of East Palo Alto in 2007. Though recent development near this property may have resulted in the termination of this contract, external research and consultation with the San Mateo County Assessor's Office could not definitively confirm if the property is still subject to the Williamson Act. Therefore, for the purposes of this EIR, this parcel is still assumed to be protected by the Williamson Act.

The current zoning of the City's Williamson Act property is R-1 Single Family Residential, which permits small-scale agricultural uses. Implementation of the General Plan Update may result in a new zoning designation that would no longer allow agriculture uses on this property. However, an analysis of aerial photography determined that this approximately 1.2-acre property is not currently utilized for agriculture, shows no evidence of recent cultivation, and is completely surrounded by urban land uses. Therefore, though the project may conflict with a Williamson Act Contract, this impact would be less-than-significant.

c) and d) Conflicts with existing zoning for forest land or timberland/result in loss/conversion of forest land (no impact).

No forest or timberland exists within East Palo Alto and no land is zoned as such. Therefore, no impacts would result.

4.2.4 CONCLUSION

Implementation of the General Plan Update would have no impact to or forest resources or DOC-designated agricultural farmland. The project may conflict with a Williamson Act contract, but this impact would be less than significant.

4.3 AIR QUALITY

This section contains information about air quality in the City of East Palo Alto (City) and the San Francisco Bay Area Air Basin (Basin) by providing an overview of relevant regulations, describing existing conditions, and analyzing the General Plan Update's potential air quality impacts. The Air Quality and Greenhouse Gas Emissions Assessment is included as **Appendix B**. Greenhouse gas emissions (GHGs) are discussed separately in **Section 4.7, Greenhouse Gas Emissions**.

4.3.1 REGULATORY REQUIREMENTS

Federal

Clean Air Act

Pursuant to the federal Clean Air Act of 1970 (CAA), the United States Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS) for major airborne pollutants, termed "criteria" pollutants. NAAQS are designed to identify maximum allowable levels of criteria pollutants to protect public health and welfare within a reasonable margin of safety. **Table 4.3-1** includes federal and state standards (state standards discussed below) for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area (Bay Area). Criteria pollutants are listed and briefly described below.

- *Ozone (O_3)* is a colorless gas resulting from the atmospheric reaction of organic gases and nitrogen oxides under sunlight.
- *Respirable particulate matter (PM_{10})* consists of very small particles that are inhalable, such as dust stirred up by vehicles.
- *Fine particulate matter ($PM_{2.5}$)* consists of even smaller particles than PM_{10}, usually resulting from fuel combustion.
- *Carbon monoxide (CO)* is an odorless, colorless gas formed by incomplete combustion of fuels, and is almost exclusively generated by vehicles, power plants, and industrial activities.
- *Nitrogen dioxide (NO_2)* results from the interaction of another pollutant and oxygen, and contributes to the formation of ozone and respirable particulate matter.

- *Sulfur dioxide (SO_2)* is a colorless, pungent gas formed primarily by combustion of fossil fuels such as coal and oil used in power plants and industrial operations.
- *Lead (Pb)* is a heavy metal that may be a part of particulate matter, resulting from lead smelting, battery recycling, and manufacturing.

Table 4.3-1 State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		National Standards [b]	
		Concentration	Bay Area Attainment Status	Concentration	Bay Area Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment [f]
	1-Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	Annual Mean	0.030 ppm (57 mg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1-Hour	0.18 ppm (338 µg/m^3)	Attainment	0.100 ppm [j]	Unclassified
Ozone (O_3)	8-Hour	0.07 ppm (137 µg/m^3)	Nonattainment [h]	0.075 ppm	Nonattainment [d]
	1-Hour	0.09 ppm (180 µg/m^3)	Nonattainment	Not Applicable	Not Applicable [e]
Respirable Particulate Matter (PM_{10})	Annual Mean	20 µg/m^3	Nonattainment [g]	Not Applicable	Not Applicable
	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	12 µg/m^3	Nonattainment [g]	12 µg/m^3	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m^3 See footnote [i]	Nonattainment

Pollutant	Averaging Time	California Standards [a]		National Standards [b]	
		Concentration	Bay Area Attainment Status	Concentration	Bay Area Attainment Status
Sulfur Dioxide (SO_2) [k]	Annual Mean	Not Applicable	Not Applicable	0.03 ppm (80 µg/m3)	Attainment
	24-Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/$m^{3)}$	Attainment
	1-Hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	Attainment
Visibility reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer[8]	Unclassified	No federal standard	
Sulfates	24-hour	25 µg/m^3	Attainment	No federal standard	
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	Unclassified	No federal standard	
Vinyl chloride	24-hour	ppm (26 µg/m3)	Unclassified	No federal standard	

[a] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average.

[b] National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 ppb) or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m^3.

Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below

the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.

[c] National air quality standards are set by EPA at levels determined to be protective of public health with an adequate margin of safety.

[d] On September 22, 2011, the EPA announced it will implement the current 8-hour ozone standard of 75 ppb. The EPA expects to finalize initial area designations for the 2008 8-hour ozone standard by mid-2012.

[e] The national 1-hour ozone standard was revoked by EPA on June 15, 2005.

[f] In April 1998, the Bay Area was redesigned to attainment for the national 8-hour carbon monoxide standard.

[g] In June 2002, CARB established new annual standards for $PM_{2.5}$ and PM_{10}. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

[h] The 8-hour CA ozone standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006.

[i] EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. EPA designated the Bay Area as nonattainment of the $PM_{2.5}$ standard on October 8, 2009. The effective date of the designation is December 14, 2009, and the Air District has three years to develop a SIP that demonstrates the Bay Area will achieve the revised standard by December 14, 2014. The SIP for the new $PM_{2.5}$ standard must be submitted to the EPA by December 14, 2012.

[j] To attain this standard, the 3-year average of the 98^{th} percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010).

[k] On June 2, 2010, the EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99^{th} percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS however must continue to be used until one year following EPA initial designations of the new 1-hour SO_2 NAAQS. EPA expects to designate areas by June 2012.

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.

ppm = parts per million

mg/m^3 = milligrams per cubic meter

$\mu g/m^3$ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, 2015.[1]

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. Most TACS originate from human-generated sources, including road mobile sources (e.g., cars, trucks, and buses), non-road mobile sources (e.g., airplanes, locomotives), stationary sources (e.g., factories, refineries, and power plants) and indoor sources (e.g., building materials). A smaller proportion of TACs are released from natural sources such as volcanic eruptions and forest fires. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). In

[1] Bay Area Air Quality Management District, 2015. Federal and State Ambient Air Quality Standards. Available at: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status.

March 2001, EPA issued regulations requiring the producers of urban TAC to decrease emissions of these pollutants by 2007 and 2020.

CAA Title 42 United Stated Code, Section 7401

Due to the rapid expansion of metropolitan and urban areas, and the associated increase in the quantity and complexity of air pollution emissions, Title 42 section 7401 of the Clean Air Act was enacted in 1955. The section serves to enhance the quality of America's air resources in order to protect public health and welfare. Under Title 42, section 4701, the provision of technical assistance, and financial support, to state and local governments in connection with the development and execution of air pollution prevention is ensured.[2]

State Implementation Plans

Under the CAA, state and local agencies in areas that exceed the NAAQS are required to prepare a State Implementation Plan (SIP) to show how they will achieve the NAAQS by specific dates. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and local regulations. EPA has responsibility to review all state SIPs and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in the application of federal funding sanctions.

State

The CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. CARB is responsible for developing and implementing SIPs to achieve and maintain the NAAQS. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing California Ambient Air Quality Standards (CAAQS; discussed below), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

[2] United States Government Printing Office, 2010. Chapter 85- Air Pollution Prevention and Control. Accessed: March 18, 2016. Retrieved from: https://www.gpo.gov/fdsys/pkg/USCODE-2010-title42/html/USCODE-2010-title42-chap85.htm.

California Clean Air Act

In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). The CCAA is administered by CARB at the state level and by air quality management districts and air pollution control districts at the regional and local levels. The CCAA requires all air quality management districts in the state endeavor to achieve and maintain the CAAQS.

CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The CCAA requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as non-attainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment.

Table 4.3-1 includes state standards for criteria pollutants and provides a summary of the attainment status for the Bay Area.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB subsequently developed an Air Quality and Land Use Handbook (Handbook) in 2005 to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects. The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses such as residences, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to East Palo Alto include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations.
- Within 300 feet of dry cleaning operations (note that dry cleaning with TACs will is being phased out and will be prohibited in 2023).

State Toxic Air Contaminant Programs

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588).

AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified over 21 TACs, including diesel particulate matter (DPM). Once a TAC is identified, CARB then adopts air toxics control measures (ATCM) for sources that emit that particular TAC.

None of the TACs identified by CARB have a "safe threshold;" exposure to these TACs is therefore considered in terms of long-term elevated health risk.

AB 2588 requires that existing facilities that emit toxic substances above specified levels:

- Prepare a toxic emission inventory;
- Prepare a risk assessment if emissions are significant;
- Notify the public of significant risk levels; and
- Prepare and implement risk reduction measures.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and certain other diesel-powered equipment.

In February 2000, CARB adopted a new public transit bus fleet rule and emission standards for new urban buses. These rules and standards provide for more stringent emission standards for some new urban bus engines, zero-emission bus demonstration and purchase requirements applicable to transit agencies, and reporting requirements with which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Milestones include the low sulfur diesel fuel requirement, and tighter emission standards for heavy-duty diesel trucks and off-road diesel equipment nationwide.

Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially less TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, DPM) have been reduced significantly over the last decade, and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that DPM concentrations will be reduced by 85 percent by 2020 from year 2000 levels.

Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

California Health and Safety Code, Section 39666: Tanner Toxics Act (AB 1807)

AB 1087 (also known as the Tanner Toxics Act) established a program to reduce TAC exposure in California through identification and management of the potential risks to human health related to TAC. The CARB is required to use certain criteria in the prioritization for the identification and control of TACs:[3]

- The risk of harm to public health
- The amount or potential amount of emissions
- The manner of, and exposure to, usage of substance in California
- The toxic contaminants' persistence in the atmosphere
- Ambient concentrations in the community

California Health and Safety Code, Section 44300 et. Seq: Hot Spots Act (AB 2588)

Enacted in 1987 and amended in 1992, AB 2588 (also known as the 'Hot Spots Act') requires facilities to report their emissions of TACS, ascertain potential health risks, and notify any nearby residents of potential health risks. Under the 1992 amendment, facilities that pose a significant threat to the health of a community are required to reduce their emissions through a risk management plan.[4]

Local

The Bay Area Air Quality Management District (BAAQMD) seeks to attain and maintain air quality conditions in the Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption, and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and

[3] California Air Resources Board, 2014. California Air Toxics Program. Retrieved from: http://www.arb.ca.gov/toxics/background.htm. Accessed on: March 18, 2016.

[4] California Air Resources Board, 2014. California Air Toxics Program. Retrieved from: http://www.arb.ca.gov/toxics/background.htm. Accessed on: March 18, 2016.

responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

2010 Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2010 Clean Air Plan, which was adopted in 2010, and updated in February 2014 and February 2016 (draft), is the most recently adopted plan; it contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NOX), particulate matter and greenhouse gas emissions. The Bay Area 2010 Clean Air Plan includes the following:

- Updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, PM, air toxics, and greenhouse gases in a single, integrated plan;
- includes about 55 control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly;
- Reviews progress in improving air quality in recent years; and
- Establishes emission control measures to be adopted or implemented in the 2010 to 2012 timeframe.

In developing the control strategy, BAAQMD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources;
- Revisions to the BAAQMD's permitting requirements for stationary sources;
- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines;
- Allocation of grants and other funding by the Air District and/or partner agencies;
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures;

- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups;
- Public outreach and education;
- Enhanced air quality monitoring;
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA; and
- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities. The consistency of the General Plan Update is evaluated with respect to each set of control measures.

Stationary and Area Source Control Measures

The Clean Air Plan includes Stationary Source Control measures that BAAQMD adopts as rules or regulations through their authority to control emissions from stationary and area sources. The BAAQMD is the implementing agency, since these control measures are applicable to sources of air pollution that must obtain District permits. The City uses BAAQMD's CEQA Air Quality Guidelines to evaluate air pollutant emissions from new sources.

Mobile Source Measures

The Clean Air Plan includes Mobile Source Measures that would reduce emissions by accelerating the replacement of older, dirtier vehicles and equipment through programs such as the BAAQMD's Vehicle Buy-Back and Smoking Vehicle Programs, and promoting advanced technology vehicles that reduce emissions. The implementation of these measures rely heavily upon incentive programs, such as the Carl Moyer Program and the Transportation Fund for Clean Air, to achieve voluntary emission reductions in advance of, or in addition to, CARB requirements. CARB has new regulations that require the replacement or retrofit of on-road trucks, construction equipment, and other specific equipment that is diesel powered.

Transportation Control Measures

The Clean Air Plan includes transportation control measures (TCMs) that are strategies meant to reduce vehicle trips, vehicle use, VMT, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. While most of the TCMs are implemented at the regional level (that is, by the MTC or the California

Department of Transportation [Caltrans]), there are measures that the Clean Air Plan relies upon local communities to assist with implementation. In addition, the Clean Air Plan includes land use measures and energy and climate measures whose implementation is aided by proper land use planning decisions.

The February 2014, and draft 2016 update of the Clean Air Plan serve the purpose of further protecting human health and the environment by providing specific revised control measures and implementation actions to reduce emissions of ozone precursors, greenhouse gases, particulate matter, and/or TACs.[5] Both updates focus on expanding the existing research base for emission reduction technology and place particular emphasis on identifying "gaps" in the Bay Area's climate protection activities so as to enable regional and local governments to continue to make progress towards 2030 emission reduction goals. The 2016 Clean Air Plan Update introduces specific implementation action for each of the following economic sectors:

- Stationary Sources
- Transportation
- Buildings
- Energy
- Agriculture
- Natural and Working Lands
- Waste
- Water
- Short-Lived Climate Pollutants

By addressing the specific economic sectors that are directly involved in the emission of greenhouse gases, the 2016 update to the Clean Air Plan aims to enhance and strengthen the emissions reduction goals initially established by the Clean Air Plan in 2010.

[5] Bay Area Air Quality Management District, 2016. 2016 Clean Air Plan/Regional Climate protection Strategy Draft Control Measures and Implementation Actions. Retrieved from: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/clean-air-plan-update/control-measures-summary-with-implementation-actions-010516-pdf.pdf?la=en. Accessed: March 24, 2016.

BAAQMD Community Air Risk Evaluation (CARE) Program

BAAQMD initiated its CARE program in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The most recent CARE program report was published in April 2014.[6]

The technical analysis portion of the CARE program is being implemented in three phases, which includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the six most at-risk communities in the Bay Area as identified by BAAQMD: Redwood City/East Palo Alto, Concord, Richmond/San Pablo, Western Alameda County, San Jose, and Eastern San Francisco.

During a BAAQMD-led evaluation of health risks associated with TAC exposure, the modeled inhalation cancer risk in the City generally ranged from 300 to 400 cases per million, although areas along Highway 101 and Highway 84 face higher risks. More densely urbanized portions of the Bay Area, such as eastern San Francisco and western Oakland, had much higher risks of 1,000 per million. CARB predicts that implementation of risk reduction measures will reduce the overall inhalation health risk in the Bay Area.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines[7] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas (GHG) emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. In May 2011, the BAAQMD CEQA Air

[6] Bay Area Air Quality Management District. 2014. *Improving Air Quality and Health in Bay Area Communities.* April

[7] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May.

Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the 2011 BAAQMD CEQA Air Quality Guidelines. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA. In August 2013, the Court of Appeals for the 4th District struck down the lower court's order to set aside the thresholds. However, in December 2015, the California Supreme Court reversed the Court of Appeals judgment and remanded the case for reconsideration. The Supreme Court focused its judgment on the question of whether CEQA applies to the effects of the environment on a given project (in addition to a project's effect on the environment).

City of East Palo Alto Climate Action Plan

The City released a Climate Action Plan (CAP) in December, 2011, and updated it in 2014. The CAP presents goals and measures for reducing the City's GHG emissions. A 2005 emissions inventory for community-wide GHG emissions equaled 140,465 metric tons (MT) of CO2e, with emissions from transportation constituting the single largest source in the City at about 63 percent.

Given the high projected business-as-usual emissions forecast for 2020, the City's emissions reduction goal was established as 15 percent below 2005 levels by 2020 through implementation of the CAP. To achieve this emissions reduction goal, the CAP structured objectives around four general categories: energy use in buildings, transportation and land use, waste, and municipal operations.

4.3.2 ENVIRONMENTAL SETTING

Climate and Meteorology

Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality in the project area.

The City's climate is characterized by warm, dry summers and cool, moist winters. The proximity of the San Francisco Bay and Pacific Ocean has a moderating influence on local climate. East Palo Alto is located in the Peninsula climate subregion of the Bay Area.

The major weather feature controlling the area's climate is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. The strength and position of the Pacific High varies seasonally. It is strongest during summer and located off the west coast of the United States. Large-scale atmospheric subsidence associated with the Pacific High produces an elevated temperature inversion along the West Coast. The base of this inversion is usually located from 1,000 to 3,000 feet above mean sea level, depending on the intensity of subsidence and the prevailing weather conditions. Vertical mixing is often limited to the base of the inversion, trapping air pollutants in the lower atmosphere. Marine air trapped below the base of the inversion is often condensed into fog or stratus clouds by the cool Pacific Ocean. This condition is typical of the warmer months of the year from roughly May through October. Stratus-type clouds usually form offshore and move into the Bay Area during the evening hours. Stratus clouds also form over the San Francisco Bay during the evening hours. Stratus cover over the Peninsula, including East Palo Alto, is common during late night and early morning hours. As the land warms the following morning, the clouds often dissipate. The stratus cover then redevelops and moves inland late in the day along with an increase in winds. Otherwise, clear skies and dry conditions prevail during summer.

As winter approaches, the Pacific High becomes weaker and shifts south, allowing weather systems associated with the polar jet stream to affect the region. Low-pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. The number of days with precipitation can vary greatly from year to year, resulting in a wide range of annual precipitation totals. Precipitation is generally lowest along the San Francisco Bay, with much higher amounts occurring along south- and west-facing mountain slopes that are west of the City. East Palo Alto, which lies on the lee side of the coastal mountains in southern San Mateo County, receives about 15 to 20 inches of precipitation. Mountains to the west receive 30 to 40 inches. Most rainfall occurs from November through April. High-pressure systems are also common in winter with low-level inversions that trap produce cool stagnant conditions. Radiation fog and haze trapped near the surface are common during extended winter periods where high-pressure systems influence the weather.

The proximity of the eastern Pacific High and relatively lower pressure inland produces a prevailing westerly sea breeze along the central and northern California coast for most of the year. As this wind is channeled through the Golden Gate and other topographical gaps to the west, it branches off to the northeast and southeast, following the general orientation of the San Francisco Bay system. Marine air penetrates the eastern Peninsula mainly from the northwest and through gaps in the lower mountains. The prevailing wind in most of the City is primarily

from a northwest direction, especially during spring and summer. In winter, winds become variable with more of a southeasterly orientation. Nighttime winds and land breezes during the colder months of the year prevail with variable drainage out of the mountainous areas. Wind speeds are highest during the spring and early summer and lightest in fall. Winter storms bring relatively short episodes of strong southerly winds.

Temperatures in East Palo Alto tend to be less extreme compared to inland locations due to the moderating effect of the Pacific Ocean and the San Francisco Bay. In summer, high temperatures are generally in the high 70s and in the 50s during winter. Low temperatures range from the 50s in summer to the 30s in winter.

Regional Air Quality

East Palo Alto is in the western portion of the Basin, which includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, Alameda, the southeast portion of Sonoma County, and the southwest portion of Solano County.

East Palo Alto is within BAAQMD's jurisdiction. Air quality conditions in the Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Existing Sources of Air Pollution

CARB maintains emissions inventories for each county in California, including San Mateo County, in which East Palo Alto is located. San Mateo County as a whole accounts for about 10 to 14 percent of the daily Bay Area emissions. Traffic accounts for the greatest portion—about 40 to 50 percent—of the County's emissions of ozone precursor pollutants. Area-wide sources, which include construction activities, residential wood smoke, off-road travel, and agriculture, account for the greatest portion of PM_{10} emissions, about 80 percent. These sources also account for over 50 percent of the $PM_{2.5}$ emissions. However, additional $PM_{2.5}$ is formed through reactions of NOx and other gaseous air pollutants in the atmosphere.

Criteria Air Pollutants in the Bay Area

Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. Areas that do not violate ambient air quality standards are considered to have attained the standard. The Basin annually exceeds the NAAQS for ozone and $PM_{2.5}$, and exceeds the more stringent CAAQS requirements for ozone, PM_{10}, and $PM_{2.5}$. These nonattainment issues are discussed further below.

Ozone levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially in the Bay Area as a result of aggressive programs by the BAAQMD and other regional, state, and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Bay Area still exceeds the state standard for 1-hour ozone. In most cases, the standards were exceeded in downwind portions of the Basin, such as Livermore, Concord, and Gilroy.

The NAAQS for PM_{10} is not exceeded anywhere in the Bay Area, but the more stringent CAAQS is routinely exceeded in the Bay Area and most other parts of California. The new NAAQS for $PM_{2.5}$ is exceeded at about half of the monitoring stations in the Bay Area, most often in Vallejo and San Jose. Some monitors in the Bay Area exceed the CAAQS $PM_{2.5}$ standard.

No other air quality standards are exceeded in the Bay Area.

Local Air Pollution Potential

East Palo Alto can experience episodes of elevated particulate levels in late fall and winter, when the Pacific High can combine with high pressure over the interior regions of the western United States (known as the Great Basin High) to produce extended periods of light winds and low-level temperature inversions. Although less common, this pattern in summer can produce fair weather and very warm temperatures throughout the Bay Area. This condition frequently produces poor atmospheric mixing resulting in degraded regional air quality. Ozone standards traditionally are exceeded in downwind portions of the Bay Area when this condition occurs during the warmer months of the year. Emissions from most of the Bay Area, including the City, contribute to O_3 ambient air quality violations that occur on up to about 20 days per year.

East Palo Alto Ambient Air Quality Conditions

BAAQMD monitors air pollution at various sites within the Bay Area. The closest official monitoring station to the City is located approximately 2.7 miles northwest of the western city limit at 897 Barron Avenue, Redwood City. While the air quality

conditions measured at BAAQMD's Redwood City monitoring station are not identical to conditions the City, no other official monitoring station is closer to East Palo Alto. Pollutant monitoring results for the years 2010 to 2014 at the Redwood City ambient air quality monitoring station are shown in **Table 4.3-2**.

There was exceedances were recorded in 2010, 2011, and 2014 of the federal 24-hour $PM_{2.5}$ standard. The state 1-hour ozone standard was exceeded once during the 5-year period at this monitoring station, and the state and federal 8-hour ozone standards were exceeded twice. CO, SO_2, and NO_2 standards were not exceeded in this area during the 5-year period.

Table 4.3-2 Ambient Air Quality at the Redwood City Monitoring Station

Pollutant	Average Time	Measured Air Pollutant Levels				
		2010	2011	2012	2013	2014
Ozone (O_3)	1-Hour	**0.113 ppm**	0.076 ppm	0.063 ppm	0.083 ppm	0.086 ppm
	8-Hour	**0.077 ppm**	0.062 ppm	0.055 ppm	**0.076 ppm**	0.066 ppm
Carbon Monoxide (CO)	8-Hour	1.7 ppm	1.7 ppm	1.8 ppm	ND	ND
Nitrogen Dioxide (NO_2)	1-Hour	0.059 ppm	0.056 ppm	0.060 ppm	0.054 ppm	0.055 ppm
	Annual	0.012 ppm	0.012 ppm	0.011 ppm	0.012 ppm	0.011 ppm
Respirable Particulate Matter (PM_{10})	24-Hour	ND	ND	ND	ND	ND
	Annual	ND	ND	ND	ND	ND
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	**36.5 µg/m³**	**39.7 µg/m³**	34.3 µg/m³	**39.0 µg/m³**	35.0 µg/m³
	Annual	8.3 µg/m³	8.7 µg/m³	8.5 µg/m³	10.7 µg/m³	7.2 µg/m³

Source: Illingworth & Rodkin, 2016

Note: ppm = parts per million and µg/m³ = micrograms per cubic meter
Values reported in bold exceed ambient air quality standard
ND = No Data available.

4.3.3 THRESHOLDS OF SIGNIFICANCE

Consistent with the BAAQMD CEQA Guidelines and recommendations, the proposed General Plan Update would have a significant impact on air quality if it would:

a) Conflict with or obstruct implementation of an applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors.

c) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

d) Expose sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people.

The BAAQMD adopted CEQA Guidelines in June 2010, which were revised in May 2011. Methodology and thresholds for criteria air pollutant impacts and community health risk, as set forth in the BAAQMD Guidelines, are utilized in this analysis.

The following screening thresholds and significance criteria are applicable to the General Plan Update.

Consistency with Clean Air Planning Effort

According to the BAAQMD Air Quality Guidelines, proposed plans must show over the planning period that:

- The plan incorporates current air quality plan control measures as appropriate to the plan area; and
- The rate of increase in vehicle miles traveled or vehicle trips (either measure may be used) within the plan area is equal to or lower than the rate of increase in population projected for the proposed plan.

Construction and Operation Emissions

The BAAQMD Air Quality Guidelines do not have thresholds related to direct and indirect criteria pollutant emissions resulting from General Plan Update implementation. Traffic resulting from plan implementation would cause a significant local air quality impact if CO emissions cause a projected exceedance of

the ambient CO state standard.[8] This would be considered to cause or contribute substantially to an existing or projected air quality violation.

Exposure of New Residences to Toxic Air Contaminants

Unlike industrial or stationary sources of air pollution, residential development and other development where sensitive receptors would be located do not require air quality permits. Nonetheless, this type of development can expose people to unhealthy conditions. The BAAQMD Air Quality Guidelines outline the following methods with regard to community risk and hazardous impacts:

- Identify special overlay zones around existing and planned sources of TACs and PM (including adopted risk reduction plan areas), and special overlay zones on each side of all freeways and high-volume roadways; and
- Identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards.

Odors

Odors are assessed based on the potential of the General Plan Update to result in odor complaints. The BAAQMD Air Quality Guidelines Thresholds of Significance for plans with regard to odor impacts are:

- Identify special overlay zones around existing and planned sources of odors; and
- The plan must identify goals, policies, and objectives to minimize potential impacts and create buffer distances between sources of odors and receptors.

4.3.4 ENVIRONMENTAL IMPACTS

a) Would the project conflict with or obstruct implementation of an applicable Air Quality Plan (significant and unavoidable impact).

Consistency of the General Plan Update with BAAQMD 's Clean Air Plan is demonstrated by assessing whether the proposed General Plan Update implements all of the applicable Clean Air Plan control measures. **Table 4.3-3** lists the relevant Clean Air Plan policies to the General Plan Update and indicates consistency or non-consistency with the policies. The policies contained in the General Plan Update would generally be consistent with Clean Air Plan measures.

[8] 9.0 parts per million (ppm) for 8-hour averaging period

Table 4.3-3 BAAQMD Control Strategy Measures

BAAQMD Control Strategy Measures	Consistency
Transportation Control Measures	
TCM A-1: Local and Area-wide Bus Service Improvements	Consistent. See Draft Policy T-1.21, T-1.23, T-1.24, T-1.25 and T-1.26
TCM A-2: Local and Regional Rail Service Improvements	Consistent. See Draft Policy T-1.21, T-1.23, T-1.25 and T-1.26
TCM B-2: Improve Transit Efficiency and Use Strategies	Consistent. While this is mostly a regionally implemented TCM, see Draft Policies LU-1.77, T-1.4, and Goal T.5
TCM B-4: Goods Movement Improvements and Emissions Reduction Strategies	Consistent. This is primarily a regional measure; however, see Draft Policy HE-1.52
TCM C-1: Support Voluntary Employer-Based Trip Reduction Program	Consistent. See Draft Policy T-1.34
TCM C-2: Safe Routes to School and Safe Routes to Transit	Consistent. See Draft Policies T-1.3, and Goals HE-18 and HE-19
TCM C-3: Promote Rideshare Services and Incentives	Consistent. See Draft Policy T-1.34
TCM C-4: Conduct Public Outreach	Consistent. While this is primarily a regional measure, see Draft Policies T-1.12, OS-1.31, PIC-1.47, and Goal PIC-10
TCM C-5: Promote Smart Driving/Speed Moderation	Consistent. See Draft Policies LU-1.151, -I.187, and T-1.2
TCM D-1: Improve Bicycle Access and Facilities	Consistent. See Draft Policies LU-1.170, T-1.4, and Goal T-4
TCM D-2: Improve Pedestrian Access and Facilities	Consistent. See Draft Policies LU-1.53, -1.63, -1.69, -1.70, -1.73, T-1.4, and -1.10
TCM D-3: Support Local Land Use Strategies	Consistent. See Draft Policies LU-1.5, -1.9, -1.39, -1.40, and -1.80
TCM E-1: Value Pricing Strategies	Consistent. See Draft Policy T-1.7, and T-1.33
TCM E-2: Parking Pricing and Management Strategies	Consistent. See Draft Policies LU-1.37, -1.54, T-1.28, -1.29, and -1.31
Land Use and Local Impact Control Measures	
LUM 1: Goods Movement	Consistent. While this is primarily a statewide measure, see Draft Policy HE-1.52
LUM 3: Enhanced CEQA Program	Consistent. The City requires appropriate air quality evaluation during CEQA review using the BAAQMD CEQA Air Quality Guidelines
LUM 5: Reduce Risk in Impacted Communities	This issue is addressed in this EIR, in which the impact of existing or new TAC sources upon sensitive receptors is evaluated and mitigation measures to reduce any substantial TAC exposures are identified; also see Goal HE-9
Energy and Climate Measures	
ECM 1: Energy Efficiency	Consistent. See Draft Policies LU-1.21, -1.47, PIC-1.50, -1.51, -1.52, and Goal PIC-7
ECM 2: Renewable Energy	Consistent. See Draft Policy 1.42
ECM 3: Urban Heat Island Mitigation	Consistent. See Draft Policies OS-1.31 and PIC-1.44
ECM 4: Tree-Planting	Consistent. See Draft Policies LU-1.32, -1.71, -1.72, and OS-1.29

Source: Illingworth & Rodkin, 2016; Bay Area Air Quality Management District, 2010

The General Plan Update would result in an estimated additional 7,361 residents between 2015 and 2040. Daily vehicle miles traveled (VMT) in the City for 2015 and 2040 were prepared by the project's traffic consultant. **Table 4.3-4** identifies the VMT and population for the General Plan Update. Using 2015 as a baseline year, VMT attributable to the General Plan Update is anticipated to increase by 35 percent, while the increase in population is estimated to be 25 percent. As a result, VMT would increase at a higher rate than population with implementation of the General Plan Update, which would lead to greater regional emissions of non-attainment air pollutants (or their precursors) than assumed in the latest Air Quality Plan. This represents a significant impact.

Table 4.3-4 Summary of Existing and Future Vehicle Miles Traveled and Service Population

Metric	2015	2040 General Plan Update Build-Out	Increase with General Plan Update
VMT	397,322	535,274	35%
Population	30,017	37,378	25%

Source: Kittelson & Associates, 2016

Due to the current lack of employment opportunities in the East Palo Alto, most residents are forced to commute out of the City for work, resulting in high existing VMT. The General Plan Update would encourage employment-focused land uses in the City. Improving the availability of local jobs would promote alternative modes of transit such as walking and biking, thus reducing VMT. Though the General Plan Update is designed to directly address this issue, VMT would still increase at a higher rate than population. There are no feasible mitigation measures available to reduce this impact to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (significant and unavoidable impact).

Construction

Implementation of development under the General Plan Update would result in short-term emissions from construction activities including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance,

fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.

The BAAQMD CEQA Air Quality Guidelines do not identify plan level thresholds that apply to construction. Although construction activities at individual project sites are expected to occur during a relatively short time period, the combination of temporary dust from activities and diesel exhaust from construction equipment poses both a health and nuisance impact to nearby receptors. In addition, NO_X emissions during grading and soil import/export for large projects may exceed the BAAQMD NO_X emission thresholds. Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts would be considered a potentially significant impact.

Mitigation Measure AQ-1: The General Plan shall be amended to include the following policy:

Measures to reduce DPM and PM_{10} from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided. These measures are listed below.

Dust (PM_{10}) Control Measures

- Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.
- Cover all hauling trucks or maintain at least two feet of freeboard.
- Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (i.e., previously-graded areas that are inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- Limit traffic speeds on any unpaved roads to 15 mph.

  Replant vegetation in disturbed areas as quickly as possible.
- Suspend construction activities that cause visible dust plumes to extend beyond the construction site.

- Post a publically visible sign(s) with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Measures to reduce exhaust emissions from large construction projects

- The developer or contractor shall provide a plan for approval by the City or BAAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NO_X reduction and 45 percent particulate reduction compared to the most recent CARB fleet average for the year 2011.
- Clear signage at all construction sites will be posted indicating that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite or adjacent to the construction site.
- The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g. compressors).
- Properly tune and maintain equipment for low emissions.

Implementation of **Mitigation Measure AQ-1** would reduce this impact to less than significant in most cases. However, it is not possible to ensure that very large construction projects could be mitigated to a level of less than significant. Therefore, construction-related impacts would remain significant and unavoidable.

Operation

Implementation of the General Plan Update would result in long-term area and mobile source emissions from operation and use of subsequent development. Implementation of the General Plan Update could include stationary sources of pollutants that would be required to obtain permits to operate in compliance with BAAQMD rules. These sources include, but are not limited to, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. The permit process ensures that these sources would be equipped with the required emission controls and that, individually, these sources would result in a less-than-significant impact to air quality.

As discussed in **Section 4.3.3**, the BAAQMD Air Quality Guidelines do not have thresholds related to direct and indirect regional criteria pollutant emissions resulting from plan implementation. However, VMT is expected increase at a higher

rate than population with implementation of the General Plan Update, which would lead to greater regional emissions of non-attainment air pollutants in the region. The impact related to operational criteria pollutant emissions would therefore be considered significant and unavoidable.

c) Violate any air quality standard or contribute substantially to an existing or projected air quality violation (less-than-significant impact).

Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing CO levels are currently below NAAQS and CAAQS. Monitored CO levels have decreased substantially since 1990 as newer vehicles with improved exhaust emission control systems have replaced older vehicles. The Bay Area has been designated as an attainment area for the CO standards. The highest measured levels in Redwood City (the closest monitoring stations to the Planning Area) during the past five years are 1.8 ppm for 8-hour averaging periods, well below the state and federal 9.0 ppm maximum.

Even though current CO levels in the Bay Area are well below ambient air quality standards, and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis. CO hotspots (occurrences of localized high CO concentrations) could still occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAQMD's CEQA Air Quality Guidelines state that a project would have a less-than-significant impact if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. An analysis prepared by the project's traffic consultants determined that the 2040 General Plan peak hour traffic volumes would be far below 44,000 vehicles per hour. Since intersections affected by the project would have volumes less than the threshold of 44,000 vehicles per hour, the impact of the project related to localized CO concentrations would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations (significant and unavoidable impact).

Subsequent land use activities associated with implementation of the General Plan Update could potentially include short-term construction sources of TACs and long-term operational sources of TACs, including stationary and mobile sources.

Temporary Construction Sources

Implementation of the General Plan Update would lead to the construction of a variety of development projects, resulting in short-term emissions of DPM, a TAC. Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other

construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The calculation of cancer risk associated with exposure to TACs is typically based on a long-term exposure (e.g., 30- or 70-year period).

The use of diesel-powered construction equipment, however, would be temporary, episodic, and would occur over a relatively large area. Cancer risk and $PM_{2.5}$ exposure would have to be analyzed through project-level analysis to identify the potential for significant impacts and measures to reduce those impacts to less than significant. Health risks associated with temporary construction would, therefore, be considered potentially significant. Implementation of **Mitigation Measure AQ-2** would reduce this impact to less than significant in most cases. However, it is not possible to ensure that very large construction projects could be mitigated to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

Mitigation Measure AQ-2: *Require Project-Level Construction Health Risk Assessment.* Construction health risk assessments will be required on a project-by-project basis, either through screening or refined modeling, to identify impacts and, if necessary, include measures to reduce exposure. Reduction in health risk can be accomplished through, though is not limited to, the following measures:

- Construction equipment selection;
- Use of alternative fuels, engine retrofits, and added exhaust devices;
- Modify construction schedule; and
- Implementation of BAAQMD Basic and/or Additional Construction Mitigation Measures for control of fugitive dust.

Long-Term Operational Sources

According to the BAAQMD CEQA Air Quality Guidelines, for a plan to have a less-than-significant impact with respect to TACs, overlay zones must be established around existing and proposed land uses that would emit these air pollutants. Overlay zones to avoid TAC impacts must be reflected in local plan policies, land use maps, or implementing ordinances.

The General Plan Update would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector

roadways, highways, and stationary sources of TAC emissions. Screening levels indicate that sensitive receptors within the Planning Area would be exposed to levels of TACs and/or $PM_{2.5}$ that could cause an unacceptable cancer risk or hazard near highways and stationary sources.

TAC sources were identified using a 1,000-foot buffer radius. These sources include: stationary sources permitted by BAAQMD, roadways with more than 10,000 annual average daily traffic (AADT), and highways or freeways. Then, using BAAQMD's *Stationary Source Screening Analysis Tool,* potential risk, and hazard impacts were assessed.

Stationary Sources

East Palo Alto has numerous permitted stationary TAC sources located throughout the City, but mostly in industrial and commercial areas. The impact of these sources can only be addressed on a project-by-project basis, since impacts are generally localized. However, when siting new sensitive receptors, the BAAQMD Guidelines advise that lead agencies examine existing or future proposed sources of TAC and/or $PM_{2.5}$ emissions that would adversely affect individuals within the planned project. New residences and sensitive receptors could be located near stationary sources of TACs located throughout the City, such as those described below. Without proper setbacks or mitigation measures, these sources could result in TAC levels that would be significant for new sensitive receptors.

Gasoline Stations

The Plan Bay Area draft environmental impact report[9] recommends a setback of 300 feet for large gasoline dispensing facilities (3.6 million gallons of throughput a year) and 50 feet for small facilities.

Dry Cleaning Facilities

Perchlorethylene (Perc) is the solvent used commonly in past dry cleaning operations, and is identified as a TAC because it has the potential to cause cancer. In 2005, CARB recommended setbacks of 300 feet between dry cleaning facilities and sensitive land uses. Since then, CARB has enacted new rules to substantially reduce Perc emissions and phase out the use of TACs in dry cleaning by 2023. Most of these operations have phased our TAC use and are no longer considered TAC sources.

[9] Association of Bay Area Governments, Metropolitan Transportation Commission, 2013. *Draft Plan Bay Area Environmental Impact Report*. State Clearinghouse No. 2012062029. April.

Emergency back-up generators

Diesel-powered electricity generators are typically located at facilities where uninterrupted electricity is necessary, such as fire and police stations, hospital or medical treatment facilities, pump stations, schools, offices, and data centers. Diesel engines powering these generators are regulated by BAAQMD and CARB. CARB has established strict emissions limits and operating restrictions for engines larger than 50 horsepower. BAAQMD has developed criteria (Regulation 2 Rule 5) for approval of projects with new or modified emission sources of TACs. As a result, all new engines have very localized impacts and would not be permitted if they would cause significant cancer risks or hazards. Existing engines are only permitted to operate for 50 hours per year for maintenance or routine testing.

Specific stationary sources in the City were identified using BAAQMD's *Stationary Source Screening Analysis Tool*, which provides the screening risk, hazard, and $PM_{2.5}$ concentration levels associated with each stationary source discussed above. **Table 4.3-5** identifies the approximate setback distances from stationary sources that have potentially significant impacts. However, a refined analysis of the effects from these sources through emissions and dispersion modeling would likely show lower TAC exposure. Stationary sources that do not have potentially significant impacts at 50 feet (or near the source) were not included in **Table 4.3-5**.

Highway and Roadway Traffic

The BAAQMD *Highway Screening Analysis Tool* indicates significant TAC exposures along the following highways in terms of cancer risk and $PM_{2.5}$ exposure: US Highway 101, and State Routes 109 and 114 (SR 109 and SR 114). **Table 4.3-6** identifies the approximate setback distances from highway sources that have potentially significant impacts at a distance of 50 feet or greater, using the data provided by BAAQMD. However, refined analysis of the effects from these sources through emissions and dispersion modeling would likely show lower TAC exposure.

In addition, BAAQMD provides a screening calculator that predicts community risk impacts that roadways pose. Using 2040 Plus Project p.m. peak hour traffic volumes provided by *Kittelson & Associates* and assuming that average daily traffic (ADT) is approximately ten times p.m. peak hour, the highest volume roadway segment in the City would be Bayshore Road at Pulgas Avenue, with an estimated ADT of 29,160. The BAAQMD Roadway Screening Analysis Calculator indicates that community risk from high volume surface streets such as Bayshore Road would be less than significant with ADT of 29,160 vehicles or less at a distance of 115 feet.

Table 4.3-5 Approximate Screening Setback Distances for Stationary TAC Sources

Source	Distance in Feet to Cancer Risk Threshold	Distance in Feet to $PM_{2.5}$ Threshold
IKEA California, LLC, generator, Plant 15292 1700 E. Bayshore Road, East Palo Alto	525	<50
University Circle, generator, Plant 15835 1900 University Avenue, East Palo Alto	361	<50
3E Company/Regulatory Dept. c/o Home Depot, generator, Plant 17710 1781 E. Bayshore Road, East Palo Alto	262	<50
East Palo Alto Shell, Plant G9055 2194 University Avenue, East Palo Alto	131	<50
Acclarent, Inc., Plant 19870 1525 B O'Brien Drive, Menlo Park	1,000 Project-specific analysis required	1,000 Project-specific analysis required
Menlo Business Park, LLC, generator, Plant 18066 1455 Adams Drive, Menlo Park	164	<50

Source: Illingworth & Rodkin, 2016

Table 4.3-6 Screening Setback Distances for Highway TAC Sources

Source	Distance in Feet to Cancer Risk Threshold	Distance in Feet to $PM_{2.5}$ Threshold
US Route 101 (south of)	500	200
US Route 101 (north of)	750	200
SR 114/Willow Road (east of)	200	<50
SR 109/University Avenue (west of)	<50	<50
SR 109/University Avenue (east of)	<50	<50

Source: Illingworth & Rodkin, 2016

The General Plan Update would allow growth of new residential land uses that would be sensitive receptors and new non-residential land uses that are a potential for new emissions sources. Typically, these sources would be evaluated through the BAAQMD permit process or the CEQA process to identify and mitigate any significant exposures. However, some sources that would not undergo such a review, such as truck loading docks or truck parking areas, may have the potential to cause significant increases in TAC exposure. This impact would be potentially significant. **Mitigation Measure AQ-3** would reduce this impact. However, it is not possible to determine at this stage of the planning process that all impacts could be reduced to a less-than-significant level from larger sources. Therefore, this impact would remain significant and unavoidable.

Mitigation Measure AQ-3: The following measures shall be utilized in site planning and building designs to reduce TAC and $PM_{2.5}$ exposure where new receptors are located within the setback distances identified above:

- Future development under the General Plan Update that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within the setback distances from highways, railroads, local roadways, and stationary sources shall require site-specific analysis to determine the level of TAC and $PM_{2.5}$ exposure. This analysis shall be conducted following procedures outlined by BAAQMD. If the site-specific analysis reveals significant exposures, such as cancer risk greater than 10 in one million or cumulative cancer risk greater than 100 in one million, additional measures shall be employed to reduce the risk to below the threshold. If this is not possible, the sensitive receptors shall be relocated.

- Future non-residential developments would be evaluated through the CEQA process or BAAQMD permit process to ensure that they do not cause a significant health risk in terms of excess cancer risk greater than 10 in one million, acute or chronic hazards with a Hazard Index greater than 1.0, or annual $PM_{2.5}$ exposures greater than 0.3 $\mu g/m^3$, or a significant cumulative health risk in terms of excess cancer risk greater than 100 in one million, acute or chronic hazards with a Hazard Index greater than 10.0, or annual $PM_{2.5}$ exposures greater than 0.8 $\mu g/m^3$.

- For significant cancer risk exposure, as defined by BAAQMD, indoor air filtration systems shall be installed to effectively reduce particulate levels to a less-than-significant level. Project sponsors shall submit performance specifications and design details to demonstrate that lifetime residential exposures would result in

less-than-significant cancer risks (less than 10 in one million chances or 100 in one million for cumulative sources).

- Air filtration systems installed shall be rated MERV-13 or higher and a maintenance plan for the air filtration system shall be implemented.
- Trees and/or vegetation shall be planted between sensitive receptors and pollution sources, if feasible. Trees that are best suited to trapping particulate matter shall be planted, including the following: Pine (*Pinus nigra* var. *maritime*), Cypress (*× Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids × trichocarpa*), and Redwoods (*Sequoia sempervirens*).
- Sites shall be designed to locate sensitive receptors as far as possible from any freeways, roadways, refineries, diesel generators, distribution centers, and rail lines.
- Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a distribution center, residents shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

e) Create objectionable odors affecting a substantial number of people (less than significant with mitigation).

Subsequent land use activities associated with implementation of the General Plan Update could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development. Additionally, subsequent land use activities may allow for the construction of sensitive land uses (i.e., residential development, schools, parks, offices, etc.) near existing or future sources of odorous emissions.

Future construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

Significant sources of offending odors are typically identified based on complaint histories received and compiled by BAAQMD. According to the BAAQMD CEQA Guidelines, an odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact. Typical large sources of odors that result in complaints are wastewater treatment facilities, landfills including composting operations, food processing facilities, and chemical plants. Other sources, such as restaurants, automobile service shops, and coffee

roasters typically result in localized sources of odors. **Table 4.3-7** identifies screening buffers included in the BAAQMD CEQA Air Quality Guidelines that could apply to the project.

Table 4.3-7 Odor Screening Distances for the General Plan Update

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Green Waste and Recycling Operations	1 mile

Source: Illingworth & Rodkin, 2016

To avoid significant impacts, the BAAMQD CEQA Guidelines recommend that buffer zones to avoid adverse impacts from odors should be reflected in local plan policies, land use maps, or implementing ordinances. The project includes potential odor sources throughout that could affect new sensitive receptors. Most of the major existing sources are already buffered.

The General Plan Update does not have policies or implementing measures that address potential conflicts in land uses that could result in odor complaints. As a result, the impact would be considered potentially significant. Implementation of **Mitigation Measure AQ-4** would reduce this impact to a less-than-significant level.

Mitigation Measure AQ-4: The General Plan Update shall be amended to include the following goal and policies:

New Goal: *Avoid Odor Conflicts*. Coordinate land use planning to prevent new odor complaints.

- New Policy: *Identify Potential for Odor Complaints*. Use BAAQMD Odor Screening Distances or City-specific screening distances to identify odor potential. Evaluate odors from sources within these screening distances based on odor potential, wind conditions, setback distance, and receptor type.
- New Policy: *Odor Sources*. Prohibit new sources of odors that have the potential to result in frequent odor complaints unless it can be shown that potential odor complaints can be mitigated.
- New Policy: *Limit Sensitive Receptors near Odor Sources*. Prohibit sensitive receptors from locating near odor sources where frequent odor complaints would occur, unless it can be shown that potential odor complaints can be mitigated.

4.3.3 CONCLUSION

VMT would increase at a higher rate than population with implementation of the General Plan Update, which would lead to greater regional emissions of non-attainment air pollutants and their precursors. There is no feasible mitigation to reduce this impact, which is significant and unavoidable.

Construction of new development allowable under the General Plan Update is expected to result in additional emissions of non-attainment air pollutants. Operation of this new development would also emit TACs located near existing and proposed sensitive receptors, which may result in an increased health risk. These risks can be diminished through plan-level mitigation and project-level analysis, but still remain significant and unavoidable.

The project would incorporate mitigation to avoid new sources of objectionable odors that would affect a substantial number of people.

4.4 BIOLOGICAL RESOURCES

This section summarizes existing biological resources in East Palo Alto and evaluates the potential for adoption and implementation of the General Plan Update to affect such resources (see the Biological Resources Report in **Appendix C** for more information).

4.4.1 REGULATORY REQUIREMENTS

Numerous federal, state, and local regulations and agencies have a role in protecting biological resources. Listed below are pertinent regulations and oversight agencies related to biological resources.

Federal

Endangered Species Act

The federal Endangered Species Act (ESA)[1] is administered by the U.S. Fish and Wildlife Service (FWS) for terrestrial species, and the National Oceanic and Atmospheric Administration (NOAA) Fisheries for fish species. The federal ESA provides protection for species included on the endangered species list (known as "listed species"). In particular, the federal act prohibits a "take." Take is defined as an action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Federal regulations also define take to include the incidental destruction of animals in the course of an otherwise lawful activity, such as habitat loss due to development. Under those rules, the definition of take includes significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter.

Takes may be allowed under a permit by either Section 7 or Section 10(a) of the ESA. The permit is issued under Section 7 if another federal agency funds or issues a permit for the project. The permit is issued under Section 10(a) if there is no federal involvement in the project.

[1] 1: 16 U.S.C. 1531-1543.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA)[2] implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to, or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Under the MBTA, it is illegal to remove vegetation containing nests that are in active use, since this could result in killing a bird or destroying an egg.

Clean Water Act

The federal Clean Water Act (CWA)[3] is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the US Environmental Protection Agency (EPA). That agency depends on other agencies, such as the individual states and the United States Army Corps of Engineers (USACE), to assist in implementing the Act. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 401 and 404 apply to project activities that would impact waters of the US (creeks, ponds, wetlands, etc.). The California State Water Resources Control Board (SWRCB) enforces section 401 of the CWA (see State Regulations below) and the USACE enforces Section 404. Activities that require fill in waters of the US, including wetlands, would require a Nationwide Permit or and Individual Permit, depending on the extent of impact to waters/wetlands.

Clean Water Act, Section 404

As part of its mandate under the CWA, the U.S. EPA regulates the discharge of dredged or fill material into "waters of the United States" under Section 404 of the Act. "Waters of the United States" include territorial seas, tidal waters, and non-tidal waters, in addition to wetlands and drainages that support wetland vegetation; exhibit ponding or scouring; show obvious signs of channeling; or have discernible banks and high water marks. The U.S. EPA also regulates excavation and changes in drainage. The discharge of dredged or fill material into waters of the United States is prohibited under the CWA, except when it is in compliance with Section 404 of the Act. The USACE was given enforcement authority for Section 404, which it accomplishes under its regulatory branch.

[2] 16 USC 703-712

[3] 33 USC 1251-1376

The USACE acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the CWA (Section 404), which governs specified activities in "waters of the United States," including wetlands. Navigable waters of the United States are defined as those waters that are subject to the ebb and flow of the tide or are currently used, or have been used in the past, were so designated, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not superseded by later actions or events that impede or destroy navigable capacity. It is expected that the area mapped as northern coastal salt marsh in the City could meet the definition of navigable waters.

The USACE and the U.S. EPA define wetlands as "those areas that are saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for the life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." The City's northern coastal salt marsh is expected to meet this definition also.

In 2003, the USACE and the U.S. EPA determined that field staff should not assert CWA jurisdiction over isolated waters or wetlands, in response to a 2001 U.S. Supreme Court decision. Isolated waters are those which have no connection to navigable waters, and are not immediately adjacent to waters of the United States. East Palo Alto may contain isolated waters, but if such waters/wetlands are hydrologically connected to other navigable waters, such as through the existing high groundwater table or the San Francisquito Creek, such isolated waters may ultimately be found as jurisdictional.

Clean Water Act, Section 401

Under Section 401, any applicant for a federal permit to impact waters of the United States under Section 404 of the CWA, including Nationwide permits (NWP) where pre-construction notification is required, must also provide to the USACE a certification from the State of California. The "401 Certification" is provided by the SWRCB through the local Regional Water Resources Control Board (RWQCB).

The RWQCB recommends the application be made at the same time that any applications are provided to other agencies, such as the USACE, the USFWS, or NOAA Fisheries. An application is not final until completion of environmental review under CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE (see discussion of Section 404, above). The application must include a description of the habitat that is being

impacted; a description of how the impact is proposed to be minimized; and proposed mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland at a minimum ratio of 2:1, or twice as many acres of wetlands provided as are removed. The RWQCB looks for mitigation that is on site and in kind, with functions and values as good as or better than the water-based habitat that is being removed.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NOAA Fisheries, establish Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NOAA Fisheries regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NOAA Fisheries.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA)[4] requires that wildlife conservation be given equal consideration to other features of water resource development programs through planning, development, maintenance, and coordination of wildlife conservation and rehabilitation. Wildlife resources are defined by the FWCA to include birds, fish, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent.

Executive Order 11990, Protection of Wetlands

Executive Order (EO) 11990, Protection of Wetlands (DOT Order 5660.1A) is an overall wetland policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state and local projects. The order requires federal agencies to follow procedures for avoidance, mitigation, and preservation, with public input, before proposing new construction in wetlands. When federal lands are proposed for lease or sale to nonfederal parties, EO 11990 requires that the lease or conveyance contain restrictions to protect and enhance the wetlands on the property. The restrictions of this executive order apply to wetlands on

[4] 16 USC 661-666

military installations proposed for closure. In this capacity, EO 11990 can affect the sale of federal lands with wetlands. Compliance with Section 404 permit requirements may constitute compliance with EO 11990.

Executive Order 13112, Invasive Species

EO 13112 directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species (including weeds). The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species.

State

California Endangered Species Act

The California Endangered Species Act (CESA)[5] establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that State agencies refrain from approving projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent avoidance alternatives are available.

The following wildlife species that could occur in East Palo Alto are protected under CESA or are classified as species of special concern. Some of these species are considered "Fully Protected" which means that the CDFW may not issue Incidental Take Permits (ITPs) under Section 2081 of the State Fish and Game Code.

- Green sturgeon (*Acipenser medirostris*)
- Longfin smelt (*Spirinchus thaleichthys*)
- Western snowy plover (*Charadrius alexandrinus nivosus*)
- California least tern (*Sternula antillarum browni*)
- Ridgway's rail (*Rallus longirostris obsoletus*)
- Salt marsh harvest mouse (*Reithrodontomys raviventris*)
- Chinook salmon (*Oncorhynchus tshawytscha*)
- Western pond turtle (*Actinemys marmorata*)
- Northern harrier (*Circus cyaneus*)
- Burrowing owl (*Athene cunicularia*)
- Loggerhead shrike (*Lanius ludovicianus*
- San Francisco common yellowthroat(*Geothlypis trichas sinuosa*)

[5] California Fish and Game Code 2050 et seq.

- Alameda song sparrow (*Melospiza melodia pusillula*)
- Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)
- Salt marsh wandering shrew (*Sorex vagrans halicoetes*)
- Western red bat (*Lasiurus blossevillii*)
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)
- California brown pelican (*Pelecanus occidentalis*)
- White-tailed kite (*Elanus leucurus*)
- American peregrine falcon (*Falco peregrinus anatum*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Golden eagle (*Aquila chrysaetos*)

Sections 3500-3516, 4700, 5050, and 5515 of the Fish and Game Code address Fully Protected species. Prior to the passage of CESA, the classification of Fully Protected was the State's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Subsequently, many Fully Protected species have been listed under the State and/or federal ESAs.

Fully Protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take, except to collect these species for necessary scientific research and relocate bird species for the protection of livestock. In other words, any land development, transportation, or infrastructure project that threatened any Fully Protected Species would not be eligible for an incidental take permit under Fish and Game Code Section 2081.

Fully Protected species potentially present in East Palo Alto include the following.

- California least tern
- Ridgway's rail
- California black rail
- Bald eagle
- Golden eagle
- California brown pelican
- White tailed kite
- American peregrine falcon
- Salt marsh harvest mouse

Nesting birds, including raptors, are protected by Fish and Game Code Section 3503, which reads "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, under Fish and Game Code Section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any

such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Passerines and non-passerine land birds are further protected under the federal MBTA (see discussion above). The CDFW typically recommends surveys for nesting birds that could potentially be directly impacted (for example, through actual removal of trees/vegetation) or indirectly impacted (for example, through noise disturbance) by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

The Porter-Cologne Water Quality Control Act establishes the SWRCB and the RWQCB as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e., beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses.

The SWRCB is a five-member board that sets statewide policy related to water quality, coordinates and supports RWQCBs, and reviews petitions that contest regional board actions. There are nine RWQCBs statewide; East Palo Alto is under the San Francisco Bay RWQCB. Each regional board has nine board members and a staff.

Each regional board sets water quality standards and waste discharge requirements for its region, determines compliance with those standards, and takes enforcement action. The regional board issues and enforces permits for discharge of treated water, landfills, stormwater runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The San Francisco Bay RWQCB would be concerned with stormwater runoff and activities that directly impact creeks, ponds, or wetlands. Also see the discussion of the federal CWA above; the RWQCB has jurisdiction under section 401 of the CWA.

The RWQCB has also been involved with the Baylands Ecosystem Habitat Goals Project, which is discussed under Local Plans and Policies below.

Native Plant Protection Act

The Native Plant Protection Act (NPPA)[6] includes provisions that prohibit the taking of endangered or rare native plants from the wild and a salvage requirement for landowners. The CDFW administers the NPPA and generally regards as "rare" many plant species included on ranks 1A, 1B and 2 of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2016).

Streambed Alterations (California Fish and Game Code Sections 1601-1603)

The California Fish and Game Code regulates activities that interfere with the natural flow of, or substantially alter the channel, bed, or bank of a lake, river, or stream. Lakebed and streambed alteration activities are covered under Section 1602 for public and private entities. Requirements to protect the integrity of biological resources and water quality are often conditions of Streambed Alteration Agreements administered under Section 1600 to 1616.

Local Plans and Policies

San Francisco Bay Conservation and Development Commission's (BCDC) Bay Plan

Please see **Section 4.9, Hydrology**, for a detailed description of BCDC and its jurisdiction within East Palo Alto.

Baylands Ecosystem Habitat Goals Project

In 1999, the San Francisco Bay Area Wetlands Ecosystem Goals Project, the U.S. EPA, and the San Francisco RWQCB prepared the *Baylands Ecosystem Habitat Goals: A Report of Habitat Recommendations*. The purpose of the report is to provide goals and recommendations for the conservation and restoration of tidal wetlands and associated habitats. Broad goals listed that are relevant to the City include:

- Assign high priority (or equal to that of intertidal marsh) to ecological restoration of upper marsh transition zones based on natural models and reference sites.
- Provide sufficient topographic relief adjacent to protected intertidal marsh areas to afford refuge during normal tidal and high flood water depths. This is particularly important in areas where rare and endangered salt marsh vertebrate species are known or likely inhabitants.

[6] California Fish and Game Code Sections 1900-1913

- Provide additional upland buffers for the marshes in the Palo Alto area, citing Cooley Landing as the northern limit.
- Increase alien predator management and better marsh corridors or connections between present marshes.

The buffer distance recommendation is specified in the general goals as "at least 300 feet wide between the upper edge of the marsh/upland transition and neighboring areas of developed use" and "[W]here existing land uses or other factors such as steep terrain preclude this, wetland buffers should be no narrower than 100 feet."

In addition, the report recommends that more upland buffers, better protection from illegal entry, increased predator management, and biologic linkages be provided for the marshland located between Charleston Slough and Cooley Landing. A 100-foot wide buffer should continue to be enforced and future projects near the marsh area should plant and maintain appropriate vegetation within and adjacent to buffer areas.

Tree Protection

The City of East Palo Alto has a tree protection ordinance (Chapter 22, Article 4 of the East Palo Alto Zoning Ordinance). Trees are considered valuable resources not merely for the greenery and shade they provide, but also because larger trees can host nests of any number of bird species that are protected by federal law. Any projects proposing removal of qualifying trees must obtain a tree removal permit from the City prior to construction.

Don Edwards San Francisco Bay National Wildlife Refuge Final Comprehensive Conservation Plan

The U.S. Fish and Wildlife Service developed a Comprehensive Conservation Plan (CCP) for the Don Edwards San Francisco Bay National Wildlife Refuge in 2012. The CCP will guide management of the refuge for 15 years. The CCP provides a description of the desired future conditions and long-range guidance to accomplish the purposes for which the refuge was established.

Santa Clara Valley Habitat Conservation Plan and Natural Communities Conservation Plan

The Santa Clara Valley Habitat Conservation Plan and Natural Communities Conservation Plan (SCVP) is a Habitat Conservation Plan (HCP) under law and a Natural Communities Conservation Plan (NCCP) under state law. The SCVP, which was approved in January 2013, is a comprehensive approach to evaluating impacts to natural resources and mitigation requirements instead of separately permitting

and mitigating projects on an individual basis. It includes a fee-based conservation strategy to compensate for impacts to covered species and their habitats in a specified plan area. Jurisdictions, projects, and activities outside of the plan area are not covered by the SCVP. Because the City of East Palo Alto is not within the plan area, activities within the city are not governed by the SCVP. However, because most of the south bay burrowing owl habitat is not within the plan area, the SCVP has a provision for mitigating future impacts to owls by creating habitat reserves in a designated region outside of the plan area. Portions of East Palo Alto adjacent to San Francisco Bay (i.e., the Baylands) are within this designated region. If a developer wished to mitigate for burrowing owl impacts caused by a project in the plan area by funding a reserve in East Palo Alto, this would need to be coordinated with the City of East Palo Alto and the Plan Implementing Entity.

San Francisquito Creek Joint Powers Authority

The San Francisquito Creek Joint Powers Authority (SFCJPA) was created by local land use agencies to address community concerns, primarily regarding flooding along San Francisquito Creek. The SFCJPA is comprised of the cities of Palo Alto, Menlo Park, East Palo Alto, and the Santa Clara Valley Water District, and the San Mateo County Flood Control District. Stanford University and the San Francisquito Watershed Council are non-voting members of the SFCJPA. The organization plans, designs, and implements projects from the upper watershed to coastal wetlands that are of mutual interest to the member agencies. The organization also takes conservation issues into account in its work on projects that stabilize, restore, and maintain the channel for flood control.

4.4.2 ENVIRONMENTAL SETTING

This section describes the biological and wetland resources present in East Palo Alto.

Existing Natural Communities and Habitats

Based on dominant plant species and land uses, East Palo Alto was determined to contain eight general natural communities/habitat types: northern coastal salt marsh, non-tidal/diked salt marsh, brackish marsh, freshwater marsh, open water, non-native annual grassland/ruderal, riparian woodland, and urban/developed (see **Table 4.4-1** and **Figure 4.4-1**). These habitats are listed, along with their approximate acreages within the City, in **Table 4.4-1** and are further described

below. The Existing Conditions Report[7] for the General Plan Update contains detailed descriptions of these natural communities.

Table 4.4-1 Natural Community and Habitat Acreages within East Palo Alto

Natural Community/Land Use and Biotic Habitat	Acreage	Percent of Total
Northern coastal salt marsh	201.37	11.95
Non-tidal/diked salt marsh	4.95	0.29
Brackish marsh	0.43	0.03
Freshwater marsh	0.57	0.03
Open water	41.24	2.45
Non-native grassland/ruderal	108.05	6.41
Riparian woodland	4.82	0.29
Urban/developed	1323.74	78.55
Total	**1685.17**	**100.00**

Source: H. T. Harvey & Associates, 2013

Northern Coastal Salt Marsh

Northern coastal salt marsh occurs along the eastern margin of the City and represents the transitional zone between the Bay and the adjacent terrestrial habitats. The majority of the northern coastal salt marsh within the City is located within the Baylands Nature Preserve, extending from Cooley Landing south to San Francisquito Creek. Salt marsh habitats in the City are remnants of formerly much larger marshes that have experienced significant losses since European settlement due to development/filling of the Bay. Additionally, many salt marsh habitats that have not been developed have been significantly degraded by urban runoff and water pollution. As a result, the remaining salt marsh habitat is highly valued for its function in maintaining a healthy Bay ecosystem, and northern coastal salt marsh is considered a "natural community of special concern" by CDFW. The undisturbed portions of northern coastal salt marsh within the City are considered to be in

[7] The *East Palo Alto General Plan Update Existing Conditions Report* (February 2014) is located at: http://vista2035epa.org/wp-content/uploads/2013/07/East-Palo-Alto-ECR-February-2014-FINAL-small.pdf.

Habitat Types

- Riparian Woodland (4.82 ac)
- Non-native Grassland (108.05 ac)
- Northern Coastal Salt Marsh (201.37 ac)
- Non-tidal/Diked Salt Marsh (4.95 ac)
- Brackish Marsh (0.43 ac)
- Freshwater Marsh (0.57 ac)
- Open Water (41.24 ac)
- Urban/Developed (1323.74 ac)

Existing Natural Communities

Figure 4.4-1

excellent condition. This habitat supports a variety of threatened and endangered wildlife species including, but not limited to, the federally and state endangered Ridgway's rail and salt marsh harvest mouse, and the state "species of special concern" Alameda song sparrow, Bryant's savannah sparrow, and salt marsh wandering shrew.

Non-Tidal/Diked Salt Marsh

Non-tidal/diked salt marshes occur in swale depressions and other low-lying areas along the landward side of levees in the City. This habitat is similar in species composition to the middle/upper tidal zones of northern coastal salt marsh, but it has been cut off from tidal influence by constructed levees. The salt marsh harvest mouse is dependent on dense vegetative cover in both tidal and diked salt marshes.

Brackish Marsh

Brackish marshes are transitional between freshwater and salt marsh communities. Brackish marsh occurs in only one location in the City, where water released from a freshwater channel mixes with what would otherwise be non-tidal/diked salt marsh habitat. This habitat supports a mosaic of plant species with a range of salinity tolerances.

Freshwater Marsh

Freshwater marsh occurs in only one location in the City, along the western edge of a freshwater pond. This habitat is routinely inundated with freshwater and is dominated by cattails. Freshwater marshes provide habitat for numerous bird species, although the relatively small size of the freshwater marsh within the City limits its value to these species.

Open Water

Open water habitat in the City includes several small freshwater ponds and channels, portions of San Francisco Bay, tidal sloughs, and San Francisquito Creek. The majority of open water habitat in the City is tidally influenced, including the lower reach of San Francisquito Creek. The mouth of San Francisquito Creek, located between Highway 101 and the San Francisco Bay, is tidally influenced and contains Bay water even during the typically dry summer months. However, upstream of Highway 101, San Francisquito Creek is typically dry during the summer months. The open water tidal sloughs within the City support many of the same species found within the salt marsh habitat.

Non-Native Grassland/Ruderal

Non-native grassland/ruderal habitat is found in areas that are highly disturbed but are not currently developed. Such areas include levees and upland habitat along the shoreline, as well as undeveloped parcels scattered throughout the City. In these areas, native vegetation has been modified by grading, cultivation, or other surface disturbances. Non-native, invasive species have since re-colonized and now dominate the plant community. Wildlife use of grasslands in much of the City is limited by human disturbance, the abundance of non-native and invasive species, and isolation of grassland habitat remnants from more extensive grasslands. As a result, some of the wildlife species associated with extensive grasslands are absent from small patches of grassland within the urban matrix that occupies most of the City.

Riparian Woodland

Within East Palo Alto, a narrow strip of riparian woodland occurs along the banks of San Francisquito Creek upstream of Highway 101. This habitat is moderately disturbed and supports a mix of native riparian species, non-native invasive species, and planted ornamental species. Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level species diversity. The presence of water and abundant invertebrate fauna provide foraging opportunities for many species, and the diverse habitat structure provides cover and nesting opportunities. Within the City, the disturbed nature of the riparian habitat and the lack of water during the summer months somewhat limit the value of this habitat for wildlife. Nonetheless, it provides important habitat for many wildlife species in the region.

Urban/Developed

Human-altered landscapes that contain large amounts of paved surfaces and/or landscaped gardens with ornamental and/or weedy species are generally considered “developed.” Developed land uses in the planning area include urban and suburban residential areas, commercial and office space, industrial, and urban parks and ball fields. Developed habitat types differ widely in the amount and types of plant species that they support. Some areas are fully developed areas barren of vegetation, and other areas, although not “natural,” are largely vegetated, ranging from residential yards to urban parks. Various ornamental plant species, as well as some natives, are found within the urban setting within landscaped features. Urban/developed habitats typically support a suite of relatively common wildlife species that are tolerant of periodic human disturbance. Structures in the City provide important nesting and roosting sites for some species of birds and bats.

Bats may roost in the Highway 101 bridge over San Francisquito Creek, other structures, unoccupied buildings, and/or large trees throughout the City. Birds also use structures in the City, including the Highway 101 bridge over San Francisquito Creek, for nesting.

Invasive Species

The City's natural communities face threats from a number of invasive plant and animal species. The highest impact threats come from plants like English ivy, cordgrass, Himalayan blackberry, sweet fennel, and yellow star thistle, and animals including several clam, mussel, and snail species, as well as feral cats and Norway rats. The key concern about invasive species is that they compete with and can potentially crowd out or otherwise harm or reduce the presence of native and protected species.

Special-Status Animal and Plant Species

Special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in **Section 4.4.1** above.

Special-Status Plants

Special-status plants are plants species that are federally listed as threatened, endangered, proposed threatened, proposed endangered, or a candidate species; State listed as threatened, endangered, rare, or a candidate species; or listed by the California Native Plant Society (CNPS) as rare or endangered plants, plants about which more information is needed, or plants of limited distribution.

Eighty-four special-status plant species were identified as potentially occurring within the City, based on the California Natural Diversity Database (CNDDB) and CNPS lists. However, 83 of these plants were rejected from further study because they were unlikely to occur in the City. Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) was the only special-status plant thought to possibly occur within the City. This species is an annual herb that occurs in valley and foothill grasslands, particularly those with alkaline substrates, and in slumps or disturbed areas where water collects in lower elevation wetlands. Congdon's tarplant is listed as a rare plant by CNPS.

Special-Status Animals

The legal status and potential for occurrence of special-status wildlife species known to occur or potentially occurring in the general vicinity of the City are given in **Table 4.4-2**.

Sensitive and Regulated Plant Communities and Habitats

The CDFW ranks certain rare or threatened plant communities, such as wetlands, meadows, and riparian forest and scrub, as threatened or very threatened. These communities are tracked in the CNDDB. Wetland and riparian habitats are also afforded protection under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS. Essential Fish Habitat is identified and regulated by NOAA Fisheries in collaboration with regional, state and local agencies, and is defined as any habitat that is essential to the long-term survival and health of United States fisheries.

CDFW Natural Communities of Special Concern

The CNDDB identified five sensitive habitats as occurring within the City: north central coast California roach/stickleback/steelhead stream, north central coast steelhead/sculpin stream, serpentine bunchgrass, northern coastal salt marsh, and valley oak woodland. One of these "communities of special concern," northern coastal marsh, was determined to be present within the City, and is discussed above in **Section 4.4.3**.

Waters of the U.S./State

All marsh habitat types (i.e. northern coastal, non-tidal/diked, brackish, and freshwater) and all open water habitats are likely to meet the definition of waters of the U.S. and would be regulated under Section 404 of the Clean Water Act. The lower portion of San Francisquito Creek, from approximately the Highway 101 crossing east, is also tidally influenced and would be regulated under Section 10 of the Rivers and Harbors Act.

CDFW Stream/Riparian Habitat

The bed and banks of San Francisquito Creek, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Any work within the bed or banks of San Francisquito Creek, or within adjacent riparian habitat, would require a Streambed Alteration Agreement from the CDFW.

Table 4.4-2 Special-Status Wildlife Species Potentially Occurring within East Palo Alto

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
Federal or State Endangered, Threatened, or Candidate Species			
Green sturgeon (*Acipenser medirostris*)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	**Absent as Breeder.** Known to occur in the Bay, though it apparently occurs only as a rare, nonbreeding visitor to the South Bay. May occur in the tidal reaches of, albeit infrequently and in low numbers, if at all. Not expected to spawn in the City due to the relatively shallow depth of San Francisquito Creek and its lack of deep freshwater pools. All tidally influenced areas of Bay, up to the elevation of mean higher high water, including San Francisquito Creek upstream to 37°27'10" North 122°7'40" West, have been designated as critical habitat for this species (NMFS 2009).
Central California Coast steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	**Present.** San Francisquito Creek contains one of the few remaining steelhead runs in the South Bay (Leidy et al. 2005, Stanford University 2013), supporting an anadromous run of steelhead up to Searsville Dam. Designated critical habitat for Central California Coast steelhead includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays (NMFS 2000, 2005). Thus, San Francisquito Creek and the tidally influenced portions of the City are included within designated critical habitat.
Longfin smelt (*Spirinchus thaleichthys*)	ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay.	**Absent as Breeder.** In the South Bay, individuals have been collected in the Alviso area and in Alviso Slough (EDAW Inc. 2007). Fish sampling in Coyote Slough and the Island Ponds has detected the species in January and March, suggesting that the species may be absent from the South Bay during the summer (Hobbs et al. 2012). In the City, it may be present in the tidal reaches of sloughs and the open waters of the Bay. Spawning in the Bay is thought to occur mainly below Medford Island in the San Joaquin River and below Rio Vista on the Sacramento River, while the lower end of spawning habitat seems to be upper Suisun Bay around Pittsburg and Montezuma Slough, in Suisun Marsh (Larson et al. 1983 as cited in Moyle 2002, Wang 1986). The species is not expected to spawn in San Francisquito Creek.

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
California tiger salamander (*Ambystoma californiense*)	FT, SE	Vernal or temporary pools in annual grasslands or open woodlands.	**Absent.** Suitable breeding habitat is not present in, or immediately adjacent to, the City. Nearest known extant population is approximately 3 miles to the southwest at Lagunita in Palo Alto (CNDDB 2013).
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Absent.** Due to their salinity, the majority of aquatic features within the City do not provide suitable habitat for the California red-legged frog. San Francisquito Creek within the City provides only marginally suitable habitat for this species; the tidal influence near the Bay, the presence of introduced aquatic predators, and the shortage of dense shrubby or emergent riparian vegetation closely associated with deep, still or slow-moving water limit habitat quality for this species. Although there are records in San Francisquito Creek over 4 miles upstream of the City (Stanford University 2013; CNDDB 2013), The species has not been documented within the City, and it has likely been extirpated entirely from lowland urban areas such as the City and its vicinity.
San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)	FE, SE	Prefer densely vegetated freshwater habitats. May use upland burrows for aestivation.	**Absent.** Garter snakes in the City fall within the intergrade zone between the San Francisco garter snake and the red-sided garter snake (Barry 1994; Stanford University 2013). The intergrade populations do not belong exclusively to either subspecies; thus, true San Francisco garter snakes do not occur in the City.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pannes in San Francisco Bay saline managed ponds.	**Absent as Breeder.** Suitable nesting habitat is not present in the City due to the absence of islands and undisturbed levees within the salt marsh habitat. However, the species has been documented nesting in the nearby Ravenswood Complex of the Don Edwards San Francisco Bay Wildlife Refuge (Robinson-Nilsen et al. 2010), and individuals may occasionally forage on the mudflats in the City (although mudflat use by this species in the South Bay is infrequent).

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
California least tern (*Sterna antillarum browni*)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In San Francisco Bay, nests primarily on an old airport runway. Forages for fish in open waters.	**Absent as Breeder.** Does not nest in the City. However, the South Bay is an important post-breeding staging area for least terns to gather before migration. Least terns forage primarily in managed ponds and over the open Bay, and small numbers of foraging least terns may occur as occasional foragers over open water habitat at the edge of the Bay in the City.
California black rail (*Laterallus jamaicensis coturniculus*)	ST, SP	Breeds in fresh, brackish, and tidal salt marsh.	**Absent as Breeder.** Occurs in the South Bay primarily as a scarce winter visitor. However, the species has recently been recorded during the breeding season in Triangle Marsh along Coyote Slough over 7 miles east of the City (Laurie Hall pers. com.), and along lower and mid-Alviso Slough (http://groups.yahoo.com/group/south-bay-birds), indicating that this species may nest in some areas in the South Bay. Suitable habitat for nonbreeding California black rails in the City occurs in tidal marshes in the Baylands Nature Preserve, and the species has been recorded in the Ravenswood Open Space Preserve just north of the City and on the Palo Alto Baylands to the south (eBird 2013). Thus, small numbers of California black rails may winter in the City.
Bald eagle (*Haliaeetus leucocephalus*)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers. Feeds mostly on fish.	**Absent as Breeder.** Has been recorded nesting in the region only at inland reservoirs. This species is very rare along the Bay edge, but it has been observed at the Palo Alto Baylands just south of the City (eBird 2013). Thus, the species may be present in the City as an occasional forager in aquatic habitats adjacent to the Bay.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	**Present.** Suitable habitat is present in the City and numerous detections of this species have been recorded in salt marsh habitat both within and immediately adjacent to the City (H. T. Harvey & Associates 1991, H. T. Harvey & Associates 2009, CNDDB 2013).

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
California Species of Special Concern			
Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	**Absent as Breeder.** Chinook salmon have not been documented in San Francisquito Creek. It is possible that occasional strays from Central Valley streams may occur in San Francisquito Creek as they do in other South Bay creeks, but they are expected to occur in the City irregularly at best and most likely would occur only in the open waters of the Bay.
Foothill yellow-legged frog (*Rana boylii*)	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	**Absent.** Suitable habitat is not present in the City.
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats.	**May be Present.** San Francisquito Creek and freshwater marshes within the City provide suitable habitat for the western pond turtle, and the species has been recorded in San Francisquito Creek approximately 1 mile upstream of the City (CNDDB 2013).
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	**Present.** Within the City, one or two pairs nest and forage in the salt marshes near the Bay. Nonbreeders may occasionally forage in grassland habitats in the City, but are not expected to forage in more densely developed/urbanized areas.
Burrowing owl (*Athene cunicularia*)	CSSC	Open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	**Absent as Breeder.** Burrowing owls are not expected to nest in the City due to the absence of high quality habitat and the lack of recent breeding records in the vicinity. However, small numbers of the species may occasionally occur in grasslands and ruderal habitats in the City during dispersal from breeding sites to the north and south (e.g., at Bayfront Park in Menlo Park or Shoreline Park in Mountain View) or as migrants.

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	**May be Present.** Grassland, ruderal, and marsh communities within the City provide suitable nesting and foraging habitat for this species, and it is possible that a few pairs are present along the eastern edge of the City.
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	**Present.** The taller salt, brackish, and freshwater marsh habitat within the City provides suitable breeding and foraging habitat for this species.
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	**Present.** The salt marsh habitat within the City provides suitable breeding and foraging habitat for this species and it has been observed in this habitat north of San Francisquito Creek within the City (eBird 2013).
Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat.	**May be Present.** The high marsh habitat within the City provides suitable breeding and foraging habitat for this species.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	**May be Present.** Suitable habitat within the City is limited to the riparian woodlands adjacent to San Francisquito Creek upstream of the Highway 101 overcrossing.
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	Medium-high marsh 6-8 feet above sea level with abundant driftwood and common pickleweed.	**May be Present.** The salt marsh habitat within the City provides suitable habitat for this species.
Pallid bat (*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**Absent.** Suitable habitat is not present within the City and there are no recent documented occurrences in the City.

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	**Absent.** Suitable habitat is not present within the City and there are no recent documented occurrences in the City.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts in foliage in forest or woodlands, especially in or near riparian habitat.	**Absent as Breeder.** Occurs as a migrant and winter resident, but does not breed in the City. Small numbers may roost in foliage in trees virtually anywhere in the City, but expected to roost primarily in riparian areas.
State Fully Protected Species			
California brown pelican (*Pelecanus occidentalis californicus*)	FD, SD, SP (nesting colony and communal roosts)	Undisturbed islands near estuarine, marine, subtidal, and marine pelagic waters.	**Absent as Breeder.** Brown pelicans occur as nonbreeding visitors along the edge of the open Bay. However, they are expected to occur only in low numbers due to the shallow nature of the Bay waters within the City.
White-tailed kite (*Elanus leucurus*)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	**May be Present.** Marshes and grasslands within the City provide suitable breeding and foraging habitat and it is possible that a few pairs are present along the eastern edge of the City.
American peregrine falcon (*Falco peregrinus anatum*)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	**Absent as Breeder.** Electrical transmission towers over marsh habitat in the City provide suitable nesting habitat, as peregrine falcons have nested in other species' old nests on such towers in the Mountain View area to the southeast. However, there are no records of the species nesting in the City. Peregrine falcons occur as occasional foragers around the tidal marsh habitats and adjacent grasslands in the City.

Name	Status[a]	Habitat	Potential to Occur in East Palo Alto
Golden eagle (*Aquila chrysaetos*)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	**Absent as Breeder.** Suitable nesting habitat is not present in the City. On rare occasions, this species may forage in open habitats (e.g., grasslands and marshes) within and adjacent to the City.

Source: HT Harvey & Associates, 2013

Essential Fish Habitat

As discussed above in **Section 4.4.1**, the San Francisco Bay is officially listed as EFH for the Pacific Coast Salmon FMP. In addition, a number of fish species regulated by the Coastal Pelagics and Pacific Groundfish FMPs are expected to occasionally disperse upstream into the reaches of tidal sloughs in the City. Thus, the NMFS would likely consider tidal waters within the City to be EFH related to all Pacific Coast Salmon, Coastal Pelagics, and Pacific Groundfish FMPs.

4.4.3 THRESHOLDS OF SIGNIFICANCE

A significant impact to biological resources could occur if development allowed by the General Plan Update would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.4 ENVIRONMENTAL IMPACTS

Adoption of the General Plan Update would have the potential to indirectly impact biological resources via future development projects allowed under the General Plan Update. The federal and state regulations described above apply today and

would remain applicable to some or all new development under the General Plan Update.

The following biological resource impacts have been deemed less-than-significant with adherence to federal, state and local requirements and applicable goals and implementing policies contained in the proposed Parks and Open Space Element of the General Plan Update. General Plan Update goals and Implementing Policies are listed below.

a) Impacts to candidate, sensitive and/or special-status plant or wildlife species or their respective habitats (less-than-significant impact).

Plants: As noted above, 84 special-status, sensitive, or candidate plants have the potential to occur in the City. Of these 84 potentially occurring species, 83 were determined not to be present in East Palo Alto due to one or more factors: not being observed in the area, lack of associated plants, and lack of suitable habitat and specific supporting soil types.

The one potential special-status plant that likely occurs in East Palo Alto is Congdon's tarplant, an annual herb that is found in valley and foothill areas, particularly those with alkaline subsoils. Congdon's tarplant generally tolerates ground disturbance and has been found in wet depressions of surrounding non-native grasslands.

In 2001, 17 individuals of Congdon's tarplant were identified growing in flat, ruderal (weedy) grasslands adjacent to salt marsh habitat near San Francisco Bay.

As noted in **Subsection 4.4.2, Affected Environment** above, several invasive plant species are common in East Palo Alto. Invasive species spread quickly and can threaten the diversity and abundance of native species through predation, competition for resources, transmission of disease, and physical or chemical alteration of local habitat. Invasive species may also clog waterways and water delivery systems and weaken flood protection systems.

Future development under the General Plan Update could directly or indirectly damage or cause the removal of Congdon's tarplants, a protected species. Such development could also further spread non-native invasive plant species.

These impacts would be reduced to a less-than-significant level by adherence to federal and state laws described above as well as the following goals and policies of the General Plan Update.

Wildlife: **Table 4.4-2** lists special-status, sensitive and otherwise protected wildlife species that are anticipated to occur in East Palo Alto.

To the extent that future development under the General Plan Update would overlap with habitat of such species, future development could result in direct loss of these species as well as indirect impacts, which would include loss or significant degradation of the habitats.

Special-status wildlife species are protected by various federal and state laws and regulations, discussed above. These laws and regulations, including the federal ESA and the CESA generally prohibit the taking of a protected species or direct impacts to foraging or breeding habitats without special permits. All new development under the General Plan Update will continue to be subject to these laws and regulations.

Parks, Open Space, and Conservation Element Goal POC-4. Protect and preserve the City's natural habitat and wildlife.

- *Policy 4.1, Public access.* Ensure that public access to the Bay is designed, developed, and maintained in a manner that protects the existing natural resources and habitats.
- *Policy 4.2, Human activities.* Protect wildlife from adverse impacts caused by human activities.
- *Policy 4.3, Don Edwards NWR management.* Coordinate with federal agencies and neighboring cities to manage the Don Edwards San Francisco Bay National Wildlife Refuge in a manner consistent with the Conservation Plan, including:
  - Increased survey efforts on native fauna and flora
  - Additional improvements to tidal marsh areas
  - Enhanced visitor service and expanding the volunteer program
  - Adopt the 15 Comprehensive Conservation Plan
- *Policy 4.4, Light pollution.* Require that new buildings located adjacent to Baylands Nature Preserve or Ravenswood Open Space Preserve shield any site lighting from the Bay.
- *Policy 4.5, Predation.* Ensure that new development and landscaping adjacent to tidal marshes and other Bayfront areas avoids tall perches for raptors or other predatory birds. Protect the salt-water harvest mouse from feral cat predation.
- *Policy 4.6, Native species.* Encourage or require the use of native and/or non-invasive plants in privately built landscaping or new open spaces near natural open space areas, in order to provide foraging, nesting, breeding, and migratory habitat for wildlife. Discourage herbicides and fertilizers.
- *Policy 4.7, Inter-agency coordination.* Coordinate with other public agencies such as the San Francisquito Creek Joint Powers Authority, Army Corps of

Engineers, National Fish and Wildlife Service, and other similar entities on construction or development activity occurring within or adjacent to the City.

- *Policy 4.8, Riparian and flood buffer.* Do not allow new development within a 100-foot buffer zone from the top of the San Francisquito creek bank.

In addition to the aforementioned goals and policies, **Mitigation Measure BIO-1** would further reduce potential impacts to biological resources.

Mitigation Measure BIO-1: Amend the General Plan Update to include the following policy in the Parks, Open Space, and Conservation Element Goal POC-4: Conserve existing native vegetation where possible and integrate regionally native plant species into development and infrastructure projects where appropriate.

In all, with adherence to federal and state laws and regulations, as well as the proposed goals and policies of the General Plan Update, new development under the General Plan Update would result in less-than-significant impacts to protected plants and wildlife species.

b) and c) Impacts to riparian habitats and wetlands (less-than-significant impact).

Creeks, streams, marsh areas, permanent and seasonal wetlands and similar areas are of high concern because they provide unique aquatic habitat for any a variety of species, including candidate and protected plants, birds, reptiles, amphibians and other wildlife. The City contains several areas that contain wetlands, riparian habitat and/or plants or wildlife. These areas include Northern Coastal salt marsh, non-diked salt marsh, freshwater marsh and brackish marsh all on the eastern periphery of the community near San Francisco Bay. A small, linear area of riparian woodland has been observed along San Francisquito Creek.

Wetlands and other waters are protected by federal and state laws and regulations, including but not limited to the federal CWA and the state Porter-Cologne Water Quality Act. Section 404 of the CWA requires that any project that would involve a disturbance to a wetland or other water of the United States to obtain a permit that authorizes such disturbance. A permit may also be required from the USACE to authorize a disturbance that typically required "no net loss" of wetlands or jurisdictional waters by avoidance of jurisdictional wetlands or similar biological resources. If wetland areas cannot be avoided, the USACE may require that equivalent wetlands be established and maintained elsewhere.

Wetlands, other waters of the United States, riparian habitat areas and similar sensitive resources areas of East Palo Alto would be protected by federal, state, regional and local surface water quality protection requirements identified in **Section 4.9, Hydrology and Water Quality**, of this EIR.

Future development projects would be required to comply with all applicable federal and state laws and regulations protecting wetlands, other waters of the United States, riparian and other resources as well as applicable goals and policies of the General Plan Update, particularly policies 4.1 through 4.8 of Parks, Open Space, and Conservation Element Goal POC-4. Accordingly, with adherence to federal and state laws, as well as the aforementioned policies, impacts to riparian habitats and wetlands at the program level would be less-than-significant.

d) Impacts related to substantial interference with movement of native fish or wildlife, established wildlife corridors or native wildlife nursery sites (less-than-significant impact).

Wildlife corridor habitats provide connectivity between two or more large habitat areas and allow connectivity for daily movement, travel, mate-seeking, plant propagation and response to environmental threats. As a fully urbanized community, East Palo Alto lacks substantial wildlife movement corridors, with the exception of San Francisquito Creek, which provides on of the few remaining Central California Coast steelhead runs in the South Bay. The Creek is designated as Critical Habitat for this protected species.

Much of the City is developed with urban uses and thus does not serve as suitable wildlife or native fish migratory corridors. Lands adjacent to San Francisco Bay are generally protected from development since they are within the Don Edwards San Francisco Bay National Wildlife Refuge. In these areas, no fences or other substantial impediments to wildlife and fish migration are currently present nor are expected in the future given the wildlife-protection mission of such lands.

Adherence to applicable federal and state laws and regulations protecting steelhead trout and Policy 4.6, identified above, would ensure that impacts to the movement of native fish or wildlife species or native wildlife nursery sites would be less-than-significant.

e) Conflict with local policies or ordinances protecting biological resources (less-than-significant impact).

The proposed General Plan Update would enact new, stronger goals and policies to protect biological resources (among other community resources). As required by state law, the General Plan Update is internally consistent and does not conflict with itself. If the General Plan Update is adopted, future development in the City would be required to comply with applicable goals and policies, and would remain subject to other federal, state, and local policies and ordinances protecting biological resources. Therefore, potential effects would be less than significant.

f) Conflict with a Habitat Conservation Plan or a Natural Community Conservation Plan (no impact).

HCPs and NCCPs developed in the vicinity of East Palo Alto include the Don Edwards San Francisco Bay National Wildlife Refuge CCP and the Santa Clara Valley HCP/NCCP. The Don Edwards San Francisco Bay National Wildlife Refuge CCP includes portions of the City near the Faber-Laumeister Trail located in land uses designated for resource management under the General Plan Update. The City of East Palo Alto is not within the plan area for the Santa Clara Valley HCP/NCCP. The General Plan Update does not propose new development that would conflict with HCPs or NCCPs. Therefore, no impact would occur with respect to this topic.

4.4.5 CONCLUSION

Adoption and implementation of the General Plan Update could have indirect adverse impacts on biological resources via development projects allowed under the General Plan Update. Less-than-significant impacts would be expected for candidate, sensitive, and special-status species and their respective habitats; riparian and wetland habitats; impediments to wildlife corridors or nursery sites; and conflicts with local policies or ordinances protecting biological resources. Because East Palo Alto does not propose incompatible land uses within areas encompassed by adopted HCPs or NCCPs, the General Plan Update would not conflict with such plans. Future development allowed under the General Plan Update would comply with, state, and local regulatory requirements and plans, as well as applicable goals and policies contained in the General Plan Update.

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4.5 CULTURAL RESOURCES

This section discusses existing cultural and paleontological resources in East Palo Alto, and analyzes the potential for the General Plan Update to affect these resources.

Under CEQA, the term "cultural resources" encompasses all of the following:

1. **Historic architecture.** These are currently existing structures and buildings that may have historical associations with people or events of regional significance. Sometimes historic architecture is also referred to as the "historic built environment." In East Palo Alto, historic architecture is associated with the Euro-American settlement period.
2. **Archaeological resources.** These are objects or structures often below ground that relate to previous human use of the area. Archaeological resources are often distinguished by whether they are "prehistoric" or "historic."
    a) *Prehistoric* archaeological resources are connected to people who occupied the land prior to European settlement.
    b) *Historic* archaeological resources are connected to the period of continuous European settlement forward. In much of California, this generally starts from the date of the Portola Expedition in the year 1769.
3. **Paleontological resources.** These are the fossilized remains of plants and animals beneath the earth's surface.

4.5.1 REGULATORY REQUIREMENTS

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) established a national program to preserve the country's historical and cultural resources. NHPA provides the legal framework for most State and local preservation laws. NHPA established the National Register of Historic Places (NRHP) program, authorized funding for state programs with provisions for pass-through funding and participation by local governments, created the Advisory Council on Historic Preservation (ACHP), and established the Section 106 review process for protecting historic properties.

Under NHPA, historic properties are buildings, structures, objects, districts, or sites that are both historically significant and that possess integrity of location, design, setting, materials, workmanship, feeling, and association. Historically significant properties:

- Are associated with events that have made a significant contribution to the broad patterns of history;
- Were associated with the lives of significant persons;
- Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

Historic properties also include archaeological sites. Archaeological sites are usually adversely affected only by physical destruction or damage, whereas all of the examples above can apply to historic buildings and structures.

Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the ACHP a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 CFR Part 800), became effective January 11, 2001.

The Secretary of the Interior developed its Standards for the Treatment of Historic Properties (36 CFR 68) to further guide federal agencies in historic preservation efforts. Application of these standards is required in certain programs that the Secretary administers through the National Park Service. The standards apply to all proposed development grant-in-aid projects assisted through the national Historic Preservation Fund, and are intended to be applied to a wide variety of resource types, including buildings, sites, structures, objects, and districts.

State

California Register of Historic Resources (CRHR)

The California Office of Historical Protection (OHP) administers the CRHR, which was established in 1992 though amendments to the Public Resources Code, to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected from substantial adverse change.

The CRHR includes resources that have been formally determined eligible for, or listed in, the NRHP, State Historical Landmark Number 770 or higher, Points of Historical Interest recommended for listing by the State Historical Resources Commission (SHRC) for listing, resources nominated for listing and determined eligible in accordance with criteria and procedures adopted by the SHRC, and resources and districts designated as city or county landmarks when the designation criteria are consistent with CRHR criteria.

PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, which is described above.

As defined by Section 15064.5(a)(3)(A-D) of the CEQA Guidelines, a resource shall be considered historically significant if the resource meets the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- It is associated with the lives of persons important in our past;
- It embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or
- It has yielded, or may be likely to yield, information important in prehistory or history. (Criterion D is usually applied only to archaeological sites, rather than in the evaluation of most historic architectural structures, see below.)

Automatic CRHR listings include NRHP listed and determined eligible historic properties (either by the Keeper of the NRHP or through a consensus determination on a project review); State Historical Landmarks from number 770 onward; Points of Interest nominated from January 1998 onward. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the SHRC.

California Environmental Quality Act

CEQA (P.R.C. 21000 et seq.) requires public agencies and private interests to identify the potential adverse impacts and/or environmental consequences of their proposed project(s) to any object or site that is historically or archaeologically significant or significant in the cultural or scientific annals of California. Under CEQA, archaeological resources are presumed non-unique unless they meet the definition of “Unique archaeological resources” (P.R.C. 21083.2[g]). Under CEQA, an impact on a non-unique archaeological resource is not considered a significant environmental impact.

The CEQA Guidelines (14 C.C.R. 15064.5[a][3]) provide that a lead agency may find that "any object, building, structure, site, area, place, record, or manuscript" is historically significant or significant in the "cultural annals of California." The section also provides that a resource may be considered historically significant if it has yielded or may be likely to yield information important in prehistory. Paleontological resources fall within this broad category and are included in the CEQA checklist under Cultural Resources.

Health and Safety Code Section 7052 and 7050.5

Section 7052 of the Health and Safety Code states that disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American. Section 7050.5(b) outlines the procedures to follow should human remains be inadvertently discovered in any location other than a dedicated cemetery. The section also states that the County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission (NAHC) within twenty-four hours. The NAHC has various powers and duties to provide for the ultimate disposition of any Native American remains, as does the assigned Most Likely Descendant.

California Historical Building Code, California Code of Regulations, Title 24, Part 8

The California Historical Building Code, defined in Sections 18950 to 18961 of Division 13, Part 2.7 of Health and Safety Code, provides regulations and standards for the rehabilitation, preservation, restoration (including related reconstruction) or relocation of historical buildings, structures and properties deemed by any level of government as having importance to the history, architecture, or culture of an area.

Native American Historic Resource Protection Act (Public Resources Code Section 5097-5097.994)

Public Resources Code Section 5097 specifies the procedures to be followed in the event of the unexpected discovery of human remains on non-federal public lands. California Public Resources Code 5097.9 states that no public agency or private party on public property shall "interfere with the free expression or exercise of Native American Religion." The code further states that:

> *No such agency or party [shall] cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial*

site, or sacred shrine…except on a clear and convincing showing that the public interest and necessity so require.

County and city lands are exempt from this provision, expect for parklands larger than 100 acres.

Government Code 65352.2-5, Local Government – Tribal Consultation

California Government Code Section 65352.3-5, commonly referred to as Senate Bill (SB) 18, states that prior to the adoption or amendment of a City or County's general plan, or specific plans, a City or County must consult with California Native American tribes that are on the contact list maintained by the NAHC. The intent of this legislation is to preserve or mitigate impacts on places, features and objects that are culturally significant to Native Americans. The bill also states that the City or County shall protect the confidentiality of information concerning the specific identity, location, character and use of those places, features and objects identified by Native American consultation.

Consistent with this requirement, during the General Plan Update process, the City obtained from the NAHC a list of 5 Tribes/Tribal Organizations with a potential interest in the East Palo Alto Area. In November 2013, the City conducted formal outreach to these potentially interested organizations, but received no response.

Mills Act

Enacted in 1972, the Mills Act allows cities to grant property tax relief to owners of qualified historic properties. The Mills Act was conceived as a preservation tool that encourages the preservation and restoration of historic properties. The Mills Act enables cities to enter into historical property agreements with owners of qualifying properties that result in reductions to the owner's property taxes. The agreements provide a benefit to cities in that they ensure preservation and guarantee authentic rehabilitations and a high level of maintenance of cultural resources important to communities.

Code of Federal Regulations (CFR) Title 43 CAR 8365.1-5.

This regulation addresses the collection of invertebrate fossils and fossil plants, including the willful disturbance, removal, and destruction of scientific resources or natural objects.

CFR Title 43 CAR 3802 and 3809.

This regulation addresses protection of paleontological resources from operations authorized under the mining laws.

4.5.2 ENVIRONMENTAL SETTING

Historic Context

Although the present composition of East Palo Alto's built environment is by-and-large a product of the twentieth century, Euro-American settlement dates back to the mid-nineteenth century.

The area now within the incorporated boundaries of East Palo Alto generally flanks Bay Road, a cart road developed during the Spanish colonial period and, as the name suggests, terminates at San Francisco Bay. In 1849, a wharf was built at the foot this road, where a small community known as Ravenswood developed. In 1868, Lester Cooley purchased a half ownership interest in the wharf along with a portion of the land. The port became known as Cooley Landing.[1]

By the turn of the century, the area that is now East Palo Alto consisted of a relatively small number of agricultural properties ranging in size from 70 to 500 acres.[2] The first major development in East Palo Alto occurred in 1916 when Charles Weeks founded the Weeks Poultry Colony. Weeks purchased and subdivided a 600-acre plot of land two miles northeast of Palo Alto, and founded a colony commonly referred to as Runnymede. Runnymede was laid out in a grid pattern with developed roads accessing the long and narrow lots. As envisioned by Weeks, buyers developed the properties with a bungalow, or "garden home," near the street and agricultural land at the rear of the lot. A water tank house was often sited near the main house, while long poultry houses ran along the side of the property. The remaining land was farmed with a variety of market crops.[3]

The Runnymede colony but then began to collapse in the mid-1920s after Weeks left to start a second colony near Los Angeles.[4] While subsequent development within the Weeks Colony altered the landscape, the neighborhood retains some

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[1] Scott Baxter, Rebecca Allen, and Mark G. Hylkema, "Cooley Landing: Cultural Resource Inventory and Assessment," prepared under contract with Kleinfelder, Inc., for The City of East Palo Alto, August 2007, 30-34; Cotton/Beland/Associates, Inc., and Dinwiddie & Associates, "City of East Palo Alto General Plan," December 1999, 2-4.

[2] Davenport Bromfield, compiler, *San Mateo County, California*, 1894.

[3] Alan Michelson and Katherine Solomonson, "Remnants of a Failed Utopia: Reconstructing Runnymede's Agricultural Landscape," *Perspectives in Vernacular Architecture* 6 (1997): 4-7, 10.

[4] Michelson and Solomonson, "Remnants of a Failed Utopia..," *Perspectives in Vernacular Architecture* 6 (1997): 4-7, 10; East Palo Alto Historical and Agricultural Society, National Park Service, and Urban Ecology, Inc., "Weeks Neighborhood Plan," Spring 1997, 49-55; The Planning Center DC&E, "Ravenswood / 4 Corners TOD Specific Plan EIR, City of East Palo Alto," SCH #2011052006, Public Review Draft, 16 January 2012, 4.5-17 – 4.5-18.

properties from the Weeks Colony era. These properties generally feature one or more of the following elements: a small one-story residence with Craftsman and Bungalow architecture, a tankhouse, long poultry houses, and agricultural outbuildings.[5]

The conversion of East Palo Alto into primarily a residential suburban community began as Runnymede declined. Housing tract developers acquired larger nearby farms along with some of the colony lots and began subdividing them into much smaller, densely populated residential parcels. Buyers included year-round residents, as well as San Franciscans seeking a vacation or summer home in East Palo Alto's warmer climate. Subdivisions like Palo Alto Park, founded in 1924, promoted its resort-like qualities, including exclusive access to a central park and swimming pool. Ravenswood Villas, a small tract subdivided in 1926, advertised lots on a newly constructed street within the subdivision as late as 1940. The architecture reflected Craftsman or period-revival qualities that were popular at the time. In addition to the development of more traditional housing tracts, Runnymede also attracted some individual residential development as poultry farmers sold their lots. Development was minimal, however, because the area was still seen as largely rural and agricultural, not as a resort destination for middle-class vacationers from San Francisco, or even those seeking the benefits of suburban life.[6]

Residential development accelerated with the end of World War II. Returning veterans swelled East Palo Alto's population to 8,000 people, and home builders redoubled their efforts in subdividing and developing East Palo Alto as a suburban community. Starting in the late 1940s, two of the area's largest remaining farms were transformed into residential tracts. In 1947, Arco Building Company initiated the first phase of the Palo Alto Gardens subdivision, a housing tract similar to other postwar developments across the country. Palo Alto Gardens featured gently curving streets, sidewalks, and small houses on compact lots with private backyards. To the north, Barrett and Hilp Construction Company developed University Village on part of the former Cooley ranch. This 600-home tract was started in 1951 and was complete by the mid-1950s. The rising population also led to the construction of schools throughout East Palo Alto during the postwar years.[7]

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[5] East Palo Alto Historical and Agricultural Society, National Park Service, and Urban Ecology, Inc., "Weeks Neighborhood Plan," Spring 1997, 51.

[6] Alan Michelson and Katherine Solomonson, "City of East Palo Alto Historic Resources Inventory Report," February 1994, 52-54.

[7] Michelson and Solomonson, "Remnants of a Failed Utopia..," *Perspectives in Vernacular Architecture* 6 (1997): 4-7, 10; Michelson and Solomonson, "City of East Palo Alto Historic Resources Inventory

Second to its residential core, East Palo Alto has also been defined by its proximity to Highway 101, which was constructed in 1932. Despite linking the community of East Palo Alto to major cities throughout the San Francisco Bay Area, Highway 101 created significant circulation problems for East Palo Alto. The highway also created a physical border that contributed to an emerging socio-economic disparity between Palo Alto and East Palo Alto in the mid-twentieth century. Highway 101, especially after it was expanded into six lanes, came to separate the increasingly white, wealthy neighborhoods of Palo Alto from the working class and increasingly more racially diverse areas of East Palo Alto – a disparity that persists to the present.[8]

East Palo Alto was incorporated in 1983, and is one of the most recently formed cities in the entire Bay Area. Prior to 1983, it was part of unincorporated San Mateo County, as were other large tracts of land that were annexed by Menlo Park and Palo Alto from the late 1940s to the early 1960s.

Historic Architectural Resources

Cultural resources records searches[9] identified four properties as meeting relevant eligibility criteria:

- 2235 Cooley Avenue
- 1395 Bay Road
- 250 Donohoe Street
- 2183 Ralmar Avenue

In addition to these four properties, the 1994 resource inventory identified a number of other types of cultural resources whose eligibility under relevant criteria has not been confirmed but can potentially be established.

- **19th Century Artifacts.** Former brick clay pit now occupied by Jack Farrell Park; Pulgas East Base Monument.
- **Remnants of Runnymede.** An agricultural colony dating from the early 20th century, with many one-acre lots, small "garden homes," poultry houses, and tank houses. Likely eligible for the NRHP.

Report"; HistoricAerials.com, "East Palo Alto, California," 1948, 1956, 1968; Cotton-Beland-Associates, Inc., and Dinwiddie & Associates, "City of East Palo Alto General Plan," December 1999, 4.

[8] Michelson and Solomonson, "City of East Palo Alto Historic Resources Inventory Report," 59-63.

[9] The City prepared an extensive Historic Resources Inventory Report in 1994. In 2013, an updated records search of the California Historic Resource Information System (CHRIS) confirmed the continued validity of the major findings of the 1994 Inventory Report.

- **Vacation Cottages.** Also dating from the early 20th century, remnants of cottages typically used for week-end and summer vacations.
- **Suburban houses of the 1920s and 1930s.** Includes bungalows and houses in "period revival" styles. There are approximately 450 buildings aged 50 years and older within the City.
- **Greenhouses.** Representing the early phases of flower growing in East Palo Alto – the late 1930s through the 1950s, dominated by Italian- and Japanese-Americans.
- **Early commercial structures.** Predating the widening of State Highway 101 in the 1950s.

Other sites of interest include Cooley Landing and the associated County Dump area, the Brick Factory, remnants of the Weeks Poultry Colony, and the Dumbarton rail bridges.

Archaeological Background and Resources

The neighborhood today known as East Palo Alto has been home to people long before European settlement of California, as confirmed by the discovery of many archaeological resources within the City. The City lies within an area occupied by the Costanoan, or Ohlone, group of Native Americans. Native American archaeological sites in this area of San Mateo County tend to be situated near the historic margin of Bay tidal marshland and along creeks that drain upland terrain bordering the Bayshore plain.

According to previous historic reporting and records searches, the City had one major known archaeological site in the University Village area during development in the early 1950s. Sixty human burial sites and upwards of 3,000 different artifacts were recovered from the site and taken out of East Palo Alto.

Although much of the City was subject to ground disturbance by previous development (which could have uncovered and/or destroyed archaeological resources), given the environmental sensitivity of the City's setting, there exists a moderate to high possibility of encountering unrecorded archaeological resources, particularly if ground disturbance extends to bay mud deposits beneath areas of artificial fill.

Paleontological Resources

Paleontological resources consist of the fossilized remains of plants and animals, including vertebrates (animals with backbones) and invertebrates (animals without backbones, e.g., starfish, clams, ammonites, and marine coral). The age and

abundance of fossils depends on the topography and geological formations of the region of interest.

In general, most fossils in the Peninsula and San Francisco Regions are found along the immediate Pacific Ocean coastline, and in locations within the outcropping marine units in the Santa Cruz Mountains. Since East Palo Alto does not extend into either of these areas, the likelihood of encountering fossils in underlying geologic layers is low. The geologic units underlying the City are primarily composed of Holocene period alluvial fan deposits and Holocene period San Francisco Bay Muds. The Holocene Period dates from approximately 10,000 to 12,000 years prior to the present and is the era in which human civilization is generally considered to have begun. Fossils are more likely to be found in substantially older geologic layers.

4.5.3 THRESHOLDS OF SIGNIFICANCE

A significant cultural resource impact could occur if development allowed by the General Plan Update would:

a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Section 15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

d) Disturb any human remains, including those interred outside of formal cemeteries.

4.5.4 ENVIRONMENTAL IMPACTS

a.) and b.) Result in a substantial adverse change to significant historical, archaeological, and/or Native American resource (less-than-significant impact).

Historic and archaeological resources in the City could be vulnerable to development activities or other public works improvements, which could result in damage to or demolition of these resources.

The City's historic properties are all within existing residential land use or general commercial land use designations. These specific area designations would not be significantly altered with implementation of the General Plan Update. Given this, the listed historic properties would not be impacted by any zoning or land use designation changes implemented by the General Plan update.

Individual developments allowable under the General Plan Update would be required to undergo project-level environmental review to analyze potential impacts to cultural resources. This review would be conducted consistent with applicable federal and state laws to identify and mitigate potential impacts related to each individual project.

The General Plan Update would not conflict with federal or state laws protecting historical resources. These laws place a series of procedural requirements that must be followed before a given project potentially affects an eligible historic resource. These laws also require a lead agency to adopt mitigation or compensatory measures if a project would affect the eligibility status of a particular historic resource.

In addition to these requirements, the General Plan Update would add additional goals and policies that convey the City's interest in preserving and protecting elements of the City's cultural resource heritage. These policies are listed below. Adherence to these goals and policies, along with federal and State regulations, would result in a less-than-significant impact to cultural resources under the General Plan Update

Parks, Open Space, and Conservation Element Goal POC-9. Protect historic, natural, mineral, and cultural resources.

- *Policy 9.1, Archaeology, paleontology, and natural resources.* Protect areas of important archaeological, paleontological, and natural resources.
- *Policy 9.2, Historic buildings and sites.* Protect and conserve buildings or sites of historic or cultural significance to contribute to the character of the community.
- *Policy 9.3, Cooley Landing.* Preserve and promote Cooley Landing as an important historical site in the development of the City.
- *Policy 9.4, City history.* Work with partners to document, educate the public about the history of the City, and memorialize significant people, places, and events in the history of East Palo Alto through plaques and public art.
- *Policy 9.5, City resources.* Maintain an internal resource center containing a collection of relevant historic documents.
- *Policy 9.6, Adaptive reuse.* Allow for the adaptive reuse of historic buildings and cultural resources.
- *Policy 9.7, Construction impacts.* Suspend development activity when archaeological resources are discovered during construction. The project sponsor will be required to retain a qualified archaeologist to oversee the handling of resources in coordination with appropriate local and state agencies and organizations and local Native American representatives, as appropriate.

Land Use and Urban Design Element Goal LU-8. Improve the City's image and physical appearance through quality design and key interventions.

- *Policy 8.6, Historic Resources.* Use the City's natural and historic resources as a way to strengthen the attractiveness and image of the City.

c.) Result in substantial adverse changes to unique paleontological resources (less-than-significant impact).

As discussed above, no major or unique paleontological resources are known to exist in the City, and the likelihood of encountering unique paleontological resources in the future is low. However, there is potential that future ground disturbing activities associated with development allowable under the General Plan Update could disturb currently unknown paleontological resources. Adherence to the Parks, Open Space, and Conservation Element Goal POC-9 and Policy 9.1 (cited above) would reduce program-level impacts to paleontological resources to a less-than-significant level.

d.) Result in potential impacts to buried human remains (less than significant with mitigation).

Future development under the General Plan Update will result in ground-disturbing activities associated with site preparation, grading, and construction activities, which could disturb human remain. As noted previously, the discovery of numerous human remains during the 1950s construction of University Village underscores the potential for such remains to occur in the area. While no other known burial sites have been recorded, human remains may be identified during site-preparation and grading activities. Parks, Open Space, and Conservation Element Goal POC-9, Policy 9.1 and Policy 9.7 (cited above), along with mitigation measure CUL-1, would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-1: Amend the General Plan Update to include the following policy:

Protection of Human Remains. Work on future individual development projects shall be halted within a 50-foot radius if human remains are uncovered. The County Coroner and the NAHC shall be immediately notified. A qualified archaeologist shall be retained to evaluate any remains. If remains are of Native American origin, the NAHC will identify a Most Likely Descendent to inspect the site and recommend proper treatment and disposition of the remains, with appropriate dignity. A final report shall be prepared by the project archaeologist and approved by the City of East Palo Alto. Once this plan is implemented, work on the individual project may proceed.

4.5.5 CONCLUSION

Future development allowable under the General Plan Update has the potential to affect cultural resources. However, adherence to existing federal and State regulations governing these resources, along with the application of relevant General Plan Update goals and policies, would ensure that program-level impacts to cultural resources are less-than-significant.

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4.6 GEOLOGY AND SOILS

This section describes the geology, soils, and mineral resources in the City of East Palo Alto (City), provides an overview of the current regulatory framework, and analyzes the potential for the adoption and implementation of the proposed General Plan Update to impact geology, soils, and mineral resources.

4.6.1 REGULATORY REQUIREMENTS

State

Alquist-Priolo Earthquake Fault Zoning Act

The California Legislature passed the Alquist-Priolo Earthquake Fault Zoning Act in 1972 to mitigate the hazards of surface faulting to structures. This Act prevents the construction of buildings used for human occupancy on the surface trace of active earthquake faults. For any project proposed within a designated Alquist-Priolo Earthquake Fault Zone, the city or county with jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

Unreinforced Masonry Building Law

The state of California enacted the Unreinforced Masonry Building Law in 1986, more than 50 years after state law prohibited construction of new unreinforced masonry buildings. Under the 1986 law, local governments in Seismic Zone 4 (as established by the 1985 California Building Code [CBC; described below]) were required to inventory unreinforced masonry buildings, establish an unreinforced masonry loss program, and report their progress to the state by 1990. The City of East Palo Alto participated in this survey. Statewide, the 1990 assessment identified approximately 25,900 unreinforced masonry (URM) buildings in the state as a whole. In a 2006 report on the status of the 1986 law, the California Seismic Safety Commission (CSSC) noted that no URM buildings were identified in East Palo Alto.[1]

[1] California Seismic Safety Commission. 2006. Status of the Unreinforced Masonry Building Law. Accessed on January 28, 2016. Retrieved from http://www.seismic.ca.gov/pub/CSSC%202006%20URM%20Report%20Final.pdf.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (California Public Resources Code Sections 2690-2699.6) addresses seismic hazards other than surface fault rupture. This Act directs the United States Department of Conservation to identify and map areas prone to the earthquake hazards of liquefaction, seismically induced landslides, and amplified ground shaking. The Act also requires site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy within the Zones of Required Investigation. The Seismic Hazard Zone Report for the Palo Alto 7.5-minute quadrangle, which includes East Palo Alto, was published in 2006.[2]

California Building Standards Code

The state of California provides minimum building design and construction standards through the California Building Standards Code (California Code of Regulations [CCR], Title 24), based on the federal Uniform Building Code (UBC), which the City of East Palo Alto adopted in 1991.

Effective January 1, 2014, structures in East Palo Alto are subject to the provisions of the 2013 California Building Code (CBC; 24 CCR Part 2), which identifies seismic factors that must be considered in structural design.[3] The CBC assigns a Seismic Design Category to define seismic hazards to structures.

The earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum standards for seismic safety and structural design to meet earthquake protection requirements are set forth in Chapter 16 of the CBC.

Surface Mining and Reclamation Act

The California State Legislature enacted the Surface Mining and Reclamation Act (SMARA) of 1975 (Public Resources Code Section 2710 et seq.) in response to land use conflicts between urban growth and mineral resource extraction. This Act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of public

[2] California Department of Conservation, California Geological Survey. 2006. http://gmw.consrv.ca.gov/shmp/download/evalrpt/paloa_eval.pdf.

[3] California State building codes are mandated by the California Building Standards Commission. Information is available online at http://www.bsc.ca.gov/default.htm.

health and safety hazards from the effects of mining activities. At the same time, SMARA encourages both the conservation and production of extractive mineral resources, requiring the state Geologist to classify land according to the presence or absence of significant mineral deposits. Local governments must consider this information before committing land with important mineral deposits to land uses incompatible with mining.

Local

2010 Association of Bay Area Governments (ABAG) Multi-Jurisdictional Local Hazard Mitigation Plan for San Francisco Bay Area

The goal of this program is to maintain and enhance a disaster-resistant San Francisco Bay Area (Bay Area) by reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. In general, the focus of this effort is on natural hazards; man-made conditions are only addressed in this plan as they relate to earthquake and weather-related conditions. Bay Area governments were asked to adopt formal resolutions in support of eight commitment areas related to the types of services supplied either directly, or indirectly, by local governments.

City of East Palo Alto Annex to 2010 ABAG Multi-Jurisdictional Local Hazard Mitigation Plan

This purpose of this annex is to provide specific information about East Palo Alto's needs and priorities to supplement and enhance the effectiveness of ABAG's 2010 Hazard Mitigation Plan.

Code of Ordinances Chapter 15.08 – Building Code

Chapter 15.08 of the City's Code of Ordinances adopts the 2013 California Building Code - with slight revisions to address local conditions - as the Building Code for East Palo Alto. The purpose of this code is to establish minimum design and construction standards to prevent loss of life or property.

Code of Ordinances Chapter 15.48 Excavation, Grading, Filling, and Clearing Regulations

This chapter of the East Palo Alto City Code applies regulatory provisions for all aspects of grading and clearing operations, and establishes procedures for the issuance, administration, and enforcement of a permit. These regulations are intended to minimize the adverse effects of grading, cut, and fill operations, land clearing, water runoff, and soil erosion, thereby reducing he hazards of earth slides,

mud flows, rock falls, undue settlement, erosion, siltation, and flooding, or other special conditions.

San Mateo County Ordinance Number 03883 – Chapter 3: Surface Mining & Reclamation

The purpose of this ordinance is to ensure the continued availability of important mineral resources, while regulating surface mining operations as required by SMARA and State Mining and Geology Board Regulations for surface mining and reclamation practice to ensure that:

- Adverse environmental effects are prevented or minimize and that mined lands are reclaimed to a usable conditions which is readily adaptable for alternative land use.
- The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment
- Residual hazards to the public health and safety are eliminated.

4.6.2 ENVIRONMENTAL SETTING

Geologic Setting

East Palo Alto is located in the Coast Range geomorphic province of California. The Coast Range is dominated by a series of northwest-trending ridges and valleys that have been formed by faulting and folding of the earth's crust. Although no known active faults exist in East Palo Alto, several major faults have been mapped in the region.

Holocene-age Bay Mud (Qhbm) and artificial fill (af) generally comprise surficial soils at the northwestern and eastern boundaries of East Palo Alto, including Cooley Landing [4]. Further inward, the basin deposits transition into interfingered flood plain deposits (Qhfp), typically composed of dense sandy to silty clay with lenses of coarser silt and sand; and natural Holocene-age levee deposits (Qhl), generally consisting of loose, permeable sandy or clayey silt. During an October 2009 site reconnaissance performed as part of the Ravenswoods/4 Corners TOD Specific Plan

[4] Brabb, E.E., Graymer, R.W., and Jones, D.L. 2000. Geologic Map and Map Database of the Palo Alto, 30 x 60-Minute Quadrangle, California: A Digital Database: U.S. Geological Survey, Miscellaneous Field Studies Map MF-2332, Version 1.0.

EIR, an additional area of artificial fill, the Stanford Fill, was also observed, and mapped in the project area.

Seismic Hazards

No known active faults have been mapped in East Palo Alto by the state Department of Mining and Geology (DOC, 2016). However, major potentially active faults are located within the Bay Area, and the City is subject to a medium to high risk of seismic shaking. East Palo Alto is proximate to three large nearby fault zones: the San Andreas, the Pilarcitos, and the San Gregorio. The closest known active fault, the Monte Vista-Shannon Fault, is located approximately six miles southwest of the City. Several inactive faults are believed to exist in the project vicinity, but are considered to be of lesser concern. As shown in **Figure 4.6-1**, an eastern portion of the City near Cooley Landing is at elevated risk of ground shaking during a seismic event.

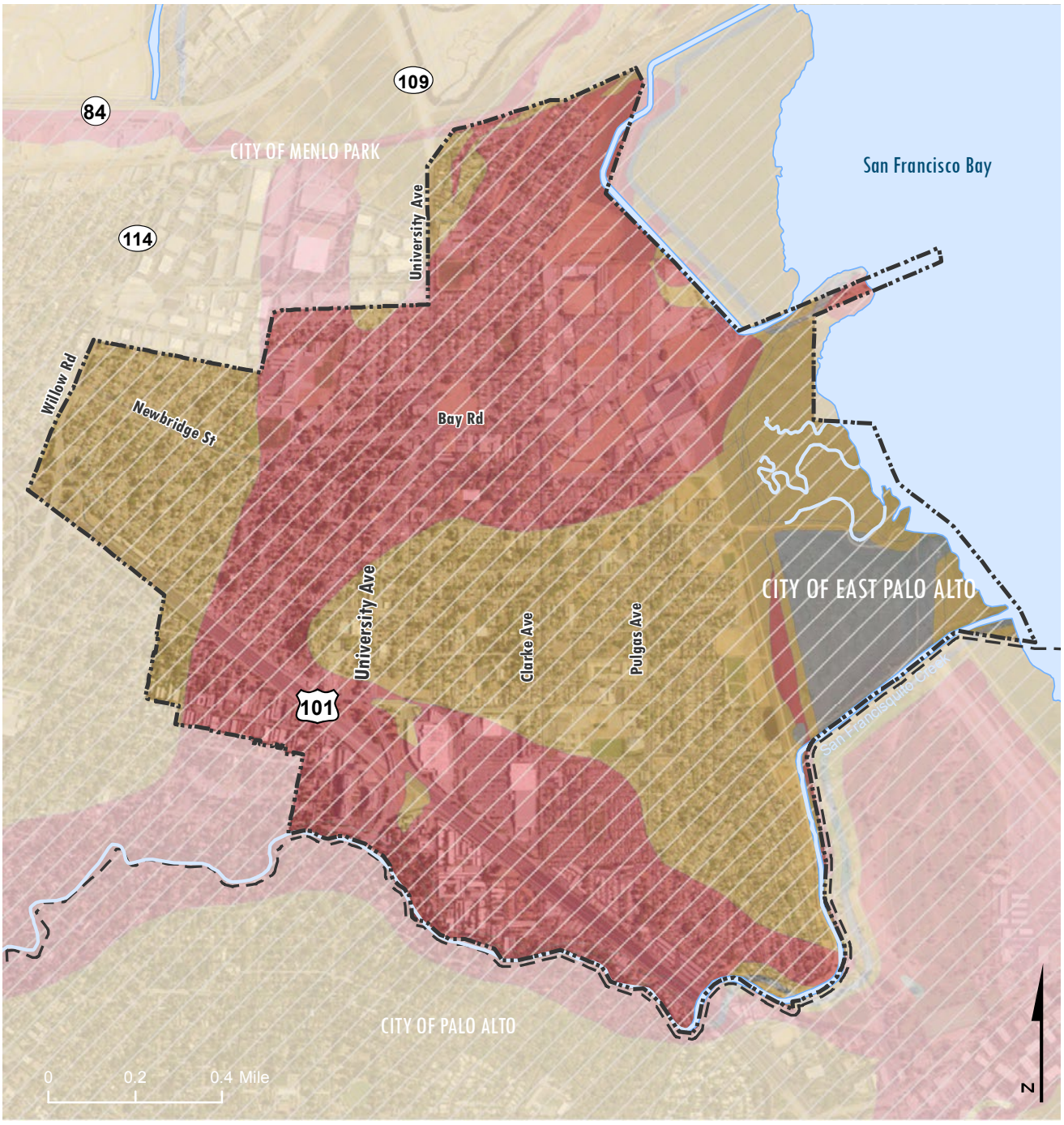
Liquefaction

In addition to ground shaking risks, substantial areas of the City are at an elevated risk of liquefaction. Liquefaction is the term used to describe how underlying soils can "liquefy" or lose stability during a seismic event. Buildings and structures in areas prone to liquefaction are susceptible to an elevated risk of damage during seismic events. While no known active faults traverse East Palo Alto, liquefaction can occur in areas substantially distant from the epicenter of an earthquake.

Figure 4.6-1 depicts areas of East Palo Alto and their liquefaction risk levels. Much of the northern area of the City and substantial portions of the Highway 101 corridor are projected to have heightened risk of liquefaction. These areas include portions of the City underlain by "Bay Mud." Bay Mud deposits are highly compressible when subjected to increased loads such as those imposed by fill or structures. Settlement may occur when the younger Bay Mud is subjected to these new loads. The design of surface grades and site improvements, such as buildings, utilities, and streets, must accommodate or resist this settlement potential.

Artificial Fill

Another soil type of concern is artificial fill – areas created or reclaimed from the Bay by filling with soils from elsewhere. Artificial fills could undergo vertical movement due to new loads (fills or buildings) or change in drainage/irrigation patterns. These movements are not easily characterized and could ultimately be inadequate to support the proposed building loads and may need to be removed and replaced with engineered fill in areas that will support new fill, structures, or improvements.



Liquefaction and Ground Shaking

Figure 4.6-1

Source: U.S.G.S. Liquefaction, 2006; CISN Ground Shaking, 2003; San Mateo County GIS Enterprise Database and Santa Clara County, 2012. Imagery: ESRI, 2015.

Areas underlain by artificial fill include the Cooley Landing area and the Stanford Fill in north-central East Palo Alto. These mapped fills may extend up to 20 feet in thickness. Shallower fills placed during prior site development and utility trench backfill are also anticipated across the majority of East Palo Alto. These fills are generally anticipated to be less than five feet thick.

Expansive Soils

Basin deposits and flood plain deposits are expected to be of clayey nature, and therefore anticipated to be moderately to highly expansive. Expansive soils shrink and swell as a result of moisture changes. This can cause heaving and cracking of slabs-on-grade, pavements, and structures with shallow foundations. The effects of expansive soils can be reduced through appropriate foundation systems, proper moisture conditioning, compaction of subgrade soils and engineered fill, or the use of low-expansive material on subgrade soils.

Soil Erosion

Erosion is a process that transports soil materials to another area, typically by wind or water. Erosion is a natural process that can vary depending on the soil material and structure, placement, and human activity. Fine-grained silts and clays or fine-grained sands can be easily eroded, while coarser-grained sandy soils are less susceptible. Excessive soil erosion can lead to damaged building foundations and roadways. Wind erosion can occur under most topographic conditions containing exposed soil, while runoff erosion is most likely to occur on areas that contain slopes with exposed soil. The relatively flat topography of East Palo Alto minimizes runoff erosion hazards, and the clayey soil conditions minimize wind erosion. Future grading may increase the potential for wind and runoff erosion; therefore, appropriate post-development landscaping and ground cover should be integrated as part of new development.

Mineral Resources

The California Geological Survey classified areas within the San Francisco-Monterey Bay Region into Aggregate and Mineral Resource Zones (MRZs) adopted by the California State Mining and Geology Board. East Palo Alto is mapped as MRZ-1, an area where no significant mineral or aggregate deposits are present.[5]

[5] State of California, Division of Mines and Geology. 1996. Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production-Consumption Region, DMG Open File Report 96-03.

4.6.3 THRESHOLDS OF SIGNIFICANCE

A significant impact to geology and soils could occur if development allowed by the General Plan Update would:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state Geologist for the area or based on other substantial evidence of a known fault;

   ii) Strong seismic ground shaking;

   iii) Seismic-related ground failure, including liquefaction; or

   iv) Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.

f) Result in the loss of availability of a known mineral resource that would be of value to the region or residents of the state.

g) Result in the loss of availability of a mineral recovery site as shown on the General Plan, applicable specific plan or other land use plan.

4.6.4 ENVIRONMENTAL IMPACTS

a. i) Exposure of people or structures to fault rupture (no impact).

No Alquist-Priolo Earthquake Fault Zones are located within the City, and future development under the General Plan Update would not be subject to effects from a surface fault rupture. No impact would occur.

a. ii) Exposure of people or structures to strong seismic ground shaking (less-than-significant impact).

East Palo Alto is within a seismically active region where a number of seismic hazards may occur. The General Plan Update would allow for an increase in the allowable amount of residential and commercial development in the community. Adoption of the General Plan Update would therefore result in additional people and structures being exposed to seismic ground shaking that could result in potential damage to buildings and public infrastructure.

The General Plan Update Safety and Noise Element includes goals and policies that would be applied to future development to reduce seismic ground shaking impacts to a less-than-significant level. These goals and policies are listed below.

Safety and Noise Element Goal SN-1. Reduce the risk to people and property from earthquakes and other geologic hazards.

- *Policy 1.1, Construction requirements.* Apply the proper development engineering and building construction requirements to avoid or minimize risks from seismic and geologic hazards.
- *Policy 1.2, Robust seismic guidance.* Utilize and enforce the most recent State guidance for seismic and geologic hazards when evaluating development proposals.
- *Policy 1.3, Licensed geologist.* Require that a state licensed engineering geologist prepare and/or review development proposals involving grading, unstable soils, and other hazardous conditions. Incorporate recommendations of the geologist into design plans, potentially including building modifications and open space easements.
- *Policy 1.4, Seismic upgrades.* Examine necessity of seismic upgrades to existing public facilities as well as existing multi-family housing constructed prior to 1971.

Safety and Noise Element Goal SN-5. Provide efficient and effective emergency response in the immediate aftermath of a natural or human caused disaster.

- *Policy 5.1, Community preparedness.* Reduce harm from natural hazards by promoting a culture of preparedness in the community to help residents be more responsive to seismic and flooding events when they occur. Provide public education relating to these hazards.
- *Policy 5.2, Hazard mitigation planning.* Continue to participate in Local Hazard Mitigation Planning through the Association of Bay Area Governments (ABAG), San Mateo Office of Emergency Services, FEMA, and surrounding jurisdictions.

a. iii) and c) Exposure of people or structures to seismic ground failure, including liquefaction, lateral spreading and other soil hazards (less-than-significant impact).

Much of the City is underlain by soils that could liquefy during seismic events. Potential impacts related to liquefaction would be especially severe on properties closest to San Francisco Bay where surface soils are underlain by Bay Mud. Unless properly designed and constructed, buildings could collapse or be significantly damaged during a seismic event, with the potential for loss of life or severe injury to humans.

Adherence to applicable goals and policies established in the General Plan Update Safety and Noise Element (noted above), along with applicable state and local building requirements, would reduce impacts associated with seismic ground failure to a less-than-significant level.

a. iv) and c) Impacts related to landslides, collapse and/or subsidence (less-than-significant impact).

No areas in East Palo Alto exhibit steep slopes (generally considered to be 30 percent or greater) or other features that would result in landslide or collapse. No impacts are anticipated.

Potential impacts related to ground subsidence will be reduced to a less-than-significant level with adherence to CBC requirements, Chapter 15.48 of the City's Code of Ordinances, and applicable Safety and Noise Element goals and policies as identified above.

b) Result in substantial soil erosion or the loss of topsoil (less-than-significant impact).

Much of East Palo Alto is developed with urban uses or permanent open spaces, such as parks. Future development anticipated in the General Plan Update would generally include infill of undeveloped or underdeveloped individual parcels of land. It is unlikely that any future public or private development projects would include large amount of land that would substantially remove topsoil

As discussed in **Section 4.9, Hydrology**, construction of future development under the General Plan Update could temporarily increase erosion involve during site grading, clearing of existing vegetation, and similar activities. Future construction could also result in wind erosion that could deposit soil in nearby bodies of water that would degrade local water quality. As required by the federal state and clean water regulations, all development projects under the General Plan Update will be required to prepare and have approved a Storm Water Pollution Prevention Plans

that includes Best Management Practices (BMPs) to reduce impacts related to wind and water erosion. Compliance with applicable regulations related to erosion control would reduce this potential impact to less-than-significant level.

d) Impacts to people and structures related to expansive soils (less-than-significant impact).

Expansive soils can cause significant damage to building foundations, pavement, underground utilities, and similar improvements. Structural damage could include cracked foundations and rupture of underground electrical, water and natural gas utility lines. Future development in East Palo Alto could be subject to impacts related to expansive soils. Adherence to local building standards, City engineering standards and applicable Noise and Safety Element goals and policies contained in the General Plan Update would reduce potential expansive soil impacts to a less-than-significant level.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water (no impact).

Existing residences, commercial uses, industrial buildings, and similar uses are currently served by sanitary sewer service. Future uses would continue to be connected to the City sewer system, and would not rely on septic systems or alternative wastewater systems. No impact would occur.

f) and g) Impacts to statewide or regionally significant mineral deposits or mineral extraction operations (no impact).

No statewide or regionally significant mineral resources have been documented by the California Geological Survey in East Palo Alto. Similarly, no mineral extraction operations exist within the City. No impact would occur.

4.6.3 CONCLUSION

Due to geologic and seismic conditions in the region, new development allowable under the General Plan Update may be subject to ground failure and seismic hazards. The General Plan Update would require that new development comply will all applicable building regulations and permits. The General Plan Update also includes goals and policies that would be applied to future development to reduce geologic hazards to a less-than-significant level. The project would have no impact related to alternative wastewater disposal systems or significant mineral deposits.

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4.7 GREENHOUSE GAS EMISSIONS AND ENERGY

This chapter evaluates the potential for the East Palo Alto General Plan Update to result in increased emissions of greenhouse gases (GHG). The General Plan Update's potential energy impacts are also assessed in this section, as they have a direct correlation to GHG emissions.

The GHG information in this section is derived for an Air Quality and Greenhouse Gas Emissions Report prepared by Illingworth & Rodkin in January, 2016. Supplemental information is derived from applicable state agency and regulatory websites.

4.7.1 REGULATORY FRAMEWORK

Federal

The United States has participated in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the 1997 Kyoto Protocol, which would have required reductions in GHGs, Congress has never ratified the protocol. Instead, the federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In December 2015, the UNFCCC convened again and negotiated the Paris Agreement, which would become legally binding within 196 participating nations if the agreement is joined by at least 55 countries which would collectively represent sources of at least 55 percent of all greenhouse gas emissions globally. Such ratification is pending as of March, 2016.

Within the United States, various branches of the federal government have rendered decisions relevant to greenhouse gas emissions regulations.

On April 2, 2007, the United States Supreme Court ruled that the United States Environmental Protection Agency (EPA) has the authority to regulate carbon dioxide (CO_2) emissions under the Clean Air Act (CAA), and on December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six greenhouse gases (carbon dioxide, methane, nitrogen oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride) constitute a threat to public health and welfare, and that

the combined emissions from motor vehicles cause and contribute to global climate change.[1]

On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy.

On May 13, 2010, the EPA issued a final rule to address GHG emissions from stationary sources under the Clean Air Act (CAA) permitting programs. This final rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

State

The state of California recognizes the scientifically established evidence of global climate change as demonstrated by the relationship between the concentration of GHGs in the atmosphere and increasing global temperatures. The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain, but the state has many areas of concern. The following climate change effects and conditions can be expected in California over the course of the next century[2]:

- A diminishing Sierra snowpack declining by up to 90 percent, effecting the state's water supply;
- An increase in average temperatures worldwide implies more frequent and intense extreme heat events, or heat waves. The number of days with high temperatures above 90°F is expected to increase throughout the United States, especially toward the end of the century.
- Estimates for future sea level rise indicate that, for the next century, sea level will rise at a greater rate than during the past 50 years. Projections estimate that sea level will rise by 1-4 feet by 2100, with an uncertainty of 0.66-6.6 feet. This would exacerbate flooding in already vulnerable, low-lying areas.

[1] Carbon Dioxide (CO_2), Methane (CH_4), Nitrogen Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur Hexafluorides ($SF_{6)}$.

[2] U.S. Environmental Protection Agency. Future Climate Change. Retrieved from: https://www3.epa.gov/climatechange/science/future.html#Ice. Accessed: March 18, 2016.

- Heavy precipitation events will likely be more frequent, even in areas where total precipitation is projected to decrease. Heavy downpours that currently occur about once every 20 years are projected to occur between twice and five times as frequently by 2100, depending on location. Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Assembly Bill 32 - California Global Warming Solutions Act

Assembly Bill 32 (AB 32), commencing with Section 38500 of the California Health and Safety Code, codifies the state's GHG emissions target by directing the California Air Resources Board (CARB) to reduce the state's global warming emissions to 1990 levels by 2020.[3] Since enactment in September 2006 and amendment in May 2014, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

The scoping plan for AB 32 contains the state's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons of equivalent carbon dioxide (MMT CO_2e) as the total statewide GHG 1990 emissions level and 2020 emissions limit. In 2014, CARB increased this amount to 431 MMT CO_2e. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e.

Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 509 MMT of CO_2e. Thus, an estimated reduction

[3] California Air Resources Board, 2006. Assembly Bill 32. Retrieved from: http://www.arb.ca.gov/cc/docs/ab32text.pdf. Accessed on: March 24, 2016.

of 78 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.[4]

Assembly Bill 1493

Signed into law in 2002, Assembly Bill 1493 (AB 1493) was enacted to amend the California Health and Safety Code Section 42823 by adding Section 43018.5.[5] AB 1493 required CARB to adopt regulations that achieve the maximum feasible reduction of GHG emissions from passenger vehicles and light-duty trucks and other noncommercial personal transportation vehicles by January 1, 2005. The California Code of Regulations (CCR) regarding existing motor vehicle emission standards were amended and approved in 2005 per AB 1493. GHG emission limits were placed on all aforementioned vehicles beginning with the 2009 model year, with emission limits further reduced each model year through 2016.

Current projections indicate even with these measures enacted, California will still fall short of the 1990 level targets for transportation emission reductions. Under the Administration of President George W. Bush, EPA blocked California's efforts to implement low carbon fuel standards; however, the Obama Administration has directed the EPA to reconsider its action. Nonetheless, the earlier EPA action and pending legal challenges by the automotive industry could continue to delay California's efforts to achieve emission reduction targets.

Assembly Bill 1575

In 1975, the Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs.

California Public Resources Code Section 25000, also known as the Warren-Alquist Act, serves to identify areas of energy inefficiency, and the means to reduce energy inefficiency while promoting energy conservation. Under Section 25000, the CEC is given statutory authority as it pertains to California's energy efficiency and energy conservation development sector.[6]

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[4] California Air Resources Board, 2014. Climate Change Scoping Plan: Building on the Framework. Retrieved from: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed: March 22, 2016.

[5] California Legislature, 2002. Assembly Bill No. 1493. Retrieved from: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020AB1493. Accessed on: March 24, 2016.

[6] California energy Commission, 2016. Warren-Alquist Act. Retrieved from: http://www.energy.ca.gov/reports/Warren-Alquist_Act/. Accessed: March 24, 2016.

Climate Change Scoping Plan

In response to the aforementioned state legislation (specifically AB 32), CARB prepared the Climate Change Scoping Plan (Scoping Plan), which incorporates programs and measures to address the remaining GHG emission reductions needed to be reduced to 1990 levels by year 2020. The Scoping Plan was approved by the CARB Board in December 2008, and updated in May 2014. The plan includes a host of strategies to achieve a 42 percent reduction in projected GHG emission levels in 2030 to meet 1990 GHG emission levels. The Scoping Plan also recommends GHG emission reduction targets for each emission section of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing recommended greenhouse gas emissions reduction measures and standards, including, but not limited to:

- Improved emission standards for light-duty vehicles (reduction of greenhouse gas emissions by about 5 percent per year through 2030).
- Improved Low-Carbon Fuel Standards (LCFS). ARB will also consider extending the LCFS beyond 2020 with more aggressive long-term targets, such as a 15 to 20 percent reduction in average carbon intensity, below 2010 levels, by 2030.[7]
- More stringent energy efficiency measures in buildings and appliances for heat and power systems.
- The Renewable portfolio standard for electricity production by which electric utilities are required to serve 33 percent of their customers' electricity needs with clean renewable energy by 2020.
- California Heavy Duty Vehicle Greenhouse Gas Emissions Reduction Measure[8]

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts

California enacted legislation (SB 375) to attempt to reduce GHG emissions by modifying land use planning and approval practices.[9] SB 375, signed in September 2008, requires metropolitan planning organizations (MPO), such as the Association of Bay Area Governments (ABAG), to adopt a sustainable community strategy (SCS)

[7] The Low Carbon Fuel Standard was adopted through a 2007 gubernatorial executive order (S-1-07)

[8] California Air Resources Board, 2014. Climate Change Scoping Plan: Building on the Framework. Retrieved from: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed: March 22, 2016.

[9] California Air Resources Board, 2016. Sustainable Communities. Retrieved from: http://www.arb.ca.gov/cc/sb375/sb375.htm. Accessed: March 22, 2016.

or alternative planning strategy when preparing their updated Regional Transportation Plans (RTPs) for the purpose of reducing GHG emissions. All future transportation funding must be consistent with the SCS. The legislation also allows developers to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies.

SB 375 also directs CARB to develop regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB will work with the MPOs and regional planning agencies (ABAG and the Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and attain its GHG reduction targets. Regional targets for 2020 and 2035 reductions in GHG emissions were adopted by CARB in 2010. For MTC, the approved regional greenhouse gas emission reduction target is 8 percent by 2020 and 13 percent by 2035 in per capita greenhouse gas emissions relative to 2005 levels.

SB 375 also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments within an MPO that meet certain requirements. City or county land use policies, including general plans, are not required to be consistent with the regional transportation plan. However, new provisions of CEQA would incentivize qualified projects and categorize projects as transit priority projects if they are consistent with an approved SCS or alternative planning strategy.

Under SB 375, developers can qualify as exempt from certain environmental review requirements if their projects are consistent with the applicable SCS, as outlined in Public Resources Code Division 13, Chapter 4.2, Sections 21155-21155.4.[10]

State of California Executive Order EO-B-30-15

In April 2015, the Governor of California signed an executive order setting targets for the reduction of California's GHG emissions to 40 percent below the 1990 levels by the year 2030, and to 80 percent below the 1990 levels by the year 2050. This order expanded the previous Executive Order (S-3-05).

EO-B-30-15 also specifically focuses on the need for climate adaptation, and guides the state government to:

1) Incorporate climate-change impacts into the state's Five-Year Infrastructure Plan.

[10] California Air Resources Board, 2016. Sustainable Communities. Retrieved from: http://www.arb.ca.gov/cc/sb375/sb375.htm. Last Accessed: March 24, 2016.

2) Update the Safeguarding California Plan in order to deduce what actions the state can take to reduce the risks associated with climate change.
3) Consider climate change in state agencies' planning and decision making.
4) Implement measures under the existing government infrastructure to reduce greenhouse gas emissions.[11]

California's Energy Efficiency Standards for Residential Buildings, Title 24

The Energy Efficiency Standards for Residential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Typically, energy efficiency standards are revised every three years. The 2013 Standards went into effect in July 2014, but the most current 2016 standards will go into effect in January 2017.

California's Renewable Energy Portfolio Standard Program (Senate Bills 107 and 1078)

California's Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107, and expanded in 2011 under Senate Bill 2. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Local

The Bay Area Air Quality Management District (BAAQMD) is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area (Bay Area) counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plan

The BAAQMD prepared a clean air plan in accordance with state and federal Clean Air Acts. The *Bay Area 2010 Clean Air Plan* is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful

[11] Office of the Governor, Edmund G. Brown Jr., 2015. *New California Goal Aims to Reduce Emissions 40 Percent Below 1990 Levels by 2030.* Website: https://www.gov.ca.gov/news.php?id=18938 (Accessed February 2016)

pollutants. The most recent Clean Air Plan also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

In 2005, the BAAQMD established a Climate Protection Program (CPP) to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The CPP includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to stimulate additional climate protection efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

2011 BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010 and then adopted a modified version of the Guidelines in May 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for GHG emissions.[12] Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified GHG Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified GHG Reduction Strategy and General Plan that addresses the project's GHG emissions, it can be presumed that the project will not have significant GHG emissions under CEQA.[13] The BAAQMD also developed a quantitative threshold for project- and plan-level analyses based on estimated GHG emissions, as well as per capita metrics.

BAAQMD's adoption of significance thresholds contained in the 2011 *CEQA Guidelines* was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires the BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns.

[12] On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the 2011 BAAQMD CEQA Air Quality Guidelines. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD complied with CEQA.

[13] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May.

In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds (Cal. Court of Appeal, First Appellate District, Case Nos. A135335 & A136212). CBIA sought review by the California Supreme Court on three issues, including the appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project?

In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). Because the Supreme Court's holding concerns the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment), and not the science behind the thresholds, the significance thresholds contained in the 2011 *BAAQMD CEQA Guidelines* are applied to this project. The 2011 BAAQMD Guidelines provides a substantial evidence based approach to air quality impact analysis and the BAAQMD-recommended significance thresholds.

City of East Palo Alto Climate Action Plan

The City of East Palo Alto (City) finalized a Climate Action Plan (CAP) in December, 2011 to present goals and measures for reducing the City's GHG emissions. A 2005 emissions inventory determined that the City produced 140,465 metric tons (MT) of CO_2e. Transportation accounted for approximately 63 percent to the City's total emissions.[14]

Given the high projected business-as-usual emissions forecast for 2020, the City's emissions reduction goal was established as 15 percent below 2005 levels by 2020 through implementation of the CAP. To achieve this emissions reduction goal, the CAP structured objectives around four general categories: energy use in buildings, transportation and land use, waste, and municipal operations.

4.7.2 ENVIRONMENTAL SETTING

Global temperatures are affected by naturally occurring and anthropogenic (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called

[14] City of East Palo Alto, 2011. Final Climate Action Plan. December.

GHGs. Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. GHGs absorb infrared radiation and redirect some of it back to the earth's surface as heat. This is known as the greenhouse effect, and helps maintain a habitable climate.

GHG emissions from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere. The increased GHGs are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures.

The overwhelming consensus of scientific research supports the proposition that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally-occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

The primary GHGs contributing to global climate change include the following:

- Water Vapor
- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;

- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO_2. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO_2 (CO_2e).

The GHG emissions from any individual project, even a very large development project, would not individually generate sufficient GHG emissions to measurably influence global climate change. However, the GHG emissions from any individual project contribute to cumulative GHG emissions on a global, national, and regional scale. Consideration of a project's impact to global climate change is, therefore, an analysis of a project's contribution to a cumulatively significant global impact through its emission of GHGs.

Greenhouse Gas Emissions Inventories

Nationwide Emissions

In 2010, the United States emitted about 6,888 MMT of CO_2e, or approximately 4 MT of CO_2e per capita per year. Of the four major sectors nationwide – residential, commercial, industrial, and transportation – transportation accounts for the highest amount of GHG emissions (approximately 35 to 40 percent).[15]

Statewide Emissions

CARB is responsible for developing the California Greenhouse Gas Emission Inventory, which estimates the amount of GHGs emitted within and removed from the atmosphere by human activities within California. Inventory estimates are based on the amount of fuels combusted in the state, which accounts for over 85

[15] U.S. Environmental Protection Agency, 2016. Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014. Retrieved from: https://www3.epa.gov/climatechange/ghgemissions/usinventoryreport.html. Accessed March 30, 2016.

percent of California's GHG emissions. According to the Greenhouse Gas Emission Inventory, California's gross GHG emissions decreased from 468.77 MMT[16] of CO_2e emissions in 2000 to 459.28 MMT in 2013, after peaking at 495.34 MMT in 2004.[17]

California has the fourth lowest per-capita carbon dioxide emission rate from fossil fuel combustion in the country, due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise.[18]

CARB projected 2020 unregulated GHG emissions, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions. CARB estimates the statewide 2020 unregulated greenhouse gas emissions will be 509 MMT of CO_2e. Greenhouse gas emissions in 2020 from the transportation and electricity sectors as a whole are not expected to increase. The industrial sector will contribute approximately 18 percent of emissions. The remaining GHG sources are high global warming potential gases (6 percent), residential and commercial activities (10 percent), agriculture (7 percent), and recycling and waste (2 percent).[19]

Bay Area Emissions

BAAQMD regularly prepares inventories of criteria and toxic air pollutants to support planning, regulations, and other programs. The most recent emissions inventory estimates that 86.6 MMT of CO_2e were produced in the nine-county Bay Area in 2011.[20] The transportation sector, including on-road motor vehicles, locomotives, ships and boats, and aircraft, contributed 39.7 percent of emissions. The industrial/commercial sector (excluding electricity and agriculture) contributed 35.7 percent of emissions. Energy production activities contributed 14 percent of

[16] A metric ton is equivalent to approximately 1.1 tons.

[17] California Air Resources Board, 2015. California Greenhouse Gas Inventory for 2000-2013 — by Category as Defined in the 2008 Scoping Plan. Retrieved From: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf. Accessed February 17, 2015.

[18] California Energy Commission, 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report, publication # CEC-600-2006-013-SF*, Sacramento, CA. December 22, 2006, and January 23, 2007, update to that report.

[19] California Air Resources Board, 2012. *California Greenhouse Gas Emission Inventory*. Retrieved from: http://www.arb.ca.gov/cc/inventory/inventory.htm. Accessed February 17, 2013.

[20] Bay Area Air Quality Management District, 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases. Retrieved from: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en. Accessed March 30, 2016.

emissions. Off-road equipment such as construction, industrial, commercial, and lawn and garden equipment contributed 1.5 percent of emissions. Residential fuel usage, primarily from space heating, cooking, and water heating, contributed 7.7 percent of emissions. Agriculture and farming contributed 1.5 percent of emissions.[21]

East Palo Alto GHG Emissions

According to the City's CAP, the City emitted approximately 140,500 MT of CO_2e in 2005, which is typical for a Bay Area city of its size. Over 60 percent of those emissions were transportation-related. Energy usage contributed 35 percent of emissions, solid waste emissions contributed 2 percent of emissions, and municipal operations contributed r approximately 1 percent of emissions. A majority of transportation emissions were from regional traffic on state highways including Route 84 (Bayfront Expressway), Route 114 (Willow Road) and Route 109 (University Avenue). Much of this regional traffic is passing through East Palo Alto. However, the emissions inventory only counts emissions from vehicle traffic generated by East Palo Alto that occurs within the City.

4.7.3 THRESHOLDS OF SIGNIFICANCE

The project would have a significant impact related to GHG emissions if it would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In addition, Appendix F of the CEQA Guidelines provides a framework to analyze energy impacts related to the project. To address CEQA Appendix F, the project would have a significant impact related to energy resources if it would:

c) result in a wasteful or inefficient consumption of energy.

[21] Bay Area Air Quality Management District, 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases.* Website: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en.

ENVIRONMENTAL IMPACTS

a) and b) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan adopted for the purpose of reducing GHG emissions (less than significant impact).

The BAAQMD CEQA Air Quality Guidelines contain methodology and thresholds of significance for evaluating GHG emissions from land use projects. These thresholds were developed specifically for the Bay Area in order to close the gap between projected regional emissions and the target emission levels established by AB 32. The BAAQMD plan-level GHG efficiency threshold is 6.6 metric tons of CO_2e per year per capita (MT CO_2e/year/capita).[22] Plans with emissions above this threshold would be considered to have a cumulatively significant impact.

Construction Period Emissions

Although BAAQMD does not have adopted significance thresholds for construction-related GHG emissions, BAAQMD recommends incorporation of best management practices (BMPs) to reduce GHG emissions during construction. These BMPs include, but are not limited to, using alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet, using at least 10 percent local building materials, and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Period Emissions

GHG emissions for the General Plan Update were predicted for a 2040 build-out scenario. This modeling accounted for the following factors.[23]

- *Year of analysis* - The model assumes reduced emission rates as newer vehicles with lower emission rates replace older, more polluting vehicles through attrition of the overall vehicle fleet.
- *Land use descriptions* - The model predicted GHG emissions based on full buildout of the General Plan Update. Under these conditions, the City would contain 4,778 single-family dwelling units, 5,218 multi-family dwelling units, 1,087,606 square feet of commercial/office strip mall, 3,102,893 square feet of general office building, and 393,587 square feet of industrial park.

[22] BAAQMD. 2011. *Op. cit*.

[23] General Plan land use types and size, and trip generation rate were input to the California Emissions Estimator Model Version 2013.2.2 (CalEEMod), which is a model that predicts GHG emissions in the form of equivalent carbon dioxide emissions or CO_2e. Detailed descriptions of this modeling and demographic factors are provided in Appendix B.

- *Trip generation rates and travel distances* - Trip generation rates were taken from the Traffic Impact Assessment prepared for the General Plan Update in January, 2016.
- *Electricity generation* - Default model assumptions for GHG emissions associated with area sources, solid waste generation, and water/wastewater use were applied to the project.
- *Service population rates* - The City's 2040 service population was estimated to be 49,028.[24]

Table 4.7-1 shows the projected 2040 GHG emissions associated with the General Plan Update. Implementation of the General Plan Update would have a 2040 emission level of 3.1 MT of CO_2e/year/capita, which would not exceed the 6.6 MT of CO_2e/year/capita BAAQMD threshold. This impact would be less than significant.[25]

Table 4.7-1 2040 Project GHG Emissions (MT of CO_2e)

Source Category	2040 CO_2e
Area	1,240
Energy Consumption	45,871
Mobile	96,023
Solid Waste Generation	5,757
Water Usage	3,709
Total	152,600 MT CO_2e
Per Capita Emission[s]	3.1MT CO_2e
BAAQMD Threshold	6.6 MT CO_2e

Notes: [1] Based on a 2040 service population of 49,028 residents
Source: Illingworth & Rodkin, 2016

[24] The service population (SP) rate for this project is the annual GHG emissions (in MT) divided by the estimated number of new residents and employees. According to the ABAG's *Plan Area 2040*, the City is anticipated to have 35,378 residents 11,650 employees in 2040, for a total SP of 49,028.

[25] GHG modeling was based on Traffic Analysis Zone (TAZ) data. Some TAZs for East Palo Alto overlap into the City of Menlo Park. Jobs and housing in Menlo Park were thus included in the calculation of the service population that yielded per capita emissions. Excluding the Menlo Park-based service population would result in a per capita emissions rising from 3.1 MT of CO_2e per capita as shown above to 3.3 MT of CO_2e, still below the BAAQMD Plan-level GHG threshold.

c) Result in a wasteful or inefficient consumption of energy (less-than-significant impact).

GHGs are created through the combustion of fossil fuels (such as coal and gasoline) used to generate energy. As such, energy consumption is a direct contributor to global climate change. In 2005, the East Palo Alto CAP determined that burning fossil fuels for vehicles and energy use in buildings collectively accounted for approximately 95 percent of the City's GHG emissions.[26] The CAP included measures and actions to reduce GHG emissions by focusing on (1) energy use in buildings, and (2) transportation and land use. As discussed below, the General Plan Update would align with the CAP to implement several strategies to reduce GHG emissions from these primary sources.

Energy Use in Buildings

Designing and construction new buildings, or major renovation of existing ones, provides an opportunity to implement energy-saving measures that reduce GHG emissions. The General Plan Update seeks to reduce the average per capita energy consumption by 5 percent, and increase the number of household energy retrofits by 5 percent. The General Plan Update also includes multiple goals and policies, listed below, to promote energy efficiency and renewable energy in both existing and new buildings.

Parks, Open Space and Conservation Element Goal POC-7. Promote a sustainable energy system.

- *Policy 7.1, Citywide building energy efficiency*. Promote and encourage citywide building energy efficiency through strategies that may include the following:
    - Retrofits of buildings with energy-efficient technology
    - High energy performance in new buildings, in excess of CALgreen when possible.
- *Policy 7.2, Municipal building energy efficiency.* Strive for high levels of energy efficiency in municipal facilities.
- *Policy 7.3, Energy-efficient infrastructure.* Whenever possible, use energy-efficient models and technology when replacing or providing new city infrastructure such as streetlights, traffic signals, water conveyance pumps, or other public infrastructure.

Parks, Open Space and Conservation Element Goal POC-8. Adapt to and mitigate climate change impacts.

[26] City of East Palo Alto, 2011. Final Climate Action Plan. December.

- *Policy 8.8, Sustainable building code.* Encourage changes in building code to reflect emphasis on health, sustainability, and energy efficiency. Look to other the codes of other cities who are leaders on these topics.
- *Policy 8.9, Efficiency incentives.* Provide incentives for households to improve resource efficiency, such as rebate programs and giveaways for items such as low-flow showerheads and electrical outlet insulation.
- *Policy 8.10, Green building credentialing and incentives.* Provide incentives for contractors to obtain Leadership in Energy & Environmental Design (LEED) professional credentials as well as LEED certification for their buildings.
- *Policy 8.11, Green building certification*. Require that new residential, commercial, or mixed-use buildings over 20,000 square feet earn LEED Silver certification (or equivalent) including meeting the minimum CALGreen code requirements.

Transportation and Land Use

As discussed in **Section 4.3, Air Quality**, total vehicle miles traveled (VMT) would increase at a higher rate than population with implementation of the General Plan Update. This trend demonstrates that the project may negatively impact transportation-related energy efficiency.

In 2013, the average trip distance for a City resident 2013 was 8.41 miles.[27] With full implementation of the project, the average trip distance would increase to 8.45 miles in 2040. However, without the project, the average trip distance would increase to 8.7 miles. The General Plan Update proposes a community planning concept that encourages dense, mixed use developments that provide a variety of transportation choices. Co-locating housing, jobs, neighborhood services, and public transportation leads to walkable neighborhoods that do not rely on personal automobiles as a primary mode of transit.

The General Plan Update proposes several Goals and Policies, listed below, to encourage sustainable land-use patterns while increase the safety, accessibility, and convenience of alternative transit. With adherence to these policies, along with the East Palo Alto CAP, the project would have a less-than-significant impact to energy resources as it relates to inefficient and wasteful energy usage.

Health and Equity Element Goal HE-10. Improve respiratory health throughout the City and strive to reduce incidence of asthma and other respiratory illnesses.

[27] Nelson\Nygaard Consulting Associates and Kittleson Associates, 2015. Transportation Impact Analysis.

- *Policy 10.6, Electric vehicle fleet.* Improve air quality and respiratory health through City programs and operations such as converting to a clean-air and primarily electric fleet.
- *Policy 10.7, Other mobility strategies.* Implement the strategies in the Transportation Element that improve air quality. These include transit, walking, biking and Transportation Demand Management strategies.

Land Use and Urban Design Element Goal LU-4. Expand multi-family housing.

- *Policy 4.5, Green neighborhoods.* Encourage new multi-family developments to build to a green neighborhood, rating standard and apply for certification from a program, such as LEED for Neighborhood Development, LEED-NC, or other programs that certify green buildings and neighborhoods.

Land Use and Urban Design Element Goal LU-1. Maintain an urban form and land use pattern that enhances the quality of life and meets the community's vision for is future.

- *Policy 1.1, Balanced land uses.* Create a balanced land use pattern to support a jobs-housing balance, minimize traffic and vehicle miles traveled, reduce greenhouse gas emissions, and promote a broad range of housing choices, retail businesses, employment opportunities, cultural venues, educational institutions and other supportive land uses.
- *Policy 1.5, Access to daily activities.* Strive to create development patterns such that the majority of residents are within one-half mile walking distance of a variety of neighborhood-serving uses, such as supermarkets, restaurants, churches, cafes, dry cleaners, laundromats, farmers markets, banks, hair care, pharmacies and similar uses.

Transportation Element Goal T-2. Foster the creation of complete, multimodal streets.

- *Policy 2.1, Accommodating all modes.* Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with disabilities, and persons of all ages and abilities.
- *Policy, 2.2 University Avenue.* As the main transportation spine of East Palo Alto, ensure that any future redesign of University Avenue include improvements for all modes of travel, focusing on its local function as a community centerpiece for local activity and travel. Design options could include buffered and painted bicycle lanes, streetscape improvements such as benches and pedestrian scale lighting, and mid-block crossings, reversible lanes,

and the reintroduction of on-street parking. The City shall maintain control of University Avenue (not Caltrans).

- *Policy 2.6, Pedestrian and bicycle crossings.* Encourage pedestrian and bicycle crossings at key locations and across existing barriers such as Highway 101 and to local employment and schools, such as Bay Road.

Transportation Element Goal T-3. Create a complete, safe, and comfortable pedestrian network for people of all ages and abilities.

- *Policy 3.1, Active transportation*. Increase the levels of active transportation.
- *Policy 3.2, Pedestrian network.* Create a safe, comfortable, and convenient pedestrian network that focuses on a) safe travel; b) improving connections between neighborhoods and commercial areas, and across existing barriers; c) providing places to sit or gather, pedestrian-scaled street lighting, and buffers from moving vehicle traffic; and d) includes amenities that attract people of all ages and abilities.
- Policy 3.4, Pedestrian and bicycling education, encouragement, and awareness. Actively engage the community in promoting walking and bicycling through education, encouragement (such as Bike to Work Day, Walk to Work Day, and Bike/Walk to School days and programs), and outreach on improvement projects and programs.

Transportation Element Goal T-4. Build a comprehensive and well-used bicycle network that comfortably accommodates bicyclists of all ages and skill-levels.

- *Policy 4.1, Bicycle network.* Improve facilities and eliminate gaps along the bicycle network to connect destinations across the city and create a network of bicycle facilities of multiple types that connect to neighboring cities, including a path along Newell Road between Highway 101 and San Francisquito Creek. The network should facilitate bicycling for commuting, school, shopping, and recreational trips by riders of all ages and levels of experience.
- *Policy 4.2, Bicycle Transportation Plan.* Utilize the City's Bicycle Transportation Plan to help guide the location and timing for bicycle improvements.
- *Policy 4.3, Wayfinding.* Increase the convenience of walking and bicycling by supporting the phased implementation of a comprehensive citywide, consistent bicycle and pedestrian wayfinding system connecting major destinations.
- *Policy 4.4, Bicycle safety.* Support bicycle education, encouragement, and enforcement activities that promote bicycle safety.

- *Policy 4.5, Public bicycle parking.* Increase the amount of safe and convenient short- and long-term bicycle parking and storage available to the public throughout the city.
- *Policy 4.6, Bicycle parking standards.* Require large public and private development projects to provide sufficient bicycle parking, shower and locker facilities.
- *Policy 4.7, Bikeshare.* Support the expansion of the regional bike share pilot program, helping to identify appropriate locations for system expansion within East Palo Alto.
- *Policy 4.8, San Francisco Bay Trail.* Support the completion of the San Francisco Bay Trail, including relevant portions within East Palo Alto.

Transportation Element Goal T-4. Build a comprehensive and well-used bicycle network that comfortably accommodates bicyclists of all ages and skill-levels.

- *Policy 5.1, Dumbarton rail service.* Support ongoing regional efforts to reintroduce passenger rail service along the Dumbarton corridor and support multimodal access improvements to future rail station(s).
- *Policy 5.2, Coordination with transit agencies.* Coordinate with transportation service providers to improve transit service and access in the City, focusing particularly on areas with high concentrations of zero vehicle households, areas that currently lack public transit options, and on the improvement of transfers and connections between systems.
- *Policy 5.3, Transit priority.* Ensure transit vehicles retain priority over other vehicles along transit network streets, prioritizing transit speed and schedule reliability.
- *Policy 5.4, Access to transit.* Provide connecting bicycle and pedestrian infrastructure and amenities to improve access to transit stations and stops, and encourage new development projects near transit to improve transit stop amenities.
- *Policy 5.5, Transit stops.* Support the installation of transit stop amenities, including shelters, benches, real-time information panels, lighting, bike parking, bike sharing stations, etc.
- *Policy 5.6, Local transportation services.* Create or partner with transit providers, employers, educational institutions, major commercial entities and event organizers to improve local transportation services, including developing discount transit pass programs for groups such as students.

- *Policy 5.7, Senior transit.* Support the expansion of affordable and reliable transportation options such as discounted transit passes for older adults and persons with disabilities, focusing on neighborhoods with high concentrations of elderly residents.

Transportation Element Goal T-8. Adopt transportation demand management and roadway system efficiency strategies.

- *Policy 8.1, Transportation Demand Management (TDM)*. Promote effective TDM programs to reduce travel demand from existing and new development, shifting trips to alternative modes. Adopt a TDM ordinance to establish effective requirements that reduce travel demand from existing and new development. Require projects to implement TDM programs.

4.7.4 CONCLUSION

New development, redevelopment, and transportation projects under General Plan Update would lead to increased GHG emissions. However, emissions per capita would be below the BAAQMD GHG efficiency threshold established to meet the AB 32 statewide emission target established.

Though development under the General Plan Update would result in energy usage beyond what is currently consumed in the City, the project is designed to encourage dense, mixed-use development to In addition. The General Plan Update includes multiple goals and policies to encourage energy efficiency through building design and transportation/land use patterns.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes existing hazards and hazardous materials in East Palo Alto and evaluates the potential for adoption and implementation of the proposed General Plan Update to impact hazards and hazardous materials.

4.8.1 REGULATORY REQUIREMENTS

Federal

Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials, including evaluation and remediation of contamination and hazardous wastes. Legislation enforced by the EPA includes the Resource Conservation and Recovery Act (RCRA) of 1976 (42 USC §6901 et seq.), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (commonly known as Superfund), and the Superfund Amendments and Reauthorization Act (SARA) of 1986 (e.g., Emergency Planning and Community Right-to-Know Act [EPCRA]). RCRA gives EPA the authority to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste, including procedures and requirements for handling hazardous wastes or soil or groundwater contaminated with hazardous wastes. CERCLA establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites, liability of persons responsible for releases of hazardous waste at these sites, and a trust fund to provide for cleanup when no responsible party can be identified. The EPA provides oversight and supervision for site investigations and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

U.S. Department of Transportation

The United States Department of Transportation (DOT) regulates the transportation of hazardous materials by truck and rail through the Hazardous Materials Transportation Act (HMTA), enacted in 1975 (49 USC Chapter 51). The DOT establishes criteria for safe handling procedures of hazardous materials, including the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. The federal government delegates enforcement authority to the states.

Occupational Safety and Health Administration

Established under the Occupational Safety and Health Act (29 USC Chapter 15) in 1970, the Occupational Safety and Health Administration (OSHA) is charged with ensuring safe and healthy working conditions in the United States. Its main goal is to ensure that employers provide employees with an environment free from recognized hazards, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. Approximately 2,100 OSHA inspectors, along with other experts and support staff, establish and enforce protective standards in the workplace. California, under an agreement with OSHA, operates an occupational safety and health program in accordance with Section 18 of the Occupational Safety and Health Act. The program applies to all public and private sector places of employment in the state, with the exception of federal employees, the U. S. Postal Service (USPS), private sector employers on Native American lands, maritime activities on the navigable waterways of the United States, private contractors working on land designated as exclusive federal jurisdiction, and employers that require federal security clearances.

National Response Framework

The 2013 National Response Framework, published by the Department of Homeland Security, is a guide to how the Nation responds to all types of disasters and emergencies. The Framework describes specific authorities and best practices for managing incidents that range from serious local to large-scale terrorist attacks or catastrophic natural disasters. In addition, the Framework describes the principles, roles, responsibilities, and coordinating structures for responding to an incident and further describes how response efforts integrate with those of the other mission areas.

Homeland Security Presidential Directive No. 5

Through the development of a National Incident Management System (NIMS), Presidential Directive 5 is intended to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies through a single, comprehensive approach to domestic incident management. The objective of the Directive is to ensure that all levels of government across the nation have the capability to work efficiently and effectively together, using a national approach.

Homeland Security Presidential Directive No. 8

Presidential Directive 8 establishes policies for strengthening national preparedness, including the National Preparedness Goal and Target Capabilities List. Directive 8 required the preparation of an implementation plan that described the departmental responsibilities and delivery timelines for the development of the national planning frameworks and associated interagency plans.

Stafford Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988 authorizes the government to provide assistance in emergencies and disasters when state and local capabilities are exceeded. The Stafford Act constitutes statutory authority for most disaster response activities especially as they pertain to the Emergency Management Agency (FEMA) and FEMA programs.

State

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 (Hazardous Materials Release Response Plans and Inventory) and California Code of Regulations, Title 19, Section 2729 set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. A business that uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.

Department of Toxic Substance Control

The Department of Toxic Substance Control (DTSC) works in conjunction with the EPA to enforce and implement specific laws and regulations pertaining to hazardous wastes. California legislation, for which the DTSC has primary enforcement authority, includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. Most state hazardous waste regulations are contained in the California Code of Regulations, Title 22 and 27. The DTSC often acts as the lead agency for soil and groundwater cleanup projects when the project is not under the purview of the Regional Water Quality Control Board (RWQCB) and establishes cleanup and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

Brownfields Programs

As cities age and patterns of development change, former industrial properties, gasoline stations, and other parcels with land uses associated with hazardous materials are often abandoned. These properties, where soils and groundwater are known or suspected to be contaminated, are often referred to as "brownfields." The threat of contamination and potential liability for cleanup costs tends to drive prospective developers away from brownfields.

A variety of state and federal programs have been established to encourage the safe reuse of brownfields properties. Grants, loans, and environmental insurance products for brownfields redevelopment projects are available from the U.S. EPA, California Environmental Protection Agency (Cal/EPA), and other agencies. State legislation, such as SB 1248, and other initiatives (i.e., the Gatto Act, Polanco Act, and the California Land Reuse and Revitalization Act) have made changes to regulatory oversight programs to make the process of remediation of brownfield sites more uniform and efficient.

DTSC and the RWQCB have also developed a number of remedial programs specifically designed to speed the investigation and remediation of low-risk brownfields properties. These include the Voluntary Cleanup Program (VCP), Expedited Remedial Action Program, Prospective Purchasers Agreement, and the Spills, Leaks, Investigation, and Cleanup (SLIC) Program.

California Environmental Protection Agency

Governor Executive Order W-5-91 created Cal/EPA in 1991. Several state regulatory boards, departments, and offices were placed under the Cal/EPA umbrella to create a cabinet-level voice for the protection of human health and the environmental and to assure the coordinated deployment of state resources. Among those responsible for hazardous materials and waste management are the DTSC, Department of Pesticide Regulation, and Office of Environmental Health Hazard Assessment. Cal/EPA also oversees the unified hazardous waste and hazardous materials management regulatory program, which consolidates, coordinates, and makes consistent the following six programs:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- Underground Storage Tank (UST) Program
- Aboveground Petroleum Storage Tank Act
- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs
- California Uniform Fire Code: Hazardous Material Management Plans (HMMPs) and Inventory Statements
- California Accidental Release Prevention (CalARP) Program

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health (Cal OSHA) is the responsible state-level agency for ensuring workplace safety. Cal OSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. In the event that a site is contaminated, a Site Safety Plan must be crafted and implemented to protect the safety of workers. Site Safety Plans establish policies, practices, and procedures to prevent the exposure of workers and members of the public to hazardous materials originating from the contaminated site or building.

California Emergency Services Act

The California Emergency Services Act (Chapter 7, Division 1, Title 2 of the California Government Code) confers emergency powers to the Governor and establishes the California Emergency Management Agency. The California Emergency Services Act also delineates the emergency responsibilities of state agencies and establishes the state mutual aid system.

Emergency Plan

The 2009 State of California Emergency Plan, in accordance with the California Emergency Services Act, describes the state-level strategy to support local government efforts during a large-scale emergency, including emergency preparedness, response, recovery, and mitigation actions. The State Emergency Plan describes methods for carrying out emergency operations, the process for rendering mutual aid, emergency services of government agencies, how resources are mobilized, how the public will be informed during an emergency or disaster, and continuity of government.

Certified Uniform Program Agency (CUPA) Program

A myriad of laws and regulations at the federal, state, and local levels regulate the management of hazardous materials. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the Cal/EPA. In turn, a local agency, the San Mateo County Health Department, Environmental Health Division (SMCEHD) has been granted responsibility for implementation and enforcement of many hazardous materials regulations in the County under the Certified Unified Program Agency (CUPA) Program.

The CUPA program was established under California Senate Bill 1082 to reduce the cost and improve the efficiency of hazardous materials regulations. The CUPA program encompasses several hazardous materials programs, including HMMPs, CalARP Program, UST programs, aboveground storage tank (AST) programs, and hazardous waste generation and disposal.

Hazardous Materials Management Plan

Businesses that store hazardous materials in excess of specified quantities must report their chemical inventories to SMCEHD by preparing a HMMP, also known as a Business Plan. This information informs the community on chemical use, storage, handling, and disposal practices. It is also intended to provide essential information to fire fighters, health officials, planners, elected officials, workers, and their representatives so that they can plan for and respond to potential exposures to hazardous materials.

California Accidental Release Prevention Program

Under the CalARP Program, businesses that use large quantities of acutely hazardous materials must prepare a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential.

Underground Storage Tank Programs

Due to fire hazards, flammable liquids, such as gasoline, have historically been stored in USTs, which can leak over time, posing risks to the general public and the environment. Current regulations require that USTs be installed, monitored, operated, and maintained in a manner that protects public health and the environment. Tanks must be constructed with primary and secondary levels of containment and be designed to protect public health and the environment for the lifetime of the installation. The USTs must be monitored for leaks and built such that a leak from the primary container into the secondary container will be detected. When a UST is proposed to be removed, a detailed permit application must be submitted to SMCEHD, which oversees removal activities to identify evidence of leakage.

Aboveground Storage Tank Programs

Inspections and permits are required for facilities storing hazardous materials in ASTs by SMCEHD. In addition, any facility operating ASTs with an aggregate tank capacity of 1,320 gallons or more must: 1) complete a Spill Prevention Control and Countermeasure (SPCC) plan to provide a detailed engineering analysis of the potential for release from ASTs present at a facility and the measures, such as

secondary containment and emergency response, that can be implemented to reduce the release potential and 2) file a storage statement, as required by the State Water Resources Control Board (SWRCB).

Hazardous Waste Generation and Disposal

Once a hazardous material has been used or processed, what remains may be considered a hazardous waste. Many items routinely used by residents and businesses, such as paints and thinners, cleaning products, and motor oil, are considered hazardous waste once they are ready for disposal. Nearly all businesses and residences in the City are expected to generate some amount of hazardous wastes (including household hazardous wastes). Hazardous waste generation and disposal regulations are administered and enforced by SMCEHD. Businesses that generate more than 100 kilograms of hazardous waste per month, or more than one kilogram of acutely hazardous waste, must be registered with RCRA and are subject to extensive regulations regarding storage and disposal. City businesses that do not exceed the RCRA thresholds can take advantage of San Mateo County's Very Small Quantity Generator (VSQG) program, which assists small businesses not subject to RCRA to dispose of their hazardous wastes safely and cost-effectively. San Mateo County conducts regular Household Hazardous Waste collection events at the Municipal Service Center in the City.

Office of Environmental Health Hazard Assessment

The mission of the Office of Environmental Health Hazard Assessment (OEHHA) is to protect and enhance public health and the environment by objective scientific evaluation of risks posed by hazardous substances.

State Water Resources Control Board

The SWRCB, through its regional boards, regulates discharge of potentially hazardous materials to waterways and aquifers and administers basin plans for groundwater resources in various regions of the state. The SWRCB provides oversight of sites at which the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions. The San Francisco Bay RWQCB has jurisdiction over East Palo Alto.

State Education Code and Public Resources Code

Section 17210 et seq. of the State Education Code, Section 21151.2, Section 21151.4, and Section 21151.8 of the Public Resources Code require that prospective school sites be reviewed to determine that such sites are not a current or former hazardous waste disposal site, a hazardous substance release site, or the site of hazardous substance pipelines. These laws also require consultation with local

hazardous materials agencies and air quality districts to ensure that no sites within ¼ mile of a school that handle or emit hazardous substances would potentially endanger future students or workers at the prospective school site.

California Department of Transportation

The California Department of Transportation (Caltrans) manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and inter-city rail services.

California Building and Fire Code

The California Building Code (CBC) is Part 2 of California Code of Regulations (CCR) Title 24. East Palo Alto has adopted the 2013 CBC for use in reviewing building permit applications. California Fire Code (CFC) is Part 9 of CCR Title 24. The City Building Official ensures that new and existing structures adhere to pertinent portions of the Building and Fire Codes.

California Department of Forestry and Fire Protection Fire Hazard Safety Zones

In accordance with California Public Resource Code Section 4201-4204 and Government Code Section 51175-51189, the California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), represent the risks associated with wildland fires. CAL FIRE has not designated any areas within the City of East Palo Alto as a high FHSZ.

Asbestos-Containing Materials Regulations

State-level agencies, in conjunction with the EPA and OSHA, regulate removal, abatement, and transport procedures for asbestos-containing materials (ACM). Release of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, state, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

Polychlorinated Biphenyls

The U.S. EPA prohibited the use of polychlorinated biphenyls (PCBs) in the majority of new electrical equipment starting in 1979, and initiated a phase-out for much of the existing PCB-containing equipment. The inclusion of PCBs in electrical equipment and the handling of those PCBs are regulated by the provisions of the Toxic Substances Control Act (TSCA; 15 U.S.C. Section 2601 et seq.). Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment and outlining highly specific safety procedures for their disposal. Likewise, the State of California regulates PCB-laden electrical equipment and materials contaminated above a certain threshold as hazardous waste. These regulations require that such materials be treated, transported, and disposed of accordingly. At lower concentrations for non-liquids, RWQCBs may exercise discretion over the classification of such wastes.

Lead-Based Paint

Cal OSHA's Lead in Construction Standard is contained in 8 CCR Section 1532.1. The regulations address all of the following areas: permissible exposure limits (PELs); exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection (MRP); employee information, training, and certification; signage; record keeping; monitoring; and agency notification. The Childhood Lead Poisoning Prevention Acts (CLPPA) of 1986 and 1989 with Subsequent Legislative Revisions (California Health and Safety Code, Division 106, Sections 24125 to 124165) declared childhood lead exposure as the most significant childhood environmental health problem in the state. The CLPPA established the Childhood Lead Poisoning Prevention Program and instructed it to continue to take steps necessary to reduce the incidence of childhood lead exposure in California.

Regional

San Mateo County Department of Environmental Health

The County Department of Environmental Health has several regulations regarding use of hazardous materials. County businesses must complete a Hazardous Materials Business Plan (Business Plan) for the safe storage and use of chemicals. Firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan in an emergency. There is also a Household Hazardous Waste Program. San Mateo County also has a Groundwater Protection Program and a San Mateo Countywide Pollution Prevention Program.

San Mateo County Office of Emergency Services

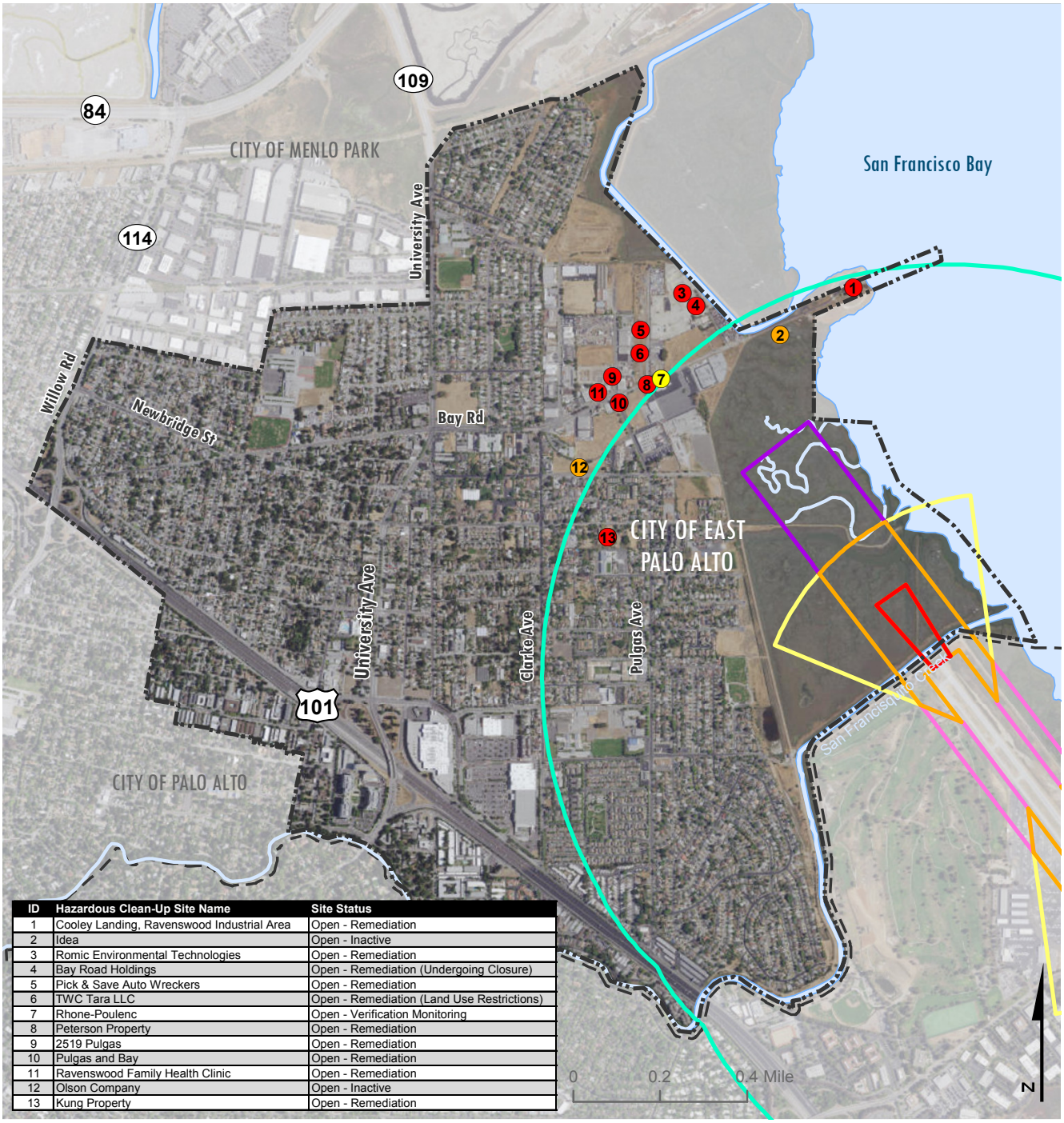
The San Mateo County Office of Emergency Services (OES) coordinates countywide preparedness, response, and protection services and activities for large-scale incidents and disasters. OES is responsible for alerting and notifying appropriate agencies within the County's 20 cities when disaster strikes; coordinating all agencies that response; ensuring resources are available and mobilized in times of disaster; developing plans and procedures in response to and recovery from disasters; and developing and providing preparedness materials for residents.

Palo Alto Airport Comprehensive Land Use Plan

The Santa Clara County Airport Land Use Commission (ALUC) adopted a Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport in 2008. The CLUP is intended to protect the safety of the nearby residents and to ensure that future surrounding land uses are compatible with the operation of the airport. The CLUP was prepared pursuant to Section 21675 of the California Public Utilities Code.

The CLUP defines safety zones around the airport, several of which intersect the planning area, as shown on **Figure 4.8-1**. These zones are intended to prevent development that is incompatible with airport operations and include specific regulations, such as height restrictions based on proximity to the airport and flight patterns. Only the Traffic Pattern Zone (TPZ) includes developed parts of the City; the other zones noted below cover the undeveloped Baylands area.

- Runway Protection Zone: The function of the Runway Protection Zone (RPZ) is to enhance the protection of people and property on the ground and aircraft occupants. RPZs should be clear of all objects, structures and activities.
- Inner Safety Zone: The Inner Safety Zone (ISZ) represents the approach and departure corridors that have the second highest level of exposure to potential aircraft accidents.
- Turning Safety Zone: The Turning Safety Zone (TSZ) represents the approach and departure areas that have the third highest level of exposure to potential aircraft accidents.
- Outer Safety Zone: The Outer Safety Zone (OSZ) is an area centered on the extended runway centerline and represents an area between the TSZ and TPZ.
- Traffic Pattern Zone: The TPZ is that portion of the airport area routinely overflown by aircraft operating in the airport traffic pattern. The potential for aircraft accidents is relatively low and the need for land use restrictions is minimal.



ID	Hazardous Clean-Up Site Name	Site Status
1	Cooley Landing, Ravenswood Industrial Area	Open - Remediation
2	Idea	Open - Inactive
3	Romic Environmental Technologies	Open - Remediation
4	Bay Road Holdings	Open - Remediation (Undergoing Closure)
5	Pick & Save Auto Wreckers	Open - Remediation
6	TWC Tara LLC	Open - Remediation (Land Use Restrictions)
7	Rhone-Poulenc	Open - Verification Monitoring
8	Peterson Property	Open - Remediation
9	2519 Pulgas	Open - Remediation
10	Pulgas and Bay	Open - Remediation
11	Ravenswood Family Health Clinic	Open - Remediation
12	Olson Company	Open - Inactive
13	Kung Property	Open - Remediation

Palo Alto Airport Protection Zones
- Inner Safety Zone
- Outer Safety Zone
- Runway Protection Zone
- Sideline Safety Zone
- Traffic Pattern Zone
- Turning Safety Zone

Hazardous Clean-Up Sites
- Open - Inactive
- Open - Remediation
- Open - Verification Monitoring

- East Palo Alto City Limits
- San Mateo County Boundary

Hazards – Airport Safety Zones and Hazardous Materials

Figure 4.8-1

Source: Airport Safety Zones, Santa Clara County Land Use Plan, 2008: State Water Resources Control Board, 2015; San Mateo County GIS Enterprise Database and Santa Clara County, 2012; EnviroStore, 2015; GeoTracker, 2015. Imagery: ESRI, 2015.

Several policies act to reduce the number of people potentially at risk from airplane accidents. Schools, hospitals, nursing homes, and other uses in which the majority of occupants are children, elderly, and/or disabled are prohibited within the RPZ, ISZ, TSZ, and OSZ. These uses are discouraged in the TPZ. Land uses prohibited within all safety zones include amphitheaters, sports stadiums, and other land uses that encourage a very high concentration of people. In addition, the TPZ requires that 10 percent of the gross area every half mile of the zone be set aside for open space. The other safety zones also have open space requirements ranging from 100 percent for the RPZ to 20 percent for the TSZ and OSZ.

Consistent with federal requirements to reduce the obstructions to airplane navigation, the CLUP restricts building height to a height between 154 and 354 feet over parts of the planning area. In addition, there are several uses that are prohibited in all Airport Safety Zones, including:

- "Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.
- Any use that would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.
- Any use which would generate smoke or water vapor, or which would attract large concentrations of birds, or which may otherwise negatively affect safe air navigation within the area.
- Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation, communication or navigation equipment."[1]

Association of Bay Area Governments Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area

The Federal Disaster Mitigation Act (DMA) of 2000 requires all cities, counties, and special districts to adopt a local Hazard Mitigation Plan (HMP) to receive disaster mitigation funding from FEMA. The DMA provides that a local agency may adopt a local HMP or participate in the preparation of and adopt a multi-jurisdictional HMP.

[1] Santa Clara County Airport Land Use Commission. 2008. Palo Alto Airport Comprehensive Land Use Plan. pp 4-9.

The Association of Bay Area Governments (ABAG) received funds from FEMA to serve as the lead agency in the creation of a multi-jurisdictional HMP for the nine-county Bay Area. With participation from the City of East Palo Alto and other local agencies, ABAG created an umbrella HMP entitled "Taming Natural Disasters."

Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan

The Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan (Evacuation Plan) was prepared for the Bay Area Urban Security Initiative Approval Authority on behalf of the counties and cities within the Bay Area region. The Evacuation Plan describes the general strategy for emergency response to an incident with regional impact. The Evacuation Plan was prepared in accordance with the standards of the NIMS, the California Standardized Emergency Management System, and other and state requirements and standards for emergency response plans applicable as of the date of the plan's preparation. The Evacuation Plan provides guidance only; it is intended for use in further development of response capabilities, implementation of training and exercises, and defining the general approach to incident response.

Local

City of East Palo Alto Annex to 2010 Association of Bay Area Governments Local Hazard Mitigation Plan

In 2011, the City of East Palo Alto adopted an Annex to the 2010 ABAG Local HMP. The annex serves to provide specific information about East Palo Alto's needs and priorities to supplement and enhance the effectiveness of ABAG's regional plan.

City of East Palo Alto Emergency Operation Plan

The City of East Palo Alto responds to emergencies following the guidelines in its 2011 Emergency Operation Plan.[2] The Plan identifies resources for emergency response and establishes coordinated action plans for specific emergency situations and disasters such as hazardous materials incidents and specifies emergency evacuation routes. These include University Avenue and Bay Road. The Plan incorporates the City of East Palo Alto into the National Incident Management System, California Standardized Emergency Management System, and Incident Command System.

[2] City of East Palo Alto. 2011. Emergency Operation Plan. January 2011, adopted April 5, 2011.

Menlo Park Fire Protection District

The Menlo Park Fire Protection District responds to hazardous or toxic spill incidents in the East Palo Alto area. The District has a Hazardous Materials Area Plan that guides emergency response procedures for hazardous materials incidents. The District also administers a weed abatement program intended to minimize the risk of grass/brush fires.

Community Emergency Response Team

The Menlo Park Fire Protection District sponsors a Community Emergency Response Team (CERT) Program. With support services from FEMA, the CERT Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT members assist others in their neighborhood or workplace following an incident when professional responders are not immediately available to help. CERT members are also encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

4.8.2 ENVIRONMENTAL SETTING

Hazardous Materials

As cities age and patterns of development change, former industrial properties, gasoline stations, and other parcels with land uses associated with hazardous materials (which can include agricultural uses) are often abandoned. These properties, where soils and groundwater are known or suspected to be contaminated, are often referred to as "brownfields" (described above in **Section 4.8.1**).

Several different types of hazardous material contamination have been documented in East Palo Alto in numerous previous studies (including but not limited to the Ravenswood/4 Corners TOD Specific Plan EIR, the Facebook EIR, and the 1999 General Plan EIR). The greatest concentration of affected sites is in the Ravenswood/4 Corners area, centered around Bay Road and the Cooley Landing area (see **Figure 4.8-1**). This area was historically home to numerous industrial uses dating back to the 19th century.

The handling, use, and disposal of hazardous materials were not as tightly regulated as they are today; consequently, moderate to substantial contamination of soils and groundwater persists at many such sites. Polychlorinated biphenyls (PCBs), metals, petrochemicals, and other harmful materials can be found at such sites. Many of

these sites are currently undergoing clean-up activities, and others have restrictions that prohibit sensitive uses like homes or schools to be placed on top.

Besides industrial sites, other documented sources of hazardous materials in the City include areas of uncontrolled fill and areas formerly in agricultural use. Though agricultural uses may sound relatively benign when compared to industrial uses or gas stations, former agricultural properties will often have pesticide residue in the top two feet or more of soil.

In addition, buildings constructed and/or painted before the late 1970s may contain asbestos and/or lead-based paint; demolition or removal of such buildings must conform to federal and state policies to ensure the safe handling and disposal of hazardous materials.

As a result of a cluster of agricultural, heavy manufacturing, chemical manufacturing and auto wrecking uses, the City of East Palo Alto was nominated a Brownfields Showcase Community in 1997. The Gateway 101 and University Circle area brownfields were redeveloped, and now contribute significant revenue to the City's general fund. The adoption of the Ravenswood/4 Corners TOD Specific Plan is the first major step to remediate the City's remaining brownfields.

As part of the General Plan Update, the City conducted a search of spill and hazardous material databases (GeoTracker and EnviroStor). Those searches identified several locations in East Palo Alto, largely within the Ravenswood 4 Corners area, as having records of soil and/or groundwater contamination. The sites identified in the database search are shown in **Figure 4.8-1.**

Ravenswood/4 Corners Area

The Ravenswood area was historically used for agricultural land industrial operations, many of which have since ceased. Control of hazardous materials was generally not as strict as today's laws and regulations. Consequently, many of these properties have been identified In the Ravenswood/4-Corners Specific Plan EIR as containing moderate to significant levels of contamination. Chapter 4 of the Ravenswood/4 Corners TOD Specific Plan EIR identifies a number of these properties. These properties are shown in **Figure 4.8-1**.

Cooley Landing Area

Most of the 11.5-acre peninsula of Cooley Landing was created by dumping refuse into the Bay from 1932 through 1957 when it was used as a County dump. Cooley Landing is composed of three parcels, two of which are owned by the Midpeninsula Regional Open Space District, and one of which is owned by the City. A well used for irrigation (non-potable) purposes is located there.

In 2006 the property was transferred from the Peninsula Open Space Trust (POST) to the City of East Palo Alto. A deed restriction prevents industrial or residential use or activity on the parcel, except for a caretaker on the premises. The fill soils imported during its operation as a landfill are of unknown origin and have potential to contain hazardous substances. Metals, PCBs, polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs) and total petroleum hydrocarbons (TPH) in excess of commercial and residential environmental screening levels (ESLs) are present in several areas of the site, including areas that will be used recreationally when the area becomes a park. Methane and other potentially explosive gases do not appear to be present at levels of concern under existing buildings.

On-Going Use, Transport, and Storage of Hazardous Materials

Industrial land uses in East Palo Alto currently use, transport, and store, and would continue to use, transport, and store, hazardous materials. Even non-industrial users, such as homes and businesses, handle small, routine amounts of hazardous materials. These materials include, but are not limited to, gasoline, pesticides, herbicides, fertilizers, paints, solvents, thinners, and similar chemicals.

Figure 4.8-2 shows existing, proposed future, and discontinued truck routes in East Palo Alto, where routine transport of hazardous materials and disposal from active remediation sites occurs. Existing truck routes in East Palo Alto include portions of University Avenue, East Bayshore Road, West Bayshore Road, Donohoe Street, Willow Road, and Bay Road. The new street to be constructed as part of the Ravenswood/4 Corners TOD Specific Plan is a proposed future truck route.

A major Pacific Gas & Electric Company (PG&E) gas transmission pipeline is located in south-central East Palo Alto, extending in a general east-west direction. PG&E implements leak surveys, safety tests, retrofitting, and vegetation removal programs to reduce the potential for local impacts related to this pipeline.

Airports

A potential hazard results from the City's proximity to the Palo Alto Airport and associated aircraft operations at this airport. Areas of potentially heightened risk extend into southeastern East Palo Alto, where land use type, density, and building height restrictions are recommended to offset risks. **Section 4.8.1** above describes each of the safety zones around the airport. The TPZ is the only airport safety zone that contains developed land, encompassing the Baylands, most of the Gardens neighborhood, and portions of Weeks, 4 Corners, and Ravenswood. Portions of the Baylands also include the RPZ, ISZ, TSZ, and OSZ. **Figure 4.8-1** depicts the location of Palo Alto Airport safety zones within the City of East Palo Alto.

Truck Routes **Figure 4.8-2**

Source: City of East Palo Alto; City of Palo Alto; San Mateo County; ESRI

As noted above, the CLUP for the Palo Alto Airport establishes a noise restriction area based on existing and future aircraft operations, a height restriction area for future building, and a safety restriction area related to potential aircraft hazards.

The Airport Land Use Compatibility Plan notes that annual aircraft operations totaled 212,626 in 2002 with projections of annual operations of 227,509 by 2022.

Flooding and Sea Level Rise

Flooding and sea level rise are considered a hazard in the City, and are discussed in detail in **Section 4.9, Hydrology and Water Quality**.

Tsunamis and Seiches

Tsunamis are long sea waves, generated by displacements associated with earthquakes. These waves can reach great heights when they encounter shallow water. According to findings reported in the Redwood City Seismic Advisory Board report, the largest tsunami recorded at the Golden Gate was 3 feet high.[3] Given East Palo Alto's location in the southern margin of the Bay, more than 20 miles from Golden Gate, any tsunami wave is likely to substantially attenuate before reaching the City. As such, the potential for tsunamis to affect East Palo Alto is low to remote. Marshland bordering the City also provides a natural buffer against tsunami impacts.

Seiches are caused by seismically induced ground motions imparted to bodies of water that cause them to oscillate from side to side. The possibility of seiches causing serious damage in the planning area is extremely low, as the potential for tsunamis is low to remote, and further reduced by the tidal marsh areas.

4.8.3 THRESHOLDS OF SIGNIFICANCE

A significant impact to hazards and hazardous materials could occur if development allowed by the General Plan Update would:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

[3] City of Redwood City. 1972. Seismic Advisory Board Report.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport public use airport, would the project result in a safety hazard for people residing or working in the project area.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

h) Expose people or structures to a significant loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.4 ENVIRONMENTAL IMPACTS

Adoption of the General Plan Update would have the potential to indirectly impact exposure to hazards and hazardous materials via future development projects allowed under the General Plan Update. As described below, with adherence to existing federal, state, and local regulations governing hazards and hazardous materials, along with numerous General Plan Update goals and policies, all program-level effects to hazards and hazardous materials would be less-than-significant.

The following program-level effects on the level of risk associated with hazards and hazardous materials would be less-than-significant with adherence to federal, state and local requirements and applicable Goals and Implementing Policies contained in the Safety and Noise Element of the General Plan Update (described below).

a) Impacts related to the routine transport, use, or disposal of hazardous materials (less-than-significant impact).

Future development allowable under the General Plan Update could involve the transport, use, or storage of hazardous materials within the community. As noted in **Section 4.8.2** above, routine use and transport of hazardous materials currently occurs and would continue to occur under the General Plan Update.

The General Plan Update would encourage new development citywide; some locations where development would take place would be on sites with contaminated soils and groundwater. Future development on previously contaminated land due to a change in land use designation from industrial to mixed uses would promote the remediation (i.e., clean-up) of contaminated sites, thereby reducing the future risk of the release of hazardous materials in these areas. Remediation of contaminated sites would constitute a beneficial impact of the General Plan Update. However, site remediation activities would require extraction and transport of hazardous materials to an off-site hazardous waste disposal facility, none of which are located in East Palo Alto. Cleanup could entail excavation and transport of contaminated soils. Transport of hazardous chemicals and contaminated soils could potentially result in the accidental release of hazardous materials.

As noted above in the discussion of regulatory requirements, the use, transport, and disposal of hazardous materials is strictly regulated and controlled by federal, state, and local regulations. In addition, the General Plan Update contains the following goals and policies intended to further reduce risks associated with the transport, use, or disposal of hazardous materials:

Safety and Noise Element Goal SN-4. Protect the community from public safety hazards related to aircraft, surface transportation, and hazardous materials.

- *Policy 4.1, Contamination.* Avoid or minimize risk to the community from exposure to contaminated soils or groundwater.
- *Policy 4.2, Management of hazardous materials.* Continue to cooperate with federal, state, and county agencies to effectively regulate the management of hazardous materials and hazardous waste.
- *Policy 4.3, Risk Management Plans.* Continue to cooperate with the Certified Unified Program Agency (CUPA) for East Palo Alto (the County of San Mateo Health System) and the Menlo Park Fire Protection District to administer Risk Management Plans for businesses within the City.

With adherence to the above General Plan Update goals and policies as well as applicable federal, state, and county requirements and other provisions of the East Palo Alto Municipal Code, impacts related to the transport, use, and disposal of hazardous materials would be less than significant.

b) Impacts on the public through reasonably foreseeable upsets and accidents involving release of hazardous materials (less than significant with mitigation).

Future construction of new buildings under implementation of the General Plan Update could have the potential to release potentially hazardous soil-based materials into the environment during site grading and excavation operations. Likewise, demolition of existing structures could have the potential to release hazardous building materials (e.g., asbestos, lead-based paint) into the environment. Remediation of sites, including groundwater and soil, contaminated with hazardous materials could accidently release contaminated materials into the environment, which would be significant. As discussed above, remediation of contaminated sites would ultimately confer benefits to the City by reducing the number of contaminated sites in East Palo Alto. However, transport of hazardous materials off site for disposal would also pose a risk of accidental release of hazardous materials into the environment.

A major Pacific Gas & Electric Company (PG&E) pipeline is located in south-central East Palo Alto, extending in a general east-west direction. There is a distinct possibility that the pipeline could be breached or disturbed so that an explosion or similar incident could occur. Following the deadly PG&E gas transmission pipeline explosion in San Bruno in 2010, PG&E has initiated improvements to recordkeeping, risk management and emergency response procedures, and pipeline testing and monitoring, among others. In addition to PG&E's safety procedures mentioned above, adherence to the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure HAZ-1: Amend the General Plan Update to include the following policy in the Safety and Noise Element Goal SN-4: The City shall coordinate with the Menlo Park Fire Protection District, and other local, regional, and state agencies to ensure that emergency evacuation plans are in place and any major pipelines in the community are appropriately inspected and marked to prevent accidental rupture.

Adherence to General Plan Update Goal SN-4 contained in the Safety and Noise Element and policies 4.1, 4.2, and 4.3, and Mitigation Measure HAZ-1 in conjunction with applicable federal, state, and regional regulations and requirements would ensure this impact is less than significant.

c) Result in the emission or handling of hazardous materials within one-quarter mile of an existing or planned school (less-than-significant impact).

The City of East Palo Alto is served by K-12 public schools operated by the Ravenswood School District and the Sequoia Union High School District. The General Plan Update includes land use designations but does not propose any actual development. As such, it is not known at this time if a future specific use or activity would generate hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

Industrial land use designations have the highest likelihood of having businesses that could result in the emission or handling of hazardous materials. Industrial development with hazardous materials uses and emissions could increase within close proximity of two existing schools under the General Plan Update.

Costaño Elementary School is located in low-density residential area that would be reclassified as public/institutional under the General Plan Update. A number of existing industrial uses are located within one-quarter mile of the school. The General Plan Update would not increase the amount of land designated for industrial uses within one-quarter of the school.

East Palo Alto Charter School is in a low-density residential area that would be reclassified as public/institutional under the General Plan Update. However, it is less than 400 feet south of a vacant parcel that would be reclassified as industrial buffer under the General Plan Update.

Nevertheless, all hazardous materials would be handled in accordance with federal and Fire District requirements, which would limit the potential for a project to expose nearby uses, including public schools, to hazardous materials or accidental release of such substances. Hazardous emissions are monitored by the Bay Area Air Quality Management District (BAAQMD), San Francisco Bay RWQCB, the State Department of Toxic Substances Control, and the local CUPA. In the event of a hazardous material release, local public schools would be notified and any emergency procedures adopted by the particular school district activated. Cleanup operations would be completed under the direction of appropriate federal, state, or local agency with appropriate jurisdiction, based on the particular incident.

Compliance with all existing regulations as well as General Plan Update Policy SN-4 and Implementing Policies 4.1, 4.2, and 4.3 will reduce this impact to a less-than-significant level.

d) Be located on a list of sites with hazardous materials included on the Cortese List and could create a significant hazard to the public (less-than-significant impact).

The provisions of Government Code 65962.5, which are commonly referred to as the Cortese List, require the DTSC, the Regional Water Board, the California Department of Health Services, and the California Integrated Waste Management Board to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases to the Secretary of Cal/EPA. Unauthorized releases of hazardous materials on Cortese sites within East Palo Alto could affect human health and the environment. Direct contact, inhalation, or ingestion of hazardous materials could potentially cause adverse health effects to construction workers and future site users. The disturbance and release of hazardous materials, if present, during earthwork activities could pose a hazard to construction workers, nearby receptors, and the environment. Policies contained in the General Plan Update Goal SN-4, described above, would reduce this potential impact to a less-than-significant level.

e) and f) Located within an airport land use plan area or within the vicinity of a private airport or airstrip (less-than-significant impact).

As documented in **Section 4.8.2** above, portions of East Palo Alto are included in the Palo Alto Airport Comprehensive Land Use Plan. Figure 4.8-1 identifies the presence of an airport TPZ, ISZ, OSZ, and RPZ that extend into the southeastern portion of East Palo Alto. Within these various safety zones, there is a possibility of crashes or other potential safety incidents from aircraft using the Palo Alto Airport.

Some existing schools are located within the TPZ, which has the lowest potential for aircraft accidents of the safety zones. The General Plan Update does not contemplate significant land use changes within the TPZ. Except for the TPZ, each of the airport safety zones overlay non-buildable Resource Management or Parks/Recreation/Conservation land use designations on the General Plan Update Land Use Designation Figure. No major permanent structures, residents, or employees would be located within the ISZ, OSZ, or RPZ. There is a remote and less-than-significant chance that future visitors to the Don Edwards San Francisco Bay National Wildlife Refuge could be subject to aircraft crashes or similar incidents; however, uses of the refuge do not contemplate significant concentrations of visitors or users, thus this risk would be less than significant.

The General Plan Update contains a policy in Goal SN-4 (described above) intended to protect the community from public safety hazards from aircraft, among other hazards:

- *Policy 4.5, Airport land use plan*. Coordinate with the Santa Clara County ALUC and Palo Alto Airport Comprehensive Land Use Plan (CLUP) and consider the CLUP in making any land use decisions in airport influence area.

With adherence to the CLUP and use of CLUP safety zones when making future land use decisions in the southeastern portion of the community, impacts related to airport safety hazards would be less than significant.

g) Impair the implementation or physically interfere with an adopted emergency response plan or an emergency evacuation plan (less-than-significant).

The General Plan Update would allow a variety of new development, including residential, commercial, industrial, and public infrastructure projects, which would result in increased employment and population in the community (beyond existing conditions and those contemplated in the current General Plan). The General Plan Update's set of Implementation Programs identifies a number of conceptual improvements to the transportation network. Most of these conceptual improvements are intended to improve pedestrian and bicycle conditions and implementing traffic calming measures. At the programmatic level, there is insufficient information to assess with certainty that such improvements would or would not interfere with emergency response/the emergency evacuation network, but the City would develop plans for such improvements with emergency-related factors in mind, consulting as appropriate with emergency response providers. As such proposed improvements advance in design, project-specific environmental review (if required) should assess the potential for such improvements to impair/impede emergency response/evacuation plans.

At the programmatic level, the City's continued participation in careful emergency and hazard mitigation planning (as set forth below within a Safety and Noise Element Goal) would help minimize the introduction of impairments/impedances to the City's emergency response system and emergency evacuation plans. Program-level impacts would thus be less than significant. However, any project-specific environmental review that may be required for the evaluation of future roadway network changes will consider the potential for such changes to affect local and/or Citywide emergency responses.

Safety and Noise Element Goal SN-5. Provide efficient and effective emergency response in the immediate aftermath of a natural or human caused disaster.

- *Policy 5.2, Hazard mitigation planning.* Continue to participate in Local Hazard Mitigation Planning through the Association of Bay Area Governments (ABAG), San Mateo Office of Emergency Services, FEMA, and surrounding jurisdictions.

h) Expose people or structures to significant risk, including injury or death, involving wildland fires or where residences are intermixed with wildlands (less-than-significant impact).

Wildfires pose a potential hazard to people and property and generally occur in rural foothill and mountainous areas. The severity of wildfires depends on both vegetation (i.e., fuel) characteristics and abiotic (i.e., weather and climate) conditions. In recent years, California's historic drought has enhanced wildfire danger in areas with plentiful available fuel.

The risk of wildfire is limited in East Palo Alto due to its location in a highly urbanized portion of San Mateo County, with San Francisco Bay forming the eastern boundary of the community. The CAL FIRE FHSZ Map for San Mateo County depicts East Palo Alto as lying outside of a State Responsibility Area for wildfires, which means that local responsibility for fire protection falls to city fire departments, fire protection districts, counties, and CAL FIRE under contract to local government.

Development that would occur under the General Plan Update would not place people or structures in areas of significant wildfire hazard. Future development allowed under the General Plan Update would be required to comply with provisions of federal, state, and local requirements related to wildland fire hazards, including the CBC and applicable fire codes. This impact would be less than significant. The following updated General Plan policies seek to reduce the risk of fire and wildfire:

Safety and Noise Element Goal SN-3. Reduce the risk of fire and wildfire hazards in the community.

- *Policy 3.1, Response times.* Continue to support MPFPD in helping maintain adequate emergency response times. Work with MPFPD to identify choke points to help ensure continuation of adequate emergency response in all of East Palo Alto.
- *Policy 3.2, Fuel reduction strategies.* Continue to coordinate with the Mid-Peninsula Regional Open Space District and other bayfront property owners to consider implementing fuel reduction/weed abatement in areas of highest risk.
- *Policy 3.3, Location of critical services and facilities.* Continue to avoid placing, essential services and critical facilities in areas of elevated risk of wildfire. If critical facilities cannot be located outside of risk zones, ensure that facilities are constructed to appropriate standards to maintain operations during and after disaster events.
- *Policy 3.4, Fire Safe San Mateo County.* Continue to support Menlo Park Fire Protection District's participation in the Fire Safe San Mateo County program.

- *Policy 3.5, Fire buffer zones.* Encourage property owners near hazard areas to implement and maintain buffer zones from the riskiest areas.
- *Policy 3.6, Development Impact Fee.* Coordinate with MPFPD in examining an impact fee on new development in order to help ensure provision of services in the event of demand increases.

4.8.5 CONCLUSION

Adoption and implementation of the General Plan Update could have indirect adverse impacts related to exposure to hazards and hazardous materials. Less-than-significant impacts would be expected for impacts related to the routine transport, use, or disposal of hazardous materials; accidents involving the release of hazardous materials; hazardous material release sites; handling of hazardous materials within one-quarter mile of schools; interference with an adoption emergency response or evacuation plan; and exposure of people or structures to significant risks involving wildland fires. Future development allowed under the General Plan Update would comply with federal, state, and local regulatory requirements and plans, as well as applicable goals and policies contained in the General Plan Update.

4.9 HYDROLOGY AND WATER QUALITY

This section describes hydrologic and flooding characteristics of the City and vicinity and analyzes the potential for the project to impact water quality, groundwater and surface water supplies, groundwater recharge, surface drainage and flooding.

4.9.1 REGULATORY REQUIREMENTS

Federal

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRMs) that identify areas at elevated risk of flooding.

A typical FIRM will show specific flood hazard areas, flood risk zones, and floodplains and floodways at a local level of detail. In some identified flood hazard zones, certain types of construction and/or uses are prohibited or are required by mortgage lenders to carry flood insurance.

FIRM maps typically identify flood channels as well as areas at risk of flooding during a 100-year and 500-year flood event. FEMA sets for design standards for flood protection/avoidance related to flood zone risk levels.

FEMA also administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. East Palo Alto participates in NFIP that makes available federally backed flood insurance for all structures, whether or not they are located within the floodplain.

The FEMA Zone designation affects the flood insurance premium. The areas of special flood hazard were identified in a study in 2015 that was published along with the FIRM map.[1] The study and all subsequent amendments and/or revisions were adopted by reference into Section 15.52 of East Palo Alto's Municipal Code.

The NFIP sets management standards for development in floodplain areas. Among these are requirements and procedures for evaluating earthen levee systems and

[1] FEMA, 1984-2015. Flood Insurance Study (FIS; dated March 19, 1984-July 16, 2015) and Flood Insurance Rate Map (FIRM; dated September 19, 1984-October 16, 2012). These are on file at the Community Development Department.

mapping the areas affected by those systems.[2] FEMA evaluates levee systems for their ability to provide protection from 100-year flood events. Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage. FEMA documents the results of their evaluations in the FEMA Levee Inventory System (FLIS).

U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, and the Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) of 1972 is the primary federal law regulating water quality in the United States, and forms the basis for several State and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribed the basic federal laws for regulating discharges of pollutants as well as set minimum water quality standards for all "waters of the United States." Several mechanisms control domestic, industrial, and agricultural pollution under the CWA. At the federal level, EPA administers the CWA. At the State and regional level, the State Water Resources Control Board (SWRCB) administers and enforces the CWA. Wetland protection elements administered by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed in **Section 4.4, Biological Resources**.

Under Section 401 of the CWA, an applicant for a Section 404 permit to discharge dredged or fill material into waters of the United States must first obtain a certificate from the appropriate State agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the SWRCB to the nine Regional Water Quality Control Boards (RWQCBs).

Under federal law, the EPA has published water quality regulations under Part 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the EPA to publish advisory water quality

[2] Federal Emergency Management Agency (FEMA), 2014, Guidelines and Standards for Flood Risk Analysis and Mapping. Retrieved from http://www.fema.gov/media-library/resources-documents/collections/361.

criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the EPA has designated the SWRCB and its RWQCBs with authority to identify beneficial uses and adopt applicable water quality objectives.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4s). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and urban stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The City of East Palo Alto is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (Order No. R2-2015-0049) and NPDES Permit No. CAS612008, issued on November 19, 2015 and in effect starting on January 1, 2016. San Mateo County and 11 cities and two towns, including East Palo Alto, are co-permittees under the permit, which covers a total of 76 co-permittees in the Bay Area.

Under Provision C.3 of the Municipal Regional Stormwater Permit (MRP), the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects. The measures address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows, primarily through the implementation of low impact development (LID) techniques. In addition, one of the new provisions under the recently issued MRP is the requirement to implement a Green Infrastructure Plan that incorporates LID

drainage design into storm drain infrastructure on public and private land, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements. The intent of the Plan is to shift from "gray" or traditional storm drain infrastructure, where runoff flows directly into the storm drain and then into the receiving water, to a more sustainable "green" system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.

The NPDES Program also covers stormwater discharges and waste discharge requirements (WDRs) for industrial activities. The NPDES General Permit for stormwater industrial discharges was recently revised and became effective on July 1, 2015 as Order No. 2014-0057-DWQ and NPDES No. CAS000001. Designated industrial sources are required to submit Permit Registration Documents (PRDs) to the SWRCB, implement Best Available Technology (BAT), prepare a Stormwater Pollution Prevention Control Plan (SWPPP), and comply with stormwater monitoring requirements. The NPDES Program also regulates point discharges through the WDR program. One wastewater NPDES permit has been issued to the Palo Alto Regional Water Quality Control Plant (PARWQCP), which is the regional wastewater treatment plant that serves the East Palo Alto Sanitary District (EPASD); Cities of Los Altos, Los Altos Hills, Palo Alto, and Mountain View; and Stanford University. The WDR permit requirements are set forth in Order No. R2-2014-0024 (NPDES No. CA0037834). The PARWQCP also must comply with two watershed permits, the region-wide Mercury and PCB Watershed Permit (Order No. R2-2012-0096) and the Nutrient Watershed Permit (Order No. R2-2014-0014). Additional information on the PARWQCP is provided **Section 4.15, Utilities and Service Systems**.

Executive Order 13690 - Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input

Adopted on January 30, 2015, Executive Order 13690 is intended to improve the community resilience against the impacts of flooding and recognize the risks and losses due to climate change and other threats. Executive Order 13690 proposes a new Federal Flood Risk Management Standard, which allows agencies to select from three approaches for establishing the flood elevation and hazard area during project siting, design, and construction.

These three approaches are as follows:

1) Use data and methods informed by best-available, actionable climate science;
2) Build two feet above the 100-year (1-percent-annual-chance) flood elevation for standard projects, and three feet above for critical buildings like hospitals and evacuation centers; or
3) Build to the 500-year (0.2-percent-annual-chance) flood elevation.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1969 is California's statutory authority for the protection of water quality. Under the Act, the State must adopt water quality policies, plans and objectives that protect the State's waters for the use and enjoyment of the people. The Act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update water quality control plans (Basin Plans). Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. East Palo Alto falls under the San Francisco Bay Region Hydrologic Basin Planning Area Map.

The Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge (RWD) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals.[3]

State Regulatory Agencies

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) for drinking water regulations, the California Department of Pesticide Regulation, California Department of Fish and Wildlife, and the Office of Environmental Health and Hazard Assessment.

[3] Porter-Cologne Water Quality Act. 2016. Retrieved from http://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. East Palo Alto is within the jurisdiction of the San Francisco Bay RWQCB.

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the RWQCB's master water quality control planning document. It designates beneficial uses and water quality objectives for "waters of the State," including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan established water quality objectives for total dissolved solids (TDS), mineral constituents, and turbidity on a watershed-by-watershed basis within the region, while objectives for total and fecal coliform bacteria, nutrients (total nitrogen and total phosphorus), pH, dissolved oxygen, and un-ionized ammonia are set on a region-wide basis.

Additionally, water quality objectives for toxic organic and toxic inorganic constituents are established by the corresponding State and federal drinking water standards for waters designated as municipal supply. The RWQCB also implements the Federal California Toxics Rule Water Quality Standards for Toxic Pollutants (CTR) established by the EPA in Title 40, Section 141.38 of the Code of Federal Regulations. The California Toxics Rule establishes numeric criteria for cyanide, metals, and toxic organic constituents.

Under Section 303(d) of the CWA, States, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by the relevant regulatory agency. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop a Total Maximum Daily Load (TMDL)—a calculation of the maximum amount of a pollutant that the impaired water body can receive and still safely meet water quality standards.[4] The TMDL approach provides a framework for evaluating pollution control efforts and for coordination between federal, State, and local efforts to meet water quality standards. TMDLs are adopted as amendments to the Basin Plan. A TMDL project for sediment impairment is currently underway on San Francisquito Creek that runs immediately

[4] U.S. Environmental Protection Agency (EPA). Impaired Waters and Total Maximum Daily Loads. Accessed February 25, 2010. Retrieved from http://www.epa.gov/OWOW/tmdl/.

south of the Plan Area in East Palo Alto.[5] The Basin Plan also establishes a limited number of numerical quality objectives for groundwater.

California Fish and Game Code

The CDFW protects streams, water bodies and riparian corridors through the streambed alteration agreement process under Section 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

Assembly Bill 162 (Local Planning)

Assembly Bill (AB) 162 amended several sections of California Government Code related to General Plan requirements. In particular, AB 162 required that cities and counties address flood management in the Land Use, Conservation, Safety, and Housing Elements of their general plans. This ensures that flood management is addressed in general plans in the following ways:

- Requires that areas subject to flooding, as identified by federal and State maps of floodplains, are identified in the Land Use Element for annual review.
- Requires that rivers, creeks, streams, flood corridors, riparian habitat and land that may accommodate floodwater for specified purposes are identified.
- Requires that flood hazard zones are identified and policies to avoid or minimize the unreasonable risks of flooding are established in the Safety Element.
- Permits areas where the flood management infrastructure is inadequate and housing development impractical to be excluded from the determination of land suitable for urban development in the Housing Element analysis.

[5] Cal/EPA San Francisco Bay RWQCB. Total Maximum Daily Loids (TMDLs) and the 303(d) List of Impaired Water Bodies. Accessed August 19, 2011. Retrieved from http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/.

Assembly Bill 70 (Flood Liability)

AB 70 modified the California Water Code to distribute responsibility for flood control damage among State and local entities. AB 70 requires local governments to contribute their fair share to the cost of flood damage when flood damage is related to local development decisions (such as to locate sensitive development in areas with elevated flood risk).

Local Plans and Policies

State Water Quality Control Board

NPDES Construction General Permit

Construction activities that disturb one acre or more of land, and construction on smaller sites that are part of a larger project, must comply with a Construction General Permit that regulates the flow of stormwater from construction sites. Site owners must notify the State, prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), and monitor the effectiveness of the plan. The plan, which must also address control of pollutants in stormwater post-construction, does not have to be submitted to the RWQCB but must be on site and available to inspectors. A SWPPP must include "Best Management Practices" (BMPs) designed to reduce potential impacts to surface water quality through the construction and life of the project.

On September 2, 2009, the SWRCB adopted a new NPDES general permit pertaining to construction (Order No. 2009-0009 DWQ, amended in 2012 by Order 2012-006 DWQ). The "Construction General Permit," formally titled the "General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities," expands the regulatory requirements pertaining to the treatment and control of stormwater effluent resulting from demolition, construction, and development activities.

NPDES Industrial Storm Water Permit

NPDES permits are also required for point source discharges of stormwater from specified types of industrial and commercial operations that discharge either directly to surface waters or indirectly through municipal separate storm sewers. These activities include manufacturing operations, transportation facilities where vehicles are maintained, landfills, hazardous waste sites, and other operations. The SWRCB is the permitting authority and has adopted a statewide General Permit for Discharges of Storm Water Associated with Industrial Activities (General Industrial Permit, SWRCB, 1997). Regulated facilities must submit a Notice of Intent, prepare

and implement a SWPPP specifying BMPs to control pollution in stormwater discharges, and monitor to demonstrate compliance with the permit.

Regional Water Quality Control Board (San Francisco Bay Region)

NPDES Municipal Regional Permit Post-Construction Stormwater Quality

East Palo Alto, as a permittee under the NPDES Municipal Regional Permit (MRP, 2015) has the authority to administer section C.3 regarding post-construction stormwater controls. The provisions require the installation of post-construction BMPs for new development as part of the federal NDPES program, and set standards for their implementation. The intent of these regulations is to rigorously control the quality and quantity of stormwater runoff from any new development that creates or replaces impervious area over 10,000 square feet (or 5,000 square feet for high water quality risk sites), so that receiving waters downstream are not adversely impacted.

To comply with these requirements, projects meeting these criteria are required to install water quality stormwater runoff BMPs that filter or treat rainfall runoff generated from storm events up to approximately the 85th percentile rainfall event (or approximately the 1-inch storm event) before discharging into storm drains or natural drainage systems. Projects are required to capture 100 percent of rainfall runoff from new impervious surfaces and to treat it in post-construction stormwater systems. Projects are required to implement Low Impact Development (LID) techniques such as harvesting and re-use, infiltration, evapotranspiration, and bioretention. Some high-density, infill, or transit-oriented development may qualify as a Special Project and therefore allowed to use a certain percentage of non-LID stormwater treatment BMPs on site.

The San Mateo Countywide Pollution Prevention Program (SMCWPPP) emphasizes the integration of stormwater management features into streets and parking lots as part of a new urban landscape and provides resources and technical guidance on how to design, permit, and maintain post-construction stormwater controls in order to meet the current stormwater management requirements mandated in Provision C.3 of the Regional Municipal Stormwater Permit.[6,7] An emphasis is placed on the integration of stormwater features such as bioretention facilities into areas such as streetscapes or parking facilities using low impact development techniques.

[6] San Mateo County. 2009. *San Mateo County Sustainable Green Streets and Parking Lots Guidebook*.

[7] San Mateo Countywide Stormwater Pollution Prevention Program. 2010-2014. *C.3 Stormwater Technical Guidance: A Handbook for Developers, Builders and Project Applicants.*

Municipal Operations

Under Regional Board Revised Tentative Order R2-2015-0XXX (November 10, 2015), numerous Bay Area jurisdictions, including East Palo Alto, are subject to water quality protection requirements governing routine maintenance activities. These requirements cover repair, maintenance, pavement washing, and graffiti removal activities for facilities such as streets, roads, sidewalks, and plazas. In addition to washing activities, stormwater pump stations are subject to regulations that include collecting bi-annual dissolved oxygen (DO) data and trash load data. Based on DO levels, corrective actions such as aeration may be required to maintain minimum DO in stormwater. Order R2-2015-0XXX also contains requirements for maintenance projects adjacent to creeks or wetlands, and requires SWPPPs for corporation yard projects not already covered under the SWRCB's Industrial Stormwater NPDES General Permit.

Water Treatment Plants Discharge Permits

Sewage collected by the East Palo Alto Sanitary District (EPASD) is treated at the Palo Alto Regional Water Quality Control Plant (PARWQCP). The PARWQCP treats wastewater from the EPASD, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford University. Discharge from the PARWQCP is required to meet stringent standards to protect the health of the South Bay, where the water is discharged.[8] The PARWQCP operates under the conditions of a RWQCB discharge permit that regulates the discharge limits. The discharge permit (NPDES Permit Number CA0037834), adopted in June 2014, is in effect until July 31, 2019.[9,10]

San Francisco Bay Area Conservation and Development Commission's Bay Plan

The California Coastal Commission acts carries out its mandate locally through the San Francisco Bay Area Conservation and Development Commission (BCDC). BCDC's jurisdiction on San Francisco Bay includes all sloughs, marshlands between mean high tide and five feet above mean sea level, tidelands, submerged lands, and land within 100 feet of the Bay shoreline. The precise boundary is determined by BCDC on request.

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[8] City of Palo Alto. 2007. *Utilities Newsletter* pp. 33-34.

[9] City of Palo Alto. NPDES Permit for Discharge to San Francisco Bay. Accessed on December 6, 2011. Retrieved from http://www.cityofpaloalto.org/depts/pwd/rwqcp.asp.

[10] San Francisco Bay Regional Water Quality Control Board. Adopted orders. Accessed October 26, 2015. Retrieved from http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2014/R2-2014-0024.pdf.

For planning purposes, BCDC assumes that projects have a lifespan of at least 50 to 90 years. Discussion of consistency between the General Plan Update and the *Bay Plan* is located in **Section 4.10, Land Use**.[11]

Since the issuance of the Governor's Executive Order S-13-08 on November 2008, BCDC has followed other resource agencies in planning for two different sea level rise scenarios: 16 inches by mid-century (2050) and 55 inches by the end of the century (2100). In April 2009, BCDC published its report with maps indicating zones that could be flooded due to sea level rise and that were based on existing elevations.[12]

In May 2011, BCDC published a revised draft of its proposed amendments the *Bay Plan*. This received considerable public and environmental review, and was adopted on October 6, 2011.[13,14] These amendments include revised findings and policies to adapt to the effects of sea level rise.

Several findings describe migration of the tidal marsh inland as a consequence of projected sea level rise and the recommended adaptation. Finding "o" in the new section on Climate Change states:

> *"Approaches for ensuring public safety in developed vulnerable shoreline areas through adaptive management strategies include but are not limited to: (1) protecting existing and planned appropriate infill development; (2) accommodating flooding by building or renovating structures or infrastructure systems that are resilient or adaptable over time; (3) discouraging permanent new development when adaptive management strategies cannot protect public safety; (4) allowing only new uses that can be removed or phased out if adaptive management strategies are not available as inundation threats increase; and (5) over time and where feasible and appropriate, removing existing development where public safety cannot otherwise be ensured…."*

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[11] San Francisco Bay Conservation and Development Commission (BCDC). 2011. *San Francisco Bay Plan*. Accessed September 15, 2011. Retrieved from http://www.bcdc.ca.gov/pdf/planning/plans/bayplan/bayplan.pdf.

[12] San Francisco Bay Conservation and Development Commission (BCDC). 2009. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*.

[13] San Francisco Bay Conservation and Development Commission (BCDC). 2011. *Staff Report, Revised Preliminary Recommendation and Environmental Assessment for Proposed Bay Plan Amendment No. 1-08 Concerning Climate Change.* (For Commission consideration on September 1, 2011.)

[14] San Francisco Bay Conservation and Development Commission (BCDC). 2011. Resolution No. 11-08. Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan; And Revising the Bay Plan Tidal Marsh and Tidal Flats; Safety of Fills; Protection of the Shoreline; and Public Access Findings and Policies. Adopted October 6, 2011. Retrieved from http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf.

The following policy is particularly pertinent to the proposed update of the General Plan:

> *"When planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end of century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices."*

City of East Palo Alto

National Flood Insurance Program

The City of East Palo Alto has several programs to warn residents about the dangers of flooding and help them prepare for the consequences, including sending informational brochures to residents who live in or near Special Flood Hazard Areas.[15] The City participates in the NFIP, which provides landowners to purchase federally backed flood insurance for all structures, whether or not such structures are located within the floodplain. To qualify for the NFIP, the City designated several Special Flood Hazard Areas.[16] The City also participates in the Community Rating System (CRS), which is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. The City' participation with the CRS program results in a 15 percent discount on premiums for annual flood insurance policies.

[15] City of East Palo Alto. *Are you prepared for a flood in your neighborhood?* Accessed August 19, 2011. Retrieved from http://www.ci.east-palo-alto.ca.us/DocumentCenter/View/261.

[16] City of East Palo Alto. 2012. 2012 Flood Insurance Rate Maps (FIRM). Accessed January 26, 2016. Retrieved from http://www.ci.east-palo-alto.ca.us/documentcenter/view/262.

Municipal Code Chapter 15.52

The City also maintains records of all elevation certificates that have been created for properties within the City and recommends to homeowners that if their floor level is lower that the FEMA-designated "Base Flood Elevation" (elevation of the 100-year flood, based on the FEMA maps), they should consider elevating their structure, if possible. The City's floodplain regulations are outlined within Chapter 15.52 of the East Palo Alto Municipal Code.[17]

San Francisquito Creek Joint Powers Authority

The cities of East Palo Alto, Menlo Park, and Palo Alto, along with the San Mateo County Flood Control District and the Santa Clara Valley Water District formed a Joint Powers Authority (JPA) intended to develop and maintain projects along the creek that reduce flood threats and benefit the environment. Formed in 1999, the JPA's first major project would improve the lower reaches of the creek, from Highway 101 to the Bay. This project would widen the creek to better convey 100-year storm flows (also taking into account high tides and up to 26 inches of sea level rise), excavate sediment from the mouth of the Bay, and construct new floodwalls.

4.9.2 ENVIRONMENTAL SETTING

Physical Setting

East Palo Alto is located primarily in an established industrial and residential area. However, the City also includes portions of bay marshlands that lie in between the urban East Palo Alto fringe and the Lower South San Francisco Bay. Overall, East Palo Alto contains very flat surface gradients. Ground surface elevations within the district range from approximately 5 to 25 feet above mean sea level.

Existing Climate

The San Francisco Bay region has a Mediterranean climate, characterized by dry, warm summers and mild winters. The area receives most of its rainfall between November and June and its warmest temperatures in July and August. Average annual rainfall for the City of East Palo Alto is approximately 15 inches.[18] Daily

[17] City of East Palo Alto Municipal Code. Chapter 15.52 – Floodplain Management. Retrieved from https://www.municode.com/library/ca/east_palo_alto/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.52FLMA.

[18] Western Regional Climate Center (WRCC). 2015. Palo Alto, California – Climate Summary. Retrieved from http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6646.

summer temperatures vary from 68 degrees Fahrenheit (°F) to 85°F, while winter temperatures rarely descend below freezing.

Despite moderation by cool marine breezes and coastal fog, temperatures in East Palo Alto rise sharply in late spring and remain elevated through early fall. Evaporation and transpiration rates also rise in response to warmer temperatures and typically exceed precipitation on an annual basis—ranging from 39 to 49 inches per year—with root zone soil moisture storage typically depleted by May.[19]

Hydrologic Setting

East Palo Alto is located in the South Bay Drainage Unit, which is characterized by a broad alluvial valley sloping toward the San Francisco Bay and flanked by the Diablo Range in the East Bay and the Santa Cruz Mountains in the west. The City is located in the San Francisquito Creek Groundwater Subbasin, which is roughly coincident with the alluvial fan deposits of San Francisquito Creek.[20]

Surface Water Bodies

Two major surface water bodies – the Lower South San Francisco Bay and San Francisquito Creek – frame East Palo Alto's hydrologic setting.

The San Francisco Bay forms the City's eastern boundary. The urban area is separated from the San Francisco Bay margin by bay marshlands, including the Cooley Landing area.

Several drainage channels connect the outfalls of the East Palo Alto storm drain system (which discharge into the marshland) to tidal channels located approximately at mean sea level adjacent to the San Francisco Bay fringe. The Palo Alto Baylands Nature Preserve is located to the southeast.

The Baylands include the mouth of San Francisquito Creek. Originating in the Santa Cruz Mountains, the creek forms a large portion of the boundary between San Mateo and Santa Clara Counties. The creek forms much of the southern boundary of East Palo Alto.

Much of East Palo Alto is considered a storm drain contribution area to the San Francisquito Creek Watershed, although stormwater from the planning area also

[19] City of East Palo Alto. 2011. *2010 Urban Water Management Plan*. Prepared by Integrating Resource Management, Inc. Adopted June 21, 2011.

[20] Todd Engineers. 2005. Feasibility of Supplemental Groundwater Resources Development: Menlo Park and East Palo Alto, California. Retrieved March 11, 2016 from http://www.ci.east-palo-alto.ca.us/documentcenter/view/39.

drains into the Bay without entering the creek channel. However, historic data indicate that much of East Palo Alto was located partially in the floodplain of San Francisquito Creek before the fluvial geomorphology of the area was altered by urbanization.

Flooding

East Palo Alto has a history of flooding problems given its low-lying location along the San Francisco Bay, particularly in areas along San Francisquito Creek. Flooding within East Palo Alto has historically occurred primarily as a result of high tides (tidal), rain flowing down the San Francisquito Creek (fluvial), and an inadequate storm drain system.[21] High tides combined with winds out of the east leading to storm surges or wave run-up could lead to widespread and significant flooding, especially if significant precipitation causes the San Francisquito Creek to reach or exceed its capacity to carry flood waters to the Bay. The last major flood in East Palo Alto occurred in 1998, an event which virtually isolated the City. Water in San Francisquito Creek overtopped its banks upstream in Menlo Park, and water gushed out of local storm drains.[22] Tidal floods in 1972 submerged streets in the University Village neighborhood in the City. Based on FEMA analysis and past flooding incidents, the following areas within the City are particularly vulnerable to flooding:[23]

- The Weeks and Garden neighborhoods, east of Pulgas Avenue.
- The Woodland neighborhood, between San Francisquito Creek and the Bayshore Freeway.
- The University Village neighborhood, north of Notre Dame Avenue.
- The portion of the Ravenswood Business District closest to the Baylands.
- The Kavanaugh neighborhood
- The Palo Alto Park neighborhood, west of Menalto Avenue.

Based on the City's Storm Drain Master Plan (Schaaf & Wheeler, 2013), the majority of the urbanized portion of the planning area is served by a municipal storm drain system. However, many of the streets in the City do not have storm drains, and

[21] City of East Palo Alto. 1999. *General Plan. Safety and Noise Element*.

[22] Palo Alto Online: Flood '98. Accessed July 7, 2011. Retrieved from http://www.paloaltoonline.com/news_features/storm98/1998_02_03.flood2.html.

[23] City of East Palo Alto. *Are you prepared for a flood in your neighborhood?* Accessed August 19, 2011. Retrieved from http://www.ci.east-palo-alto.ca.us/DocumentCenter/View/261.

those that do are unable to handle stormwater during heavy rain events. As such, the storm drain system may be considered to be inadequate to prevent flooding from occurring during larger storm and tidal events. In general, the storm drain system for the planning area drains towards the San Francisco Bay tidal marshlands, with the exception of a part of the northwest portion which drains to the Ravenswood Slough. See **Section 4.14, Utilities and Service Systems**, for a more complete discussion of East Palo Alto's stormwater drainage system.

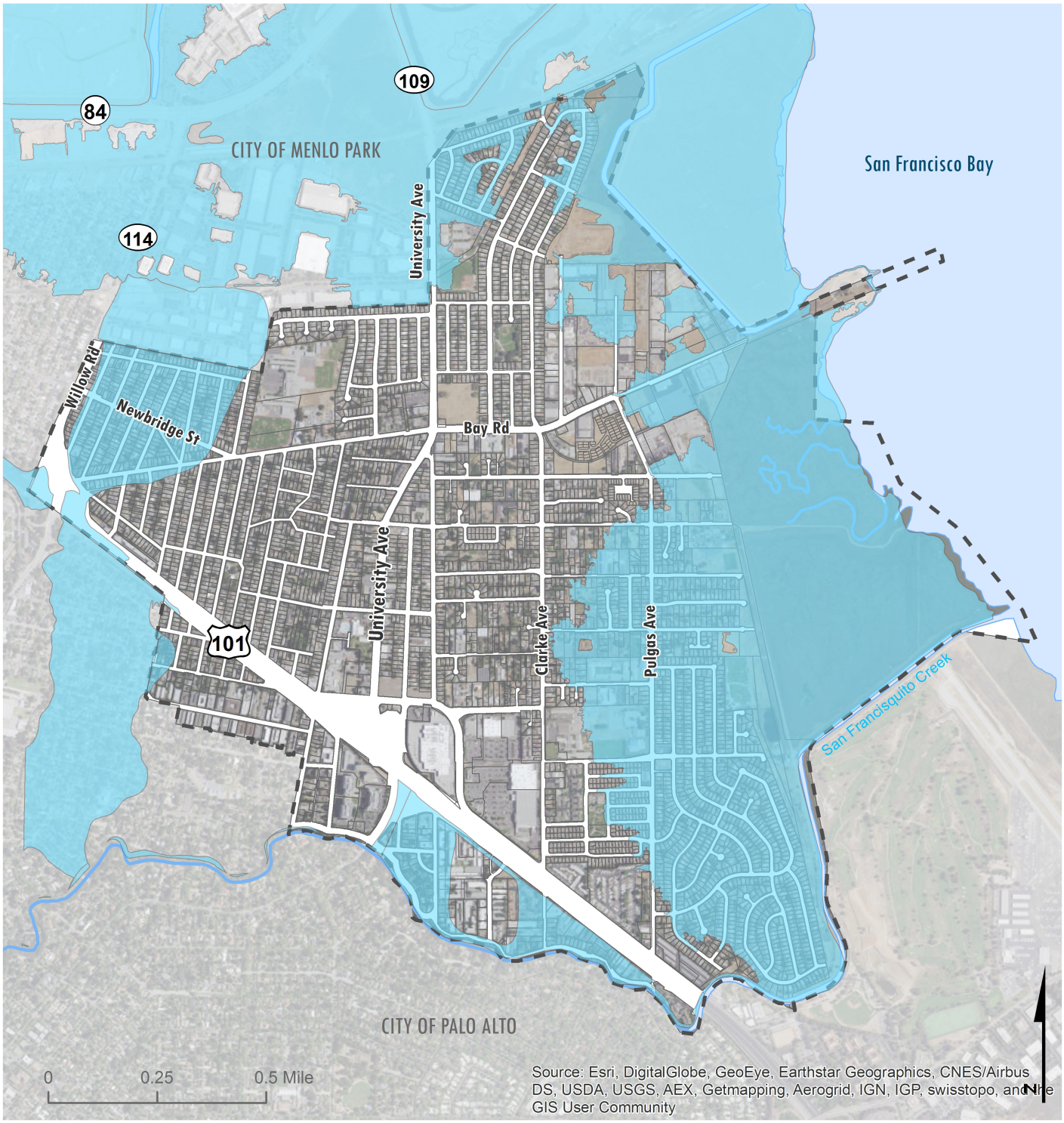
An incomplete system of levees has been built between East Palo Alto and the San Francisco Bay, including a levee located adjacent to the southeast portion of the City. Although numerous low points and openings exist in the overall levee system, allowing tides to overtop or bypass the levee system, these levees may still reduce the depth and extent of flooding during a 100-year tide. The City of East Palo Alto warns that future floods may also occur due to levee breaks.[24] San Francisquito Creek is channeled for flood control west of Highway 101. East of Highway 101, it is bounded by levees through the Palo Alto Baylands.

Figure 4.9-1 shows 100-year and 500-year Flood Hazard Zones within East Palo Alto based on the FEMA FIRM for the city.[25] BCDC identified that one-quarter of the land in East Palo Alto is within the current 100-year floodplain,[26] i.e., areas that would be inundated in the event of a 100-year flood or, in other words, have a 1 percent annual chance of flooding. Most are classified by FEMA as Zone AE, meaning that a base flood elevation has been determined. In these areas, the base flood elevation is 11 to 12 feet North American Vertical Datum (NAVD). This means that areas with a topographic elevation of less than 11 to 12 feet NAVD would be inundated during a 100-year flood. Some areas are classified as Zone A, indicating that they would be inundated during a 100-year flood, but the base flood elevation has not been determined. Cooley Landing is designated in Zone VE, where waves and wave erosion pose additional hazards.

[24] City of East Palo Alto. *Are you prepared for a flood in your neighborhood?* Accessed August 19, 2011. Retrieved from http://www.ci.east-palo-alto.ca.us/DocumentCenter/View/261.

[25] Federal Emergency Management Agency (FEMA), 2012, FIRM, Flood Insurance Rate Map, City of East Palo Alto, California, San Mateo County, Community Panel Number 060708 0001 B, map revised August 23. Preliminary mapping August 13, 2015.

[26] San Francisco Bay Conservation and Development Commission (BCDC). 2015. "Rising to the Challenge." San Francisco Business Times. September 18, 2015. Accessed January 14, 2016. Retrieved from http://www.bcdc.ca.gov/rising-to-the-challenge.pdf.



Flood Hazard Zones

- Parcels added in 9/2015 Preliminary FEMA Data
- Parcels removed in 9/2015 Preliminary FEMA Data
- Parcels unchanged

- East Palo Alto City Limits
- San Mateo County Boundary

East Palo Alto Flood Hazard Zones

Figure 4.9-1

Source: California Emergency Management Agency, 2009; San Mateo County GIS Enterprise Database and Santa Clara County, 2012. Imagery: ESRI, 2015.

Climate Change and Sea Level Rise

A number of documents have been published recently discussing the magnitude and timing of sea level rise as a result of global climate change. Sea level rise will accompany increased global temperature for several reasons, including thermal expansion of ocean water, melting of glaciers, and melting of ice sheets. Temperature increases may also increase the frequency of extreme sea level events such as storm surges, extreme high tides, and El Niño events that adversely affect coastal areas.

The potential consequences of climate change for the Bay Area include diminished Sierra Nevada snowpack (an important source of year-round water supply to the Delta), shifting precipitation patterns, and more extreme weather.[27] These climate change impacts will likely result in greater variation in flows into the Delta and San Francisco Bay and more frequent and extreme flooding that originates from heavy rains. Moreover, predicted sea level rise would increase the vulnerability of low-lying areas, such as coastal and Bayside land, to inundation.

BCDC has recently produced maps of sea level rise based on rises of 16 inches (50 cm) by 2050 and 55 inches (140 cm) by 2110 (see **Figure 4.9-2**, which shows BCDC projections for the East Palo Alto area). These maps depict areas that are vulnerable to sea level rise in East Palo Alto; however, maps do not distinguish between vulnerable areas that are already protected by levees and those that are not (due to insufficient data on levees at the time of the analysis). As such, the map indicates areas that would be flooded if existing levees, if present, were to fail.[28] As a consequence of sea level rise, tidal marsh areas would naturally migrate inland.

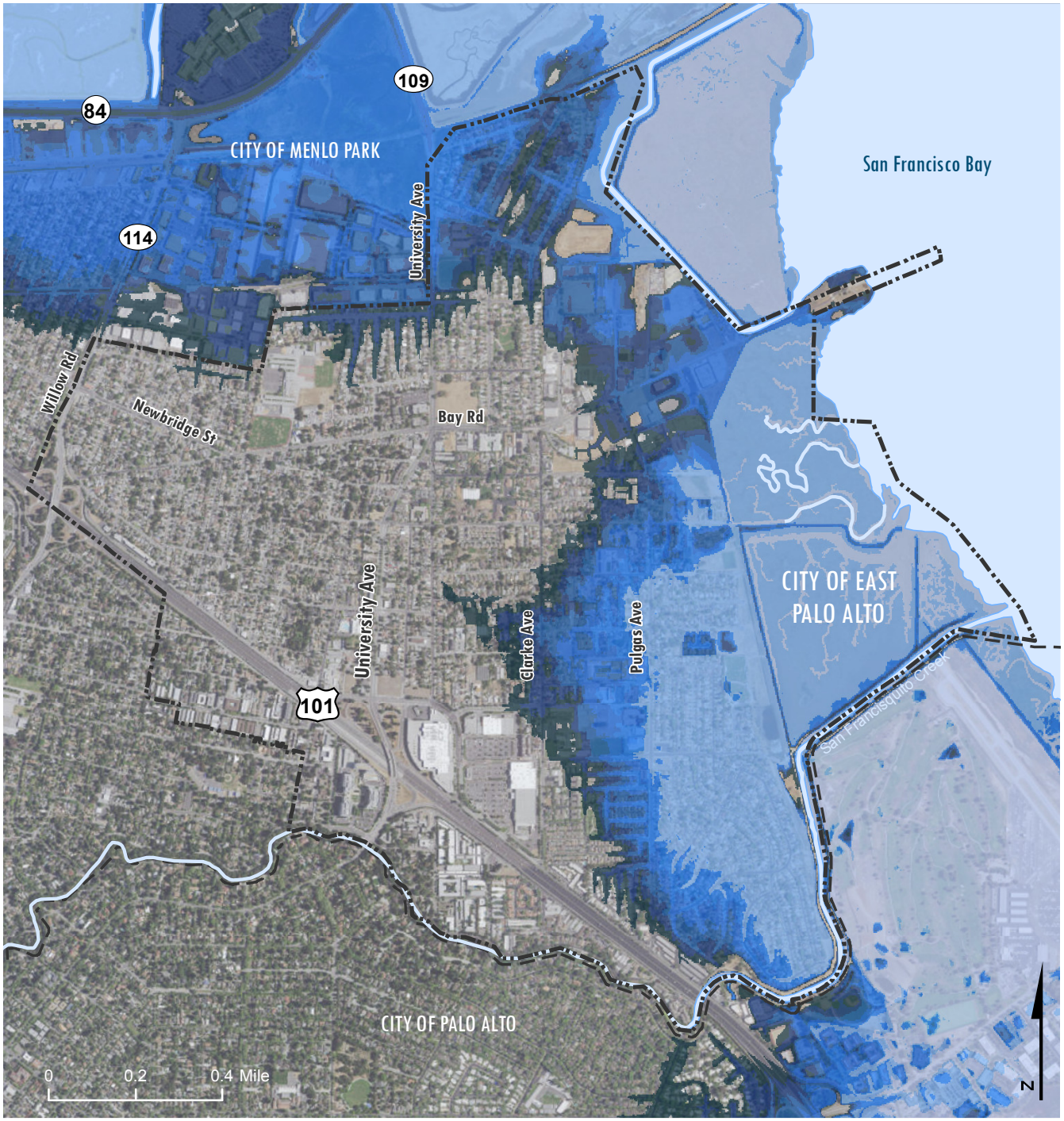
Groundwater

There is currently one groundwater supply well at Gloria Way and Bay Road which is around 700 feet west of the southwestern corner of the planning area.[29] The well had the capacity to produce 350 gallons per minute. Installed in 1981, the well was used for potable water until it was taken out of service in 1989 due to odor complaints (although samples passed the California Department of Public Health State drinking water standards at the time). The water from this well has since only

[27] Knowles, Noah. 2010. Potential Inundation due to Rising Sea Levels in the San Francisco Bay Region. Google Earth Map. http://cascade.wr.usgs.gov/data/Task2b-SFBay/index.shtm.

[28] Knowles, Noah. 2010. Potential Inundation due to Rising Sea Levels in the San Francisco Bay Region. San Francisco Estuary and Watershed Science, 8(1). Retrieved from http://escholarship.org/uc/item/8ck5h3qn.

[29] City of East Palo Alto. 2010. *Water System Master Plan*.



Projection of Sea Level Rise

Figure 4.9-2

Source: NOAA Sea Level Rise, 2014 (as shown on BCDC's website): San Mateo County GIS Enterprise Database and Santa Clara County, 2012. Imagery: ESRI, 2015.

been used for non-potable purposes such as street cleaning, dust-control, and sewer-line flushing.

A groundwater well at Cooley Landing could produce non-potable water but is not currently in use. It would be used for irrigation in the redevelopment of Cooley Landing as a community park.[30] See **Section 4.15, Utilities and Service Systems**, for more information on groundwater regulations and future plans.

Tsunamis and Seiches

According to maps produced by the Association of Bay Area Governments (ABAG),[31] the zone of possible tsunami inundation extends over the Ravenswood Open Space Preserve and Palo Alto Baylands, and very slightly inland over the Specific Plan Area.

Dam Inundation

As shown in Figure 9-2 of the General Plan Update, areas along San Francisquito Creek have been identified within the inundation zone of the Searsville Dam, according to data compiled by San Mateo County. The Searsville Dam impounds Corte Madera Creek, which joins with Bear Creek to form San Francisquito Creek just below Searsville Dam.

[30] City of East Palo Alto. 2010. *Initial Study Cooley Landing.*

[31] California Emergency Management Agency. 2009. Tsunami Inundation Map for Emergency Planning. Redwood Point Quadrangle/Palo Alto Quadrangle. Retrieved from http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanMateo/Documents/Tsunami_Inundation_RedwoodPointPaloAlto_Quads_SanMateo.pdf.

4.9.3 THRESHOLDS OF SIGNIFICANCE

A significant impact to hydrology and water quality could occur if development allowed by the General Plan Update would:

a) Violate any water quality standards or waste discharge requirements.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

f) Otherwise substantially degrade water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

j) Expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.

4.9.4 ENVIRONMENTAL IMPACTS

Adoption of the General Plan Update would not result in any immediate physical development and, thus, would not have any potential to directly affect hydrology and water quality. However, adoption of the General Plan Update would have the potential to indirectly impact hydrology and water quality via future development projects allowed under the General Plan Update. As described below, with adherence to existing federal, State, and local regulations governing hazards and hazardous materials, along with numerous General Plan Update goals and policies, all program-level effects to hydrology and water quality would be less than significant.

a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality (less-than-significant impact).

Future private development and public infrastructure projects that would be allowed under the General Plan Update would typically involve clearing of any existing vegetation, site grading and similar activities that could temporarily increase runoff, erosion, and sedimentation into local creeks and nearby bodies of water. Future construction activities could also result in wind erosion that could deposit soil in nearby bodies of water that would degrade local water quality. Construction equipment used for individual sites and future vehicles that would use sites following contraction could deposit pollutants on parking areas and driveways, including, but not limited to, petroleum and solvents. Maintenance of completed development projects could also deposit pesticides, fertilizers and similar chemicals on individual sites that could be transported to local creeks, streams and ultimately San Francisco Bay.

As required by the federal CWA and State clean water regulations, subsequent development projects are required to prepare and have approved a SWPPP that includes BMPs to reduce impacts related to wind and water erosion. Typical construction BMPs include installation of silt fences, desilting basins, and hay bales. SWPPPs are not currently required for development projects involving less than one acre of land, unless part of a common plan of development.

The Municipal Regional Stormwater NPDES Permit requires the installation of post-construction controls to minimize water quality impacts following the completion of construction. Post-construction BMPs can include but are not limited to use of bioretention ponds to filter water runoff, installation of infiltration basins, and water harvesting and reuse systems.

The General Plan Update includes goals and policies to minimize water pollution from new and occupied properties. These include:

Parks, Open Space, and Conservation Element Goal POC-2. Improve and enhance existing parks and trails.

- *Policy 2.8, Trash and litter.* Continue to implement and support regular trash clean-up events throughout the City, especially in and around San Francisquito Creek, entrances to the Bay Trail, Ravenswood Open Space Preserve, and Cooley Landing.

Parks, Open Space, and Conservation Element Goal POC-4. Protect and preserve the City's natural habitat and wildlife.

- *Policy 4.7, Inter-agency coordination.* Coordinate with other public agencies such as the San Francisquito Creek Joint Powers Authority, Army Corps of Engineers, National Fish and Wildlife Service, and other similar entities on construction or development activity occurring within or adjacent to the City.

Infrastructure, Services, and Facilities Goal ISF-1. Manage stormwater safely, efficiently, and sustainably.

- *Policy 1.1, NPDES compliance*. Ensure compliance with all NPDES requirements for litter control, dumping, pollutants of concern, business operations, and new/re- development.
- *Policy 1.2, On-site stormwater management*. Encourage development projects to manage stormwater on site to reduce burdens on the City's stormwater system. Whenever possible, stormwater should be infiltrated, evapotranspirated, reused, or treated on site in other ways that improve stormwater quality and reduce flows into the storm drain system.
- *Policy 1.3, Stormwater infrastructure for new development*. Require development projects to pay for their share of new stormwater infrastructure or improvements necessitated by that development.
- *Policy 1.4, Stormwater re-use and recycling*. Encourage innovative ways of capturing and reusing stormwater for non-drinking purposes to reduce the use of potable water, including the creation of a recycled water system and installation of purple pipe in private and public projects.
- *Policy 1.5, Collaborative stormwater management*. Encourage collaborative, integrated stormwater management between multiple property owners and sites.
- *Policy 1.6, Green infrastructure in public rights of way.* Encourage green streets with in-street bio-retention and other forms of stormwater retention and infiltration in streets and public rights-of-way.
- *Policy 1.7, Regional and local collaboration*. Collaborate with Palo Alto, Menlo Park, the San Francisquito Creek Joint Powers Authority and other jurisdictions

and agencies in the watershed to reduce and remove contaminants from stormwater runoff.

- *Policy 1.8, Stormwater best practices.* Encourage the use of best practices in stormwater treatment, retention, and quality and quantity control into flood control efforts, ensuring that flood control measures do not have negative ecological impacts on stormwater runoff.
- *Policy 1.9, Stormwater and flooding.* Integrate stormwater management efforts with flood control efforts, seeking synergies and innovative strategies for stormwater treatment to reduce flood risks and volumes.
- *Policy 1.10, Storm Drain Master Plan.* Implement the adopted East Palo Alto Storm Drain Master Plan. Seek funding sources to complete the identified capital improvements.
- *Policy 1.11, Assessment district.* Consider avenues for sustainable funding of landscaping and maintenance to fund the maintenance of the stormwater conveyance and treatment systems.
- *Policy 1.12, Ravenswood stormwater management.* All new projects in the Ravenswood TOD Specific Plan Area must follow the stormwater policies established in Goal LU-9: Hydrological Context in the plan. Guidance in the Specific Plan supersedes policies from this General Plan.

Infrastructure, Services, and Facilities Goal ISF-2. Ensure a sustainable, clean, long-term water supply.

- *Policy 2.1, Water planning.* Continue to maintain a Water System Master Plan, Urban Water Management Plan, and water supply blueprint. Prepare a Recycled Water Feasibility Study.
- *Policy 2.2, Water supply infrastructure.* Improve infrastructure to ensure the provision of a clean, reliable citywide water supply sufficient to serve existing and planned development.
- *Policy 2.3, New water sources.* Actively seek to secure additional water supply from SFPUC, groundwater sources, neighboring cities, or other available sources. Securing additional water supply and adding water storage facilities should be a City priority.
- *Policy 2.4, Water supply planning and demand offset regulations for new or intensified development.* Consider and adopt a water offset ordinance or other policy to reduce the water demand and to ensure adequate water supply exists to meet the needs of new projects or intensified development. Allow the City the right to require a Water Supply Assessment of any development project. The policy will consider the type or size of projects that might be exempt, the water offset ratio, the method for analyzing the projected water demand and methods for offset demand, the types of demand reduction/mitigation

implementation options (e.g., onsite or offsite design or building modification), including an in-lieu fee, that will be required, a method for estimating the savings from onsite or offsite efficiency measures, and the appropriate regulatory instruments to enforce, implement, and monitor the offset policy.

- *Policy 2.5, Priority improvement areas.* Prioritize water improvements in areas identified in the Land Use Element as areas of growth/change and economic activity generators, particularly the Westside, University Avenue and Bay Road, the Gateway 101 area, and the Ravenswood TOD Specific Plan area.
- *Policy 2.6, Water infrastructure for new development.* Require development projects to pay for their share of new water infrastructure or improvements necessitated by that development, including but not limited to water supply, storage, and conservation: and recycled water.
- *Policy 2.7, Municipal water conservation and efficiency.* Seek to reduce municipal water use through the following strategies:
  - Implement aggressive indoor and outdoor water efficiency measures in all new city developments, substantial rehabs, and remodels.
  - Prioritize water efficiency upgrades to existing buildings, such as water efficient fixtures.
  - Reduce potable water used for parks by planting drought-tolerant species and implementing other water saving practices.
- *Policy 2.8, Citywide water conservation, and efficiency.* Encourage and promote community water conservation and efficiency efforts, including indoor and outdoor efforts that exceed CalGreen requirements.
- *Policy 2.9, Conservation partnerships.* Partner with the local water agency to create and promote water conservation rebates (such as for installing low-flow toilets in existing residences, high efficiency front load washing machines and distributing low-flow shower heads). Encourage residents to take advantage of the Bay Area Water Supply & Conservation Agency (BAWSCA) Lawn Be Gone Program (or other similar rebates).
- *Policy 2.10, Public education about water.* Educate the public regarding water conservation, water efficiency, graywater use, stormwater reuse, water-efficient planting and outdoor efficiency, and other efforts to conserve water.
- *Policy 2.11, Groundwater recharge.* Working with regional partners, explore options for groundwater recharge and prohibit new private groundwater wells.
- *Policy 2.12, Maximizing infiltration.* Consider requiring all new development to provide roof catchment systems, irrigated landscaping, and permeable pavements (where feasible), or other means to enhance on-site infiltration of stormwater runoff or landscape irrigation water.

Infrastructure, Services, and Facilities Goal ISF-3. Provide a well-maintained sewer system for the community:

- *Policy 3.1, Sewer system maintenance.* Work with the East Palo Alto Sanitary District and the West Palo Alto Sanitary District to ensure sewers are operational and in good working order.
- *Policy 3.2, Sewer infrastructure for new development.* Require development projects to pay for their share of new sewer infrastructure or improvements necessitated by that development.

Safety and Noise Element Goal SN-2. Provide adequate flood control and storm drainage facilities to minimize the risk of flooding.

- *Policy 2.1, Flood insurance program.* Continue to participate in the National Flood Insurance Program and FEMA's voluntary programs, such as the Community Rating System.
- *Policy 2.2, Flooding related to sea level rise.* Consider expanding boundaries of development control particularly where sea level rise could worsen flooding above predicted conditions.
- *Policy 2.3, Development in floodways.* Continue to control development in the floodway and floodway fringe.
- *Policy 2.4, Floodplain Management Ordinance.* Continue to enforce and consider strengthening the City's Floodplain Management Ordinance.
- *Policy 2.5, Location of essential public facilities.* Continue to avoid placing essential services and critical facilities in areas of elevated risk of flood. If essential services and critical facilities cannot be located outside of risk zones, ensure that facilities are constructed to appropriate standards to maintain operations during and after disaster events.
- *Policy 2.6, Public buildings.* Work to enhance flood protection for essential public buildings and associated parking areas.
- *Policy 2.7, San Francisquito Creek Joint Powers Authority (JPA).* Continue to work with the JPA on projects that will reduce the risk of flooding in East Palo Alto.

Compliance with federal, State, regional, and local clean water regulations described above, in conjunction with adherence to the goals and policies contained in the Parks, Open Space, and Conservation Element, Infrastructure, Services, and Facilities Element, and Safety and Noise Element of the General Plan Update (identified above), would reduce potential impacts related to violation of water quality or waste discharge standards to a less-than-significant level.

b) Substantially deplete groundwater recharge or substantially interfere with groundwater recharge (no impact).

The City obtains potable water primarily through the San Francisco Public Utilities Commission (SFPUC) supplemented by two small local water suppliers. No pumping of local groundwater currently occurs, although the City has historically operated a groundwater pump that could be reactivated in the future. The SFPUC relies on meltwater from Sierra Nevada snowpack as a primary source of water. Therefore, adoption and implementation of the General Plan Update would not deplete or otherwise impact local groundwater.

In terms of groundwater recharge area, much of the City is currently developed and does not provide for significant groundwater recharge. The eastern portion of the City, the Baylands Preserve area, would be preserved as Resource Management and Parks/Recreation Conservation. No urban development would occur in this portion of the community and continued groundwater recharge would continue. There would be no impact with respect to substantial interference with on-going groundwater recharge activities.

c) and d) Substantially alter existing drainage patterns, including alteration of a creek or stream that would cause substantial erosion or siltation off site or result in on- or off-site flooding (less-than-significant impact).

Much of East Palo Alto is developed with urban uses or permanent open spaces, such as parks. Drainage patterns have therefore been historically established in the community. Generally, lands west of Highway 101 tend to drain to San Francisquito Creek, which ultimately flows into San Francisco Bay. Lands north and east of Highway 101 drain either into San Francisquito Creek (via the O'Connor pump station) or directly into San Francisco Bay.

Future development anticipated in the General Plan Update would generally include infill of undeveloped or underdeveloped individual parcels of land. It is unlikely that any future public or private development projects would include large amount of land that would substantially change existing drainage patterns or alter the course of San Francisquito Creek or other local drainage courses.

As shown in **Figure 4.9-1**, substantial portions of East Palo Alto are within the 100-year floodplain. Existing properties and structures located in the following neighborhoods are subject to periodic flooding: Weeks, Garden, Woodlands, University Village, a portion of the Ravenswood neighborhood, Kavanaugh and a portion of the Palo Alto Park neighborhood. Future development within these neighborhoods and others in the community will be subject to California Building Code and the federal, State, and local requirements summarized in **Section 4.8.1**

above, which limit construction and impose regulations on development within flood hazard areas. Future construction would also be required to adhere to the following goals and policies in the General Plan Update:

Infrastructure, Services, and Facilities Element Goal ISF-1. Manage stormwater safely, efficiently, and sustainably.

- *Policy 1.8, Stormwater best practices.* Encourage the use of best practices in stormwater treatment, retention, and quality and quantity control into flood control efforts, ensuring that flood control measures do not have negative ecological impacts on stormwater runoff.
- *Policy 1.9, Stormwater and flooding.* Integrate stormwater management efforts with flood control efforts, seeking synergies and innovative strategies for stormwater treatment to reduce flood risks and volumes.

Development constructed in compliance with local, State and federal laws and regulations as well as these goals and policies would not would not significantly alter the course of San Francisquito Creek or other watercourses in East Palo Alto nor would development allowed under the General Plan Update result in substantial erosion or off-site erosion or substantially increase the rate and amount of water runoff that would result in on- or off-site flooding. This impact would be less-than-significant.

e) Create or contribute runoff that would exceed the capacity of existing or planned drainage systems or provide substantial amounts of polluted runoff (less-than-significant impact).

The City of East Palo Alto maintains an extensive storm drain management system that includes a network of surface and subsurface pipes, swales, channels, storage ponds and pump stations to collect stormwater runoff and transport runoff into regional drainage facilities and ultimately into San Francisco Bay. Existing facilities are generally inadequate to accommodate existing peak flood flows. Future development that would be facilitated by the General Plan Update would convert undeveloped land to a developed condition with increased impervious surfaces in the form of impervious buildings and paving. Increased development would have the effect of increasing peak and overall stormwater flows into the local drainage system. Adherence to the Infrastructure, Services, and Facilities Goal ISF-1 and associated policies 1.1 through 1.12, described above, will reduce this impact to a less-than-significant level by requiring future development to manage stormwater on site and requiring future development to install or fund its fair share of stormwater system improvements.

Existing C.3 stormwater standards adopted by the Bay Area RWQCB as part of the Regional NPDES permit also require that development projects incorporate "hydromodification" features to limit peak discharges of stormwater into local and regional drainage systems. However, all of East Palo Alto is in a hydromodification exclusion zone due to low gradients and hardened channels.

With adherence to applicable federal, State, regional, and local regulations protecting surface water quality that limit peak discharges into the local and regional drainage systems, as well as General Plan Update conservation goals and policies, this impact would be less-than-significant.

g) and h) Place housing within a 100-year flood hazard area or place structures in a flood hazard area that would impede or redirect flood flows (less-than-significant impact).

Several areas in East Palo Alto are vulnerable to flooding. The General Plan Update would allow an increment of new housing to be built throughout the City, including in areas within the 100-year flood hazard zone, including the following neighborhoods: Weeks, Garden, Woodland, University Village, Kavanaugh, and a portion of Ravenswood and Palo Alto Park. Federal and State laws enforced by the City of East Palo Alto, including but not limited to the California Building Code, prohibit construction of occupied buildings within a flood hazard area unless the structures are elevated above the relevant flood elevation and properties are then removed from the hazard area via the FEMA letter of map revision (LOMR) process. Construction of non-occupied structures within a 100-year flood hazard area may also require a building permit from the City or other encroachment permit. All new development would be required to comply with FEMA floodplain requirements.

The following General Plan Update goals and policies would prevent development in areas vulnerable to flooding and enhance flood protection efforts.

Parks, Open Space, and Conservation Element Goal POC-4. Protect and preserve the City's natural habitat and wildlife

- *Policy 4.8, Riparian and flood buffer.* Do not allow new development within a 100-foot buffer zone from the top of San Francisquito creek bank.

Land Use and Urban Design Element Goal LU-16. Enable new pedestrian connections, improve safety, and provide guidelines for incremental improvements to the neighborhood.

- *Policy 16.2, Flood safety.* Enhance flood-protection efforts in the Gardens neighborhood.

In compliance with FEMA requirements and General Plan Update goals and policies, structures within the 100-year floodplain or coastal high hazard areas would not impede or restrict flood flows and the impact would be less than significant.

i) and j) Expose people or structures to significant risk of inundation by seiche, tsunami, or mudflow (less-than-significant impact).

Per the Safety and Noise Element, future inundation of East Palo Alto due to tsunami action is not anticipated due to the City's orientation to the San Francisco Bay and its distance from the open ocean. A minimal and less-than-significant number of people or structures would be affected by such action.

With no significant lakes or reservoirs in East Palo Alto, no substantial seiche impacts would be anticipated, unless a major seismic event were to cause seiche effects in San Francisco Bay. In such a scenario, lands along the immediate Bayfront could be affected by seiche. However, the General Plan Update proposes to retain Bayfront lands in open space status to preserve the wetland's natural wave attenuating functions, thereby limiting seiche risks to shoreline communities. No major hillsides or other sloped areas are located in the community that would cause a major mudflow, impacting people and structures. Impacts would be less-than-significant.

4.9.5 CONCLUSION

Adoption and implementation of the General Plan Update could have indirect adverse impacts on hydrology and water quality via development projects allowed under the General Plan Update. Less-than-significant impacts would be expected for violations of water quality standards, alteration of drainage patterns, contributions to runoff water, water quality degradation, placement of housing or structures in flood hazard areas, and exposure of people to hazards from flooding, seiches, tsumanis, or mudflows. Development allowed by the General Plan Update would not be expected to impact groundwater recharge. Future development allowed under the General Plan Update would comply with Federal, State, and local regulatory requirements and plans, as well as applicable goals and policies contained in the General Plan Update.

4.10 LAND USE AND PLANNING

This section describes existing land uses and land use patterns in East Palo Alto, and considers the potential for the General Plan Update to have significant impacts related to land use.

4.10.1 REGULATORY REQUIREMENTS

State

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 establishes procedures related to city incorporations, annexations, consolidations, and other local government changes of organization. This act grants numerous powers to Local agency formation commissions (LAFCOs), which are independent commissions with countywide jurisdiction over the boundaries and organization of cities and special districts.

East Palo Alto is under the jurisdiction of the San Mateo Local Agency Formation Commission (San Mateo LAFCo). San Mateo LAFCo has jurisdiction over the boundaries of the 20 cities, 22 independent special districts, and many of the 33 county-governed special districts serving San Mateo County.

Sustainable Communities and Climate Protection Act of 2008 (SB 375)

SB 375 supports the state's climate action goals to reduce greenhouse gas (GHG) emissions through coordinated transportation and land use planning. Under SB 375, each region covered by one of the state's metropolitan planning organizations (MPO) sets passenger vehicle GHG emissions reduction targets. Each MPO must prepare a "sustainable communities strategy" (SCS) to outline the land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets.

The Metropolitan Transportation Commission (MTC) is the MPO that covers East Palo Alto. The MTC developed an SCS, entitled *Plan Bay Area 2040*, which is discussed in further detail below.

Regional

Association of Bay Area Governments (ABAG) *San Francisco Bay Trail Plan*

The *San Francisco Bay Trail Plan* proposes a continuous regional hiking and bicycling trail around the perimeter of the San Francisco Bay and the San Pablo Bay. As of 2016, several continuous portions of this trail cross East Palo Alto.[1]

Palo Alto Airport Comprehensive Land Use Plan

The Santa Clara County Airport Land Use Commission adopted a Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport in November 2008. This document is designed to protect nearby residents and ensure that nearby land uses are compatible with airport operations. The Palo Alto Airport CLUP defines several safety zones around the airport that are discussed in **Section 4.8, Hazards and Hazardous Materials**.

While the Palo Alto Airport CLUP does not have jurisdiction over East Palo Alto, the City complies with the land use restrictions outlined in this document to minimize conflicts with the airport.

Plan Bay Area 2040

Developed by ABAG and the Metropolitan Transportation Commission (MTC) act as the SCS under SB 375, *Plan Bay Area 2040* is a long-range integrated transportation and land-use/housing strategy for the San Francisco Bay Area. This document provides a strategy to meet 80 percent of the region's future housing needs in neighborhoods that area within walking distance of frequent transit service, offer a variety of housing options, and feature amenities such as grocery stores, community centers, and restaurants. Plan Bay Area's transportation element specifies how some $292 billion in anticipated federal, state, and local funds will be spent through 2040.

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) is a state planning and regulatory agency designed to protect and enhance the San Francisco Bay. In general, BCDC's jurisdiction includes all sloughs, marshlands between mean high tide and five feet above mean sea level, tidelands, submerged lands, and land

[1] San Francisco Bay Trail. Accessed December 31, 2014. Retrieved from http://baytrail.abag.ca.gov/maps.html.

within 100 feet of the San Francisco Bay shoreline. Within this jurisdiction, BCDC is responsible for granting or denying permits for proposed fill, extraction of materials, or change in use of any water, land, or structure.

Projects approved by BCDC must be consistent with the McAteer-Petris Act and BCDC's master planning document, the *San Francisco Bay Plan* (Bay Plan).[2] The McAteer-Petris Act allows for fill in the San Francisco Bay for water-oriented uses, but only if proposed projects include maximum feasible public access. The Bay Plan includes land use designations for certain areas around the San Francisco Bay to ensure that sufficient lands are reserved for water-oriented uses such as ports, water-related industry, parks, and wildlife areas.

In May 2011, BCDC published a revised draft of proposed amendments to the Bay Plan. This received considerable public and environmental review, and was adopted on October 6, 2011.[3,4]

The eastern portion of East Palo Alto is adjacent to San Francisco Bay and is subject to BCDC jurisdiction. The General Plan Update includes a number of policies in the Land Use and Urban Design Element that promote responsible uses adjacent to the San Francisco Bay. Future development projects will also be reviewed by the BCDC to ensure consistency with the Bay Plan.

Local Plans and Regulations

2011 City of East Palo Alto Climate Action Plan

The City of East Palo Alto Climate Action Plan was adopted to reduce the City's (GHG) emissions to 15 percent below 2005 levels by 2020. The CAP provides a list of prioritized emission reduction measures to reach this goal, including a focus on densification, transit-oriented development, mixed-use zonings, and walkable neighborhoods.

[2] BCDC. 2011. San Francisco Bay Plan. Accessed December 31, 2014. Retrieved from http://www.bcdc.ca.gov/pdf/bayplan/bayplan.pdf.

[3] BCDC. 2011. Staff Report, Revised Preliminary Recommendation and Environmental Assessment for Proposed Bay Plan Amendment No. 1-08 Concerning Climate Change. (For Commission consideration on September 1, 2011.)

[4] BCDC. 2011. Resolution No. 11-08. Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan; And Revising the Bay Plan Tidal Marsh and Tidal Flats; Safety of Fills; Protection of the Shoreline; and Public Access Findings and Policies. Adopted October 6, 2011. Retrieved from http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf.

Ravenswood/4 Corners Transit Oriented Development Specific Plan

Adopted in February 2013, the Ravenswood/4 Corners TOD Specific Plan (Ravenswood Specific Plan) is the City's most significant planning effort in recent years. Encompassing 350 acres of industrial, commercial, residential, and open space land in northeast East Palo Alto, the Specific Plan envisions a more walkable neighborhood along Bay Road between University and Pulgas Avenues, with up to 5,000 jobs and a network of parks, trails, and community facilities. The Ravenswood Specific Plan concept calls for mixed uses along the Bay Road corridor, which will include:

- 1.2 million square feet of office, research and development industrial, and retail development;
- 835 residential units;
- 30 acres of parks; and
- 4.5 miles of trails, complete with improved circulation strategies and bike/pedestrian facilities.

The Ravenswood Specific Plan includes new zoning districts to implement the land use vision. The General Plan Update proposes to incorporate the land use designations, goals, and policies of the Ravenswood Specific Plan.

City of East Palo Alto Highway 101 Pedestrian/Bicycle Overcrossing Project

The City of East Palo Alto Highway 101 Pedestrian/Bicycle Overcrossing Project addresses long-standing travel safety and community access issues that result from the division of the community by the U.S. Route 101 corridor. This plan proposes to establish a new shared-use trail over this barrier – away from heavy vehicle traffic – to enhance public safety, promote walking and bicycling, and reduce vehicular trips on University Avenue and other congested roadways. This project will also improve community health by providing recreational opportunities and linkages to the Bay Trail and City of Palo Alto, and will enhance community identity by establishing a highly visible gateway above the busy regional highway.

East Palo Alto Municipal Code

The sections of the East Palo Alto Municipal Code that are most relevant to land use and planning are summarized below.

Building Code

The City of East Palo Alto adopted the 2013 California Building Code in its municipal code.

Green Building Code

The City of East Palo Alto adopted the 2013 California Green Building Standards Code in its municipal code.

Fire Code

The City of East Palo Alto adopted the 2013 California Fire Code in its municipal code.

Water Efficient Landscaping Ordinance

The California Department of Water Resources requires cities and counties in the state to enforce a Water Efficient Landscaping Ordinance (WELO). East Palo Alto's WELO was adopted to promote efficient water use in landscapes and establish provisions for water management practices and water waste prevention. The WELO applies to projects where the entire property is being developed or redeveloped with one or more new structures, other than accessory structures; projects where the existing structures are remodeled, renovated, or expanded and where the project includes the re-landscaping or loss of 50 percent or more of the landscape area; and landscaping projects which require a planning approval or building permit.

Zoning Ordinance

The East Palo Alto Zoning Ordinance designates allowable land uses and development standards throughout the City, including building height, setbacks from lot lines, density, and parking standards. Similar to the General Plan's land use designations, the Zoning Ordinance includes zoning districts, which each have their own unique set of allowed uses and development standards, providing the blueprint for how development occurs.

Earlier Planning Efforts – Not Adopted

In the past, East Palo Alto and other groups have undertaken several efforts to plan for the City's future. Since these plans were not adopted, they have no force as pertinent regulations, but are mentioned here to provide additional background and context.

- **Redevelopment Plans:** Consistent with then-current state laws, the City of East Palo Alto had an active redevelopment agency, which collected tax increment financing to be reinvested within the community. Early redevelopment areas included Ravenswood, University Circle, and Gateway 101. However, two bills adopted by the state legislature in 2011 led to the dissolution of local redevelopment agencies across California. As of 2016, there is no legal mechanism for the City to collect and reinvest tax increment financing similar to how such activities were conducted under redevelopment plans.
- **The Weeks Neighborhood Plan** was drafted in 1997 and considered a vision for future change in the Weeks Neighborhood. The study area for this project included a portion of East Palo Alto, including properties located on the north side of Weeks Street. While never adopted, the Weeks Neighborhood Plan later influenced the development of the East Palo Alto Revitalization Plan, as described below.
- **The East Palo Alto Revitalization Plan** was prepared in 2000, and explored potential development strategies and regulations for Ravenswood, 4 Corners, and other areas of the City. In 2005, preliminary work took place to adopt this Plan's recommendations for Ravenswood, but this work was not completed and the Plan was never adopted.
- **A Community Vision for the Bay-Clarke-Weeks-Pulgas Plan Area** was a 2003 community effort to identify development goals for the large block in Ravenswood bounded by Bay Road, Clarke Avenue, Weeks Street, and Pulgas Avenue. The community's vision included a mix of housing and retail stores, with additional space for nonprofit groups. As a result of this plan two projects were entitled with accompanying General Plan and Zoning Ordinance amendments.
- **The Dumbarton Dialogue Project:** A project in 2006 and 2007 that invited residents of many cities on the peninsula, including East Palo Alto, to identify possible solutions to traffic impacts created by the Dumbarton Bridge and Highway 101 corridor.

4.10.2 ENVIRONMENTAL SETTING

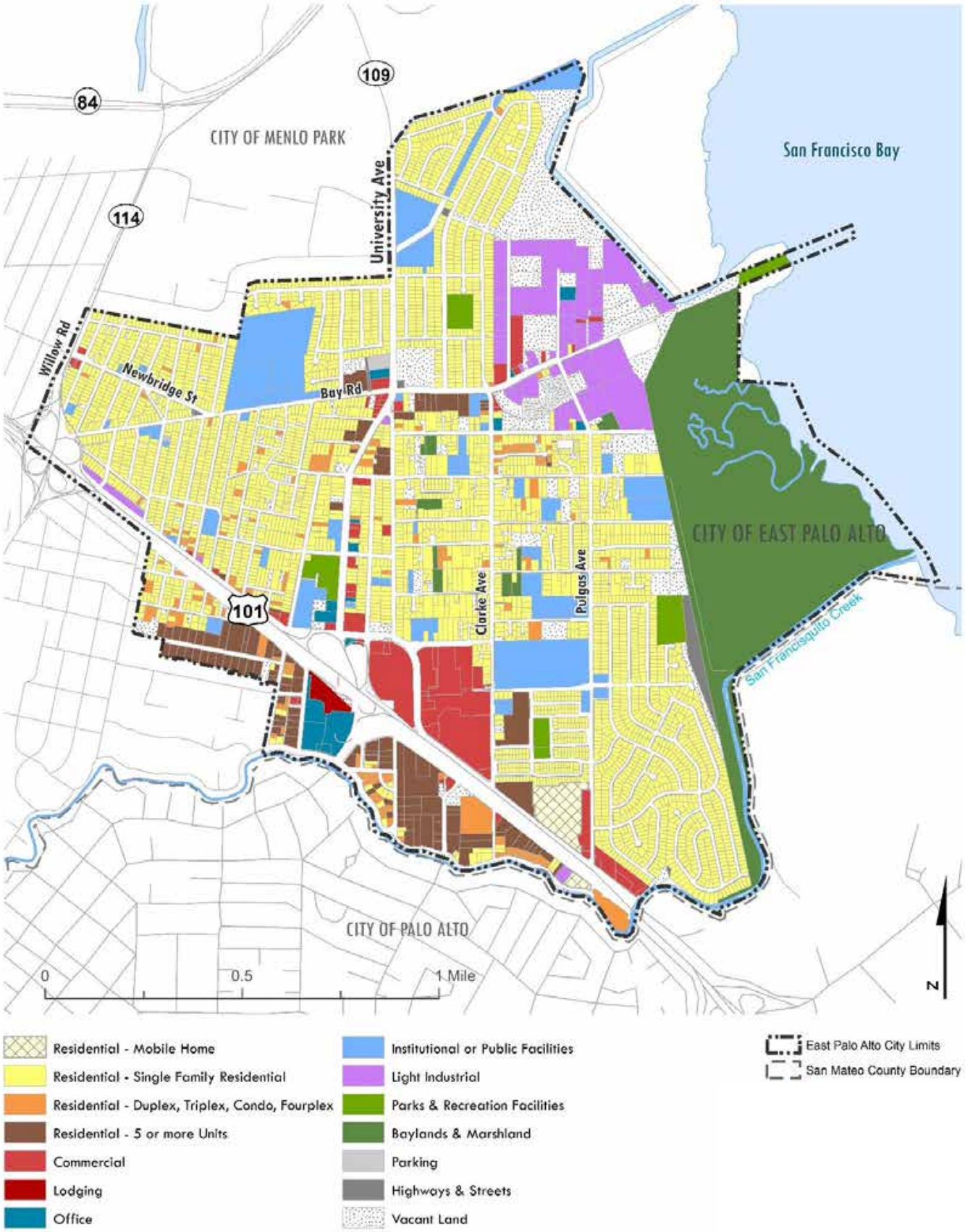
Existing Land Uses

The majority of East Palo Alto's 2.6 square miles is completely built out. Regional urbanization limits the possibility of further outward expansion. At the same time, there is also a relatively significant amount of previously developed yet vacant land, primarily concentrated along Bay Road within the Ravenswood Specific Plan area that used to be occupied by industrial businesses. Open space and marshland areas are also undeveloped (and have long been designated to remain as such). **Table 4.10-1** summarizes quantities and percentages of existing land use types in East Palo Alto; **Figure 4.10-1** maps existing land uses.

Table 4.10-1 Existing Land Use – Citywide

Land Use Type	Acres	Percent of Total Land in the City
Residential – Single Family Residential	546	41.4
Baylands and Marshland	247	18.8
Vacant	124	9.4
Institutional of Public Facilities	110	8.3
Residential – 5 or more Units	71	5.4
Light Industrial	69	5.3
Commercial	61	4.6
Residential – Duplex/Triplex/Condo/Fourplex	41	3.1
Parks and Recreation Facilities	23	1.8
Office	14	1.1
Residential – Mobile Home	8	0.6
Lodging	3	0.3
Parking	1	0.1
Total	**1,318**	**100**

Source: Raimi + Associates, 2014



Existing Land Use

Figure 4.10-1

Source: 2000/2010 U.S. Census, San Mateo County GIS Enterprise Database and Santa Clara County, 2012.

Residential Uses

Residential uses account for approximately 50 percent of the land in the City. The most common type of residential land use is single family residential, which accounts for 41 percent of the City's land. The single-family uses range from small homes on small lots (less than 5,000 square feet) to homes on larger lots that used to be agricultural parcels. As shown in **Figure 4.10-1**, most residential areas are single-use, without nearby commercial or retail space, although many residential neighborhoods contain public parks and institutional uses such as schools or churches. The greatest mix of uses occurs where residential neighborhoods are near retail uses along University Avenue, Bay Road, or within the Gateway 101 Shopping Center.

Approximately five percent of the uses in the City are multi-family units with five or more units. These uses are concentrated in the Westside neighborhoods (Woodland and Willow). However, there are a few recent multi-family housing projects located along University Avenue and Bay Road. There is a single mobile home park at Pulgas Avenue and East Bayshore Road.

Commercial, Industrial, and Office Uses

Light industrial is the most common non-residential land use in the City. Industrial land use has a long and controversial history in East Palo Alto. Most industrial land is concentrated along the eastern stretch of Bay Road (within the Ravenswood Specific Plan area), although much of this industrial land has fallen out of industrial use over the past several decades. This area is surrounded by residential neighborhoods and open spaces, which historically led to tensions between industrial tenants and nearby neighbors over health and safety issues.

Compared to surrounding communities, there is a relatively small amount of commercial space in the City (approximately five percent of land). Most commercial space is regional-serving big box retail at the Gateway 101 Shopping Center. There is also a small amount of retail space scattered along University Avenue, and a very small number of restaurants. East Palo Alto's office space is generally concentrated in professional buildings on University Circle.

The Gateway 101 Shopping Center is the primary retail area in East Palo Alto. The center contains a mix of national chain stores including PGA Golf, Home Depot, IKEA, Office Depot, and Nordstrom Rack. Smaller uses in the center include food establishments and a dentist's office. The center is also home to the Mi Pueblo Food Center, which is the largest grocery store in the City. Elsewhere in the City, the retail uses tend to be locally owned, neighborhood serving stores, rather than national brands.

There are a few retail clusters along University Avenue. The largest concentration of retail and commercial uses is at the intersection of University Avenue and Bay Road where there are two small markets, a taquería, a phone store, restaurant, and hair salon. At the intersection with Bell Street there is a taquería, a bagel shop and a Shell gas station. There is also a market on Cooley Avenue between Schembri Lane and Bell Street. At the intersection of Newbridge Street and Willow Road on the border between Menlo Park and East Palo Alto is another market and small retail area. Remnant retail uses from the past are located at various locations along East Bayshore Road and appear to receive limited use and support.

Typical retail uses, including department stores, toy stores, and clothing stores, appear to be absent from the City. There is only one bank – San Mateo Credit Union – and numerous ATM machines throughout the City. Residents frequently travel outside of the City to access many businesses and services.

Public and Institutional Uses

There are a variety of public and institutional uses distributed throughout the City. These uses account for approximately 10 percent of the land area (133 acres) and most of this area is used for several schools including Cesar Chavez Elementary School, Costaño Elementary School, and Brentwood Elementary School. Most school land belongs to the Ravenswood School District or quasi-public entities such as Eastside College Prep School. There are 33 parcels throughout the City owned by various churches, the second most common public, and institutional use. Parks and recreational facilities are the third most common public and institutional use, and include City parks and other community facilities such as the YMCA and Senior Center.

Existing Land Use - Westside

The Westside area of the City has a different mix of uses than the rest of the City. As is shown in **Table 4.10-2** and **Figure 4.10-1**, the predominant land use on the Westside is residential, accounting for 81 percent of the land area. Of the residential land uses, multi-family housing accounts for by far the greatest land area at 48 percent. The majority of the City's multi-family uses are located on the Westside. In addition to residential uses, the Westside contains eight acres of office uses and one acre of commercial uses. These uses are found in the University Circle area and include the Four Seasons Hotel and three six-story office buildings. There are also a few retail uses spread throughout the Westside including two convenience stores, a laundromat, and a few restaurants. At present, the Westside has no parks, recreational facilities, or public facilities. Highway 101 poses a

significant barrier for residents on the Westside who wish to access establishments on the east side of the City.

Table 4.10-2 Existing Land Use - Westside

Land Use Designation	Acres	% of Total
Residential – Mobile Home	0	0
Residential – Single Family Residential	15	13.5
Residential – Duplex/Triplex/Condo/Fourplex	21	19.3
Residential – 5 or more Units	51	47.5
Commercial	1	1.0
Lodging	3	3.1
Office	8	7.8
Institutional of Public Facilities	1	0.9
Light Industrial	1	0.7
Vacant	6	5.8
Total	**107**	**100**

Source: Raimi + Associates, 2014

4.10.3 THRESHOLDS OF SIGNIFICANCE

Implementation of the General Plan Update would significantly impact land use if it would:

a) Physically divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.4 ENVIRONMENTAL IMPACTS

Adoption and implementation of the proposed General Plan Update would result in the following impacts with respect to land use and planning.

a) Physically divide an established community (less-than-significant impact).

The General Plan Update would guide the location, form, and intensity of all development within East Palo Alto for the next 20 to 30 years. The General Plan Update would encourage new development within several key focus areas, including University Avenue, the Ravenswood Specific Plan area, and the University Avenue/Highway 101 intersection. These focus areas are largely urbanized. Individual parcels within these areas are generally not large enough that their development could result in a physical division of the City.

The General Plan Update calls for a number of transportation and infrastructure improvements that would create linkages throughout the City. These improvements include adding sidewalks in the Ravenswood Specific Plan area, extending bicycle routes along a number of major roadways in the City, and implementing the Highway 101 Pedestrian/Bicycle Overcrossing Project. These improvements would result in creating and/or strengthening existing connections between neighborhoods across existing barriers. Overall, the General Plan Update would reduce the impact of existing barriers, and would not result in any new physical division of the community. This impact would be less than significant.

The General Plan Update includes the following goals and policies designed to enhance land use and planning throughout the City.

Land Use and Urban Design Element Goal LU-1. Maintain an urban form and land use pattern that enhances the quality of life and meets the community's vision for its future.

- *Policy 1.1, Balanced land uses*. Create a balanced land use pattern to support a jobs-housing balance, minimize traffic and vehicle miles traveled, reduce greenhouse gas emissions, and promote a broad range of housing choices, retail businesses, employment opportunities, cultural venues, educational institutions, and other supportive land uses.
- *Policy 1.3, Coherent pattern of land use.* Ensure that new development occurs in a unified and coherent pattern that avoids conflicts between uses and promotes job creation and fiscal stability, creating a high-quality environment for East Palo Alto residents.

Land Use and Urban Design Element Goal LU-9. Provide an urban environment that is tailored to the pedestrian.

- *Policy 9.8, Auto-oriented uses*. Along University Avenue and Bay Road, discourage uses that serve occupants of vehicles (such as drive-through windows) and uses that service the vehicle (such as car washes and service stations), except where they do not disrupt pedestrian flow, are not concentrated, do not break up the building mass of the streetscape, and are compatible with the planned uses of the area.

Land Use and Urban Design Element Goal LU-10. Transform University Avenue into a mixed-use corridor with a diversity of residential, mixed use and commercial development in a walkable urban fabric.

- *Policy 10.12, Street Design.* Work with Caltrans and the Fire District to complete traffic calming and roadway narrowing activities to slow traffic along University Avenue to make the area more desirable for pedestrians, residential development, and neighborhood-serving retail. The street design must not significantly impact emergency response routes, emergency response times, and emergency vehicle access.

Land Use and Urban Design Element Goal LU-11. Encourage the transformation of the surface parked retail shopping center into a mixed-use office and shopping district.

- *Policy 11.5, Urban block pattern*. Develop standards to require new streets and pedestrian connections in a grid development pattern that connects to existing neighborhoods.
- *Policy 11.11, Connections*. To the extent feasible, pursue stronger pedestrian connections between the Gateway area and the high density area along the north side of Donohoe Street.

Land Use and Urban Design Element Goal LU-15. Preserve and enhance the character and identity of the Kavanaugh neighborhood.

- *Policy 15.4, Connections to Menlo Park*. Improve connections between the Kavanaugh neighborhood and Menlo Park employment uses and neighborhoods.

Land Use and Urban Design Element Goal LU-16. Enable new pedestrian connections, improve safety, and provide guidelines for incremental improvements to the neighborhood.

- *Policy 16.1, Connections*. Improve existing or establish new connections as follows:

- Create better access to the Bay Trail (see the Open Space chapter for more details).
- Find opportunities to introduce new pedestrian cut-throughs to increase connectivity in the Gardens neighborhood.
- Focus streetscape improvements along walking routes to parks.
- Re-establish connections from Pulgas Avenue onto fenced or walled neighborhood streets east of Joel Davis Park.
- Remove restrictive fencing surrounding the University Square development, Gateway Retail Hub, and MLK Park to improve permeability and access to key amenities for pedestrians and bicyclists.
- Promote more events, such as festivals, at MLK Park
- Improve sidewalk accessibility by improving on street parking.
- Consult with and seek mutual approval of the Fire District on traffic calming locations, measures and devices so that they do not impede or adversely affect primary emergency response routes, response times or emergency vehicle access per the Fire Districts Ordinance adopted by the City.

Land Use and Urban Design Element Goal LU-18. Enhance the character of the existing single-family residential areas and foster the development of neighborhood retail and services.

- *Policy 18.7, Transitions*. Ensure appropriate transitions between East Bayshore uses and adjacent single family neighborhoods, and between University Corridor uses and adjacent single family neighborhoods.

Transportation Element Goal T-4. Build a comprehensive and well-used bicycle network that comfortably accommodates bicyclists of all ages and skill-levels.

- *Policy 4.1, Bicycle network.* Improve facilities and eliminate gaps along the bicycle network to connect destinations across the city and create a network of bicycle facilities of multiple types that connect to neighboring cities, including a path along Newell Road between Highway 101 and San Francisquito Creek. The network should facilitate bicycling for commuting, school, shopping, and recreational trips by riders of all ages and levels of experience.
- *Policy 4.8, San Francisco Bay Trail*. Support the completion of the San Francisco Bay Trail, including relevant portions within East Palo Alto.

Parks and Open Space Element Goal POC-1. Create new parks and open spaces throughout the City.

- *Policy 1.10, New trails, and paths*. Construct new trails or multi-use paths, particularly along the San Francisquito Creek or in the Baylands.

Parks and Open Space Element Goal POC-2. Improve and enhance existing parks and trails.

- *Policy 2.3, Access to parks*. Improve bike and pedestrian access to existing parks and schools.

Westside Area Plan Element Goal W-3. The long-term development of new buildings and a new street network to improve housing opportunities and improve quality of life.

- *Policy 3.4, Development process for increased intensities*. Any proposed increases in allowed development intensity must comply with the following process, according to the project location:
  - For areas on the north side of University Avenue or south of Clark Avenue to San Francisquito Creek, proposed in increases in intensity over the currently allowed zoning intensity may be approved on a project-by-project basis. These projects shall be required to meet the policies set forth in this document in addition to any other city policies and shall be required to pay fees to support the development of new parks, open spaces, infrastructure and community facilities necessary to support a higher level of development on the Westside.
  - For the area between University Avenue and Clarke Avenue, proposed increases in intensity over the currently allowed zoning intensity shall be required to prepare a master plan, development agreement or special plan or similar planning document.
- *Policy 3.5, Application information for increased intensity*. Prior to any approval in increased development intensity, project applicants must provide detailed information on the overall development plan and, at minimum, include the following information:
  - Proposed General Plan and zoning, including uses, building heights, and maximum development intensities.
  - Development program that identifies parcel-by-parcel information on existing and proposed uses.
  - Affordable housing plan, including the amount, levels of affordability and location of each housing unit.
  - Relocation plan for existing tenants.
  - Fiscal impact analysis for the City (development of single parcels are exempt).
  - Description and analysis how the City's rent stabilization program may be continued in the future, including sources of funding.

- Park and open space plan, including the number, acres, and location of new parks and open spaces (or contribution to parks and open spaces for single-parcel projects).
- A water supply assessment with guarantees of long-term water availability and new sources of water.
- Infrastructure improvement plan, including detailed information on all infrastructure and utilities (or contribute to Westside infrastructure improvements).
- Street network plan, including proposed street cross sections.
- Any additional information and level of detail requested by the project applicant to ensure that the proposed project meets the vision of the community.

Westside Area Plan Element Goal W-6. Accessible and well-maintained parks and public facilities.

- *Policy 6.1, San Francisquito Creek*. Establish a trail or linear park along the creek as part of a redevelopment of the Westside or as part of the creek flood protection project.

Westside Area Plan Element Goal W-7. Better streets and transportation options for residents and visitors.

- *Policy 7.1, New street connections*. As redevelopment occurs, establish new street connections across existing large blocks whenever possible, prioritizing connections in the following locations:
  - Mid-block between East O'Keefe Street and Donohoe Street.
  - Mid-block between Euclid Avenue and Manhattan Avenue, south of O'Connor.
  - Into or through University Circle.
  - From Cooley west to San Francisquito Creek.
  - Multiple connections through the large block between Cooley Avenue and Newell Road.
  - Through the large block between Newell Road and East Clarke Avenue.
  - Froom Cooley west to San Francisquito Creek.
- *Policy 7.2, Safe pedestrian network.* Develop a safe pedestrian network throughout the Westside, including regular crosswalks, consistent sidewalks, traffic calming where necessary, special crossing treatments in areas of high pedestrian traffic, and better access across University Avenue and Highway 101.

Safety and Noise Element Goal SN-3. Reduce the risk of fire and wildfire hazards in the community.

- *Policy 4.4, Transportation safety*. Minimize transportation accidents by considering pedestrian safety in all land use planning decisions and working closely with CHP, Caltrans, SamTrans, and other relevant agencies to identify safety problems and implement corrective measures.

b) Conflict with an applicable land use plan, policy or regulation of an agency with jurisdiction of the project adopted for the purpose of avoiding or mitigating an environmental effect (no impact).

As a General Plan Update, adoption of the project would introduce a comprehensive revision to the City's long range land use plan. If adopted, the General Plan Update would be the City's new blueprint to guide future decisions on land use, transportation, infrastructure, housing, and park space, among other things. As noted above and throughout this EIR, the General Plan Update includes numerous goals and policies intended to protect and enhance existing environmental resources. For examples, see the impact discussions in **Sections 4.1, Aesthetics**; **4.4, Biological Resources**; and **4.5, Cultural Resources**. Moreover, as articulated in other sections of the EIR, the General Plan Update includes numerous goals and policies intended to avoid or minimize impacts to human health resulting from a number of environmental factors. (See the impact discussions in **Sections 4.3, Air Quality**; **4.7, Greenhouse Gas Emissions**; **4.8, Hazards and Hazardous Materials**; and others).

As discussed previously, the Ravenswood Specific Plan includes new zoning districts to implement the land use vision. The General Plan Update would incorporate the land use designations, goals, and policies of the Ravenswood/4 Corners TOD Specific Plan.

Although the Palo Alto Airport CLUP was adopted by another jurisdiction, it was enacted to avoid or minimize environmental effects associated with airport operations (as well as to protect airport operations from encroaching incompatible uses). Proposed land use types and densities in designated airport hazard zones would be consistent with this land use plan.

Other land use plans/policies adopted by agencies with jurisdiction in East Palo Alto include the *San Francisco Bay Trail Plan* and BCDC's Bay Plan. The following goals and policies would help ensure that new development under the General Plan Update would be consistent with these adopted plans. With adherence to these goals and policies, this impact would be less than significant.

Parks, Open Space, and Conservation Element Goal POC-1. Create new parks and open spaces throughout the City.

- *Policy 1.2, Bay Access Master Plan*. Implement the park and trail improvements and expansions called for in the EPA Bay Access Master Plan.
- *Policy 1.10, New trails and paths*. Construct new trails or multi-use paths, particularly along the San Francisquito Creek or in the Baylands.
- *Policy 1.14, Connections to Bay Trail*. Explore new and improved connections to the Bay Trail in key locations.

c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan (no impact).

As discussed in **Section 4.4, Biological Resources**, the Don Edwards San Francisco Bay National Wildlife Refuge Comprehensive Conservation Plan includes portions of the City in land uses designated for resource management under the current General Plan. The General Plan Update would retain the existing land uses, and would not propose or encourage development that would conflict with this Habitat Conservation Plan. No impact would occur.

4.10.5 CONCLUSION

The General Plan Update calls for a number of transportation and infrastructure improvements that would established and strengthen existing connections between communities without creating new physical barriers or altering the existing character of neighborhoods within the City. Implementation of the General Plan Update would not conflict with any applicable land use plan, policy, or Habitat Conservation Plan.

4.11 NOISE AND VIBRATION

This section describes the existing noise environment within the City of East Palo Alto (City) and the potential noise impacts that could occur with the adoption of the East Palo Alto General Plan Update (General Plan Update). Information in this section was derived from a technical report prepared for the General Plan Update by Illingworth & Rodkin, Inc. (see **Appendix D**).

4.11.1 FUNDAMENTALS AND DEFINITIONS

Noise

Noise may be defined as unwanted sound, and is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

There are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative loudness of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis, meaning that an increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in **Table 4.11-1.**

Table 4.11-1 Definition of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (Leq)	The average A-weighted noise level during the measurement period.
Lmax, Lmin	The maximum and minimum A-weighted noise level during the measurement period.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level (Ldn or DNL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin, 2015

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level* (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in **Table 4.11-2**. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Since the sensitivity to noise increases during the evening and at night - because excessive noise interferes with the ability to sleep - 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level* (L_{dn} or DNL) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to

the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed; those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately 2 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent of the population. Therefore, there is an increase in annoyance due to ground vehicle noise of about 1 percent per dBA between a L_{dn} of 60-70 dBA. Between a L_{dn} of 70-80 dBA, each decibel increase increases the percentage of the population highly annoyed by about 2 percent. People appear to respond more adversely to aircraft noise. When the L_{dn} due to aircraft noise is 60 dBA, approximately 10 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 2 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase in aircraft noise results in about a 3 percent increase in the percentage of the population highly annoyed.

Table 4.11-2 Typical Noise Levels in the Environment

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

Source: Illingworth & Rodkin, 2015

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the *Peak Particle Velocity* (PPV) and another is the *Root Mean Square* (RMS) velocity. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. **Table 4.11-3** displays the reactions of people and the effects on buildings that continuous vibration levels produce. The annoyance levels shown in **Table 4.11-3** should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

In this document, the abbreviation *VdB* is used to define vibration levels in decibels to reduce the potential for confusion with airborne sound levels in decibels. Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans (60 to 70 VdB). Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams, and foot traffic. **Table 4.11-3** illustrates common sources of vibration and the association to human perception or the potential for structural damage. Construction activities, train operations, and heavy truck and bus traffic are some of the most common external sources of vibration that can be perceptible inside residences.

Table 4.11-3 Typical Levels of Groundborne Vibration

Human/Structural Response	Velocity Level, VdB	Typical Events (50-foot setback)
Threshold, minor cosmetic damage	100	Blasting, pile driving, vibratory compaction equipment
		Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Difficulty with tasks such as reading a video or computer screen	90	
		Commuter rail, upper range
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, occasional events		Commuter rail, typical Bus or truck over bump or on rough roads
Residential annoyance, frequent events	70	Rapid transit, typical
Approximate human threshold of perception to vibration		Buses, trucks and heavy street traffic
	60	
		Background vibration in residential settings in the absence of activity
Lower limit for equipment ultra-sensitive to vibration	50	

Source: Illingworth & Rodkin, 2015

Construction Vibration

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that

can be applied to assess the potential for damaging a structure vary, and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

Table 4.11-4 displays continuous vibration impacts on human annoyance and on buildings. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

Table 4.11-4 Reactions of People and Damage to Buildings From Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Illingworth & Rodkin, 2015

Rail Vibration

Railroad operations are potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of railroad track. People's response to ground vibration has been correlated best with the RMS velocity level of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is 1 x 10-6 in/sec RMS, which equals 0 VdB, and 1 in/sec equals 120 VdB.

One of the problems with developing suitable criteria for groundborne vibration is the limited research into human response to vibration and more importantly human annoyance inside buildings. The U.S. Department of Transportation Federal Transit

Administration (FTA) has developed rational vibration limits that can be used to evaluate human annoyance to groundborne vibration. These limits are summarized in **Table 4.11-5**. These criteria are primarily based on experience with passenger train operations, such as rapid transit and commuter rail systems. The main difference between passenger and freight operations is the time duration of individual events; a passenger train lasts a few seconds whereas a long freight train may last several minutes, depending on speed and length.

Table 4.11-5 FTA Groundborne Vibration Impact Criteria

Land Use Category	Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: Illingworth & Rodkin, 2015
Notes:
1. "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events per day. This category includes most commuter rail systems.
4. This limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

Vibration from Heavy Trucks and Buses

Groundborne vibration levels from heavy trucks and buses are not normally perceptible, especially if roadway surfaces are smooth. Buses and trucks typically generate groundborne vibration levels to about 63 VdB at a distance of 25 feet when traveling at a speed of 30 mph. Higher vibration levels can occur when buses or trucks travel at higher rates of speed or when the pavement is in poor condition. Vibration levels below 65 VdB are below the threshold of human perception.

4.11.2 REGULATORY REQUIREMENTS

Federal

Department of Housing and Urban Development (HUD)

New residential construction qualifying for HUD financing proposed in high noise areas (exceeding 65 dBA Ldn) must incorporate noise attenuation features to maintain acceptable interior noise levels. Attenuation requirements are geared toward achieving a goal of 45 dBA Ldn for interior noise. It is assumed that with standard construction, any building will provide sufficient attenuation to achieve an interior level of 45 dBA Ldn or less if the exterior level is 65 dBA Ldn or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 dBA but not exceeding 75 dBA) require a minimum of 5 dBA additional noise attenuation for buildings if the day-night average is greater than 65 dBA but does not exceed 70 dBA, or minimum of 10 dBA of additional noise attenuation if the day-night average is greater than 70 dBA but does not exceed 75 dBA.

Federal Highway Administration (FHWA)

Proposed federal or federal-aid highway construction projects at a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes requires an assessment of noise and consideration of noise abatement per Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), “Procedures for Abatement of Highway Traffic Noise and Construction Noise.” FHWA has adopted noise abatement criteria (NAC) for sensitive receptors such as picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals when “worst-hour” noise levels approach or exceed 67 dBA Leq. The California Department of Transportation (Caltrans) has further defined approaching the NAC to be 1 dBA below the NAC for noise-sensitive receptors identified as Category B activity areas (e.g., 66 dBA Leq is considered approaching the NAC).

Federal Transit Administration (FTA) – Train Vibration

The FTA has identified vibration impact criteria for sensitive buildings, residences, and institutional land uses near rail transit and railroads. The thresholds for residences and buildings where people normally sleep (e.g., nearby residences) are 72 VdB for frequent events (more than 70 events of the same source per day), 75 VdB for occasional events (30 to 70 vibration events of the same source per day), and 80 VdB for infrequent events (less than 30 vibration events of the same source per day).

State

California Administrative Code Section 65302(f)

California Government Code Section 65302(f) requires that all General Plans include a Noise Element to address noise problems in the community. The Noise Element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine tests stands, and all other ground facilities and maintenance functions related to airport operation
- Local industrial plants, including, but not limited to, railroad classification yards
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment

Noise contours shall be shown for all of these sources and stated in terms of CNEL or day-night L_{dn}. The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above.

The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise. The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

California Noise Insulation Standards

The state of California establishes minimum noise insulation performance standards for hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings as set forth in the 2010 California Building Code (Chapter 12, Appendix Section 1207.11). The noise limit is a maximum interior noise level of 45 dBA L_{dn}/CNEL. Where exterior noise levels exceed 60 dBA L_{dn}/CNEL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the

noise limit. The General Plan facilitates the implementation of the Building Code noise insulation standards.

Division of Aeronautic Noise Standards

Title 21 of the *California Code of Regulations*[1] sets forth the state's airport noise standards. In the findings described in Section 5006, the standard states the following: "A level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction." Based on this finding, the airport noise standard as defined in Section 5012 is set at a CNEL of 65 dB.

Caltrans – Construction Vibration

Caltrans uses a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 0.25 to 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e. walls and floors) to groundborne excitation.

Local

East Palo Alto 1999 General Plan Noise Element

The Noise Element of East Palo Alto's General Plan is intended to reduce noise impacts through proper planning and correction of noise problems. It also aims to minimize the effects of noise within the community, including noise from transportation as well as other sources. To accomplish this intent, the Noise Element contains goals and policies calling for noise control measures in new construction and appropriate siting of new land uses based on potential conflicts from noise. [2] It also calls for the reduction of transportation- related noise impacts on sensitive land uses, such as residences.

[1] California Code of Regulations Airport Noise Standards, Title 21, Public Works Division 2.5, Division of Aeronautics (Department of Transportation), Chapter 6 Noise Standards, Article 1.General.

[2] City of East Palo Alto, 1999, City of East Palo Alto General Plan, Noise Element, page 4.

To ensure that noise producers do not adversely affect sensitive land uses, the City uses land use compatibility standards when making planning and development decisions. **Table 4.11-6** summarizes the Noise Element's standards for various types of land uses, which are derived from Title 24 in the California Code of Regulations. The standards represent the maximum allowable noise level and are used to determine noise impacts. The noise standards act as City policy for acceptable noise levels for development.

Table 4.11-6 Interior and Exterior Noise Standards

Land Use	Noise Standards	
	Interior [b, c]	Exterior
Residential- single-family, multi-family, duplex, mobile home	CNEL 45 dB	CNEL 65 dB[d]
Residential - transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB[d]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	L_{eq} (12) 45 dB(A)	--
Schools	L_{eq} (12) 45 dB(A)	L_{eq} (12) 45 dB(A)*
General offices, reception, clerical, etc.	L_{eq} (12) 50 dB(A)	--
Bank lobby, retail store, restaurant, typing pool, etc.	L_{eq} (12) 55 dB(A)	--
Manufacturing, kitchen, warehousing, etc.	L_{eq} (12) 65 dB(A)	--
Parks, playgrounds	--	CNEL 65 dB(A)*
Golf courses, outdoor spectator sports, amusement parks	-	CNEL 70 dB(A)*

Source: East Palo Alto General Plan, 1999

Notes:

[a] CNEL = Community Noise Equivalent Level. Leq (12) = The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).

[b] Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.

[c] Indoor environment excluding bathrooms, toilets, closets, and corridors.

[d] Outdoor environment limited to rear yard of single family homes, multifamily patios, and balconies (with a depth of 6 feet or more) and common recreation areas.

* Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

The noise standards are the basis for the Noise Element's land use compatibility guidelines, which are presented in a matrix in **Table 4.11-7**. The primary purpose of the noise/land use matrix is to identify conflicts between proposed land uses and the existing and future noise environment. It achieves this purpose by establishing three zones for the regulation of projects with respect to noise. Builders of projects in the City are required to demonstrate that the noise standards will be met prior to project approval.

Table 4.11-7 Noise/Land Use Compatibility Matrix

Land Use	Community Noise Equivalent Level (CNEL, dBA)						
	55	60	65	70	75	80	
Residential – Single-Family, Multi-Family, Duplex	A	A	B	B	C		
Residential – Mobile Homes	A	A	B	C	C		
Transient Lodging – Motels, Hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing Homes	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Arenas, Outdoor Spectator Sport, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Source: East Palo Alto General Plan, 1999.
Note: Shaded areas indicate new construction or development should generally not be undertaken.
Zone A - Clearly Compatible. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B - Conditionally Acceptable. New construction or development should be undertaken only after detailed analysis of the noise reduction requirement is made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C - Normally Incompatible. New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

If the noise level of a project falls within Zone A or Zone B, the project is considered compatible with the noise environment. Zone A implies that no mitigation will be needed. Zone B implies that minor soundproofing of the structure may be needed to meet City noise standards.

If the noise level of a project falls within Zone C, substantial noise mitigation will be necessary to meet the noise standards. Mitigation may involve construction of noise barriers and substantial sound insulation in buildings. Project proponents must demonstrate that the noise standards will be met prior to issuance of a building permit. If the noise level falls outside of Zones A, B, and C, the project is considered clearly incompatible with the noise environment and should not be approved.

When noise-sensitive land uses are proposed within the 60 dB CNEL or greater contour, an acoustical analysis must be prepared. For a project to be approved, the analysis must demonstrate that the project is designed to attenuate noise to meet the City noise standards, as defined in **Table 4.11-7**. If the project is not designed to meet the noise standards, mitigation measures can be recommended in the analysis. If the analysis demonstrates that the noise standards can be met through implementation of the mitigation measures, the project can be approved with the mitigation measures required as conditions of project approval.[3]

East Palo Alto Municipal Code

Chapter 8.52 (Noise Control) of the East Palo Alto Municipal Code seeks to protect the citizens of the City from unnecessary, excessive, and annoying noise; to maintain quiet in areas where noise levels are low; and to implement programs to reduce unacceptable noise. The regulations limit the amount of noise that may be created as measured at the exterior of any dwelling unit, school, hospital, church, or public library.[4] **Table 4.11-8** provides the Municipal Code's exterior noise standards. In addition, Chapter 8.52 limits the creation of noise that results in excessive noise levels within any dwelling unit. **Table 4.11-9** provides the standards for interior noise in dwelling units. Exceptions to these standards are provided for activities such as special events and permitted daytime construction.[5]

[3] City of East Palo Alto, 1999, *City of East Palo Alto General Plan*, Noise Element, pages 6 through 11.

[4] City of East Palo Alto, 2009, *East Palo Alto Municipal Code*, Chapter 8.52, Noise Control in the City's Municipal Code.

[5] The City would likely update the Noise Control Ordinance after adopting the General Plan Update to ensure that the Ordinance is consistent with the General Plan Update.

Table 4.11-8 Exterior Noise Level Standards for Single- or Multi-Family Residences, Schools, Hospitals, Churches, and Public Libraries

Category	Cumulative Number of Minutes in Any 1-Hour Time Period	Noise Level Standards, dBA	
		Daytime (7:00 am - 10:00 pm)	Nighttime (10:00 pm - 7:00 am)
1	30	55	50
2	15	50	55
3	5	65	60
4	1	70	60
5	0	75	70

Source: City of East Palo Alto Municipal Code, 2009

Notes:

A. In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in 5 dBA increments so as to encompass the background noise level.

B. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, consisting primarily of speech or music, or for recurring or intermittent impulsive noises.

C. If the intruding noise source is continuous and cannot reasonably be stopped for a period of time whereby the background noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards in this table.

Table 4.11-9 Interior Noise Level Standards—Dwelling Unit

Category	Cumulative Number of Minutes in Any 1-Hour Time Period	Noise Level Standards, dBA	
		Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
1	5	45	40
2	1	50	45
3	0	55	50

Source: City of East Palo Alto Municipal Code, 2009

Note:

A. In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in 5 dBA increments so to encompass the background noise level.

B. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring or intermittent impulsive noises.

C. If the intruding noise source is continuous and cannot reasonably be stopped for a period of time whereby the background noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards in this table.

Santa Clara County Airport Land Use Plan

The easternmost portion of the City is subject to noise of 60 dB from aircraft operations at Palo Alto Municipal Airport, located in Santa Clara County. The Santa Clara County Airport Land Use Commission (ALUC) provides development standards to minimize impacts from aircraft noise in the Comprehensive Land Use Plan (CLUP). To conform to the CLUP, the City has designated land within the 60 dB CNEL contour for non-residential uses such as industrial and commercial uses.[6]

4.11.3 ENVIRONMENTAL SETTING

Noise and Vibration in East Palo Alto

General Plan Update Noise Measurement Survey

A noise measurement survey was completed to establish existing noise levels in the City. Long-term (LT) measurements made hour-by-hour over a period of at least 24 hours provide information on how noise levels vary throughout the day and night and how noise levels may vary from day-to-day. A series of attended short-term (ST) measurement were also made, which are useful for several purposes. The person attending the measurements can identify the noise sources that occur during the measurement and note the level of noise associated with identifiable events. This assists in quantitatively and qualitatively characterizing the noise environments along the major roadways and also in the quieter areas of the City.

The noise survey was conducted from Tuesday, April 21, 2015 to Tuesday, April 28, 2015 at 16 long-term and 14 short-term noise measurements shown on **Figure 4.11-1**. **Appendix D** provides further details on the selection and rationale of noise measurement locations.

Long Term Noise Measurements

Measurement LT-1 was located at the corner of Willow Road (SR 114) and Alberni Street, approximately 70 feet east of the centerline of Willow Road (SR 114) and approximately 65 feet north of the centerline of Alberni Street. The measurement position represented the side yard equivalent of the single-family residence at 915 Alberni Street. Vehicular traffic was the dominant noise source affecting the noise measurement. The average CNEL at this location ranged from 73 to 75 dBA CNEL between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 67 to 73 dBA, and typical nighttime Leq noise levels ranged from 61 to 70 dBA.

[6] City of East Palo Alto, 1999, *City of East Palo Alto General Plan*, Noise Element, page 11.

Noise Measurement Locations In East Palo Alto

Figure 4.11-1

Source: Illingworth & Rodkin, 2015.

Measurement LT-2 was located at the end of Westminster Avenue approximately 145 feet north of the centerline of Alberni Street. Measurement LT-2 was positioned along the boundary of industrial/commercial land uses, which would be the dominant noise source at this location. The average CNEL at this location ranged from 60 to 62 dBA between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 55 to 68 dBA, and typical nighttime Leq noise levels ranged from 46 to 57 dBA.

At the corner of Newbridge Street and Jervis Avenue, noise measurement LT-3 was positioned outside of Calvary Temple Church, located at 1207 Jervis Avenue. LT-3 was approximately 30 feet north of the centerline of Newbridge Street and approximately 40 feet west of the centerline of Jervis Avenue. Vehicular traffic along Newbridge Street was the major source of noise. The average CNEL ranged from 69 to 70 dBA between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 63 to 73 dBA, and typical nighttime Leq noise levels ranged from 53 to 66 dBA.

Measurement LT-4 was positioned in a tree in the front yard equivalent of 2163 Ralmar Avenue. LT-4 was approximately 20 feet west of the centerline of Ralmar Avenue, approximately 280 feet north of East Bayshore Road, and approximately 340 feet north of the nearest through lane along Highway 101. Vehicular traffic along Highway 101 was the dominant noise source contributing to the LT-4 noise measurement. The average CNEL at this location ranged from 67 to 71 dBA CNEL between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 58 to 81 dBA, and typical nighttime Leq noise levels ranged from 48 to 61 dBA.

LT-5 was located along West Bayshore Road at the corner of Donohoe Street. This measurement was made approximately 25 feet south of the centerline of Donohoe Street, approximately 40 feet west of the centerline of West Bayshore Road, and approximately 95 feet west of the centerline of the nearest through lane along Highway 101. The dominant noise source contributing to the measurement of LT-5 was vehicular traffic along Highway 101. The average CNEL ranged from 70 to 72 dBA between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 62 to 69 dBA, and typical nighttime Leq noise levels ranged from 58 to 69 dBA.

Measurement LT-6 was located in Bell Street Park, approximately 70 feet west of the centerline of University Avenue. LT-6 was positioned just south of the parking lot, and the dominant noise source was the vehicular traffic along University Avenue. The average CNEL at this location ranged from 66 to 69 dBA between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 61 to 71 dBA, and typical nighttime Leq noise levels ranged from 54 to 64 dBA.

Located at the corner of Bay Road and Gloria Way, LT-7 represented the side yard equivalent of the residence at 1531 Bay Road. LT-7 was approximately 75 feet north of the centerline of Bay Road, and vehicular traffic along Bay Road was the major source of noise. The average CNEL at this location ranged from 69 to 71 dBA between Tuesday, April 21, 2015 and Thursday, April 23, 2015. Typical daytime Leq noise levels ranged from 62 to 73 dBA, and typical nighttime Leq noise levels ranged from 51 to 69 dBA.

The final long-term measurement that was taken from Tuesday, April 21, 2015 to Thursday, April 23, 2015 was LT-8. This measurement was located at the corner of Scofield Avenue and Circle Drive, west of Highway 101. LT-8 was approximately 40 feet south of the centerline of Scofield Avenue and approximately 15 feet east of the centerline of Circle Drive. Single- and multi-family residences were located in the vicinity of LT-8. Vehicular traffic along Highway 101 was the dominant noise source affecting the noise measurement. The average CNEL at this location ranged from 62 to 65 dBA. Typical daytime Leq noise levels ranged from 56 to 74 dBA, and typical nighttime Leq noise levels ranged from 45 to 61 dBA.

Measurements LT-9 through LT-16 were made between Thursday, April 23, 2015 and Tuesday, April 28, 2015. LT-9 was located at the corner of University Avenue and Michigan Avenue, in the front yard equivalent of the single-family residence at 1606 Michigan Avenue. This measurement was approximately 70 feet east of the centerline of University Avenue and approximately 20 feet south of the centerline of Michigan Avenue. Vehicular traffic along University Avenue was the dominant noise source at this location. The average CNEL at this location ranged from 72 to 74 dBA. Typical daytime Leq noise levels ranged from 66 to 72 dBA, and typical nighttime Leq noise levels ranged from 59 to 70 dBA.

At the corner of University Avenue and Purdue Avenue, LT-10 represented the front yard equivalent of 1610 Purdue Avenue. This measurement was approximately 50 feet east of the centerline of University Avenue and approximately 25 feet south of the centerline of Purdue Avenue. Vehicular traffic along University Avenue was the dominant noise source at this location. The average CNEL at this location ranged from 73 to 77 dBA. Typical daytime Leq noise levels ranged from 68 to 78 dBA, and typical nighttime Leq noise levels ranged from 60 to 72 dBA.

LT-11 was measured at the eastern end of Tulane Avenue in the front yard equivalent of 1775 Tulane Avenue. LT-11 was approximately 20 feet north of the centerline of Tulane Avenue, and at this location, the dominant noise source was vehicular traffic along Bayfront Expressway (SR 109). The average CNEL at this location ranged from 61 to 63 dBA CNEL. Typical daytime Leq noise levels ranged from 53 to 66 dBA, and typical nighttime Leq noise levels ranged from 44 to 60 dBA.

Measurement LT-12 was made at Jack Farrell Park, approximately 165 feet west of the centerline of Illinois Street and approximately 340 feet east of the centerline of Fordham Street. This park included a baseball field and was surrounded by single-family residences. The noise environment was quiet with occasional aircraft noise. The average CNEL at this location ranged from 58 to 60 dBA CNEL. Typical daytime Leq noise levels ranged from 50 to 61 dBA, and typical nighttime Leq noise levels ranged from 45 to 57 dBA.

Located along East Bayshore Road, approximately 400 feet to the south of Pulgas Avenue, was LT-13. This measurement was made near the driveway for a Public Storage facility. LT-13 was approximately 35 feet east of the centerline of East Bayshore Road and approximately 75 feet east of the centerline of the nearest through lane along Highway 101, which dominates the noise environment at this location. The average CNEL at this location ranged from 78 to 81 dBA. Typical daytime Leq noise levels ranged from 72 to 78 dBA, and typical nighttime Leq noise levels ranged from 67 to 77 dBA.

LT-14 was measured along Pulgas Avenue, adjacent to single-family residences. This measurement was the side yard equivalent of 939 Mouton Circle and was approximately 20 feet west of the centerline of Pulgas Avenue. The dominant noise source at LT-14 would be the vehicular traffic along Pulgas Avenue. The average CNEL at this location ranged from 64 to 66 dBA. Typical daytime Leq noise levels ranged from 57 to 68 dBA, and typical nighttime Leq noise levels ranged from 50 to 63 dBA.

Long-term measurement LT-15 was located at Martin Luther King Park, near the picnic benches behind home plate of the baseball field. LT-15 was approximately 65 feet west of the centerline of Daisy Lane and approximately 195 feet east of the centerline of Larkspur Drive. The noise environment at LT-15 was typically quiet with the occasional aircraft noise. The average CNEL at this location ranged from 60 to 61 dBA CNEL. Typical daytime Leq noise levels ranged from 51 to 70 dBA, and typical nighttime Leq noise levels ranged from 38 to 56 dBA.

The final long-term measurement, LT-16, was made at Cooley Landing. LT-16 was approximately 75 feet north of the centerline of Bay Road, and the noise environment at this location was typically quiet with the occasional aircraft noise. The average CNEL at this location ranged from 63 to 64 dBA. Typical daytime Leq noise levels ranged from 50 to 75 dBA, and typical nighttime Leq noise levels ranged from 38 to 55 dBA.

Short Term Noise Measurements

A total of 14 short-term noise measurements were made during the noise survey. Measurements ST-1 through ST-3 were made during the afternoon on April 21, 2015; ST-4 through ST-6, ST-8, and ST-9 were made on April 23, 2015; and ST-7 and ST-10 through ST-14 were made during the morning of April 28, 2015. The data is summarized below and listed in **Table 4.11-10**.

- ST-1 was located in the front yard equivalent of 1161 Pierce Road, with the dominant noise source being vehicular traffic along Willow Road (SR 114).
- ST-2 was measured at the corner of Newbridge Street and Mello Street, where vehicular traffic along Newbridge Street was the dominant source of noise.
- ST-3 was made at the corner of East Bayshore Road and Menalto Avenue. Vehicular traffic along Highway 101 was the dominant contributor to measured noise levels.
- ST-4 was located in the front yard equivalent of 2064 Ralmar Avenue, and vehicular traffic along Highway 101 was the dominant noise source.
- ST-5 was measured at the northernmost terminus of Ralmar Avenue. This noise measurement was dominated by the industrial/commercial land uses.
- ST-6 was measured at the corner of University Avenue and Sacramento Street in the front yard equivalent of 578 Sacramento Street. Vehicular traffic along University Avenue was the dominant noise contributor at this location.
- ST-7 was measured at the westernmost terminus of Tulane Avenue. Vehicular traffic along Bayfront Expressway (SR 84) and University Avenue were the dominating noise sources at this location.
- ST-8 was located at the corner of West Bayshore Road and Newell Road near the parking lot of a convenience store. The dominant noise source was the vehicular traffic along Highway 101.
- ST-9 was measured at the corner of Bay Road and Gonzaga Street, in the front yard equivalent of 2400 Gonzaga Street. Bay Road vehicular traffic was the dominant noise source at this location.
- ST-10 was located at the corner of Weeks Street and Clarke Avenue at the East Palo Alto Sanitary District building. Local traffic along Weeks Street and Clarke Avenue was the dominant source of noise at this location.
- ST-11 was located in the northwest corner of Donohoe Street and Clarke Avenue. This measurement was made in the front yard equivalent of 895 Donohoe Street, and the dominant noise source was the local traffic along each of the intersecting roadways.

- ST-12 was made in the side yard equivalent of 2245 Pulgas Avenue at the corner of Garden Street. Vehicular traffic along Pulgas Avenue was the dominant source of noise at this location.
- ST-13 was made in the Daphne Court cul-de-sac, part of a residential neighborhood located in the southeastern corner of the City. Local traffic along the nearby neighborhood roadways dominated the noise environment at this location.
- ST-14 was made at the easternmost terminus of O'Connor Street, also in the residential neighborhood located in the southeastern corner of the City. At this location, the noise environment is quiet with occasional aircraft noise.

Railroad Noise

The Union Pacific Railroad tracks are located along the northern boundary of the City. These tracks are currently not in use, although Union Pacific reserves the right to run freight operations on these tracks.

Stationary Noise Sources

Commercial and industrial operations are the primary stationary noise sources that make a significant local contribution to community noise levels. Such uses can generate noise due to the regular operation of equipment, including fans, blowers, chillers, compressors, boilers, pumps, and air conditioning systems that may run continuously. Other intermittent sources of noise include horns, buzzers, and loading activities. In general, these stationary noise sources are often located in areas that are isolated from noise-sensitive land uses. However, the possibility of sensitive development encroaching on some of these stationary noise sources remains, which could result in some land use conflicts.

Noise sources that affect sensitive receptors within the community also include commercial land uses or those normally associated with and/or secondary to residential development. These include entertainment venues, nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks. These non-transportation noise sources are local and typically only affect their adjacent neighbors.

Table 4.11-10 Summary of Short-Term Noise Measurement Data

Noise Measurement Location (Date, Time)	Lmax	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}	CNEL
ST-1: Front yard equiv. of 1161 Pierce Rd.; ~100 feet from the centerline of Willow Rd./SR 114 (4/21/2015, 13:40-13:50)	78	72	69	65	61	66	68
ST-2: Southeastern corner of Newbridge St. & Mello Ave.; ~55 feet from the centerline of Newbridge St. (4/21/2015, 13:20-13:30)	72	67	62	57	53	59	62
ST-3: Northwestern corner of E. Bayshore Rd. & Menalto Ave.; ~95 feet from the centerline of the nearest through lane of Highway 101 (4/21/2015, 13:50-14:00)	89	79	71	65	63	69	74
ST-4: Front yard equiv. of 2064 Ralmar Ave. (4/23/2015, 10:40-10:50)	65	62	53	50	48	52	55
ST-5: Northernmost terminus of Ralmar Ave. (4/23/2015, 13:00-13:10)	66	61	56	51	49	53	56
ST-6: Southwestern corner of University Ave. & Sacramento St.; ~65 feet from the centerline of University Ave. (4/23/2015, 12:50-13:00)	77	75	72	66	55	68	68
ST-7: Westernmost terminus of Tulane Ave.; ~150 feet from the centerline of University Ave. (4/28/15, 10:50-11:00)	73	72	69	67	62	67	71
ST-8: Southwestern corner of W. Bayshore Rd. & Newell Rd.; ~90 feet from the centerline of the nearest through lane of Highway 101 (4/23/2015, 11:00-11:10)	86	77	67	64	62	67	70
ST-9: Northeastern corner of Bay Rd. & Gonzaga St.; ~65 feet from the centerline of Bay Rd. (4/23/2015, 14:10-14:20)	75	73	67	61	53	54	70
ST-10: Northeastern corner of Clarke Ave. & Weeks St. (4/28/2015, 11:10-11:20)	72	70	65	57	50	61	63
ST-11: Northwestern corner of Clarke Ave. & Donohoe St. (4/28/2015, 10:50-11:00)	90	82	71	60	50	70	74
ST-12: Southwestern corner of Pulgas Ave. & Garden St.; ~40 feet from the centerline of Pulgas Ave. (4/28/2015, 11:30-11:40)	77	72	66	60	54	63	67
ST-13: End of Daphne Ct. (4/28/2015, 11:10-11:20)	69	66	58	48	44	55	57
ST-14: Easternmost terminus of O'Connor St. (4/28/2015, 11:30-11:40)	71	65	59	50	46	55	57

Note: CNEL approximated by correlating to corresponding period at a long-term site.
Source: Illingworth & Rodkin, 2015

Temporary Noise Sources

Another source of noise in the City relates to intermittent construction activities. Construction noise can be significant for short periods of time at any particular location as a result of public improvement projects, private development projects, remodeling, etc. The highest construction noise levels are normally generated during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA, measured at a distance of 50 feet. Typical hourly average construction-generated noise levels are about 80 to 85 dBA, measured at a distance of 50 feet from the site during busy construction periods. Some construction techniques, such as impact pile driving, can generate very high levels of noise (105 dBA Lmax at 50 feet) that are difficult to control. Construction activities can elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or more.

Vibration

Transportation-Related Vibration Sources

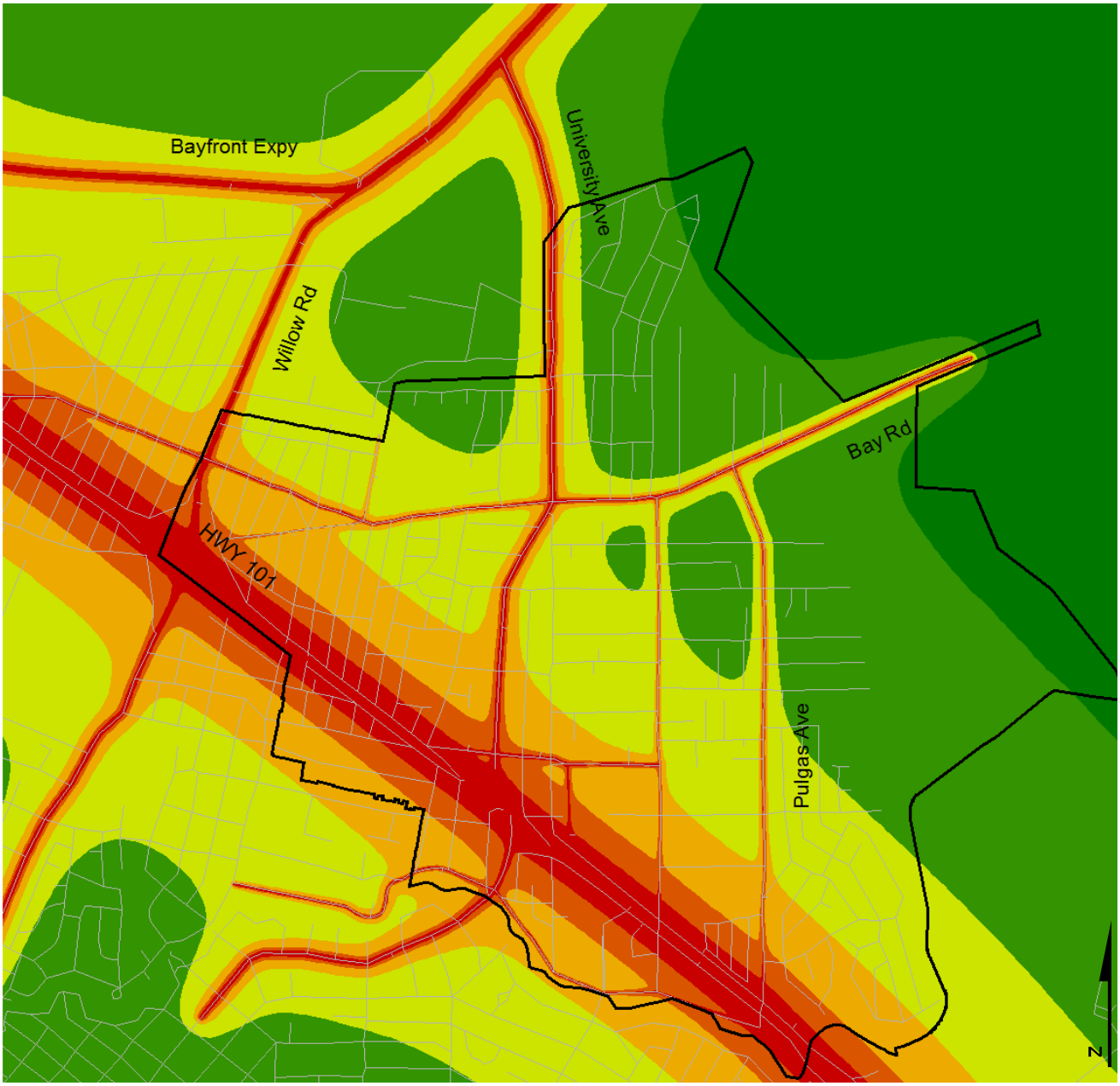
There are currently no active rail lines within the City; however, Union Pacific reserves the right to run freight operations on these tracks. Groundborne vibration would occur in areas adjacent to fixed rail lines when railroad trains pass through City. Ground vibration levels along the railroad corridor would be proportional to the speed and weight of the trains, as well as the condition of the tracks, train engine, and car wheels. Vibration levels resulting from railroad trains vary by site, but are generally perceptible within 100 feet of the tracks.

Temporary Vibration Sources

Construction activities such as demolition, site preparation work, excavation, and foundation work can generate groundborne vibration at land uses adjoining construction sites. Impact pile driving has the potential of generating the highest ground vibration levels and is of primary concern for structural damage. Other project construction activities, such as caisson drilling, the use of jackhammers, rock drills, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) can generate substantial vibration levels in the immediate vicinity.

Noise Exposure Figures

SoundPLAN Version V7.3, a three-dimensional ray-tracing computer program, was used to calculate traffic noise levels along major roadways throughout the City. Calculations took into account the source of noise, the frequency spectra of the noise source, and the topography of the area. Existing and year 2040 Plus Project peak hour data and travel speeds were also input into the model. For Highway 101, traffic volumes and truck mix data input into the model was based on information published by Caltrans. The predicted noise levels were then compared to measured noise levels for calibration purposes and adjustments were made as necessary to create an accurate model. The noise map prepared based on existing conditions is shown on **Figure 4.11-2**, and the noise map prepared based on year 2040 conditions is shown on **Figure 4.11-3**. **Table 4.11-11** presents existing and year 2040 CNEL noise levels calculated at a reference distance of 75 feet from the center of the near travel lane for roadways in City.



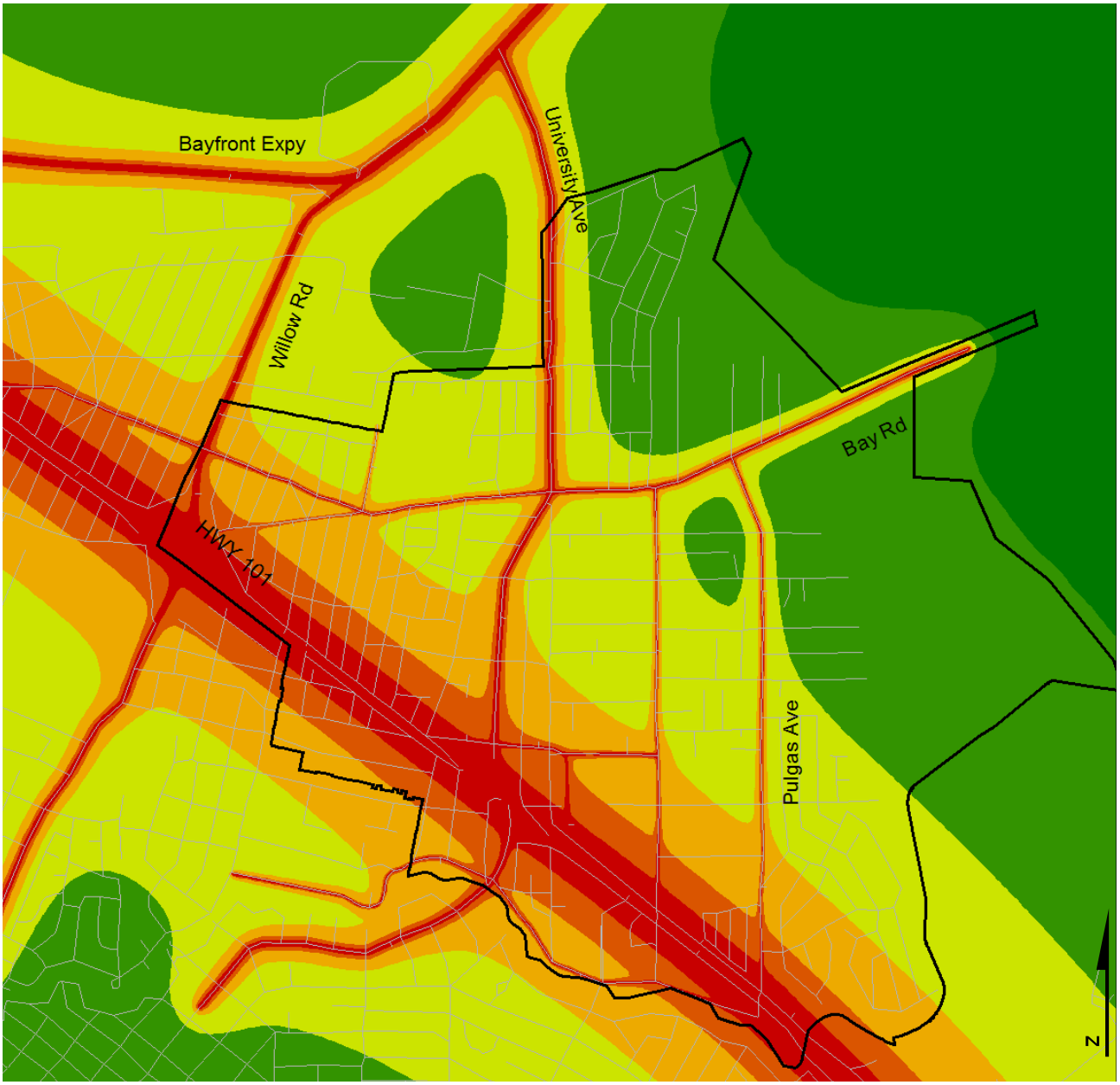
> 75 dB
70-75 dB
65-70 dB
60-65 dB
55-60 dB
<55 dB

East Palo Alto City Limits

Existing Noise Levels from Vehicle Traffic along Major Roadways in decibels (dB)

Figure 4.11-2

Source: Illingworth & Rodkin, 2015..



> 75 dB
70-75 dB
65-70 dB
60-65 dB
55-60 dB
<55 dB

East Palo Alto City Limits

2040 Future Plus Noise Levels from Vehicle Traffic along Major Roadways in decibels (dB)

Figure 4.11-3

Source: Illingworth & Rodkin, 2015..

Table 4.11-11 Existing and 2040 Plus Project Modeled Noise Levels Along East Palo Alto Roadways

Roadway Segment	CNEL at 75 ft., dBA		Increase Over Existing
	Existing	2040 Plus Project	
Bayfront Expy—west of Willow Rd	70	71	1
Bayfront Expy—Willow Rd to University Ave	72	73	1
Bay Rd—South of Newbridge St	67	68	1
Bay Rd—Newbridge St to University Ave	64	65	1
Bay Rd—University Ave to Pulgas Ave	64	66	2
Bayshore Rd—Clark Ave to Pulgas Ave	80	80	0
Bayshore Rd—east of Pulgas Ave	79	79	0
Bayshore Rd—University Ave to Clark Ave	76	76	0
Clark Ave—Bay Rd to Bayshore Rd	63	64	1
Donohoe St—Euclid Ave to University Ave	74	75	1
Donohoe St—University Ave to Pulgas Ave	70	71	1
Highway 101—Clark Ave to Pulgas Ave	84	85	1
Highway 101—northwest of Willow Rd	84	85	1
Newbridge St—west of Willow Rd	68	69	1
Newbridge St—Willow Rd to Ralmar Ave	67	67	0
Pulgas Ave—Bay Rd to Myrtle St	62	63	1
Pulgas Ave—Myrtle St to Bayshore Rd	67	68	1
Ralmar St—north of Newbridge St	63	64	1
University Ave—Bay Rd to Donohoe St	69	70	1
University Ave—Bayfront Expy to Bay Rd	69	70	1
University Ave—Donohoe St to Woodland Ave	70	71	1
Willow Rd—Bayfront Expy to Newbridge St	69	69	0
Willow Rd—Newbridge St to Highway 101	72	73	1
Woodland Ave—Euclid Ave to University Ave	68	69	1
Woodland Ave—University Ave to Cooley Ave	67	68	1

Note: Noise levels for major roadways are given at a distance of 75 feet from the center of the roadway. Noise levels for Highway 101 are given at a distance of 75 feet from the center of the near travel lane and without existing barriers or soundwalls.
Source: Illingworth & Rodkin, 2015

4.11.4 THRESHOLDS OF SIGNIFICANCE

A significant impact will occur if implementation of the General Plan Update would:

a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

b) Expose people to or generate excessive groundborne vibration or groundborne noise levels.

c) Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

d) Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

4.11.5 ENVIRONMENTAL IMPACTS

a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (less-than-significant impact).

The General Plan Update would replace the Noise Element from the 1999 General Plan with the Safety and Noise Element. The proposed new Safety and Noise Element would retain the same interior and exterior noise standards for various land uses as provided in the 1999 General Plan. These standards are shown Table 9-1 of the Safety and Noise Element as well as **Table 4.11-7** of this section.

Single-family residential development, schools, libraries, hospitals, convalescent homes, and places of worship are considered the most noise-sensitive land uses because of the quiet nature of onsite operations. Existing and future noise levels along many roadways in the plan area currently exceed compatible exposure levels for these types of land use. As such, noise levels at the locations of proposed residential developments and other noise-sensitive land uses allowed for under the General Plan Update would exceed the City's noise thresholds of acceptability.

Mixed use development projects often include residential uses located above or in proximity to commercial uses, and in areas served bus transit along major roadways. Under the General Plan Update, mixed use residential development is proposed

along the Bay Road corridor where noise exposure levels would exceed those considered normally acceptable for residential uses. Noise sources associated with commercial uses could include mechanical equipment operations, public address systems, parking lot noise (e.g., opening and closing of vehicle doors, people talking, car alarms), delivery activities (e.g., use of forklifts, hydraulic lifts), trash compactors, and air compressors. These elevated noise levels, which have the potential to be generated by commercial uses within mixed use developments, would expose nearby noise-sensitive land uses to noise levels that exceed the City's noise standards.

Noise from future trains along the Dumbarton Rail Corridor (DRC) could contribute to the future noise environment. The DRC project would extend commuter rail service across the southern portion of the San Francisco Bay between the Peninsula and the East Bay. Additionally, a Union Pacific Railroad currently runs along the City's northern border. As stated above, these tracks are currently not in use, but Union Pacific reserves the right to run freight operations on these tracks. There are numerous uncertainties regarding these potential projects making the prediction of future day-night average noise levels from trains difficult. The calculation of daily average noise levels is highly dependent on the number and type of trains planned per day and the timing of the train passbys over the course of the day, whether during the daytime or at night.

Another important factor to consider in determining noise levels in areas near railroad corridors is shielding provided by buildings or other barriers. Day-night average noise levels commonly range from 65 to 75 dBA CNEL at land uses adjoining a railroad right-of-way. Railroad train noise levels would generally exceed 60 dBA CNEL within about 350 feet of active railroad corridors with 10 to 15 trains per day. Where residential development is located adjacent to at-grade rail crossings, these sensitive uses would be subject to maximum instantaneous noise levels (Lmax) from train warning whistles that range from approximately 90 to 110 dBA.

Placement of residential uses within close proximity to industrial uses would also have the potential to expose residents to increased noise levels in exceedance of City noise standards. Conversely, the industrial uses could be subject to new noise standards to ensure noise level compatibility with nearby residential and mixed use neighborhoods. Industrial uses could be subject to new limitations for noise intensive activities to keep noise levels at nearby residential and mixed use neighborhoods within City noise level standards.

Where exterior transportation noise levels would exceed 60 dBA CNEL in new residential development, interior levels may exceed 45 dBA CNEL. Interior noise levels within residential units with the windows partially open and approximately 20-25 decibels lower than exterior noise levels with the windows closed, assuming typical California Building Code construction methods. Where exterior noise levels

are 60 to 70 dBA CNEL, interior noise levels can typically be maintained below 45 dBA CNEL with the incorporation of an adequate forced air mechanical ventilation system in the residential units to allow residents the option of controlling noise by keeping the windows closed. In areas exceeding 70 dBA CNEL, the inclusion of windows and doors with high Sound Transmission Class (STC) ratings, and the incorporation of forced-air mechanical ventilation systems, may be necessary to meet 45 dBA CNEL.

The General Plan Update includes the following policies to reduce potential impacts associated with noise and land use compatibility. Adherence to these policies would ensure that this impact is less than significant.

Safety and Noise Element Goal SN-6. Minimize the effects of noise through proper land use planning.

- *Policy 6.1, Noise standards.* Use the Interior and Exterior Noise Standards for transportation noise sources. Use the City's Noise Ordinance for evaluating non-transportation noise sources when making planning and development decisions. Require that applicants demonstrate that the noise standards will be met prior to project approval.
- Policy 6.2, Compatibility standards. Utilize noise/land use compatibility standards and the Noise Ordinance as guides for future development decisions.
- *Policy 6.3, Noise control.* Provide noise control measures, such as berms, walls, and sound attenuating construction in areas of new construction or rehabilitation.
- *Policy 6.4, Airport-adjacent land uses.* Maintain the non-residential designation for land near the airport in order to prevent new noise-sensitive residential uses from being constructed in areas with excessive aircraft noise.

Safety and Noise Element Goal SN-7. Minimize transportation- and non-transportation-related noise impacts, especially on noise-sensitive land uses.

- *Policy 7.3, Highway noise barriers.* Require that noise barriers are included in the design of roadway, freeway, and rail improvements to mitigate significant noise impacts. Support efforts by Caltrans and other transportation providers to provide acoustical protection for noise-sensitive development (especially along Highway 101).
- *Policy 7.4, Vehicle noise standards.* Coordinate with the California Highway Patrol and other law enforcement agencies to enforce noise standards for cars, trucks, and motorcycles.
- *Policy 7.5, Traffic and truck noise.* Regulate traffic flow to enforce speed limits to reduce traffic noise. Periodically evaluate and enforce established truck and bus routes to avoid noise impacts on sensitive receptors.

- *Policy 7.6, Coordination with Airport Land Use Commission.* Work with the Santa Clara County Airport Land Use Commission and the Palo Alto Airport to reduce aircraft noise in East Palo Alto.
- *Policy 7.7, Site design review.* Utilize site design review to identify potential noise impacts on new development, especially from nearby transportation sources. Encourage the use of noise barriers (walls, berms or landscaping), setbacks, and/or other buffers.
- *Policy 7.8, Quiet asphalt.* Select a "quieter" pavement that also meets other criteria established by the City for pavements for use in resurfacing roadways. Encourage its use in future capital projects.
- *Policy 7.9, Noise barriers along future rail.* Should commuter rail service or other significant intensification of rail use be initiated, the City shall require that Union Pacific construct noise barriers adjacent to existing unprotected residential areas near the rail line.

b) Expose people to or generate excessive groundborne vibration or groundborne noise levels (less than significant with mitigation).

Construction-Related Vibration

Demolition and construction activities required for projects implemented by the General Plan Update project may generate perceptible vibration. **Table 4.11-12** presents typical vibration source levels for construction equipment. Heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet, and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition.

East Palo Alto has not established quantitative noise limits for vibration due to demolition or construction activities occurring in the City. **Mitigation Measure NOI-1** would ensure that program-level vibration impacts are reduced to a less-than-significant level.

Mitigation Measure NOI-1: The General Plan Update shall be amended to include the following policy:

The City shall require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.

Implementation of **Mitigation Measure NOI-1** would reduce potential vibration impacts associated with demolition and construction activities to a less-than-significant level.

Table 4.11-12 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Approximate L_v at 25 ft. (VdB)
Pile Driver (Impact)	upper range	1.158	112
	typical	0.644	104
Pile Driver (Sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Illingworth & Rodkin, 2015

Train-Related Vibration

Development facilitated by the General Plan Update could expose persons to excessive groundborne vibration levels attributable to proposed DRC trains. The proposed locations of buildings and their specific sensitivity to vibration are not known at this time; however, such uses located in close proximity to the DRC tracks could be exposed to ground vibration levels exceeding FTA guidelines.

Railroad trains are a source of groundborne vibration when receivers are located close to the tracks. The FTA has developed vibration impact assessment criteria for

evaluation vibration impacts associated with rapid transit projects.[7] The number of daily DRC commuter train passby events is anticipated to be twelve events per day. This is well within the range to be considered infrequent events per FTA criteria of less than 30 vibration events of the same source per day, setting the applicable criterion for groundborne vibration impacts at 80 VdB for proposed residences.

Information regarding vibration levels resulting from the DRC project was not available at the time of the noise study. As an alternative, vibration assessments prepared by Illingworth and Rodkin Inc. (I&R) were reviewed to estimate vibration levels near a Caltrain station[8]. Data gathered by I&R along the Union Pacific Railroad in Morgan Hill indicated that vibration levels are typically 70 VdB or less at a distance of 100 feet from the center of the near track. Vibration levels within 50 feet of the near track may exceed 75 VdB, and vibration levels within 25 feet of the near track may exceed 80 VdB, which represents a potentially significant impact. **Mitigation Measure NOI-2** would be required to ensure that program-level vibration impacts are reduced to a less-than-significant level.

Mitigation Measure NOI-2: The City shall require the preparation of a site-specific vibration study for any residential or vibration sensitive development proposed for within 100 feet of the centerline of the railroad tracks. The study shall include recommended measures to reduce vibration to a less-than-significant level. These measures may include, but are not limited to, modifications in site planning or building construction. The City shall include the recommendation(s) of site-specific vibration studies as conditions of any subsequent project approvals involving potentially significant vibration impacts.

Implementation of **Mitigation Measure NOI-2** would ensure that potential vibration-related impacts from the DRC trains are reduced to a less-than-significant level.

c) Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (less-than-significant impact).

Roadway Noise

The increased development allowed under the General Plan Update would result in an increase in vehicular traffic, which would increase traffic noise in the City. A significant noise impact would occur where existing noise-sensitive land uses would be subject to permanent noise level increases of 3 dBA Ldn/CNEL or greater. Where noise levels would remain at or below the normally acceptable noise level standard

[7] U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06, May 2006.

[8] Illingworth & Rodkin, Inc., Morgan Hill Downtown Specific Plan Environmental Noise Assessment, July 16, 2009.

with the project, noise level increases of 5 dBA Ldn/CNEL or greater would be considered significant.

To determine how changes in vehicular traffic volumes and flow would affect noise levels in the City, traffic noise levels were modeled for future development conditions allowed under the General Plan Update for the year 2040. The traffic projections included in this analysis assumed traffic growth due to the allowed development under the General Plan Update, as well as other planned development in surrounding areas. The following future transportation and infrastructure improvements were also considered when modeling future traffic flow conditions.

Citywide Traffic Calming: The General Plan Update envisions a citywide traffic calming effort that includes roundabout, bulbouts and road diets on key thoroughfares including Pulgas Road, Clarke Road, and Bay Road. Priority locations for improvements should be on the major cut-through streets and near schools and parks as these areas have the highest levels of pedestrian activity.

Connections across Highway 101: The General Plan Update includes new connections across Highway 101 – a bridge south of University Avenue and re-opening an existing underpass north of University Avenue.

At the program level, the projected year 2040 noise levels were compared to the existing conditions in order to determine whether the project would result in a substantial permanent increase in ambient noise levels in the City. A review of the data presented in **Table 4.11-10** shows that noise levels in the City would typically increase by less than 2 dBA CNEL between 2015 and 2040 with implementation of the General Plan Update. Increases in vehicular traffic resulting from the anticipated development allowed under the General Plan Update would not substantially increase noise levels, resulting in a less-than-significant impact.

New Noise-Generating Land Uses

The General Plan Update project would facilitate the development of new noise-generating land uses. These new land uses could result in operational noise levels that exceed General Plan noise standards as well as noise level standards contained in the Municipal Code. A significant noise impact would be identified where the operation of noise-generating land uses would create noise levels that exceed the noise and land use compatibility of Municipal Code noise standards as established by the City.

Mixed use development projects often include residential uses located above or in proximity to commercial uses, and are located in areas served by rail and bus transit along major roadways and the railroad corridor. Office, commercial, retail, or other noise-generating uses developed under the General Plan could substantially

increase noise levels at noise-sensitive land uses or could expose receivers to noise levels that exceed the City's Municipal Code noise limits.

Future operations at existing and proposed noise-producing land uses are dependent on many variables and information is unavailable to allow meaningful projections of noise. Noise conflicts may be caused by noise sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and delivery activities, public address systems, and parking lots (e.g., opening and closing of vehicle doors, people talking, and car alarms). Development under the proposed General Plan Update would introduce new noise-generating sources adjacent to existing noise-sensitive areas and new noise-sensitive uses adjacent to existing noise sources.

In addition to General Plan Update policies 6.1 and 6.2, described above, the following General Plan Update policies contained in the Safety and Noise Element would reduce potential impacts associated with new noise-producing land uses:

Safety and Noise Element Goal SN-7. Minimize transportation- and non-transportation-related noise impacts, especially on noise-sensitive land uses.

- *Policy 7.1, Noise ordinance.* Continually enforce and periodically review the City's Noise Ordinance for adequacy (including requiring construction activity to comply with established work schedule limits). Amend as needed to address community needs and development patterns.
- *Policy 7.2, CEQA acoustical analysis.* Require an acoustical analysis to evaluate mitigation measures for noise generating projects that are likely to cause the following criteria to be exceeded or to cause a significant adverse community response:
  - Cause the Ldn/CNEL at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level.
  - Cause the Ldn/CNEL at noise- sensitive uses to increase 5 dBA or more and remain "normally acceptable."

New noise-generating projects implemented by the General Plan Update would be subject to the quantitative noise limits established in the General Plan policies and the City's Municipal Code noise standards, ensuring that existing or proposed residences and other noise-sensitive land uses would not be exposed to excessive noise. Compliance with these quantitative limits would result in a less-than-significant impact.

d) Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (less than significant with mitigation).

The proposed General Plan Update project would facilitate the construction of new development projects throughout the City. Residences and businesses located adjacent to these sites would be affected by temporary construction noise. For the purposes of this assessment, noise levels exceeding 60 dBA Leq and the ambient noise environment by 5 dBA Leq or more at nearby noise-sensitive land uses (e.g., residential land uses) for a period of more than one year would be considered significant. Where noise from construction activities exceeds 70 dBA Leq and the ambient noise environment by 5 dBA Leq or more at sensitive industrial, office, or commercial land uses for a period of more than one year, the impact would also be considered significant.

Major noise-generating construction activities associated with new projects would include removal of existing pavement and structures, site grading and excavation, installation of utilities, the construction of building foundations, cores, and shells, paving, and landscaping. The highest noise levels would be generated during the demolition of existing structures when impact tools are used (e.g. jackhammers) and during the construction of building foundations when impact pile driving is required to support the structure. Site grading and excavation activities would also generate high noise levels as these phases often require the simultaneous use of multiple pieces of heavy equipment. Lower noise levels result from building construction activities when these activities move indoors and less heavy equipment is required to complete the tasks.

Table 4.11-13 presents the typical range of hourly average noise levels generated by different phases of construction measured at a distance of 50 feet from a busy construction site. Typical hourly average construction-generated noise levels are about 77 to 89 dBA Leq measured at a distance of 50 feet from the site during busy construction periods. Large pieces of earth-moving equipment, such as graders, scrapers, and dozers, generate maximum noise levels of 85 to 90 dBA Lmax at a distance of 50 feet. During each stage of construction, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment on site and the location of the activity. Construction noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels at distant receivers.

Table 4.11-13 Typical Ranges of Noise Levels at 50 Feet from Construction Sites (dBA L_{eq})

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

Source: Illingworth & Rodkin, 2015
Note:
I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Noise generated by small infill projects facilitated by the General Plan Update would likely have relatively short overall construction durations, with the noisiest phases of construction (e.g., demolition, foundations, project infrastructure, building core, and shell) limited to a timeframe of one year or less. These phases of construction are not anticipated to generate noise levels in excess of 60 dBA Leq and the ambient noise environment by 5 dBA Leq or more at sensitive land uses during this construction year. Interior construction, landscaping, and finishing activities would not be expected to result in noise levels in excess of 60 dBA Leq. Large construction projects facilitated by the General Plan Update may result in a substantial temporary noise increase at adjacent noise-sensitive land uses. As a result, noise levels from these projects could exceed 60 dBA Leq and the ambient noise environment by 5 dBA Leq or more, and last over one year in duration. **Mitigation Measure NOI-3** would ensure that program-level impacts related to construction noise are reduced to a less-than-significant level.

Mitigation Measure NOI-3: The General Plan Update shall be amended to include the following policy:

The City shall require that contractors use available noise suppression devices and techniques and limit construction hours near residential uses. Reasonable noise reduction measures shall be incorporated into the construction plan and implemented during all phases of construction activity to minimize the exposure of

neighboring properties. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would:

- Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months.

For such large or complex projects, a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses.

A typical construction noise logistics plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical:

- Limit construction activity to weekdays between 7:00 am and 6:00 pm and Saturdays and holidays between 9:00 am and 5:00 pm, with no construction on Sundays;
- Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists;
- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- If impact pile driving is proposed, multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced;
- If impact pile driving is proposed, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses. Such noise control blanket barriers can be rented and quickly erected;
- If impact pile driving is proposed, foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile Pre-drilling foundation pile holes is a standard construction noise control technique. Pre-drilling reduces the number of blows required to seat the pile. Notify all adjacent land uses of the construction schedule in writing; and

- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented.
- Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction.

Implementation of **Mitigation Measure NOI-2** would reduce potential short-term noise impacts associated with construction facilitated by the General Plan Update project to a less-than-significant level.

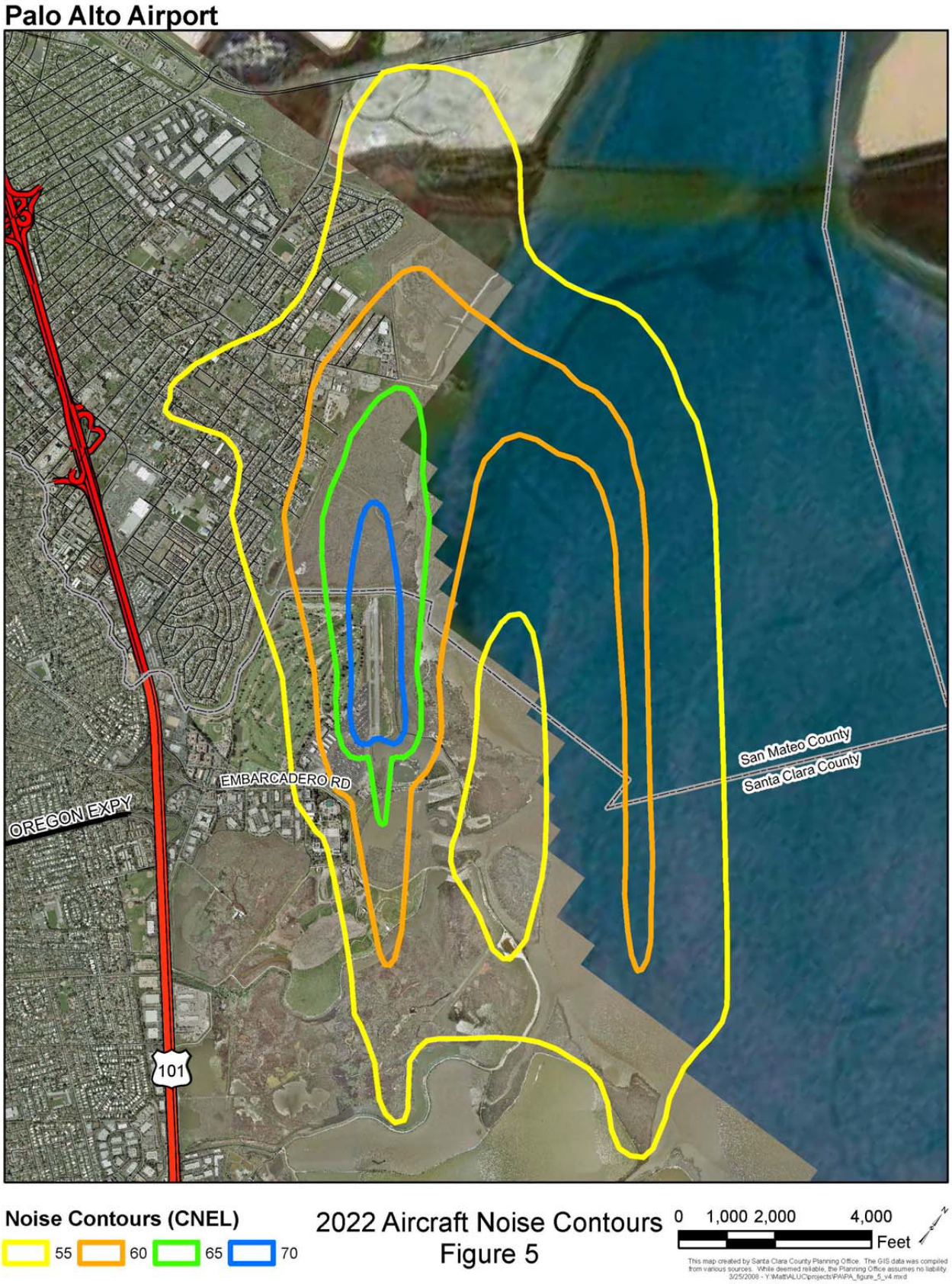
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (less-than-significant).

Development facilitated by the General Plan Update project would include noise-sensitive land uses in the vicinity of Palo Alto Airport. A significant noise impact would occur where noise-sensitive land uses are proposed where existing or future noise levels would exceed the Santa Clara County ALUC's maximum allowable noise level for residential uses.

The Santa Clara County ALUC has jurisdiction over new land uses in the vicinity of airports, and establishes 65 dBA CNEL as the maximum allowable noise level considered compatible with residential uses. The General Plan Update could allow new residential development in areas of the City where aircraft noise levels associated with operations at the Palo Alto Airport would approach 65 dBA CNEL.

Year 2022 aircraft noise contours from Palo Alto Airport operations are shown on **Figure 4.11-4**. Palo Alto Airport is located approximately 0.5 mile east of the nearest East Palo Alto residences. A review of the year 2022 aircraft noise contour map in the CLUP indicates that the 65 dBA CNEL contour line would not extend westward or northwest into residential neighborhood boundaries, but residential areas would be within the 55 dBA CNEL and 60 dBA CNEL aircraft noise contours.

General Plan Update Policies 1.29, 1.32, and 1.38 contained in the Safety and Noise Element would guide new development proposed for areas susceptible to noise associated with the Palo Alto Airport. Policy 1.30 would require that the General Plan Update compatibility standards be used to determine where noise levels in the community are acceptable or unacceptable, and require noise attenuation measures to achieve the "acceptable" noise level standards. Policy 1.32 would maintain the non-residential designation for land near the airport in order to prevent new noise sensitive residential uses from being constructed in areas with



Palo Alto Airport Noise Contours **Figure 4.11-4**

Source: Illingworth & Rodkin, 2015..

excessive aircraft noise. By ensuring compliance with the local airport land use plan and the City's normally acceptable noise level standards, implementation of these policies would effectively reduce potential program-level aircraft noise impacts to a less-than-significant level.

f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels (no impact).

There are no private airstrips in the vicinity of the City. No impact would occur.

4.11.6 CONCLUSION

Implementation of the General Plan Update will result in new sources of noise resulting from increased traffic, construction, and operation of new development in the City. The General Plan Update includes the multiple policies to reduce potential impacts associated with noise and land use compatibility.

Construction of new development allowable under the General Plan Update would generate temporary sources of noise and vibration. However, **Mitigation Measure NO-1** and **NOI-3** would ensure that program-level impacts related to construction noise and vibration are reduced to a less-than-significant level. **Mitigation Measure NOI-2** would also ensure that potential vibrational impacts related to the use of the Dumbarton rail corridor are also reduced to a less-than-significant level.

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4.12 POPULATION AND HOUSING

This section describes existing population, employment, and housing trends in East Palo Alto, and evaluates the potential impacts under implementation of the General Plan Update.

4.12.1 REGULATORY REQUIREMENTS

State

Housing Element

Government Code Section 65588 requires cities and counties that are in non-attainment for one or more of the pollutants regulated by the Federal Clean Air Act (42 United States Code 7506) to update the Housing Element of their General Plan. A Housing Element ensures that local land use plans and accompanying regulations provide adequate housing opportunities to meet existing and projected community needs. This law does not require any city or county to directly construct or operate housing, but does require regulations to allow for adequate housing opportunities. The state Department of Housing and Community Development (HCD) reviews local housing elements for compliance.

The heart of the housing element process is the Regional Housing Needs Allocation (RHNA). HCD projects housing needs at statewide and regional levels, accounting for demographic, economic, and housing trends. HCD then delegates regional allocations to appropriate Council of Governments (COG), which divides the region's total housing allocation among its member jurisdictions. Each jurisdiction is assigned a RHNA number that represents each jurisdiction's "fair share" of new housing units. Jurisdictions are not required to actually provide new units, but instead must demonstrate (through the housing element) that the RHNA number could be achieved when taking into account a jurisdiction's amount of available housing sites and its regulatory framework. The RHNA number is typically subdivided by household income levels (ranging from "above moderate" to "very low" income).

The relevant COG for the San Francisco Bay Area is the Association of Bay Area Governments (ABAG). The current RHNA is planned from 2014 through 2022.[1] East Palo Alto's share for the current period is 467, or approximately 3 percent of San Mateo County's 16,418 RHNA allocation.[2]

California Relocation Assistance Act, Government Code Section 7260 et seq.

The California Relocation Assistance Act establishes policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. This act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Displaced persons or businesses are assured payment for their acquired property at fair market value. Relocation assistance in the form of advisory assistance and financial benefits would be provided at the local level. This includes aid in finding a new home location, payments to help cover moving costs, and additional payments for certain other costs.

Homeowners and Private Property Protection Act

In 2008, California voters approved Proposition 99, the Homeowners and Private Property Protection Act, which amended the California Constitution so that local governments are prohibited from using eminent domain authority to acquire an owner-occupied residence for the purposes of conveying it to a private recipient, with limited exceptions.[3] Proposition 99 applies only to owner-occupied residences. Cities may still use eminent domain authority to convey multi-family and non-residential property to other private parties.

Regional

Sustainable Communities Strategy

The Sustainable Communities Strategy (SCS) supports the state's climate action goals to reduce greenhouse gas emissions through coordinated transportation and land use planning. *Plan Bay Area 2040* represents the SCS for the San Francisco Bay

[1] Although the policies and programs cover 2015-2023, the analysis for the available sites inventory starts in 2014.

[2] Association of Bay Area Governments, 2013. Final Regional Housing Need Allocation (2014-2022).

[3] Full text of Proposition 99. Accessed November 19, 2008. Retrieved from http://www.smartvoter.org/2008/06/03/ca/state/prop/99/#text.

Area.[4] The two key performance targets of *Plan Bay Area 2040* are to reduce the region's per capita greenhouse gas emissions from cars and light-duty trucks by 15 percent by 2040 and to house 100 percent of the region's projected population growth by income level.[5]

Plan Bay Area 2040 identified Priority Development Areas (PDAs) to accommodate approximately two-thirds of the expected growth across the nine-county San Francisco Bay Area. PDAs are locally-identified areas near existing or planned transit service that are planned to accommodate the majority of the region's projected growth in housing and jobs over the next three decades. The Ravenswood/4 Corners section of East Palo Alto represents the City's only PDA identified in *Plan Bay Area 2040*.

Local

Zoning Ordinance

The East Palo Alto Zoning Ordinance designates allowable land uses and development standards throughout the City, including building height, setbacks from lot lines, density, and parking standards. Similar to the General Plan's land use designations, the Zoning Ordinance includes zoning districts, which each have their own unique set of allowed uses and development standards.

East Palo Alto Second Dwelling Unit Ordinance

State law requires jurisdictions to allow second units in any single-family or multifamily residential zone through a ministerial review (without public hearing or other discretionary review).[6] East Palo Alto's ordinance adopted pursuant to this law requires an application for a second unit permit and imposes development standards for density, lot size, unit size, parking, sanitary sewer, driveway access, and the unit entrance.

[4] Plan Bay Area, 2014. Retrieved from: http://planbayarea.org/plan-bay-area.html

[5] City/County Association of Governments of San Mateo County, 2014. San Mateo County Priority Development Area (PDA) Investment & Growth Strategy. Retrieved from: http://ccag.ca.gov/wp-content/uploads/2014/05/San-Mateo-County-PDA-Investment-Growth-Strategy-2014.pdf. Accessed: March 25, 2016.

[6] California Government Code 65852.2. Retrieved from: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=65850-65863.13. Accessed: March 23, 2016.

Second units must abide by the following standards:

- Must comply with the density allowed in the General Plan Land Use Element Map
- The lot size for second units attached to main units must be at least 5,500 square feet and unattached second units must be at least 7,500 square feet
- The unit size limits range from up to 700 square feet in size (5,500 to 6,500 square feet) to up to 1,000 square feet on lots larger (6,500 to 7,500 square feet)
- Must comply with applicable Uniform Building, Health and Fire codes
- Must include at least one uncovered off-street parking space
- Must be served by sanitary sewer
- Must be served by the same driveway access to the street as the main dwelling
- Must use the same entrance as the main dwelling, or be located on the side or rear of the main dwelling.

In 2014, to further encourage secondary dwelling units, the City Council adopted Ordinance 380 to reduce the setback and lot size requirements for guest houses and second units.

Mobile Home Ordinances

In East Palo Alto, mobile homes are considered single-family dwellings and therefore are allowed in all districts allowing single-family dwellings. In 2014, in order to balance the interests of tenants and owners of mobile home parks, including the recognition that mobile home parks are an important source of affordable housing, the City enacted a mobile home closure or change of use ordinance, in addition to amendments to the existing conversion ordinance, which governs the process by which mobile home parks are converted to resident ownership.

Residential Care Facilities

Residential care facilities with six or fewer persons are allowed in all residential zones, while those facilities serving more than six persons must have a use permit, issued by the state's Department of Social Services, and comply with the following development standards:

- Must meet applicable requirements of the Uniform Building, Housing, and Fire codes
- May not post a sign that calls attention to the fact that the property is a residential care facility
- May not locate within 500 feet of another residential care facility

- (For facilities with ten or more residents): These may not be located within 1,000 feet of another such facility, nor within 500 feet of a residential care facility of more than six residents.
- Proponents/applicants of such facilities must submit a statement with the application indicating they have read the provisions of the ordinance, and either agree with the distance requirements or are requesting a waiver of the requirements.[7]

Transitional Housing, Supportive Housing, and Emergency Shelters

According to state law, cities must identify at least one zone that permits emergency shelters without a conditional use permit or other discretionary action. Additionally, the zone must have sufficient capacity to accommodate at least one year-round shelter.

In 2011, the City amended its zoning ordinance to allow emergency shelters in the light industrial (M-1) zone, as of right, without any other discretionary review. The M-1 zone represents 9.3 acres, with 16 parcels ranging from less than a tenth of an acre to over two acres. More than half of M-1 is outside of the Special Flood Hazard Area, which is identified as a "Flood Hazard Zone" in California Government Code Section 65302. Therefore, M-1 land is sufficiently large in size to provide one or more shelters. Specifically, the Planning Commission found that: 1) M-1 is sufficiently large to accommodate shelters; 2) M-1 provides greater flexibility to reduce incompatible uses; 3) environmentally sensitive areas would not be impacted; and 4) encouraging shelters outside of the floodplain (SFHA), prone to liquefaction, implements a best practice, since wet weather or seismic events may damage or make these structures uninhabitable, just when they are needed most. Transitional and supportive housing are considered residential uses of property and are permitted in any zone that allows residential uses on the same terms as those permitted residential uses.

Rent Stabilization and Just Cause for Eviction Ordinance

The City's first Rent Stabilization and Eviction for Good Cause Ordinance was adopted in 1986 (Rent Stabilization and Eviction for Good Cause Ordinance) and amended in 1988 in response to steadily increasing rents and a shortage of housing, resulting in the displacement of low- and moderate-income tenants. The purpose of residential rent control in East Palo Alto is to protect tenants from unwarranted or

[7] City of East Palo Alto, 2015. City of East Palo Alto Housing Element. Retrieved from; http://www.ci.east-palo-alto.ca.us/documentcenter/view/437. Accessed on: March 23, 2016.

unreasonable rent increases and from arbitrary, discriminatory, or retaliatory evictions, in addition to protecting a landlord's right to a fair rate of return.

In June of 2010, a majority of East Palo Alto voters approved a revised Rent Stabilization Ordinance (Rent Stabilization and Just Cause for Eviction Ordinance, or New Ordinance) that expanded rent stabilization coverage to more units and left the old (1988) Ordinance intact for mobile home park rental pads. One of the main purposes of the New Ordinance is to align the City's Rent Stabilization Ordinance with State law, specifically the Costa-Hawkins Rental Housing Act (Costa-Hawkins; Civil Code 1954.50 et seq.).

Under the New Ordinance, landlords are permitted to increase rents once each year by up to 80 percent of the percent change in the consumer price index for the San Francisco/Oakland Metropolitan Area (annual general adjustments). The City also recognizes that landlords have a right to a fair return on their investment and need sufficient income to properly operate and maintain their properties. Therefore, landlords can petition to adjust the rent ceiling of individual controlled rental units if, for example, their operating and maintenance expenses were particularly high in comparison with other years.

Tenant Protections Ordinance

Due to the imbalance between the supply of and demand for rental housing within East Palo Alto, there is a market and bargaining power imbalance between landlords and tenants. As a result of the shortage of rental housing, and an overwhelming market demand for affordable housing, the housing market is less responsive to the needs of tenants, who are often unable and/or unwilling to assert their legal rights. The Tenant Protections Ordinance (City Ordinance 374) requires landlords to provide their tenants with information sheets that outline the rights of the tenant, including, but not limited to; the tenants' right to organize, the tenants' right to distribute literature, and the tenants' right to obtain a minimum of one key per rental unit. These tenant protection regulations were established to ensure the fair and just treatment of tenants within a highly competitive and imbalanced housing market.[8]

East Palo Alto Ellis Act Ordinance

The East Palo Alto Ellis Act Ordinance was established to accord tenants the maximum protections which are available pursuant to Government Code Section

[8] City of East Palo Alto. Guide to Just Cause for Eviction. Retrieved from: http://www.ci.east-palo-alto.ca.us/index.aspx?NID=591. Accessed: March 17, 2016.

7060. The City's Ordinance serves to protect residents throughout East Palo Alto from arbitrary, discriminatory, or retaliatory evictions from rental units. Under the Ellis Act, tenants must be given a 30 to 60 day notice of termination in writing, notices of termination must be filed with the rent program, and tenants are guaranteed the right to request their history of rent payments, and other charges made against them during the tenancy. The Ellis Act serves to ensure that tenant evictions are justified, and specify good cause for eviction.[9]

Affordable Housing Program

East Palo Alto adopted an Affordable Housing Program that subjects each new market-rate unit in a residential project to an affordable-housing impact fee that would be adjusted each year to account for market fluctuations. Initial fees for developers are $22 per square foot for rental housing and owner housing without structured parking, and $44 per square foot for owner housing with structured parking. Fees go into an affordable housing trust fund. The Affordable Housing Program repealed the Below Market Rate Housing Program, which required that at least 20 percent of new dwellings in a residential ownership program must be made available to qualifying households based on certain income criteria.

Condominium Conversion Code

The City's Subdivision Regulations require a vacancy rate of 4.15 percent before an application for condominium conversion can be accepted.[10] Vacancy rate is the only factor considered for the acceptance of a condominium conversion application. The City Code establishes certain requirements that applications for a condominium conversion must meet before being approved. These requirements include:

- That a building proposed for conversion complies with all applicable building codes in effect at the time of the last alteration to the building.
- That a building proposed for conversion was constructed and subject to a building permit issued under the 1952 Uniform Building Code.
- That a building proposed for conversion conforms to East Palo Alto's Zoning Ordinance Chapter 29.5, and provides the required vehicular and bicycle parking.

[9] City of East Palo Alto. Guide to Just Cause for Eviction. Retrieved from: http://www.ci.east-palo-alto.ca.us/index.aspx?NID=591. Accessed: March 17, 2016.

[10] Updated from 6 percent with the 2015 *City of East Palo Alto Housing Element.*

- That an applicant applying for a permit to convert a building to condominiums adheres with the public noticing requirements established in City Code 14.24.070.[11]

The City requires property owners to pay relocation assistance of between $7,500 and $10,000 for residents if a property is removed from the rent control system (e.g., demolished or converted to a condominium). It also requires advanced notice for tenants, a slower timeline to protect tenants, and payment of moving costs (up to $2,500). The City also charges an affordable housing fee if a property owner converts a rental apartment to a condominium and limits conversions when rental vacancy rates are low.

4.12.2 ENVIRONMENTAL SETTING

Data for this section was developed from several information sources, including but not limited to the United States Census Bureau (U.S. Census) and its American Community Survey (ACS), ABAG, and the California Employment Development Department.[12]

Population

Table 4.12-1 displays population and housing trends in East Palo Alto from the 2000 and 2010 U.S. Census. The U.S. Census reports that from 2000-2010, East Palo Alto's population declined by approximately 5 percent and the number of occupied housing units declined by approximately 2 percent. However, temporary vacancies in the Westside during 2010 may be primarily responsible for a temporary decline in East Palo Alto's population shown in the 2010 Census, as the population has grown since 2010.

[11] East Palo Alto City Code 14.24. Conversion of Apartments to Condominiums. Retrieved from: https://www.municode.com/library/ca/east_palo_alto/codes/code_of_ordinances?nodeId=TIT14HO_CH14.24COAPCO. Accessed: March 23, 2016.

[12] The U.S. Census is conducted every ten years and provides official counts of the entire U.S. population. The American Community Survey (ACS) is conducted every year and produces estimates for topics such as education, housing, jobs, and more.

Table 4.12-1 Population Trends in East Palo Alto, 2000-2010

	2000	2010
East Palo Alto		
Population	29,506	28,155
Occupied Housing Units	7,091	6,940
Mean Household Size	4.20	4.03
Median Age (years)	25.8	28.1
San Mateo County		
Population	707,161	718,451
Occupied Housing Units	254,103	257,837
Mean Household Size	2.74	2.75
Median Age	36.8	39.3

Source: U.S. Census 2000, 2010

As of 2013, East Palo Alto's population was estimated by the U.S Census to be 30,017, comprised of an estimated 7,477 households, reflecting increases since 2010 of 7 and 8 percent, respectively. From 2010 to 2013, population density increased from approximately 10,780 inhabitants per square mile to 11,500 inhabitants per square mile. This trend is notable because as of the 2010 U.S. Census, East Palo Alto had one of the highest population densities in all of northern California, surpassed only by San Francisco, Daly City, and San Pablo had higher population densities.

Relative to San Mateo County, East Palo Alto has a large household size. The average number of people per household in the city decreased from 4.20 in 2000 to 4.03 in 2010. However, average household size in East Palo Alto was still substantially larger than in San Mateo County, which countywide has an average of 2.75 persons per household.

East Palo Alto has a younger population than San Mateo County as a whole. In 2010, approximately one-third of East Palo Alto residents were under age 18 (31.9 percent), compared to approximately one-quarter (22.3 percent) in the County. Similarly, the City had a much lower percentage of residents age 65 and over (5.9 percent) compared to the County (13.4 percent). This young population has

important implications for a variety of planning topics including schools, City services, demand for a variety of housing types, and community character.

Table 4.12-2 shows ABAG's population projections for the year 2040.[13] ABAG is anticipating substantial growth for East Palo Alto, consistent with regional growth projections. ABAG projects the City's 2040 population at 35,500 people, a 26 percent increase from 2010. For San Mateo County, ABAG is also projecting a 26 percent population increase by 2040.

Table 4.12-2 ABAG Growth Projections 2040

	2010	2040	Projected Increase (2010-2040)	Projected Increase (%)
City of East Palo Alto				
Population	28,155	35,500	7,345	26%
Housing Units	7,820	8,670	850	11%
San Mateo County				
Population	718,451	904,400	185,949	26%
Housing Units	257,837	315,100	57,263	22%

Source: ABAG, 2013

Jobs and Employment

Historically, the number of jobs in East Palo Alto has lagged behind the number of residents. Many East Palo Alto residents work outside of the City, with the City acting as a "bedroom community" for jobs elsewhere on the Peninsula. In 2010, approximately 2,700 jobs were based in East Palo Alto. Jobs are clustered around major shopping and commercial centers (especially IKEA, Gateway 101 shopping center, and University Circle), the Four Seasons Hotel, schools, and government offices.

Generally, employment in East Palo Alto has been difficult to secure and is lower-paying than in the rest of San Mateo County. Data from the United States Bureau of

[13] ABAG Projections are based in part on locally adopted general plans. Therefore, ABAG's projections are based in part on East Palo Alto's current adopted General Plan. If the City adopts the General Plan Update (the project under review in this EIR), subsequent updates to ABAG Projections would be based on the General Plan Update as the locally adopted land use plan.

Labor Statistics (BLS) show that, since 1990, unemployment trends in East Palo Alto have followed trends at the County level, though unemployment rates have been consistently higher. As of September 2015, data from the California Employment Development Department (EDD) indicated a labor force size of about 15,300 people. Of these people, more than 14,000 had jobs in late 2015, yielding an unemployment rate of about 4.7 percent. For the same period, the unemployment rate in San Mateo County was 3.0 percent.

Data from September 2015 are a dramatic departure from the peak of the economic recession that began in 2008. Unemployment rates peaked in 2010; EDD reported an average unemployment rate for the City of 20.2 percent, substantially higher than the County average of 8.8 percent. This suggests that the recession impacted East Palo Alto residents more profoundly than other County residents.

Housing

The California Department of Finance estimates that East Palo Alto contains approximately 7,820 housing units. About half of the City's housing stock is composed of single-family detached homes, similar to the market area and Silicon Valley. As of 2010, 57 percent of East Palo Alto housing units are renter-occupied, compared to 41 percent in San Mateo County. According to the 2010 Census, East Palo Alto contained approximately 4,000 renter-occupied units, which included 1,300 single-family rental units and almost 2,700 multi-family units.

Jobs-Housing Balance

Jobs-housing balance (the number of jobs divided by the number of housing units) is an important indicator of community vitality. A jobs-housing balance number of 1 indicates a community with the same number of jobs as housing units. Numbers greater than 1 indicate a jobs-rich community; numbers below 1 indicate a paucity of jobs in that community. A low jobs-housing balance can also indicate that most people living in that community must travel beyond their community for employment. This can in turn lead to other physical environmental effects, such as increased traffic (as measured in vehicle miles traveled), increased greenhouse gas emissions and degraded air quality, and increased roadway noise.

Many cities in Silicon Valley that are major employment centers have long had jobs-housing balance numbers well over 1. In contrast, East Palo Alto's jobs-housing balance number over the last several years has been 0.25 or below.

4.12.3 THRESHOLDS OF SIGNIFICANCE

Under Appendix G of the CEQA Guidelines, implementation of the General Plan Update would significantly impact population and housing if it would:

a) Induce substantial population growth in an area, either directly or indirectly.
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
c) Displace substantial numbers of people, resulting in the construction of replacement housing elsewhere.

In addition, the City has established two local thresholds of significance. Implementation of the General Plan Update would significantly impact population and housing if it would:

d) Result in the loss of four existing dwelling units
e) Result in the loss of potential housing units equal to, or more than, 2 percent of the current balance of the Regional Housing Needs Determination in the Housing Element.

4.12.4 ENVIRONMENTAL IMPACTS

a) Inducement of substantial population growth in East Palo Alto either directly or indirectly (less-than-significant impact).

As set forth in **Section 3.0, Project Description**, the General Plan Update would have the long term effect of facilitating new development. This is the purpose of any California general plan - to serve as the community's blueprint to guide growth and development over a relatively long horizon. Per the estimates described in **Section 3.0, Project Description**, the project would facilitate the future development of about 2,500 new housing units or an estimated 7,764 new residents by 2040. This increase is roughly equal to about 105 percent of ABAG's projected population growth for East Palo Alto over the same time period.

The General Plan Update establishes the long-term development framework to guide the location, nature, and other attributes of new development in the City to ensure balanced, sustainable growth pattern. Long-term population growth is expected during this the project's planning horizon. To accommodate new growth, the General Plan Update includes a variety of Goals, Policies, and Implementation Actions to ensure that new residents are adequately served by appropriate public services and utilities. Additional mitigation measures in this EIR (see **Chapter 4.13, Public Services and Recreation**; and **Chapter 4.15, Utilities and Service Systems**) are intended to ensure that population growth does not increase at an

unsustainable rate that may induce adverse impacts to infrastructure and services throughout the City.

While the project would allow for a growth increment in excess of what ABAG has projected for population growth, this is a temporary, non-physical environmental effect that would be addressed in ABAG's subsequent revisions of its population projections. As ABAG Projections are developed in part on locally adopted land use plans, the local basis for ABAG's Projections would shift if the City were to adopt the General Plan Update.

In sum, the General Plan Update creates a policy framework intended to ensure that such population growth would be consistent with public service levels, and infrastructure availability, and community goals. Therefore, adherence to the aforementioned mitigation measures and the goals, policies, and implementation actions of the General Plan Update would render population growth impacts to a less-than-significant level.

b) and c) Displacement of substantial numbers of existing housing units and/or people, necessitating construction of replacement housing (less than significant with mitigation).

and

d) and e) Result in the loss of four existing dwelling units or a number of units equal to or greater than 2 percent of the current balance of the Regional Housing Needs Determination in the Housing Element (less-than-significant impact).

The General Plan Update would allow for up to 2,519 net additional dwelling units, about 330,000 square feet of net additional retail space, about 1.9 million square feet of net additional office space, and about 270,000 square feet of net additional industrial space. Some portion of this development will likely occur in existing residential areas, which could in turn lead to displacement of people and/or housing.

As noted above in Section 4.12.1, the City has enacted ordinances to limit potential displacement of current residents. New development under the General Plan Update, if adopted, would remain subject to these adopted ordinances. The General Plan Update also includes numerous goals and policies, listed below, designed to prevent displacement of residents and guide affordable replacement housing.

Land Use and Urban Design Element Goal LU-3. Expand the number, types, and diversity of housing within East Palo Alto.

- *Policy 3.4, No net loss in housing*. Require no net loss in the number of residential units during reconstruction or renovation.
- *Policy 3.8, Replacement housing.* There are three options for providing the required replacement affordable housing:
  - First, for replacement RSO units, replace the RSO units on a 1 for 1 basis with new deed restricted RSO units with the same number of bedrooms. The rent at the new deed restricted RSO units occupied by returning tenants who were originally displaced by the development shall be equivalent to the prior rent plus annual certified increases.
  - Two, contribute land and additional local gap financing for the development of new income restricted units. Developer shall provide land sufficient to develop an equivalent number of units (and bedrooms), based on existing zoning densities. Developer shall also contribute additional local gap financing in an amount determined on a project by project basis, or upon a Policy or Master Plan adopted by the City Council. The amount of additional local gap financing shall take into account the average median income of the project, the type of tax credits, the in lieu fee generated by the overall project, and other financial aspects. To preserve the affordability for perpetuity, the City shall own the land. The City shall issue an RFP for affordable housing developers to develop the projects on the land.
  - Three, a combination of options One and Two.

Health and Equity Element Goal HE-11. Ensure that all citizens, regardless of race or ethnicity, feel welcome and included in the community.

- *Policy 11.1, Gentrification.* Pursue and support policies and actions that discourage and prevent displacement of existing residents.
- *Policy 11.2, Displacement*. Establish goals for preventing displacement of existing long-time residents and businesses. If feasible, track displacement.

Westside Area Plan Element Goal W-3. The long-term development of new buildings and a new street network to improve housing opportunities and improve quality of life.

- *Policy 3.3, Prerequisites for increases in intensity.* Increases in development intensity over the currently allowed zoning intensity on the Westside must meet the criteria listed below. Specific information on each of the items shall be required as part of the development application process. The following are prerequisites for increased development intensity:
  - Provides for some income-restricted affordable housing.
  - Prevents displacement of existing residents.
  - Preserves “right of return” for existing residents.

- Maintains the City's rent stabilization program.
- Includes new parks and open spaces or contributes to the provision of new parks and open spaces if it is a single project.
- Improves streets and infrastructure or contributes to the provision of new streets and infrastructure if it is a single project.
- Improves the fiscal health of the City.
- Beautifies the area.

- *Policy 3.7, Replacement housing.* There are three options for providing the required replacement affordable housing:
  - First, for replacement RSO units, replace the RSO units on a 1 for 1 basis with new deed restricted RSO units with the same number of bedrooms. The rent at the new deed restricted RSO units occupied by returning tenants who were originally displaced by the development shall be equivalent to the prior rent plus annual certified increases.
  - Two, contribute land and additional local gap financing for the development of new income restricted units. Developer shall provide land sufficient to develop an equivalent number of units (and bedrooms), based on existing zoning densities. Developer shall also contribute additional local gap financing in an amount determined on a project by project basis, or upon a Policy or Master Plan adopted by the City Council. The amount of additional local gap financing shall take into account the average median income of the project, the type of tax credits, the in lieu fee generated by the overall project, and other financial aspects. To preserve the affordability for perpetuity, the City shall own the land. The City shall issue an RFP for affordable housing developers to develop the projects on the land.
  - Three, a combination of options One and Two.
- *Policy 3.9, First right of return.* Require that existing tenants displaced by new development from increased intensities be afforded the following rights:
  - The ability to return to a unit at the same level of affordability (measured in monthly rent) as the prior unit.
  - The ability to return to a unit of comparable size with the same or greater number of bedrooms.
  - The ability to return to replacement housing regardless of immigration status, to the extent that this can occur under current law. If tenants are unable to return due to immigration status, the project sponsor shall find the tenant a comparable unit in terms of size and cost to the original unit.
- *Policy 3.10, Relocation plan.* Prior to project approval, require development projects that are proposing increases in intensity or to demolish RSO units, to prepare, and the City approve, a "relocation plan" that accounts for all tenants

displaced by new construction. The tenants shall have housing provided from the moment they are displaced until they are relocated into a replacement unit. The relocation plan must meet the following criteria:
  - Provide temporary housing within 10 minutes of the prior home.
  - Does not require the crossing of the Dumbarton Bridge.
  - Must not pay more in rent than paying in the prior home.
  - All costs of relocation must be paid for by the project sponsor.
  - Moving process between units must occur quickly and efficiently and to minimize the inconvenience of the tenant.
  - Replacement housing must be completed within one and a half years to minimize impacts to tenants.
- *Policy 3.11, Relocation benefits.* Require that sponsors of new development projects offer tenants the choice between reserving replacement housing or receiving relocation payments as defined by City of East Palo Alto ordinances.

Housing Element Goal 7.0. Increased homeownership opportunities for income-qualified households (focused on existing residents and workers in East Palo Alto).

- *Policy 7.1*. Establish new or participate in existing programs that utilize a variety of funding sources to assist lower and moderate-income renters in obtaining affordable homeownership.
- *Policy 7.2*. Whenever possible, give priority for affordable housing opportunities to existing residents and those who work in East Palo Alto but cannot afford to live in the City.

Housing Element Goal 8.0. Minimize displacement of renters.

- *Policy 8.1*. Conserve the existing supply of affordable rental housing by preserving existing high-density residential areas.

As discussed above, there are numerous regulations and General Plan Update polices to improve the availability of affordable housing in the City. Nevertheless, potential development and redevelopment under the project may decrease the availability of affordable housing. This represents a potentially significant impact.

Following publication of the Draft General Plan, the City identified two additional measures intended to incentivize affordable housing. **Mitigation Measure POP-1** would codify these policies to encourage affordable housing. Implementation this mitigation measure, along with adherence to existing City regulations and other proposed policies in the General Plan Update, would result in a less-than-significant impact to population and housing.

Mitigation Measure POP-1: The General Plan Update shall be amended to include the following policies under Land Use and Urban Design Element Goal LU-3.

- *Consider Provision of Affordable Housing a Community Benefit.* Consider the provision of additional or replacement affordable housing units to be a component of community benefits when considering legislative land use changes, development agreements, or statements of overriding consideration, in particular for residential projects.
- *Replacement Affordable Housing for Density Bonus Projects.* Require that density bonus projects for properties with existing rental dwelling units subject to affordability requirements, or which had such dwelling units that were demolished within the five-year period prior to application, provide for replacement units to the extent required and permissible under applicable law.

4.12.5 CONCLUSION

While the project would allow for substantial population growth, the General Plan Update creates a policy framework intended to ensure that such population growth would be consistent with public service levels, infrastructure availability, and community goals. Adherence to existing City regulations, along with policies proposed under the General Plan Update, will avoid or lessen any substantial impacts related to the prospective displacement of current residents. In addition, General Plan Update Policy 3.4 would ensure no net loss in housing. Impacts to population and housing would be less than significant.

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4.13 PUBLIC SERVICES AND RECREATION

This chapter describes existing public services and recreation in East Palo Alto and evaluates the potential for the adoption and implementation of the General Plan Update to impact public services and recreation. Fire protection and emergency medical response, law enforcement, schools, and parks and recreational facilities are each addressed in separate subsections.

4.13.1 REGULATORY REQUIREMENTS

State

California Occupational Safety and Health Administration

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

Emergency Response/Evacuation Plans

The state of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Senate Bill 50

According to California Government Code, a qualified agency, such as a local school district, may impose fees on developers to compensate for the impact that the project will have on existing facilities or services.

The California Legislature passed Senate Bill (SB) 50 in 1998 to insert new language into the Government Code (Sections 65995.5-65885.7), which authorized school districts to impose fees on developers of new residential construction in excess of

mitigation fees authorized by Government Code 66000. SB 50 also restricts the ability of local agencies to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School districts must meet a list of specific criteria, including the completion and annual update of a School Facility Needs Analysis, in order to impose additional fees.

Under SB 50, school districts may collect fees to offset the costs associated with increasing school capacity as a result of development. Under the terms of this statute, payment of statutory fees by property owners or property developers is considered to mitigate in full for the purposes of CEQA any impacts to school facilities associated with a qualifying project. The fees are assessed based upon the proposed square footage of the new or expanded development.

California Education Code

The California Department of Education (CDE) School Facilities Planning Division developed the Guide to School Site Analysis and Development in 2000. The Guide provides criteria for locating appropriate school sites within California, per Education Code Section 17251 and Title 5, Section 14010 of the California Code of Regulations. In order to receive state funds for the acquisition of sites under the School Facilities Program, CDE must approve of the site selection. The CDE also provides detailed recommendations for school sites and sizing, suggesting a ratio of approximately 2:1 between buildings and open land, where applicable. Specific health and safety requirements for school site selection are also under the purview of the CDE, specifically regarding air quality emissions and noise levels, as well as proximity to airports, high-voltage power transmission lines, presence of toxic and hazardous materials, and proximity to railroads.

Quimby Act: California Government Code Section 66477

California Government Code §66477, commonly known as the Quimby Act, was intended to help local communities generate the resources necessary to provide park and recreational facilities. The Quimby Act allows cities to enact fees on new development to be used in the acquisition and/or preservation of park, recreation, or open space facilities as well as improvements on those facilities.

Local

San Mateo County Library Strategic Plan: 2007-2014

The San Mateo County Library Strategic Plan includes goals and objectives and defines the Library's targeted areas of focus through 2014.

The Plan's goals and objectives are to help the Library achieve the following:

- A model of customer service
- An example of fiscal health
- A trained and motivated staff
- A world class library

2003 East Palo Alto Recreation/Community Services Strategic Plan

The 2003 East Palo Alto Recreation/Community Services Strategic Plan sets the City's vision for parks and recreation; establishes which qualities of community services and parks and recreation programs are most valued by the community; determines park and recreation goals and implementation strategies to achieve those goals; and recommends management, capital, and finance options to achieve the City's park and recreation goals.

2007 East Palo Alto Bay Access Master Plan

The East Palo Alto Bay Access Master Plan represents the City's vision for public access to the San Francisco Bay within the jurisdiction of the city. It includes a conceptual plan for the creation of several new parks in the Ravenswood area. The plan calls for six smaller pocket parks, including three that would be accessed primarily by car and three that would be accessible primarily to pedestrians. It also calls for a larger park at Cooley Landing. The plan identifies potential amenities for each park, ranging from children's play equipment to viewing platforms facing the San Francisco Bay.

Cooley Landing Vision Plan

East Palo Alto adopted the Cooley Landing Vision Plan in July 2010, which establishes the vision and concept plan for Cooley Landing, a 9-acre open space park at the eastern terminus of Bay Street. The Vision Plan also includes project phasing and identifies potential funding sources for the development of the park. On July 21, 2012, East Palo Alto celebrated the opening of Cooley Landing Park, and continued improvements planned through 2016 include renovating a former boathouse into a nature center, improving trails, and constructing an outdoor classroom.[1,2]

[1] David and Lucille Packard Foundation. 2012. "Cooley Landing Opens in East Palo Alto." Accessed February 4, 2016. Retrieved from https://www.packard.org/2012/08/cooley-landing-opens-in-east-palo-alto/.

[2] City of East Palo Alto. 2014. Cooley Landing Park and Education Center Project. Accessed February 4, 2016. Retrieved from http://cityofepa.org/?nid=446.

4.13.2 ENVIRONMENTAL SETTING

Fire Protection and Emergency Medical Response

East Palo Alto is part of the Menlo Park Fire Protection District (MPFPD). The MPFPD has a service area of approximately 30 square miles and serves the cities of Atherton, Menlo Park, and East Palo Alto, as well as portions of unincorporated San Mateo County. MPFPD serves approximately 90,000 people within approximately 33 square miles.[3] East Palo Alto contains one MPFPD fire station (Station 2), located at 2290 University Avenue. **Table 4.13-1** lists all MPFPD stations.

Within the MPFPD, there are four divisions: Administrative, Fire Prevention, Operations, and Training. The Administrative Division is responsible for human resources and financial management. The Fire Prevention Division provides public education and consultation about fire prevention and emergency response. The Operations Division administers all emergency response and fire suppression operations. The Training Division educates and trains all fire personnel on emergency response and fire suppression techniques.[4]

MPFPD services include fire suppression, rescue and emergency medical response, and response to hazardous materials incidents, vehicle accidents, severe weather incidents, and other emergency events. The MPFPD also sponsors a cadet training program, runs a Community Emergency Response Training (CERT) program which trains community members about how to prepare and respond to emergencies and natural disasters, and provides other types of public education. The MPFPD participates in Mutual Aid Agreements with the cities of Palo Alto and Foster City, Redwood City Fire Department, Belmont Fire Protection District, San Carlos Fire Department, and San Mateo County Fire Department.

[3] Menlo Park Fire Protection District. Fire District Info. Accessed December 17, 2014. Retrieved from http://www.menlofire.org/districtinfo.html.

[4] Menlo Park Fire Protection District. Divisions. Accessed December 17, 2014. Retrieved from http://www.menlofire.org/departments.html.

The MPFPD's goal is to provide emergency services immediately after notification of Public Safety Communications through 9-11. The MPFPD's Fire Board has adopted time and response standards under Board Resolution 1818 to be on-scene of any incident within seven minutes 90 percent of the time. Seven minutes includes one minute for dispatch, up to two minutes for turnout time and four minutes for response or drive time and 11 minutes for all units to arrive on-scene of any major emergency at a first alarm assignment.[5]

Table 4.13-1 Menlo Park Fire Protection District – Fire Stations

Station	Location	Service Area & Station Amenities
1	300 Middlefield Road, Menlo Park	Station 1 serves Menlo Park and parts of Atherton and also responds to Palo Alto as part of mutual aid. The station houses MPFPD's Administration offices and Fire Prevention offices.
2	2290 University Avenue, East Palo Alto	Station 2 serves East Palo Alto and contains one of MPFPD's newest combination pumpers.
3	32 Almendral Avenue, Atherton	Station 3 serves Atherton and unincorporated areas of San Mateo County near Redwood City. Firefighters at Station 3 are involved in managing MPFPD's EMS operations.
4	3322 Alameda de Las Pulgas, Menlo Park	Station 4 serves west Menlo Park and west Atherton.
5	4101 Fair Oaks Avenue, Menlo Park	Station 5 serves the unincorporated community of North Fair Oaks and unincorporated areas of San Mateo County near Redwood City.
6	700 Oak Grove Avenue, Menlo Park	Station 6 serves downtown Menlo Park and is a designated automatic aid engine for the City of Palo Alto. This station is the public education station, where firefighters teach first aid and CPR to the public and assist in recertifying MPFPD firefighters in CPR.
7	1467 Chilco Avenue, Menlo Park	Station 7 serves east Menlo Park and contains a modern shop facility where mechanics perform all maintenance on apparatuses and equipment.

Source: Menlo Park Fire Protection District. Menlo Park Fire Stations. Accessed February 4, 2016. Retrieved from http://www.menlofire.org/stations.html.

[5] J. Johnston, MPFPD. Personal communication, March 22, 2016.

Law Enforcement

The East Palo Alto Police Department (EPAPD) provides service to a 2.6-square-mile area serving a population of approximately 28,155 people (as of the 2010 U.S. Census).[6] Responsibilities of the EPAPD include street patrol, investigations, traffic patrol, and emergency services. Additionally, the EPAPD runs several programs that aim to reduce and prevent crime, including the Parolee Reentry Program; Parolee-Job Program; Gang Resistance, Education and Training; and Police Activities League.

The EPAPD is made up of the Patrol Division, Criminal Investigation Division, and Administrative Services Division. As of January 2016, the EPAPD had approximately 40 sworn and 10 civilian employees serving in a variety of assignments, including patrol officers, detectives, traffic motorcycle officers, field training officers, school resource officers, canine officers, and administrative officers.[7] A single police station, located at 141 Demeter Street, houses the administration, records, and patrol aspects of the EPAPD. In addition to the central police station, there is a police sub-station and a satellite office. The police sub-station, located at 219 Demeter Street, houses the Parolee Reentry Program and training and community events. The satellite office, located at 2415 University Avenue, is where property and evidence work is completed. All of these police facilities are located within East Palo Alto and are leased from private property owners.[8]

Although the EPAPD does not have a standard for staffing levels, the ratio of officers per 1,000 residents is 1.2 as of the 2010 US Census population. This is below the Federal Bureau of Investigation (FBI) recommended standard of 2 officers per 1,000 residents. The EPAPD has identified the need for additional staff as the Department has fewer police officers and responds to more calls than police departments of similar size.[9]

[6] Association of Bay Area Governments. Bay Area Plan Projections 2013.

[7] City of East Palo Alto Police Department. Law Enforcement Career Opportunities. Accessed January 25, 2016. Retrieved from http://www.cityofepa.org/DocumentCenter/View/229.

[8] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, pp. 4.13-9 – 4.13-11.

[9] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-12.

The EPAPD operates under a Mutual Aid Agreement with San Mateo County, which establishes a Countywide Protocol to provide mutual aid for every jurisdiction within the county. In addition, the EPAPD has agreements with agencies outside San Mateo County, including the California Highway Patrol and the City of Palo Alto Police Department, to provide mutual assistance on an as-needed basis.[10]

Schools

The following describes school information as of the 2014-2015 school year in East Palo Alto. East Palo Alto is served by two school districts: Ravenswood City School District, which chiefly serves students in kindergarten through grade 8, and Sequoia Union High School District, which serves students in grades 9 through 12.

Ravenswood City School District

The Ravenswood City School District (RCSD) chiefly serves students in kindergarten through grade 8 from East Palo Alto and east Menlo Park, though two schools serve students through grade 12. There are a total of nine schools within RCSD that serve East Palo Alto as shown in **Table 4.13-2**. As of the 2014-2015 school year, the RCSD had a district-wide enrollment of approximately 4,200 students and employed 224 teachers. As of 2012, most schools in the RCSD had sufficient space for all enrolled students with the exception of Costaño Elementary and Brentwood Academy.[11]

[10] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-13.

[11] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-17.

Table 4.13-2 Ravenswood City School District Schools Serving East Palo Alto

School	Address	Grades	2014-2015 Enrollment
Belle Haven Elementary School	415 Ivy Drive, Menlo Park	K-8	591
Cesar Chávez Academy	2450 Ralmar Avenue, East Palo Alto	6-8	183
Costaño Elementary School	2695 Fordham Street, East Palo Alto	K-8	564
Aspire East Palo Alto Charter School & Phoenix Academy	1286 Runnymede Street & 1039 Garden Street, East Palo Alto	K-12	759
Edison Brentwood Academy (Charter)	2086 Clarke Avenue, East Palo Alto	K-5	532
Green Oaks Academy*	2450 Ralmar Avenue, East Palo Alto	K-5	273
Los Robles Magnet Academy	2450 Ralmar Avenue, East Palo Alto	K-8	380
Ravenswood Child Development Center	951 O'Connor Street, East Palo Alto	Pre-K	190
Ronald McNair Academy	2033 Pulgas Avenue, East Palo Alto	6-8	223
Willow Oaks Elementary	620 Willow Road, Menlo Park	K-8	705

*Note: Green Oaks Academy is no longer enrolling new students; currently enrolled students will remain and eventually only Cesar Chávez Academy will serve the site (Ravenswood City School District, 2016).
Source: California Department of Education, 2016 and City of East Palo Alto, 2014

Sequoia Union High School District

The Sequoia Union High School District (SUHSD) service area includes the cities of Atherton, Belmont, East Palo Alto, Menlo Park, Portola Valley, Redwood City, Redwood Shores, San Carlos and Woodside. Depending on their address, East Palo Alto students attend high school at Sequoia Union High School (Redwood City), Carlmont High School (Belmont), Menlo-Atherton High School (Atherton), or Woodside High School (Woodside).[12] Schools within SUHSD are shown in **Table**

[12] City of East Palo Alto. 2014. Existing Conditions Report, East Palo Alto General Plan Update.

4.13-3. As of the 2010-2011 school year, all of the SUHSD schools had sufficient space for enrolled students. As of the 2014-2015 school year, the SUHSD had a district-wide enrollment of approximately 9,700 students employed 550 teachers. The average ratio of students to teacher for high schools was lower than San Mateo county and state averages. However, the average ratio of students to teacher was higher for continuation schools compared to San Mateo County and the state.[13]

Table 4.13-3 Sequoia Union High School District Schools

School	Address	Grades	2014-2015 Enrollment
Comprehensive high schools			
Carlmont High School	1400 Alameda de las Pulgas, Belmont	9-12	2,183
East Palo Alto Academy (Charter)	1050 Myrtle Street, East Palo Alto	9-12	265
Menlo-Atherton High School	555 Middlefield Road, Atherton	9-12	2,158
Sequoia High School	1201 Brewster Avenue, Redwood City	9-12	2,135
Woodside High School	199 Churchill Avenue, Woodside	9-12	1,815
Continuing and adult schools			
Cañada Middle College High School	4200 Farm Hill Boulevard, Redwood City	9-12	Unknown
Redwood High School	1968 Old County Road, Redwood City	9-12	290
Sequoia District Adult School	3247 Middlefield Road, Menlo Park	--	Unknown

Source: California Department of Education, 2016 and City of East Palo Alto, 2012

Libraries

East Palo Alto is served by the San Mateo County Library System. The San Mateo County Library System, a Joint Powers Authority, includes the cities of Atherton, Belmont, Brisbane, East Palo Alto, Foster City, Half Moon Bay, Millbrae, Pacifica, Portola Valley, San Carlos and Woodside, as well as unincorporated areas of the County of San Mateo. More than 90 percent of the costs to operate the system are

[13] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-20.

paid for by property taxes. Other funding sources come from private, state, and federal grants and gifts. San Mateo County provides staffing and materials, and the individual cities are responsible for the buildings and maintenance.[14]

The East Palo Alto Branch Library of the San Mateo Library System is located at 2415 University Avenue. In addition to book circulation, the library offers child, adult, and family programming and has computer work stations available for public use. As use at the East Palo Alto Library increases, there may be a need for additional physical space to hold events, store library material, and add additional computer work stations. The library is in need of additional technology access, but there is little room for expansion and no current plan to expand.[15]

Parks and Recreational Facilities

Park and recreation facilities in and around East Palo Alto include City parks, county and regional parks, open space, and trails. Park and recreation facilities within the city are owned and operated by the City. Facilities outside of East Palo Alto are managed by various jurisdictions, and are described in this section in further detail. A variety of different park lands and facilities are needed to serve a community's diverse needs. The City's park lands include improved or active sites as well as several unimproved sites.

City Parks

The City of East Palo Alto has approximately 34 acres of usable parks and open space as of 2014 (approximately 1 acre per 1,000 residents), including four parks, two "pocket parks," and two nature preserves, listed in **Table 4.13-4**. The City's ratio of 1 park acre per 1,000 residents is below the Bay Access Master Plan's target of 1.5 acres per 1,000 residents, the San Mateo County Average of 2.3 park acres per 1,000 residents, and the Quimby Act target of 3 acres per 1,000 residents (which is also the City's goal in the General Plan Update).

[14] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-27.

[15] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, pp. 4.13-27 – 4.13-28.

Table 4.13-4 Parks and Open Space in East Palo Alto

Park	Location	Amenities	Acres
Regional Parks			
Don Edwards San Francisco Wildlife Preserve/ Baylands Nature Preserve	Eastern side of City	Pedestrian/bicycle trail (Note: for the purposes of this inventory, the usable area of the Preserve was calculated.)	5.5
Neighborhood Parks			
Bell Street Park	2159 University Avenue	Playground, open lawn	5.0
Cooley Landing Park (nature preserve)	2100 Bay Road	Bayfront nature preserve	9.0
Jack Farrell Park	2509 Fordham Street	Baseball field, batting cage, basketball court, playground	5.5
Joel Davis Park	1960 Tate Street	Playground, picnic facilities, open lawn	2.8
Martin Luther King Park	435 Daisy Lane	Baseball field, soccer field, playground, picnic tables, concession/storage/ restroom facility	5.7
Mini Parks			
Pocket Park	Bay Road & Newbridge Street	Greenery, trees, benches, and waste receptacles in a new residential subdivision	0.15
Pocket Park	East Bayshore Road & Bay Road	Greenery, trees in a residential neighborhood	0.05
Total			**33.7**

Source: City of East Palo Alto. 2015. Parks, Open Space, and Facilities. Accessed February 5, 2016. Retrieved from http://www.ci.east-palo-alto.ca.us/Facilities.

Recreation and Community Facilities

In addition to City parks, the City operates the Community Room, located at 2415 University Avenue. In addition to this community facility, the City leases land to the operators of the East Palo Alto Senior Center, located at 560 Bell Street. The City also leases land to the YMCA, which operates a gymnasium and the Bell Street Community Pool, both of which are located at 550 Bell Street.[16]

Open Space

East Palo Alto's primary open space asset is the 9-acre Cooley Landing Park, described above, a nature preserve which opened in 2012. Cooley Landing Park is located in the Baylands on the eastern side of the City and provides access to the Bay Trail and San Francisco Bay.

Protected open space near East Palo Alto includes the Ravenswood Open Space Preserve, owned and managed by the Mid-Peninsula Regional Open Space District. The 373-acre preserve, which is largely within the City of Menlo Park, is located north and south of the Dumbarton Bridge. The southern portion of the preserve offers pedestrian and bicycle access along the shore and levee areas.

Trails

There are two recreational trails in East Palo Alto: the San Francisco Bay Trail and the San Francisquito Creek Trail. The San Francisco Bay Trail, the multi-use public recreation corridor along San Francisco and San Pablo Bays, includes two sections of trail within East Palo Alto. The northern section of trail runs along portions of the Ravenswood Open Space Preserve to Bay Road. The southern section connects O'Connor Street to Weeks Street.

The East Palo Alto Bay Access Master Plan identifies two gaps in the Bay Trail within the city limits: a 650-foot gap between Weeks Street and Bay Road and a 0.4-mile gap between University Avenue and the northern boundary of the Ravenswood Open Space Preserve. To connect the Ravenswood Open Space Preserve to University Avenue, the City plans to extend the trail through a Southern Pacific easement immediately north of the University Village neighborhood. There are also plans to extend the Bay Trail between Weeks Street and Bay Road.

[16] City of East Palo Alto. 2012. Ravenswood/4 Corners TOD Specific Plan Draft EIR. Public Services and Recreation, p. 4.13-35.

Additionally, there is an unimproved trail along San Francisquito Creek. The City has plans to extend the trail from O'Connor Street along the Palo Alto Baylands to Highway 101. These planned improvements will enhance pedestrian access to the Bay for residents of the Garden and Weeks neighborhoods.

4.13.3 THRESHOLDS OF SIGNIFICANCE

A significant impact could occur if development allowed by the General Plan Update would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives for any of the following services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

c) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.13.4 ENVIRONMENTAL IMPACTS

The General Plan Update would allow future development of up to 2,519 additional residential dwellings, 333,406 square feet of retail development, 1.9 million square feet of office development, and 267,987 square feet of new industrial space by the year 2040. Proposed growth envisioned in the General Plan would increase the City's population by an estimated 7,764 residents, as well as additional employees within the City. Projected population growth under the General Plan Update would increase demand for public services and facilities. Potential project impacts are discussed below.

Future growth would likely increase demand for public services including fire protection, police protection, schools, parks, libraries, and other public services.

The General Plan Update also includes goals and policies to ensure that necessary public services and facilities would be provided at acceptable levels to ensure that future growth would not outpace provision of public services.

Land Use and Urban Design Element Goal LU-1. Maintain an urban form and land use pattern that enhances the quality of life and meets the community's vision for its future.

- *Policy 1.1, Balanced land uses.* Create a balanced land use pattern to support a jobs-housing balance, minimize traffic and vehicle miles traveled, reduce greenhouse gas emissions, and promote a broad range of housing choices, retail businesses, employment opportunities, cultural venues, educational institutions, and other supportive land uses.

Land Use and Urban Design Element Goal LU-7. Create a multitude of public and private institutional uses, spaces, and services that serve East Palo Alto's diverse population.

- *Policy 7.1, Public uses.* Allow municipal facilities, structures, and projects in all land use designations.
- *Policy 7.3, Continuation of public and institutional uses.* Allow for the continuation of recreational, cultural, public, and religious land uses.

Economic Development Element Goal ED-3. Ensure efficient coordination with public facilities and service providers to support existing and new development within the City.

- *Policy 3.1, New development.* Require new development to pay its fair share of required improvements to public facilities and services through impact fees or other financial and regulatory mechanisms.
- *Policy 3.3, Supporting infrastructure and public services.* Require new development projects to provide supporting infrastructure and public services that contribute to an overall improvement in the quality of life in the City.

Infrastructure, Services, and Facilities Element Goal ISF-5. Fund construction and maintenance of basic infrastructure and public facilities.

- *Policy 5.1, Impact fees.* Collect nexus-based impact fees that mitigate the cost of providing infrastructure and public facilities to serve new development.
- *Policy 5.2, Community benefits.* For large-scale projects, negotiate with developers to maximize the potential for acquiring community benefits like new facilities and infrastructure.

- *Policy 5.3, Grants and funding.* Pursue grants and funding sources that can be directed towards existing deficiencies in infrastructure and facilities, including regular maintenance.

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities, need for new or physically altered fire facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives (less-than-significant impact).

Future growth under the General Plan Update would increase demand for fire protection and emergency medical services. The MPFPD has not indicated a need to construct new fire stations or significantly expand existing stations or other facilities.[17] The MPFPD has indicated that it can maintain its current level of fire protection and emergency services within East Palo Alto with the amount of increased development included in the General Plan Update. Future challenges to the MPFPD in meeting its mission include increased traffic congestion on major roadways in East Palo Alto and other communities in their service area that strain the ability of emergency vehicles to respond to calls for service, changes in staffing to support future development, updating impact fees for new development to cover service costs, and updating aging stations and equipment. With adherence to the General Plan Update goals and policies listed above (Goal LU-1, Policy 1.1; Goal LU-7, Policies 7.1 and 7.3; Goal ED-3, Policies 3.1 and 3.3; and Goal ISF-5, Policies 5.1, 5.2, and 5.3) as well as the General Plan Update goals and policies outlined below, impacts to fire protection and emergency services would be less than significant.

Infrastructure, Services, and Facilities Element Goal ISF-10. Provide excellent emergency services to the community.

- *Policy 10.2, Emergency preparedness.* Work with MPFPD, EPAPD, City staff, and East Palo Alto residents to ensure that sufficient emergency plans and resources are established and known by all stakeholders. Ensure that all City employees partake in yearly emergency drills and/or trainings.
- *Policy 10.3, Fire and emergency services.* Continue to coordinate with the Menlo Park Fire Protection District (MPFPD) to ensure excellent fire and emergency services.

[17] H. Schapelhouman, MPFPD. Personal communication, October 2015.

Implementation Element.

- Safety and Noise Programs.

  2. *Fire buffer zones.* Work with property owners near hazard areas to implement and maintain buffer zones from the riskiest areas and adopt fire code revisions when appropriate.
  4. *Coordinated emergency response.* Implement coordinated emergency response planning with the Menlo Fire Protection District, major transportation agencies, and adjacent jurisdictions.
  5. *Hazardous emergency plan.* Develop and implement a multi-hazard emergency plan for accidents involving hazardous materials.

- Infrastructure, Services, and Facilities Programs/Public Safety.

  2. *Emergency Preparedness Plan.* Update the City's Emergency Preparedness Plan every 5 years.
  5. *CERT Program.* Develop a community emergency response team (CERT) training program to provide training to City personnel and conduct informational workshops for the community. Provide additional information to the community about available resources and materials.
  7. *Signal pre-emption for emergency response.* Install traffic signal pre-emption technology for police/emergency vehicles.

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives (less-than-significant impact).

The East Palo Alto Police Department has no immediate need to expand its facilities to keep pace with anticipated growth under the General Plan Update.[18] The number of calls for service for law enforcement to the East Palo Alto Police Department could likely increase with population growth associated with the General Plan Update. In addition to the General Plan Update goals and policies listed above (Goal LU-1, Policy 1.1; Goal LU-7, Policies 7.1 and 7.3; Goal ED-3, Policies 3.1 and 3.3; and Goal ISF-5, Policies 5.1, 5.2, and 5.3), the General Plan Update includes additional goals and policies, listed below, to ensure that East Palo Alto would have adequate resources to deal with future development and also to

[18] Elizabeth Lam, East Palo Alto Police Department. Personal communication, October 2, 2015.

use community resources in a manner to minimize crime activity. Impacts of adopting and implementing the General Plan Update would be less than significant.

Infrastructure, Services, and Facilities Element Goal ISF-10. Provide excellent emergency services to the community.

- *Policy 10.1, Crime prevention through Environmental Design (CPTED).* Work with the police and planning departments to deter crime by encouraging CPTED strategies in new and existing development, including the following strategies:
  - Active public space.
  - Building design to promote "eyes on the street."
  - Clear delineation between private and public space.
  - Natural access control between public and private space.
  - Maintenance of public places.
  - Removal or repair of vandalism or broken property.
- *Policy 10.4, Excellent police service.* Strive to continuously improve the performance and efficiency of the East Palo Alto Police Department.
- *Policy 10.5, Police-community relations.* Continue to foster positive, peaceful, mutually supportive relationships between East Palo Alto residents and the police. Promote additional visibility of police throughout residential neighborhoods.
- *Policy 10.6, Data-driven policing.* Monitor crime data and ensure sufficient crime prevention resources are deployed at effective times in areas with criminal activity.
- *Policy 10.8, Community reentry.* Encourage and support efforts that foster an inclusive community and help reintegrate formerly incarcerated persons into positions of employment and positive roles in the community (including working with local employers).
- *Policy 10.9, Policy refinement.* Engage residents and businesses in processes to evaluate, refine, and establish laws that enhance public safety and quality of life.

Implementation Element.

- Infrastructure, Services, and Facilities Programs/Public Safety.

  1. *Crime reduction plan.* Develop a long-term crime reduction plan that addresses: Prevention, Intervention, Enforcement, and Sustainability. The plan will also identify the role of the community and City in the strategy, and identify the resources necessary to implement strategy.
  3. *Community-based policing.* Implement the community-based policing initiative championed by the Police Chief, including attendance at

community meetings, having the Police Department participate in community events and beautification projects, and leading programs such as Neighborhood Watch.

4. *Data-driven policing.* Continue to use technology to track and target gun violence.
6. *Comprehensive crime analysis.* Complete the comprehensive analysis of crime in the City (utilizing the RIMS system).
7. *Signal pre-emption for emergency response.* Install traffic signal pre-emption technology for police/emergency vehicles.
10. *Crime prevention through Environmental Design.* Develop a development manual to provide basic requirements and incentives for the inclusion of design features in new development to reduce potential for crime. These features could include well-lighted parking areas, open landscaping, limited access into and between buildings, and limited access to rooftops.

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives (less-than-significant impact).

Implementation of the General Plan Update could indirectly result in construction of new dwellings in East Palo Alto and development of new office, commercial, and industrial uses that could induce relocation of employees and their families to the community. New development would result in an increased student population, which would increase demand for educational facilities provided by the RCSD and the SUHSD and could result in the need for new or altered school facilities.

The General Plan Update includes the following goals and policies to enhance educational opportunities in East Palo Alto:

Infrastructure, Services, and Facilities Element Goal ISF-7. Ensure high-quality educational opportunities for East Palo Alto students.

- *Policy 7.1, Educational quality.* Collaborate with the Ravenswood School District, charter schools, and private schools to maximize educational quality, maximize the use of existing school sites for educational purposes, and improve the overall quality of the schools and to ensure that East Palo Alto residents are properly prepared for employment and have the skills and education levels needed to be competitive in current and future job markets.

- *Policy 7.2, New programs.* Encourage educational programs from existing educational providers in East Palo Alto that improve the educational outcomes for East Palo Alto residents.
- *Policy 7.3, Education hub.* Support and enhance the emerging education hub in Weeks near Myrtle Street and Pulgas Avenue. Site new schools or charter academies near existing schools as opposed to randomly throughout the city and encourage nearby schools to share facilities.
- *Policy 7.4, Student-community connections.* Encourage area businesses, professionals, universities, artists, city employees, or other community role models to provide mentorship, job training, and/or financial resources to local schools and students.
- *Policy 7.5, Early childhood education facilities.* Encourage childcare facilities in the City, including in public buildings and major employment campuses, to serve the needs of working families.
- *Policy 7.7, Education monitoring.* Monitor the educational attainment of East Palo Alto residents over time, compared to residents of other jurisdictions in the School District, and advocate for programs and educational materials that are culturally sensitive and allow East Palo Alto residents to improve their educational attainment.
- *Policy 7.8, Adult education.* Support the creation of adult education programs in East Palo Alto, including English language classes, vocational training, and on-going educational activities.
- *Policy 7.9, After-school programs.* Support after-school programs that provide expanded educational opportunities and create a safe and affordable place for youth after school.
- *Policy 7.10, Libraries.* Coordinate with San Mateo County to provide library services for the community, aiming to provide approximately 750 square feet of equipped and staffed library space per 1,000 residents.

Whether or not the new policies of the General Plan Update are enacted, existing state law (SB 50) would continue to be applied toward any new residential development, resulting in the payment of development impact fees to relevant school districts at the time of the building permit issuance. School districts in turn would use collected funds towards new facilities to offset any impacts associated with new development. Pursuant to California Government Code Section 65996, payment of these fees is deemed to fully mitigate CEQA impacts of new development on school facilities. Furthermore, expansions or new school construction that may be required to accommodate the projected increase in students within the RCSD and SUHSD would be addressed through separate CEQA review when specifics of those projects are known. As such, adoption and

implementation of the General Plan Update would have a less-than-significant impact on new or altered school facilities.

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives (less-than-significant impact).

The City of East Palo Alto has relatively sparse parks and green spaces and limited access to the Bay Trail and National Wildlife Refuge. The existing (as of 2010) ratio of 1 park acre per 1,000 residents is below its standard of 3 acres per 1,000 residents outlined in the General Plan Update. To meet this proposed standard, the City would need an additional 57 acres of new parkland.

Future growth anticipated under the General Plan Update would include additional residences and other land uses that would increase demand for local parks and recreational facilities. Hence, an increased number of East Palo Alto residents from development allowed by the General Plan Update would exacerbate the existing deficiencies in the City's parkland-to-1,000-resident ratio.

Significant new park facilities are unrealistic in East Palo Alto beyond the 30 acres contemplated in the Ravenswood/4 Corners TOD Specific Plan due to limited space within the City limits. The General Plan Update envisions adding new parkland through a layered network of new parks and open spaces that includes new mini-parks, improved access to the Bay Trail at key junctures, multiple new linear parks on existing public rights of way, shared streets that provide recreation for residents, and greening existing streets with trees and landscaping. However, the General Plan Update does not propose any specific new park or open space area with sufficient detail or certainty to analyze at a project level of review within this EIR. New development that could be allowed under the General Plan Update would generally be required to provide new public or private park and/or recreational facilities, or pay "in-lieu" fees to the City to assist in financing parks elsewhere in the community.

The General Plan Update includes the following goals and policies to provide new and/or upgraded park and recreational facilities in the community.

Parks, Open Space, and Conservation Element Goal POC-1. Create new parks and open spaces throughout the City.

- *Policy 1.1, New parks and open spaces.* Maintain a park standard of 3 acres per 1,000 residents. Undertake a program to add 79 acres of new formalized park

spaces, prioritizing the areas of the City currently underserved by parks (Weeks, Kavanaugh, Willow, and Woodland).

- *Policy 1.6, Park variety.* Seek to maintain a diversity of park spaces throughout the City, including recreation areas and sports fields, pools, hardscaped plazas, children's play areas, and linear greenways.
- *Policy 1.7, Community involvement.* Encourage public involvement in every aspect of park and open space acquisition, design, construction, and programming.
- *Policy 8, Parks and open space.* Establish a range of parks and open spaces, including tot lots, neighborhood parks, community parks, plazas/greens and/or greenways/parkways within all new Neighborhoods, Centers, and Districts.
- *Policy 1.9, Measure AA projects.* With the financial and administrative support of Mid-Peninsula Regional Open Space, build new Bayfront trails and City-to-Bay trails. Support wetland restoration and science education exhibits.

Parks, Open Space, and Conservation Element Goal POC-3. Expand funding for park improvements and maintenance.

- *Policy 3.2, Park incentives.* Allow incentivizes for new developers to include open space and recreational amenities such as outdoor play areas, rooftop gardens, and family gathering spaces in new multifamily developments.

As indicated above, new residents from development allowed by the General Plan Update would increase the demand for recreational opportunities and facilities, and park service standards would require the construction of new or expanded park facilities. Project-specific impacts from construction of new or expanded park facilities are not known at this time, and impacts would be subject to CEQA review. While the General Plan Update calls for more parks to be added, it lacks specificity in park size, location, programming, features, funding, etc. Environmental impacts that may be associated with park construction could include, for example, if a proposed park is located in a former industrial area, removal of contaminated soils and groundwater and trucking those materials to a safe disposal site. New parks could also introduce nighttime lighting effects or localized traffic effects depending on specific features that may be added at specific locations. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development; as such, the impact is less than significant.

b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (less-than-significant impact).

As discussed above, an increase in residents from development allowed by the General Plan Update would increase demand for parks and other recreational facilities. The General Plan Update contains the following goals and policies to improve and enhance existing parks and recreational facilities, adherence to which would render impacts to existing parks and recreational facilities less than significant.

Parks, Open Space, and Conservation Element Goal POC-2. Improve and enhance existing parks and trails.

- *Policy 2.1, Create reciprocal agreements.* Work with the Ravenswood City School District and private schools to develop and maintain shared-use arrangements to share school facilities with outside organizations to expand recreation opportunities in the City.
- *Policy 2.5, Park improvements.* Maintain and renovate existing parks with new equipment and features (especially drinking fountains, lighting, fitness equipment, and restrooms) to ensure continued use, accessibility, and quality facilities.
- *Policy 2.7, Baylands use.* Encourage public recreational use and access to the Baylands, South Bay Salt Pond, and other nearby open space, in coordination with the Don Edwards San Francisco Bay National Wildlife Refuge and other partners and in a manner that does not adversely impact the natural environment.

Parks, Open Space, and Conservation Element Goal POC-3. Expand funding for park improvements and maintenance.

- *Policy 3.1, Commercial and residential park impact fees.* Adopt a Nexus Study Impact Fee so that commercial and residential development contributes its fair share towards capital improvements, operations, and maintenance of parks and recreational facilities.

c) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (less-than-significant impact).

Construction or expansion of specific recreational facilities would be necessary to meet service standards outlined in the General Plan Update, as discussed above. However, what specific facilities would be required, the exact nature of these facilities and project-specific impacts are not known at this time. Such impacts

would require environmental review in accordance with CEQA, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible. Because no immediate physical development would result from adoption of the General Plan Update, this impact would be less than significant.

4.13.5 CONCLUSION

Adoption and implementation of the General Plan Update could have indirect adverse impacts on public services and recreation via increased demand for these services resulting from development projects allowed under the General Plan Update. Less-than-significant impacts would be expected for fire protection, police protection, schools, parks, and other public facilities. Future development allowed under the General Plan Update would comply with federal, state, and local regulatory requirements and plans, as well as applicable goals and policies contained in the General Plan Update.

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4.14 TRANSPORTATION AND TRAFFIC

This section describes the existing transportation and traffic conditions within the City of East Palo Alto (City) and the potential impacts to traffic circulation and levels of service (LOS) that could occur with the adoption of the East Palo Alto General Plan Update (General Plan Update). The impact analysis uses methodology from the Cities of East Palo Alto and Menlo Park as well as the City/County Association of Governments of San Mateo County (C/CAG). Information in this section was derived from a Transportation Impact Analysis (TIA) report by Nelson\Nygaard Consulting Associates, Inc. in association with Kittleson & Associates (**Appendix E**).

4.14.1 REGULATORY REQUIREMENTS

State

The Corridor System Management Plan for U.S. Highway 101 South

Following the passage of the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act, known as Proposition 1b, in November 2006, the California Department of Transportation (Caltrans) implemented a Corridor System Management Plan (CSMP) for all corridors in the state that include projects funded by the Corridor Mobility Improvement Act (CMIA). Caltrans published a CSMP for the U.S. Highway 101 South Corridor in December 2010; the entirety of Highway 101 through East Palo Alto is included in this plan.

Guide for the Preparation of Traffic Impact Studies

Caltrans has also published an advisory Guide for the Preparation of Traffic Impact Studies, which includes guidance on the agency's preferred approach and suggested analysis methods. The guide was prepared in partnership with local and regional agencies. The intent of this guide is to provide a starting point and a consistent basis for Caltrans to evaluate traffic impacts to state highway facilities. The applicability of this guide for local streets and roads (non-state highways) is at the discretion of the affected jurisdiction.

Regional

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area. 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.

With the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, 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 Senate Bill (SB) 375 as the means for achieving regional transportation-related GHG targets. Among the requirements of SB 375 is the adoption of targets to be met by 2020 and 2035 for each MPO in the state, as well as the creation of a Sustainable Communities Strategy (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. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the state CTC.

Plan Bay Area

The current RTP, *Plan Bay Area: Strategy for a Sustainable Region* (Plan Bay Area), adopted by MTC on July 18, 2013 and includes both the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan. Plan Bay Area was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG) and cities and counties throughout the region. Plan Bay Area is an integrated long-range transportation and land use/housing plan intended to support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution in the Bay Area. It also specifies a detailed set of investments and strategies to maintain, manage, and improve the region's transportation system, specifying how anticipated federal, , and local transportation funds will be spent. Federal and law requires the regional transportation plan to be updated at least every four years to reflect new funding forecasts and respond to growth issues. The next update to Plan Bay Area, called Plan Bay Area 2040, is scheduled for adoption in 2017.[1]

[1] Metropolitan Transportation Commission. "Plan Bay Area." Accessed March 17, 2016. Retrieved from http://www.mtc.ca.gov/our-work/plans-projects/plan-bay-area-2040/plan-bay-area.

County

San Mateo County Congestion Management Plan

The C/CAG is a regional planning agency involved with various public services, including transportation. In 1990, California voters passed Propositions 111 and 108, which provide funding to urban counties in California that designate a Congestion Management Agency (CMA) and prepare, implement, and biennially update a Congestion Management Program (CMP). In San Mateo, C/CAG was designated as the CMA and the first CMP was adopted in 1991. The 2015 update (published in September 2013) is the most recent edition of the CMP. The CMP sets standards for regional routes in San Mateo County, including all state highways, principal arterials, and intersections.

The CMP sets a level of service (LOS) standard for each route identified, measures and evaluates current performance on those routes, provides a land use alternative impact analysis, and plans a seven-year capital improvement program.

San Mateo County Smart Corridors Project

The San Mateo County Smart Corridors Project is an Intelligent Transportation System (ITS) designed to improve mobility along the Highway 101 corridor in San Mateo County. The project enables Caltrans, cities, and the County to implement traffic management strategies through the deployment of ITS elements along state routes and major local streets, including, but not limited to, directional signs, closed-circuit television cameras, and vehicle detection systems. The project is sponsored by C/CAG.

San Mateo Countywide Transportation Plan 2010

C/CAG also developed the San Mateo Countywide Transportation Plan 2010, adopted in January 2010. The purpose of the Plan is to create a long range vision for the future of transportation within San Mateo County and neighboring counties. The Plan creates a broad policy framework for addressing various modes of transportation, including roads, Caltrain, bus transit, BART, and bikeways, together as one comprehensive transportation system. The Plan is intended to achieve goals such as reducing traffic congestion in San Mateo County; improving mobility, air quality, and the coordination between land use and transportation planning; and increasing access, reliability, and safety.

San Mateo County Transit District

SamTrans provides and oversees public transit services and transportation programs within San Mateo County. In addition, SamTrans manages the San Mateo County

Transportation Authority, the agency formed to administer the proceeds of Measure A, a countywide half-cent sales tax. In 1988, voters approved Measure A to provide capital funds for Caltrain grade separation projects and street and highway improvement projects. The measure also provides funding for Redi-Wheels, the County's paratransit service.

Santa Clara Valley Transportation Authority

Bicycle Technical Guidelines

In 2012, East Palo Alto adopted the Santa Clara Valley Transportation Authority (VTA) Bicycle Technical Guidelines (BTGs). The BTGs establish standards and guidance for planning, designing, operating, retrofitting and maintaining roadways and bikeways throughout Santa Clara County, including parts of East Palo Alto. The BTGs are intended to improve the quality of bicycle facilities and to ensure countywide consistency in the design and construction of the countywide bicycle network, including roadways. The BTGs apply to projects that are a part of the countywide bicycle network. The BTGs are divided into the following four parts:

- Part 1 provides an introduction and general guidance, including purpose and policy guidance, as well as bicycle characteristics, such as bicyclist skill levels and facilities that best accommodate them.
- Part 2 includes the technical guidelines for roadways, including roadway design elements, construction zones and maintenance, intersections and interchanges, and signalized intersections.
- Part 3 establishes technical guidelines for on-road bikeways, including bikeways on major rural roads, and local roads.
- Part 4 includes technical guidelines for bike-only facilities, including bike paths, and bike bridges, as well as bike parking.

Local

East Palo Alto Bicycle Transportation Plan

In 2011, East Palo Alto adopted the Bicycle Transportation Plan (Bike Plan), which describes existing and proposed bikeways, bicycle parking facilities, multi-modal connections, and changing and storing facilities, as well as bicycle safety and education programs. The Bike Plan enables the City to apply for funds that are expressly set aside to encourage bicycle commuting. The Bike Plan contains the policy vision, design guidance, and specific recommendations to increase bicycle commuting over a five-year period, aiming to reduce greenhouse gas (GHG) emissions, increase connectivity, and improve the health of residents.

East Palo Alto General Plan (1999)

The current East Palo Alto General Plan, adopted in December 1999, describes the major roadways in the City. The current classifications for City streets include:

- Freeway – a multi-lane roadway with controlled access that provides regional access to the City.
- Arterial – signalized streets that serve through traffic and provide access to major destinations.
- Collector – streets that collect traffic from local residential streets and distribute it to arterials.
- Local – streets that provide access to adjacent properties.

Roadways relevant to the General Plan Update are listed below in **Subsection 4.14.2, Affected Environment**. The 1999 General Plan and subsequently adopted supplemental policies also define the thresholds for determining the significance of traffic impacts. These are presented in **Subsection 4.14.3, Thresholds of Significance**.

4.14.2 ENVIRONMENTAL SETTING

This section describes the existing transportation and traffic conditions within the City. Traffic volumes are generally relatively low on most streets within East Palo Alto, with the exception of two key arterials: University Avenue, which runs through the heart of the City, and Willow Road, which delineates the northernmost border between Menlo Park and the City. There is a significant amount of regional traffic between the Dumbarton Bridge and Highway 101 cutting through the City via these two streets, increasing delay and localized air pollution. As of 2015, University Avenue carried an estimated 25,000 vehicles on most segments, including the US 101 overpass, with higher volumes (over 30,000 vehicles) on the segment just north of East Bayshore Road. Approximately 84 percent of this traffic is “cut-through” traffic that neither originates nor ends in East Palo Alto. Willow Road carries similar amounts, representing, along with University Avenue, the City’s highest volume streets. Other streets, such as Pulgas Avenue, Clarke Avenue, Bay Road, Cooley Avenue, and East Bayshore Road see significant cut-through traffic as well, though not to the degree of University and Willow.

Transportation Impact Analysis

The TIA prepared for the General Plan Update (**Appendix E**) evaluates three scenarios to compare their relative impacts on motor vehicle traffic flow and bicycle, pedestrian, and transit facilities and services.

- **Scenario 1: Existing Conditions** – Existing volumes obtained from recent traffic counts (February 2015) and the roadway system configuration as of December 2015.
- **Scenario 2: Cumulative No Project Conditions** – Projected traffic volumes and the projected roadway system using the San Mateo C/CAG Travel Demand Model. The traffic forecasts include buildout of land uses consistent with the existing (1999) General Plan and the Ravenswood/4 Corners TOD Specific Plan, as well as traffic increases due to regional growth.
- **Scenario 3: Cumulative with Project Conditions** – Traffic volumes from Scenario 2 plus changes due to development allowed under the General Plan Update.

These scenarios reflect the long-term, programmatic nature of the General Plan Update. The anticipated increment of new development allowable under the General Plan Update is not expected to be realized fully until the horizon year of 2040, therefore this analysis sets 2040 as the basis for comparison.

The General Plan Update's impacts on the City's roadway facilities were determined by measuring the effect that project traffic would have on motor vehicle traffic delays at 10 selected study intersections in and near the City during peak travel periods (weekdays 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.). These periods were selected for analysis because it is during these periods that the most congested traffic conditions occur on average day. The TIA also considered impacts to 10 selected roadway segments, also discussed below.

Study Intersections

Three of the 10 study intersections are located outside of East Palo Alto because they represent key locations used by vehicles that travel to and from the City. Intersections denoted with an asterisk (*) are designated as Congestion Management Program (CMP) intersections. LOS standards at CMP intersections are established by the Congestion Management Agency (CMA) for San Mateo County – the C/CAG – and may not necessarily be the same LOS standard set by the City.

- *University Avenue (State Route 109) and Bayfront Expressway (State Route 84) – City of Menlo Park
- *Willow Road (State Route 114) and Bayfront Expressway (State Route 84) – City of Menlo Park

- Willow Road (State Route 114) and Newbridge Street – City of Menlo Park
- University Avenue (State Route 109) and Bay Road
- University Avenue (State Route 109) and Donohoe Street
- University Avenue and Woodland Avenue
- Bay Road and Pulgas Avenue (unsignalized)
- East Bayshore Road and Clarke Avenue
- East Bayshore Road and Pulgas Avenue
- Bay Road and Newbridge Street (unsignalized)

Study Roadway Segments

All of the study roadway segments are located in East Palo Alto. Examining roadway segments allows for measurement of effects that the General Plan Update could have on average daily traffic (ADT) patterns on typical weekdays.

- Bay Road between Gloria Way and University Avenue
- University Avenue between Michigan Avenue and Bay Road
- Runnymede Street between Cooley Avenue and Clarke Avenue
- Euclid Avenue between Bell Street Park Place and Donohoe Street
- Clarke Avenue between Donohoe Street and O'Connor Street
- Pulgas Avenue between Myrtle Street and O'Connor Street
- Donohoe Street between University Avenue and Capitol Avenue
- East Bayshore Road between Glen Way and Euclid Avenue
- East Bayshore Road between Clarke Avenue and Pulgas Avenue
- West Bayshore Road between Cooley Avenue and Newell Road

Analysis Methods

Motor Vehicle Traffic Flow

In California, transportation engineers commonly describe the operations of roadways, with respect to motor vehicle traffic delays, using the concept of "automobile LOS." LOS is a qualitative description of motor vehicle traffic flow based on factors such as motor vehicle speeds, travel times, and levels of delay at intersections. Transportation engineers describe six LOS ranging from LOS A (i.e., best operating conditions for motor vehicles) to LOS F (i.e., worst operating

conditions for motor vehicles). As described below, LOS standards differ for signalized intersections (**Table 4.14-1**), unsignalized (i.e., stop-controlled) intersections (**Table 4.14-2**), and roadway segments (**Table 4.14-3**).

The traffic study area spans the jurisdictions of three different agencies (the City of East Palo Alto, the City of Menlo Park, and C/CAG). Therefore, levels of service for each intersection included in the study were evaluated in accordance with the standards set forth by the agency (or agencies) with jurisdiction over that particular intersection. However, the criteria used to determine significant impacts on intersections are primarily based on the LOS standards of the Cities of East Palo Alto and Menlo Park because the standards of the cities are more stringent than the C/CAG standards. These criteria are detailed below in **Subsection 4.14-3, Thresholds of Significance**.

Signalized Intersections

Peak hour levels of motor vehicle delay at signalized intersections were estimated using the method from Chapter 16 of the Transportation Research Board's 2000 *Highway Capacity Manual*. This operations analysis method uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay experienced by motorists traveling through an intersection. Control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 4.14-1** summarizes the relationship between average control delay per vehicle and LOS for signalized intersections.

Table 4.14-1 Level of Service Definitions for Signalized Intersections

Level of Service	Description	Average Control Delay per Vehicle (seconds)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered by most drivers to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	Greater than 80.0

Source: Transportation Research Board, 2000 Highway Capacity Manual

Unsignalized Intersections

Peak hour levels of motor vehicle delay at unsignalized intersections were estimated using the method from Chapter 17 of the 2000 *Highway Capacity Manual*. With this method, operations are defined by the average control delay per vehicle (measured in seconds) for each movement that must yield the right-of-way. At two-way or side-street controlled intersections, the control delay (and LOS) is calculated for each controlled movement, as well as the left-turn movement from the major street, and the entire intersection. For controlled approaches composed of a single

lane, the control delay is computed as the average of all movements in that lane. The delays for the entire intersection and for the movement or approach with the highest delay are reported. **Table 4.14-2** summarizes the relationship between average control delay per vehicle and LOS for unsignalized intersections.

Table 4.14-2 Level of Service Definitions for Unsignalized Intersections

Level of Service	Description	Average Control Delay per Vehicle (seconds)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	Greater than 50.0

Source: Transportation Research Board, 2000 Highway Capacity Manual

Roadway Segment Analysis

Motor vehicle traffic flow was also evaluated by assessing motor vehicle volume-to-capacity (V/C) ratios on several roadway study segments. V/C ratios were calculated based on existing or future ADT volumes and daily capacity values for various types of roadways. A LOS scale was used to evaluate roadway performance based on these V/C ratios. These levels range from "A" to "F," with LOS A representing unobstructed, free-flowing conditions and LOS F representing congested conditions. **Table 4.14-3** provides descriptions of traffic flow for the different LOS.

Table 4.14-3 Standards for Roadway Levels of Service

Level of Service	Description	V/C Ratio
A	Primarily free flow operations at average travel speeds usually about 90% of free-flow speed. Vehicles can maneuver unimpeded within the traffic stream. Delay at signalized intersections is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations at average travel speeds usually about 70% of free flow speed. Ability to maneuver is only slightly restricted and stopped delays are not bothersome. Drivers are not subjected to appreciable tension.	0.61 to 0.70
C	Represents stable operations, however, ability to maneuver and change lanes in midblock locations may be more restricted. Longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of free-flow speed. Drivers will experience some appreciable tension.	0.71 to 0.80
D	Borders on a range in which small increases in flow may cause substantial increases in approach delay, and hence, decreases in arterial speed. Causes range from adverse signal progression, inappropriate signal timing, high volumes, or any combination. For planning purposes, this LOS is the lowest that is considered acceptable. Average travel speeds are about 40% of free-flow speed.	0.81 to 0.90
E	Characterized by significant approach delays and average travel speeds of one-third of free-flow speed or lower, caused by adverse progression, high signal density, extensive queuing at critical intersections, inappropriate signal timing, or some combination.	0.91 to 1.00
F	Characterized by arterial flow at extremely low speeds below one-third to one-quarter of free flow speed. Congestion is likely at critical signalized intersections, resulting in high approach delays. Adverse progression is frequently a contributor to this situation.	Above 1.00

Source: Transportation Research Board, 2000 Highway Capacity Manual

Existing Roadway Network

Regional access to the City is primarily provided via U.S. Highway 101 and the Bayfront Expressway; although other major roadways, described below, contribute to access and circulation within the City:

- **U.S. Highway 101** (Highway 101) is a north-south freeway that connects San Mateo County with San Francisco County to the north and Santa Clara County to the south. Within the City, Highway 101 is three travel lanes, one HOV lane, and one auxiliary lane between access ramps in each direction. Three full-access interchanges at University Avenue, Willow Road, and Embarcadero Road provide access from Highway 101 to East Palo Alto.
- **Bayfront Expressway** (State Route 84) is a four-lane, east-west expressway located directly to the north of the City. It extends from Highway 101 East eastwards, connecting Menlo Park and East Palo Alto with the City of Newark and Interstate 880 in the East Bay via the Dumbarton Bridge.
- **Bay Road** is a two- to four-lane, east-west collector street that originates at East Bayshore Road and extends eastward towards the San Francisco Bay where it terminates at Cooley Landing. Between University Avenue and Pulgas Avenue, Bay Road is primarily two travel lanes in each direction with on-street parking. Between University Avenue and Newbridge Street, Bay Road is one travel lane in each direction with a two-way left turn lane. East of Pulgas Avenue and west of Newbridge Street, Bay Road is an undivided two-lane roadway.
- **Clarke Avenue** is a two-lane, north-south collector street with on-street parking on both sides extending from East Bayshore Road in the south to Bay Road in the north, where it changes designation to Illinois Street.
- **Cooley Avenue** is a two-lane, north-south local street with on-street parking on both sides extending from Donohoe Street in the south to University Avenue in the north.
- **Donohoe Street** is an east-west divided street with two travel lanes and on-street parking in each direction. The street extends from East Bayshore Road in the west to Clarke Avenue in the east. Between University Avenue and Clarke Avenue, a portion of Donohoe Street splices East Bayshore Road.
- **East Bayshore Road** is a north-south frontage road located directly north of Highway 101. The road originates in the City of Palo Alto, spanning the length of much of East Palo Alto before changing designation to Saratoga Avenue at Bay Road. It is primarily one travel lane in each direction, with two travel lanes in

each direction separated by a central median between University Avenue and Clarke Avenue.

- **Euclid Avenue** is a north-south local street with one travel lane and on-street parking in each direction. The street extends from East Bayshore Road in the south to Runnymede Street in the north.
- **Pulgas Avenue** is a north-south collector street with one travel lane in each direction and on-street parking. The street extends from East Bayshore Road in the south to just north of Bay Road where it terminates as a dead end.
- **Runnymede Street** is an east-west local street with one travel lane and on-street parking in each direction. The street extends from Palo Verde Avenue in the west towards the San Francisco Bay and Bay Trail where it terminates just east of Pulgas Avenue.
- **University Avenue** (State Route 109) is a north-south arterial that extends from the Stanford University campus in the City of Palo Alto to the Bayfront Expressway directly north of the City of East Palo Alto, where it terminates. Within East Palo Alto, University Avenue is primarily two travel lanes in each direction divided by a central median.
- **Willow Road** (State Route 114) is a north-south divided arterial with two travel lanes in each direction. In some sections, Willow Road delineates the northernmost border between Menlo Park and East Palo Alto. Most of the roadway is within Menlo Park city limits, but a small segment (adjacent to Highway 101) passes through the westernmost corner of East Palo Alto. The road begins in the City of Menlo Park at Alma Street and extends northwards through Menlo Park to Bayfront Expressway.

Existing Traffic Volumes and Lane Geometries

This section describes the results of the intersection turning movement counts and roadway segment counts conducted to obtain the traffic volume data required for the study, as well as the lane configurations and traffic controls observed at the study intersections.

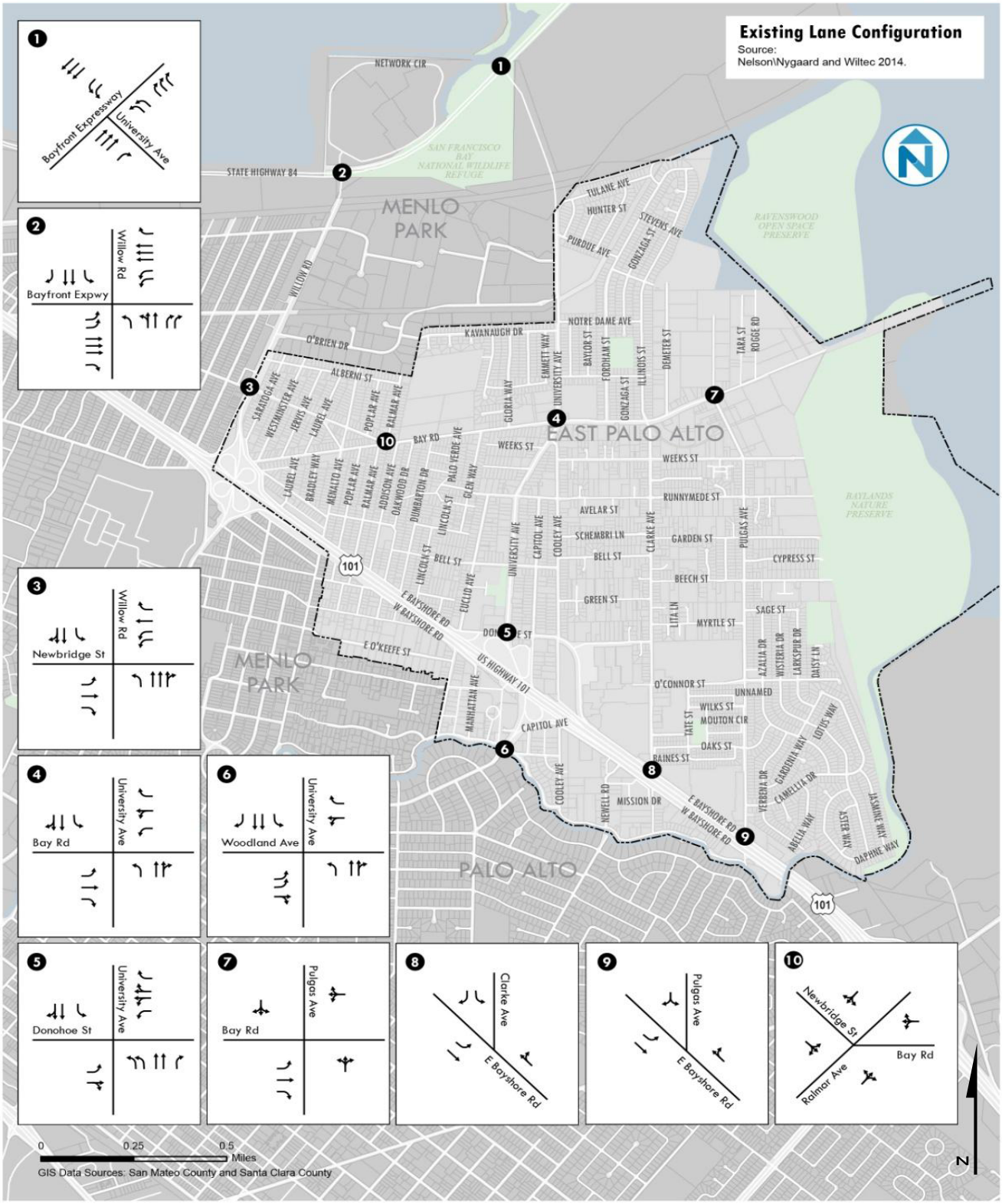
Weekday morning (7:00 am to 9:00 am) and evening (4:00 pm to 6:00 pm) peak period intersection turning movement counts were conducted at the study intersections in February 2015. The counts were conducted on a typical weekday to reflect the normal operation of the intersections during these times. Existing lane configurations and traffic controls at each intersection were determined through field observations. In addition, 24-hour ADT counts were taken on 10 roadway segments. These counts were conducted for 24 hours on a typical weekday (with

one additional count conducted for Donohoe Street on a Saturday). **Figure 4.14-1** shows the existing lane configuration and traffic controls at each of the study intersections. **Figure 4.14-2** and **Figure 4.14-3** show the individual intersection turning movement counts at the study intersections for the AM and PM peak periods, respectively. **Table 4.14-4** shows ADT volumes, V/C ratios, and LOS for selected roadway segments.

Table 4.14-4 Existing Average Daily Traffic Volumes, V/C Ratios, and Levels of Service for Roadway Segments

Street Segment	Roadway Classification	ADT Capacity	Volume (Two-way ADT)	V/C Ratio	LOS
Bay Road between Gloria Way & University Avenue	Collector	12,500	8,410	0.67	B
University Avenue between Michigan Avenue & Bay Road	Arterial	37,500	25,610	0.68	B
Runnymede Street between Cooley Avenue & Clarke Ave	Local	12,500	3,410	0.27	A
Euclid Avenue between Bell Street Park Place & Donohoe Street	Local	12,500	3,498	0.28	A
Clarke Avenue between Donohoe Street & O'Connor Street	Collector	12,500	7,231	0.58	A
Pulgas Avenue between Myrtle Street & O'Connor Street	Collector	12,500	7,137	0.57	A
Donohoe Street between University Avenue & Capitol Avenue	Arterial	37,500	**34,120**	**0.91**	**E**
East Bayshore Road between Glen Way & Euclid Avenue	Collector	12,500	10,218	0.82	D
East Bayshore Road between Clarke Avenue & Pulgas Avenue	Collector	12,500	9,444	0.76	C
West Bayshore Road between Cooley Avenue & Newell Road	Collector	12,500	4,780	0.38	A

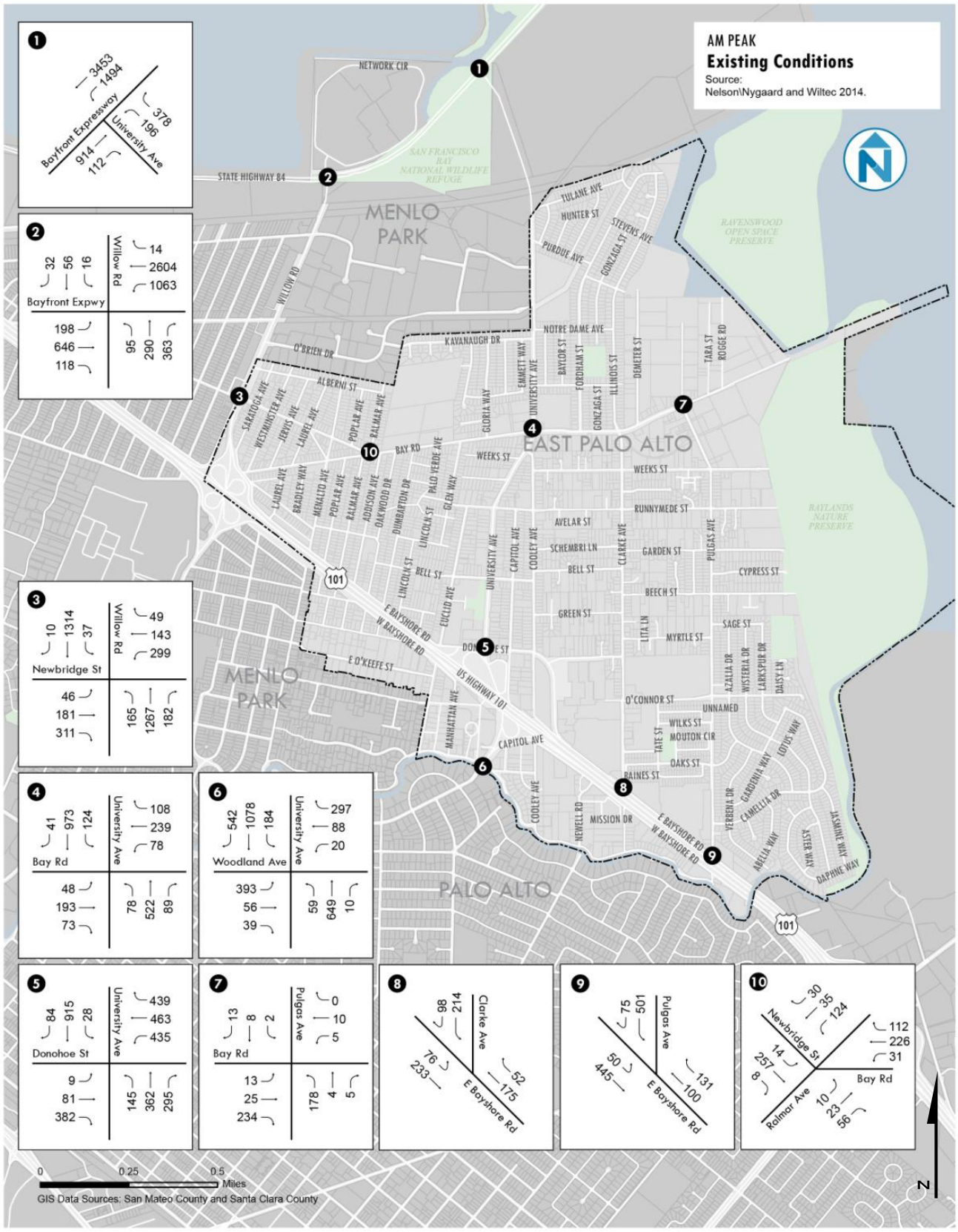
Note: Values in **bold** denote an unacceptable LOS (i.e., failure to meet designated LOS standards).
Source: Nelson\Nygaard Consulting Associates, Inc., Transportation Impact Analysis, February 2016



Existing Intersection Lane Configurations

Figure 4.14-1

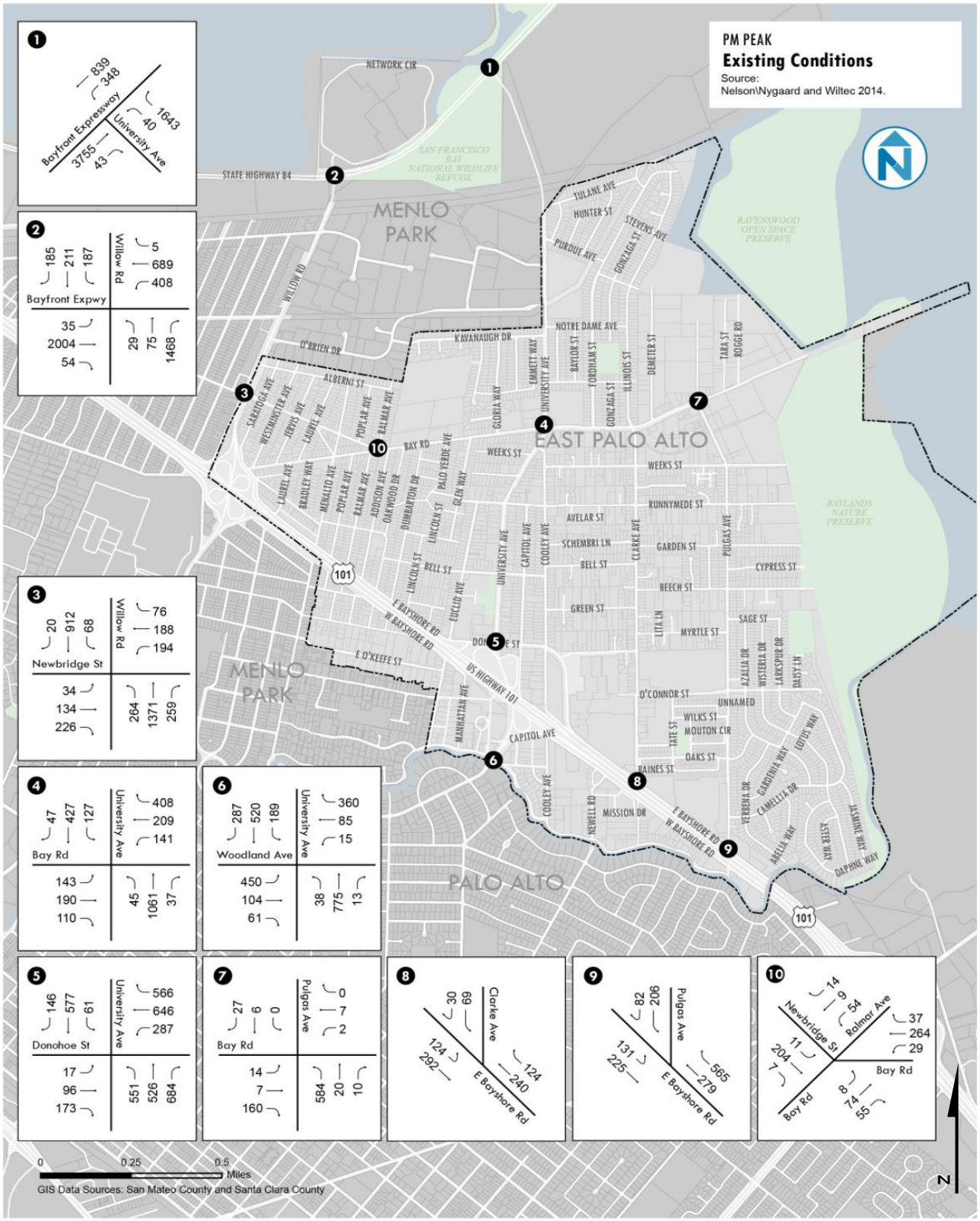
Source: Nelson\Nygaard Consulting Associates, 2016.



Existing AM Peak Hour Traffic Volumes

Figure 4.14-2

Source: Nelson\Nygaard Consulting Associates, 2016.



Existing PM Peak Hour Traffic Volumes

Figure 4.14-3

Source: Nelson\Nygaard Consulting Associates, 2016.

As shown in **Table 4.14-4**, existing ADT volumes for the selected roadway segments are all below their respective ADT capacities (i.e., V/C ratios of less than one). One of the 10 roadway segments, Donohoe Street between University Avenue and Capitol Avenue, is operating at an unacceptable LOS E.

Existing Intersection Levels of Service

Existing intersection lane configurations, signal timings, and peak hour turning movement volumes were used to calculate the levels of service for the key intersections during each peak hour. The LOS analysis was conducted using Synchro Version 9 traffic analysis software. **Table 4.14-5** presents the LOS standard for each intersection, the calculated LOS of each intersection for both the AM and PM peak periods, and the average intersection delay.

Table 4.14-5 Existing Peak-Hour Intersection Levels of Service

Intersection	LOS Standard	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (seconds)	LOS	Average Delay (seconds)
University Avenue & Bayfront Expressway	D	B	19	**F**	**157**
Willow Road & Bayfront Expressway	D	C	28	**F**	**99**
Willow Road & Newbridge Street	D	C	33	C	31
University Avenue & Bay Street	D	D	37	D	40
University Avenue & Donohoe Street	D	**E**	**77**	**F**	**121**
University Avenue & Woodland Avenue	D	D	40	D	39
Bay Road & Pulgas Avenue (all way stop)	D	A	5	C	18
E. Bayshore Road & Clarke Avenue	D	B	12	B	10
E. Bayshore Road & Pulgas Avenue	D	B	18	**E**	**70**
Bay Road & Newbridge Street (all way stop)	D	C	16	B	12

Note: Values in **bold** denote an unacceptable LOS (i.e., failure to meet designated LOS standards).
Source: Nelson\Nygaard Consulting Associates, Inc., Transportation Impact Analysis, February 2016

As shown in **Table 4.14-5**, the following study intersections do not meet their designated LOS standards during at least one peak hour:

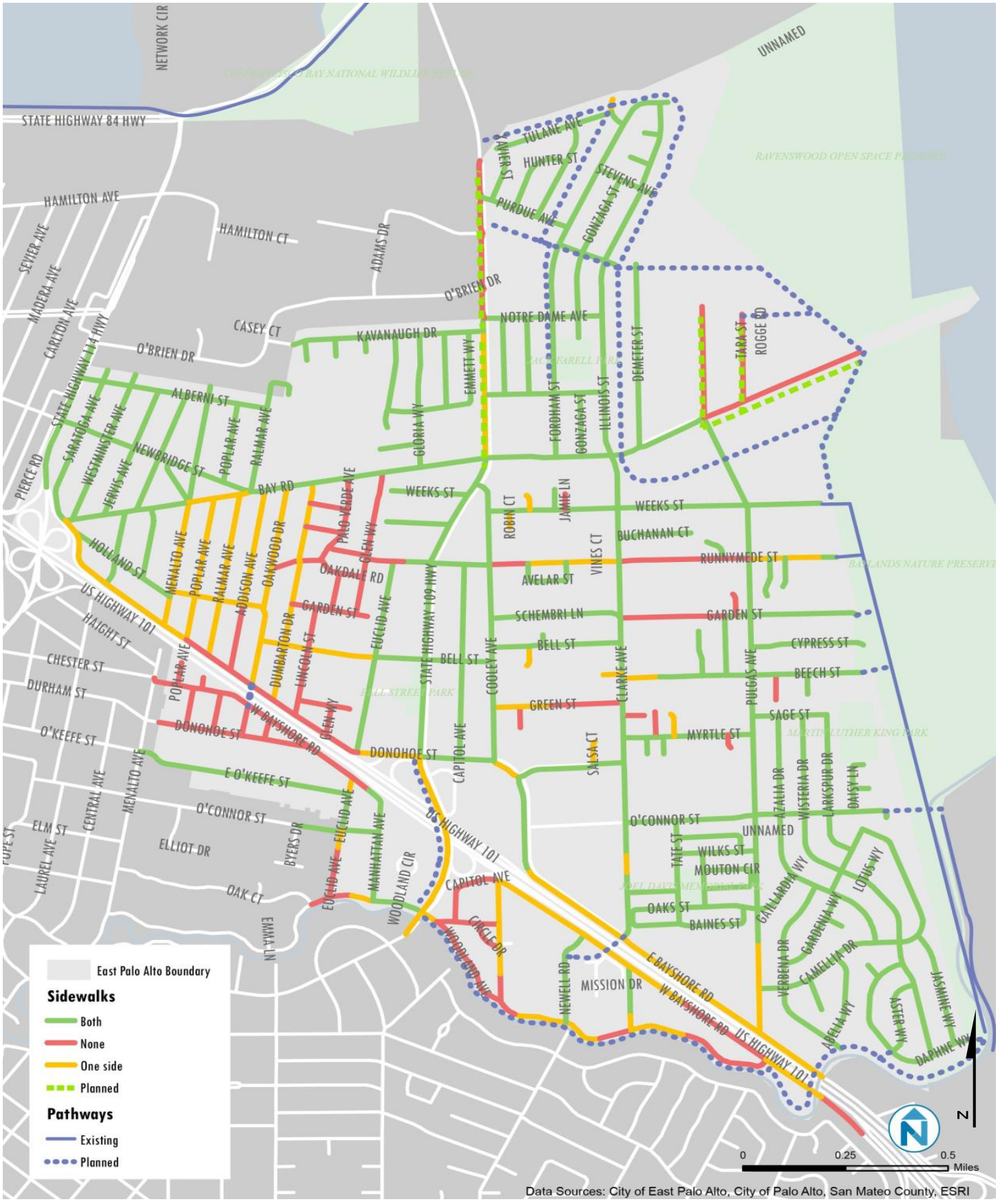
- University Avenue and Bayfront Expressway, in Menlo Park (PM)
- Willow Road and Bayfront Expressway, in Menlo Park (PM)
- University Avenue and Donohoe Street, in East Palo Alto (AM and PM)
- East Bayshore Road and Pulgas Avenue, in East Palo Alto (PM)

The study intersections on Bayfront Expressway at University Avenue and at Willow Road operate at LOS F during the PM peak hour. While the intersections meet the CMP LOS standard (LOS F), they do not meet the City of Menlo Park's standard (LOS D). The intersection of University Avenue and Donohoe Street operates at LOS E during the AM peak hour and LOS F during the PM peak hour, and the intersection of East Bayshore Road and Pulgas Avenue operates at LOS E during the PM peak hour. These intersections do not meet the City of East Palo Alto's standard (LOS D). The remaining study intersections currently operate at acceptable levels of service, according to the respective LOS standards of each jurisdiction.

Existing Pedestrian Facilities

The pedestrian network includes sidewalks, pathways, crosswalks, and pedestrian signals. The existing pedestrian network in the City is limited by a lack of necessary infrastructure and connectivity.

Numerous streets in East Palo Alto lack sidewalks on either one or both sides. Some East Palo Alto streets, such as those in the Gardens Neighborhood, are narrow and have rolled curbs, which frequently result in drivers parking on sidewalks; wheelchair users and other pedestrians are then forced to walk in the street. Key barriers, such as Highway 101 and San Francisquito Creek, also limit pedestrian travel. In particular, the barrier created by Highway 101 and the lack of adequate bicycle and pedestrian crossing accommodations on the University Avenue and Willow Road overpasses, limit connectivity. **Figure 4.14-4** shows the existing and proposed pedestrian network for East Palo Alto and identifies roadway segments in and around the plan area that currently lack sidewalks.



Existing and Proposed Pedestrian Network

Figure 4.14-4

Source: Nelson\Nygaard Consulting Associates, 2016.

Existing Bicycle Facilities

The City's Bike Plan, described above, itemizes existing bicycle facilities. East Palo Alto's existing bicycle facilities are divided into three classes:

1) Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path.
2) Class II bikeways are striped bicycle lanes on roadways that are marked by signage and pavement markings.
3) Class III bikeways are bicycle routes designated only with signs to help guide bicyclists on recommended routes.

Figure 4.14-5 shows the existing and proposed bicycle network for East Palo Alto.

In and near the study area, bicycle lanes exist on:

- University Avenue, south of Highway 101, between Donohoe Street and O'Brien Drive, and between Adams Drive and Bayfront Expressway
- Bay Road, between Ralmar Avenue and Pulgas Avenue
- O'Connor Street, between Clark Avenue and Pulgas Avenue
- Willow Road, between Newbridge Street and Bayfront Expressway

Just north of the City, a bicycle path runs adjacent to Bayfront Expressway. The Bay Trail connects the eastern terminus of Weeks Street to Geng Road and Embarcadero Road in Palo Alto. On other roadways in and around East Palo Alto, cyclists share the road with automobile traffic.

The City's existing bicycle network is relatively modest, even though the bicycle mode share in the City is four times the countywide average (4 percent versus 1 percent). Existing facilities do afford both north-south and east-west bicycle connectivity, but key facility gaps exist. The bicycle lanes on Bay Road, Willow Road, and University Avenue are not continuous, but have gaps in the sections where these roadways cross Highway 101. Other than a bicycle bridge located in Palo Alto, to the south of the City, there are no bicycle facilities available for crossing Highway 101.

Existing and Proposed Bicycle Network

Figure 4.14-5

Source: Nelson\Nygaard Consulting Associates, 2016.

Existing Transit Facilities and Services

There are currently frequent transit options throughout much of East Palo Alto. Transit service in the City is primarily provided by SamTrans. Most commute-hour bus lines serving East Palo Alto operate on 15-minute headways, thus requiring short waits between buses. Paratransit service in the study area is provided by Redi-Wheels. AC Transit's Dumbarton Express buses also pass through the study area, as does the currently disused Dumbarton Rail Corridor.

Figure 4.14-6 shows existing and planned transit service in the City.

Five SamTrans routes have stops within the City limits, including:

- **Route 280** with service to the Stanford Shopping Center, Palo Alto Caltrain Station, and the Ravenswood Shopping Center (one hour headways)
- **Route 281** with service to the Stanford Shopping Center, Palo Alto Caltrain Station, East Palo Alto, and the Onetta Harris Community Center (15-minute peak headways)
- **Route 296** with service to Redwood City, Atherton, and Menlo Park (15-minute peak headways)
- **Route 297** with service to Redwood City and Palo Alto
- **Route 397** with late night service to San Francisco, South San Francisco, San Francisco International Airport, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, and Palo Alto

AC Transit operates two Dumbarton Express routes which do not stop in East Palo Alto, but offer connections between the City of Menlo Park and the Easy Bay (including the Union City BART station), as well as Palo Alto and Stanford University. Both routes only operate during peak commute hours.

The Dumbarton Rail Corridor is owned by the San Mateo County Transit District. As of 2016, the San Mateo County Transportation Authority is considering restoring train service or establishing bus rapid transit service on a four- to five-mile segment of the unused rail corridor between the Redwood City Caltrain Station and Willow Road in Menlo Park, near Facebook's campus. The proximity of existing and proposed high-capacity transit service (such as Caltrain), bus service along El Camino Real, and the potential future service along the Dumbarton Corridor collectively represent an opportunity to improve connectivity between East Palo Alto and regional employment and activity centers.

Existing and Proposed Transit Service

Figure 4.14-6

Source: Nelson\Nygaard Consulting Associates, 2016.

Caltrain provides commuter rail service between San Francisco and Gilroy. East Palo Alto is about four miles northeast of the Palo Alto Caltrain station in downtown Palo Alto. At the Palo Alto station, Caltrain provides service with approximately 15- to 30-minute headways during the weekday commute hours.

4.14.3 THRESHOLDS OF SIGNIFICANCE

A significant impact could occur with respect to traffic and transportation if implementation of the General Plan Update would:

a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit.
b) Conflict with an applicable 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.
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
e) Result in inadequate emergency access.
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Significance Criteria

The determination of significance for project transportation impacts is based on applicable policies, regulations, goals, and guidelines defined by the City of East Palo Alto, San Mateo C/CAG, and state law. To evaluate the transportation impacts of implementing the General Plan Update, each analysis scenario (Existing Conditions, Cumulative without Project Conditions, and Cumulative with Project Conditions) was evaluated to estimate its impacts on automobile delays and bicycle, pedestrian, and transit facilities and services. The detailed transportation impact criteria used to conduct this evaluation are presented below.

Automobile Delay Criteria

To define what constitutes a significant impact regarding motor vehicle delays, this study uses the automobile LOS criteria adopted by the Cities of the East Palo Alto and Menlo Park, and by C/CAG.

East Palo Alto Level of Service Criteria

The City of East Palo Alto assesses motor vehicle delays using a level of service standard of LOS D for intersections. Specifically, a significant automobile delay impact under this LOS D standard would be considered to occur at an intersection if for any peak hour development under the General Plan Update would result in any of the following:

- At a signalized intersection, an impact is considered significant if it:
  - Causes operations to degrade from LOS D (or better) to LOS E or F; or
  - Exacerbates LOS E or F conditions by both increasing critical movement delay by four or more seconds and increasing volume-to-capacity ratio (V/C ratio) by 0.01; or
  - Increases the V/C ratio by > 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable.
- At an unsignalized intersection, an impact is considered significant if it:
  - Causes operations to degrade from LOS D or better to LOS E or F; or
  - Exacerbates LOS E or F conditions by increasing control delay by five or more seconds; and
  - Causes volumes under project conditions to exceed the Caltrans Peak Hour Volume Warrant Criteria.

East Palo Alto's 1999 General Plan also evaluated automobile level of service by calculating V/C ratios based on existing or future ADT volumes and daily capacity values for various types of roadways. The daily capacity values specified in the 1999 General Plan for calculating roadway V/C ratios are 37,500 vehicles for a four-lane divided roadway, 25,000 for a four-lane undivided roadway, and 12,500 for a two-lane undivided roadway. The 1999 General Plan notes that due to the generalized nature of ADT capacities, the values are typically viewed as general rather than absolute guides for estimating level of service and sizing the future roadway system. The City of East Palo Alto's performance criteria for evaluating automobile level of service on the City's roadways using this ADT-based approach is LOS D. Using this approach, on a roadway segment, an impact is considered significant if it causes operations to degrade from LOS D or better to LOS E or F.

Menlo Park Level of Service Criteria

Three of the study intersections are located within the City of Menlo Park. All three are signalized intersections and are located on state routes. The City of Menlo Park has established distinct significance criteria for signalized intersections based on the category of the intersecting streets.

For signalized intersections involving a state route and a city-controlled street (Willow Road [State Route 114]/Newbridge Street), the General Plan Update is said to create a significant impact if for any peak hour:

- The level of service degrades from an acceptable LOS D or better under existing conditions to an unacceptable LOS E or F under existing with project conditions, or the average delay per vehicle increases by more than 23 seconds per vehicle, or
- The level of service is an unacceptable LOS E or F under existing conditions and the addition of project trips causes an increase of more than 0.8 seconds of average delay to vehicles on the critical movement for any local approach.

For signalized intersections involving two state routes (Bayfront Expressway [State Route 84]/ Willow Road [State Route 114], and Bayfront Expressway [State Route 84]/University Avenue [State Route 109]), the General Plan Update is said to create a significant impact if for any peak hour:

- The level of service degrades from an acceptable LOS D or better under existing conditions to an unacceptable LOS E or F under existing with project conditions, or the average delay per vehicle increases by more than 23 seconds per vehicle, or
- The level of service is an unacceptable LOS E or F under existing conditions and the addition of project trips causes an increase in the average control delay at the intersection by four seconds or more.

C/CAG Level of Service Criteria

A significant automobile delay impact would also be considered to occur if the General Plan Update 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 and highways. In San Mateo County a project is considered to have a CMP impact if it causes one or more of the following:

1) CMP Intersection currently in compliance with the adopted LOS standard:

a) A project will be considered to have a CMP impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
b) A project will be considered to have a CMP impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) and the proposed project increases average control delay at the intersection by four (4) seconds or more.

2) CMP Intersection currently not in compliance with the adopted LOS standard: A project is considered to have a CMP impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP. Three of the signalized study intersections are included in or located on the CMP roadway system (Willow Road/Newbridge Street, Willow Road/Bayfront Expressway, and University Avenue/Bayfront Expressway).

The CMP level of service standard for these intersections is LOS E or F. Since these thresholds are less stringent than the standard set forth by the local jurisdiction (the City of Menlo Park), the City of Menlo Park's standards were used to evaluate these intersections.

Automobile Delay Modeling

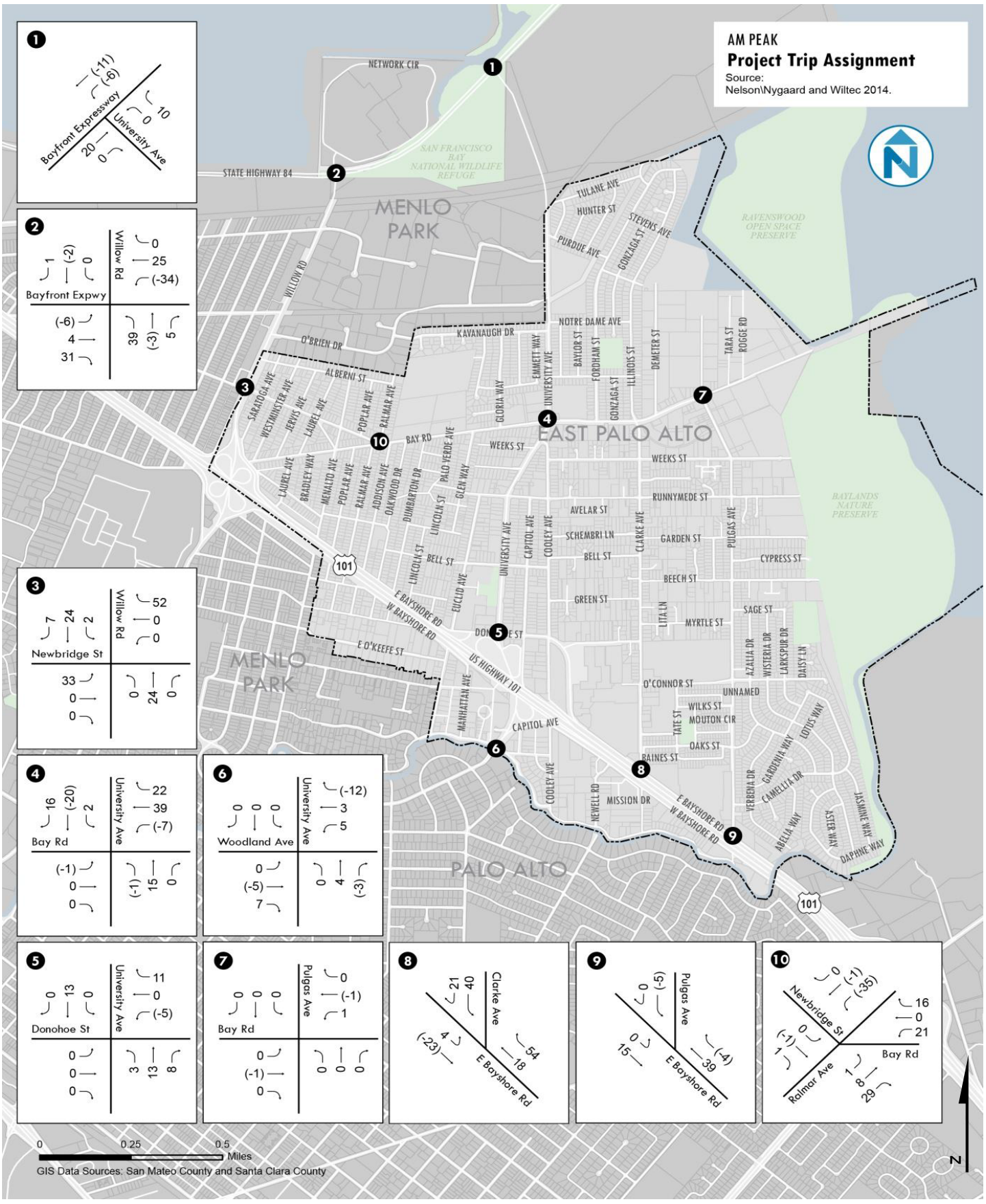
Trip generation refers to the process of estimating the amount of motor vehicle traffic that a project would add to (or subtract from) the surrounding roadway system. Estimates are made of future trips on a daily basis and for the peak one-hour periods during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. The trip generation estimates for the project, as well the trip distribution and assignment forecasts, were developed using the City/County Association of Governments of San Mateo County's (C/CAG's) countywide travel demand model. California's Congestion Management Program legislation requires that C/CAG, as the Congestion Management Agency for San Mateo County, maintain a countywide travel demand model. The model is used to identify the impacts of land use development and project future transportation conditions resulting from land use changes. C/CAG licenses the countywide travel demand model for San Mateo County from the Santa Clara Valley Transportation Authority (VTA). The model is optimized for the counties of Santa Clara and San Mateo and accounts for transportation impacts from neighboring counties and regional commute sheds. The C/CAG VTA Model is a four-step travel demand model implemented in Citilabs Cube Voyager software, and is based on ABAG Plan Bay

Area Projections (P2013) used by the Metropolitan Transportation Commission (MTC). More detailed information on the C/CAG-VTA Model is included in the most recently adopted *San Mateo County Congestion Management Program*.

The traffic forecasts for the General Plan Update were made using the most recent official version of the C/CAG-VTA model, which is based on ABAG Plan Bay Area Projections (P2013) with 2040 as the cumulative year. The more up-to-date 2040 C/CAG model was used (rather than the old 2035 model) because it provides the most accurate representation of expected future growth patterns in the region. The C/CAG-VTA Model was reviewed and appropriate adjustments were made to the network and land uses within the East Palo Alto study area to ensure the model was consistent within the City. A minor localized validation check to compare against the February 2015 traffic counts collected for this study was done. Any residual model error was screened out using the incremental adjustment methods set forth in the Transportation Research Board's *NCHRP Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design*. The existing and projected number of households and jobs in the model for 2013 and 2040 for the Traffic Analysis Zones (TAZs) within the City were reviewed by City and appropriate adjustments made so that the model reasonably reflects existing conditions and projected 2040 Cumulative No Project Scenario conditions.

The model was run to obtain detailed traffic volume estimates for each scenario (Existing Conditions, Cumulative No Project, and Cumulative with Project) for the 10 study intersections for the AM and PM peak one-hour periods, as well as average daily traffic volume estimates for the 10 roadway study segments. The forecasts were adjusted using the incremental adjustment methods based on NCHRP Report 255 for further LOS analysis. The outputs for each scenario also included link-level or segment outputs and vehicle miles traveled (VMT) outputs. Depending on the types and sizes of future projects that are actually developed under the General Plan Update, the actual number of trips generated could be less than the number predicted by the model. Using the C/CAG-VTA Model, project trip distribution patterns were developed and the net peak-hour trips generated by the General Plan Update were assigned to the roadway system. The project trip assignments for the AM and PM peak periods are presented in **Figure 4.14-7** and **Figure 4.14-8**, respectively.

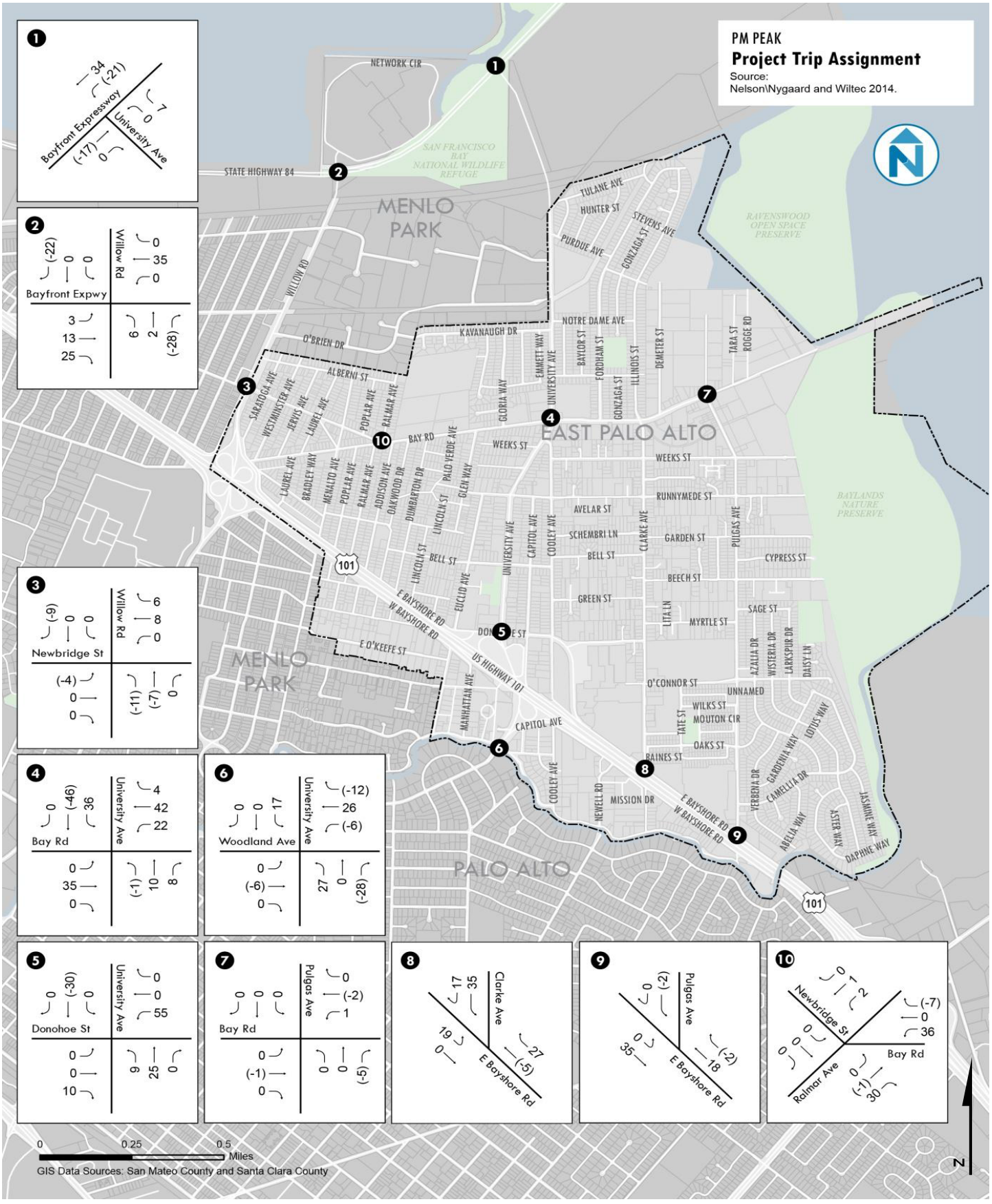
Synchro Version 9 traffic analysis software was used to calculate automobile level of service for the study intersections under Cumulative conditions.



Project Trip Assignment, AM Peak Hour

Figure 4.14-7

Source: Nelson\Nygaard Consulting Associates, 2016.



Project Trip Assignment, PM Peak Hour

Figure 4.14-8

Source: Nelson\Nygaard Consulting Associates, 2016.

Pedestrian and Bicycle Impact Criteria

The City's existing (1999) General Plan describes policies necessary to ensure that pedestrian and bicycle facilities are safe and effective for City residents. Generally, significant impacts to these facilities would occur if a project or an element of a project:

- Creates a hazardous condition that currently does not exist for pedestrians and bicyclists, or otherwise interferes with pedestrian accessibility to the study area and adjoining areas; or
- Conflicts with an existing or planned pedestrian or bicycle facility; or
- Conflicts with policies related to bicycle and pedestrian activity adopted by the City of East Palo Alto.

Transit Impact Criteria

Generally, a project causes a significant impact to transit facilities and services if an element of it conflicts with existing or planned transit services. The evaluation of transit facilities shall consider if:

- A project creates demand for public transit services above the capacity which is provided or planned;
- A project or project-related mitigation disrupts existing transit services or facilities;
- A project or project-related mitigation conflicts with existing or planned transit facility; or
- A project or project-related mitigation conflicts with transit policies adopted by the City of East Palo Alto, SamTrans, or ACTC for their respective facilities in the study area.

4.14.4 ENVIRONMENTAL IMPACTS

Future development allowable under the General Plan Update has the potential to impact circulation and LOS standards. Because the General Plan Update would be implemented over a long-term planning horizon, an assessment of environmental impacts that compares 2040 Cumulative No Project and 2040 Cumulative with Project conditions would more realistically reflect future conditions by including buildout of land uses consistent with the existing (1999) General Plan and the Ravenswood/4 Corners TOD Specific Plan, as well as traffic increases due to regional growth. While comparing 2040 No Project and 2040 with Project results would be an adequate basis for determining potential impacts of the General Plan Update, this impact analysis uses a more conservative approach to establish impacts by

comparing *existing* (2015) traffic conditions with Cumulative with Project 2040 conditions.

While this analysis looks at program-level impacts of the General Plan Update as a whole, future projects that would generate 50 or more peak-hour trips would be required to conduct a traffic study, per a City Council resolution.[2]

a) The General Plan Update would degrade levels of service and/or volume-to-capacity ratios such that they would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system (significant and unavoidable impact).

and

b) The General Plan Update would conflict with an applicable 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, by degrading levels of service and/or volume-to-capacity ratios at five intersections and three roadway segments relative to existing conditions (significant and unavoidable impact).

The General Plan Update contains the following goals and policies regarding LOS standards and transportation performance measures relevant to the following impact discussion. These goals and policies set acceptable standards for LOS and V/C ratios in East Palo Alto and include other transportation performance measures, as well as reducing transportation demand and adopting a transportation impact fee for new development.

Transportation Element Goal T-7. Adopt transportation performance measures.

- *Policy 7.1, Automobile Level of Service Standards.* Improve the East Palo Alto circulation system roadways in concert with land development to maintain adequate levels of service for automobile travel. Automobile Level of Service (LOS) performance can be measured using a volume-to-capacity (V/C) ratio. V/C ratios are calculated based on existing or future average daily traffic (ADT) volumes and daily capacity values for various types of roadways. A level of service scale is used to evaluate roadway performance based on V/C ratios. These levels range from "A" to "F", with LOS A representing free flow conditions and LOS F representing severe traffic congestion. Descriptions of traffic flow for the different levels of service are provided in Table 6-4 Standards for Roadway

[2] Butler, Brent. Planning and Housing Manager, City of East Palo Alto. Personal communication. March 2016.

Levels of Service. The performance criteria for evaluating volumes and capacities of the East Palo Alto roadway system is LOS D. At a signalized intersection, an impact is considered significant if it causes operations to degrade from LOS D or better to LOS E or F; or exacerbates LOS E or F conditions by increasing critical delay by >4 seconds and increasing volume to capacity ratio (V/C ratio) by 0.01; or increases the V/C ratio by > 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable. At an unsignalized intersection, an impact is considered significant if it: causes operations to degrade from LOS D or better to LOS E or F; or exacerbates LOS E or F conditions by increasing control delay; or causes volumes under project conditions to exceed the Caltrans Peak Hour Volume Warrant Criteria. Where the City determines that proposed development projects will cause LOS standards to be exceeded, appropriate mitigation will be required to improve roadways to meet LOS standards.

- *Policy 7.2, Updating Transportation Performance Measures.* Update the transportation performance measures in this Transportation Element, including Automobile Level of Service standards, once the state of California has amended the California Environmental Quality Act Guidelines to implement Senate Bill 743's requirement to provide an alternative to automobile Level of Service for evaluating transportation impacts (see California Public Resources Code Section 21099(b)(1)). Additionally, designate appropriate infill opportunity zones within East Palo Alto, within which the automobile Level of Service standards prescribed by California Government Code Section 65089 shall not apply. (See Government Code Sections 65088.1 and 65088.4.)
- *Policy 7.3, Multimodal transportation impact fee.* Adopt a transportation impact fee for new development that raises funds for improving all modes of transportation.

Transportation Element Goal T-8. Adopt transportation demand management and roadway system efficiency strategies.

- *Policy 8.1, Transportation Demand Management (TDM).* Promote effective TDM programs to reduce travel demand from existing and new development, shifting trips to alternative modes. Adopt a TDM ordinance to establish effective requirements that reduce travel demand from existing and new development. Require projects to implement TDM programs.
- *Policy 8.2, Avoidance of street widening.* When feasible, avoid widening streets to increase automobile capacity, focusing instead on operational improvements such as signal timing optimization, modern roundabouts and other Transportation Systems Management (TSM) strategies that aim to improve

traffic conditions and reduce cut-through traffic by maximizing the efficiency of existing vehicle infrastructure.

Intersection Impacts

Table 4.14-6 compares existing LOS conditions with the results of the LOS analysis at study intersections for the Cumulative No Project and Cumulative with Project scenarios. The table presents the LOS standard for each intersection, the calculated LOS of each intersection for both the AM and PM peak periods, and the average intersection delay.

Comparison of Cumulative No Project and Cumulative with Project

As shown in **Table 4.14-6**, under Cumulative No Project conditions, the following study intersections are projected to operate at levels of service that do not meet their designated LOS standards during at least one peak hour:

- University Avenue and Bayfront Expressway, in Menlo Park (PM)
- Willow Road and Bayfront Expressway, in Menlo Park (AM and PM)
- University Avenue and Donohoe Street, in East Palo Alto (PM)
- University Avenue and Woodland Avenue, in East Palo Alto (AM)
- East Bayshore Road and Pulgas Avenue, in East Palo Alto (PM)
- Bay Road and Newbridge Street, in East Palo Alto (AM and PM)

Hence, six of the study intersections are projected to operate at an unacceptable LOS for at least one peak hour in 2040 without the General Plan Update. These intersections would continue to operate at an unacceptable LOS with adoption and implementation of the General Plan Update. As such, adoption and implementation of the General Plan Update would not be responsible for these particular intersections failing to meet their designated LOS.

Traffic generated by development allowed under the General Plan Update would degrade LOS for one peak hour at two intersections relative to Cumulative No Project conditions. Under Cumulative with Project conditions, relative to Cumulative No Project conditions, significant automobile delay impacts are projected to occur at the following study intersections:

- University Avenue and Bay Road (PM)
- University Avenue and Donohoe Street (AM)

Table 4.14-6 Cumulative Peak Hour Intersection Levels of Service with and without the General Plan Update

Intersection	LOS Standard	Peak Hour	Existing Conditions		Cumulative No Project		Cumulative with Project	
			LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)
University Avenue & Bayfront Expressway	D	AM	B	19	C	30	C	30
		PM	**F**	**157**	***F***	***235***	***F***	***233***
Willow Road & Bayfront Expressway	D	AM	C	28	***E***	***62***	***E***	***65***
		PM	**F**	**99**	***F***	***159***	***F***	***145***
Willow Road & Newbridge Street	D	AM	C	33	C	34	C	35
		PM	C	31	C	33	C	33
University Avenue & Bay Road	D	AM	D	37	D	45	D	46
		PM	D	40	D	53	***E***	***63***
University Avenue & Donohoe Street	D	AM	**E**	**77**	D	46	**E**	**60**
		PM	**F**	**121**	**F**	**123**	**F**	**121**
University Avenue & Woodland Avenue	D	AM	D	40	***E***	***56***	***E***	***55***
		PM	D	39	D	39	D	41
Bay Road & Pulgas Avenue (all way stop)	D	AM	A	5	B	15	B	15
		PM	C	18	C	21	C	20
E. Bayshore Road & Clarke Avenue	D	AM	B	12	B	14	B	18
		PM	B	10	B	18	C	21
E. Bayshore Road & Pulgas Avenue	D	AM	B	18	C	33	D	37
		PM	**E**	**70**	**E**	**61**	**E**	**63**
Bay Road & Newbridge Street (all way stop)	D	AM	C	16	***E***	***38***	***E***	***39***
		PM	B	12	***E***	***37***	***E***	***38***

Note: Values in **bold** denote an unacceptable LOS (i.e., failure to meet designated LOS standards).
Values in ***italics*** represent a significant degradation in LOS relative to existing conditions based on the most stringent LOS standards.

Source: Nelson\Nygaard Consulting Associates, Inc., Transportation Impact Analysis, February 2016

University Avenue and Bay Road: This intersection is projected to operate at acceptable levels of service during both the AM and PM peak hours under Cumulative No Project conditions. The addition of project-generated traffic is expected to cause the PM peak hour level of service to change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

University Avenue and Donohoe Street: Under Cumulative No Project Conditions, this intersection is projected to operate at acceptable levels of service (LOS D) during the AM peak hour and at LOS F during the PM peak hour. The addition of project-generated traffic is expected to cause the AM peak hour level of service to change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Comparison of Existing Conditions with Cumulative with Project

As discussed above, while the above comparison of the Cumulative No Project and Cumulative with Project scenarios realistically reflects future conditions, this impact analysis takes a more conservative approach, comparing existing (2015) traffic conditions with Cumulative with Project conditions.

Under existing 2015 conditions, four intersections operate at an unacceptable LOS of E or F for at least one peak hour:

- University Avenue and Bayfront Expressway (PM)
- Willow Road and Bayfront Expressway (PM)
- University Avenue and Donohoe Street (AM and PM)
- East Bayshore Road and Pulgas Avenue (PM)

Under Cumulative with Project conditions, seven intersections would operate at an unacceptable LOS of E or F, five of which would degrade significantly with implementation of the General Plan Update based on the more stringent standards set by the Cities of East Palo Alto and Menlo Park. These seven intersections are listed as follows, with the five intersections experiencing a significant degradation in LOS denoted with an asterisk (*):

- *University Avenue and Bayfront Expressway (PM)
- *Willow Road and Bayfront Expressway (AM and PM)
- *University Avenue and Bay Road (PM)
- University Avenue and Donohoe Street (AM and PM)
- *University Avenue and Woodland Avenue (AM)
- East Bayshore Road and Pulgas Avenue (PM)
- *Bay Road and Newbridge Street (AM and PM)

University Avenue and Bayfront Expressway: Under existing conditions, this intersection operates at an acceptable LOS B during the AM peak hour and at an unacceptable LOS F during the PM peak hour. The addition of cumulative and project-generated traffic would be expected to cause the AM peak hour level of service to change from LOS B to LOS C, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the PM peak hour, level of service would remain at LOS F and delay would increase by 76 seconds. This constitutes a significant impact according to the thresholds established by the Cities of East Palo Alto and Menlo Park.

Willow Road and Bayfront Expressway: Under existing conditions, this intersection operates at an acceptable LOS C during the AM peak hour and at an unacceptable LOS F during the PM peak hour. The addition of cumulative and project-generated traffic would be expected to cause the AM peak hour level of service to change from LOS C to LOS E and the PM peak hour level of service to remain at LOS F and delay to increase by 46 seconds. This constitutes a significant impact according to the thresholds established by the Cities of East Palo Alto and Menlo Park.

University Avenue and Bay Road: Under existing conditions, this intersection operates at an acceptable LOS D during the AM and PM peak hours. During the AM peak hour, the level of service would be expected to remain at LOS D with the addition of cumulative and project-generated traffic, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the PM peak hour, level of service would change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

University Avenue and Donohoe Street: Under existing conditions, this intersection operates at an unacceptable LOS E during the AM peak hour and an unacceptable LOS F during the PM peak hour. The addition of cumulative and project-generated traffic would not change level of service for the AM or PM peak hour at this intersection; as such, both hours would continue to operate at unacceptable levels of service. This would not constitute a significant impact resulting from the General Plan Update.

University Avenue and Woodland Avenue: Under existing conditions, this intersection operates at an acceptable LOS D during the AM and PM peak hours. During the PM peak hour, the level of service would be expected to remain at LOS D with the addition of cumulative and project-generated traffic, which does not constitute a significant impact according to the City of East Palo Alto's thresholds. However, during the AM peak hour, level of service would change from LOS D to

LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

East Bayshore Road and Pulgas Avenue: Under existing conditions, this intersection operates at an acceptable LOS B during the AM peak hour and an unacceptable LOS E during the PM peak hour. The addition of cumulative and project-generated traffic would change level of service for the AM peak hour to LOS D; during the PM peak hour, the intersection would continue to experience LOS E. This would not constitute a significant impact resulting from the General Plan Update.

Bay Road and Newbridge Street: Under existing conditions, this intersection operates at an acceptable LOS C during the AM peak hour and an acceptable LOS B during the PM peak hour. The addition of cumulative and project-generated traffic would change level of service for both the AM or PM peak hours at this intersection to an unacceptable LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Roadway Segment Impacts

To supplement the intersection LOS analysis presented above, automobile LOS was also evaluated by calculating V/C ratios for 10 roadway study segments. The V/C ratios were calculated based on existing or future ADT volumes and daily capacity values for various types of roadways. The results of this analysis for the Existing Conditions scenario are summarized above in **Table 4.14-4**. The results for the Cumulative No Project and Cumulative with Project scenarios are summarized in **Table 4.14-7** below. While this ADT-based methodology is a considerably rougher, "sketch level" method of estimating automobile level of service, it was included in this analysis because East Palo Alto's 1999 General Plan EIR evaluated level of service using this methodology. The 1999 General Plan notes that "due to the generalized nature of ADT capacities, the values are typically viewed as general rather than absolute guides for estimating level of service and sizing the future roadway system." The City of East Palo Alto's performance criteria for evaluating automobile level of service on the City's roadways using this ADT-based approach is LOS D. When using this ADT-based approach to automobile level of service analysis, a significant transportation impact results if development allowed by the General Plan Update would:

- Cause a roadway operating at LOS D or better to operate at LOS E or F
- Cause a substantial increase in traffic on a roadway already projected to operate at LOS E or F

Table 4.14-7 Roadway Segment Analysis

Street Segment	Existing Conditions			Cumulative No Project			Cumulative with Project		
	Two-way ADT	V/C Ratio	LOS	Two-way ADT	V/C Ratio	LOS	Two-way ADT	V/C Ratio	LOS
Bay Road between Gloria Way & University Avenue	8,410	0.67	B	10,055	0.80	C	10,224	0.82	D
University Avenue between Michigan Avenue & Bay Road	25,610	0.68	B	***36,316***	***0.97***	***E***	***37,832***	***1.01***	***F***
Runnymede Street between Cooley Avenue & Clarke Ave	3,410	0.27	A	4,273	0.34	A	4,536	0.36	A
Euclid Avenue between Bell Street Park Place & Donohoe Street	3,498	0.28	A	4,976	0.40	A	5,124	0.41	A
Clarke Avenue between Donohoe Street & O'Connor Street	7,231	0.58	A	10,743	0.86	D	10,443	0.84	D
Pulgas Avenue between Myrtle Street & O'Connor Street	7,137	0.57	A	7,764	0.62	B	7,884	0.63	B
Donohoe Street between University Avenue & Capitol Avenue	**34,120**	**0.91**	**E**	***36,957***	***0.99***	***E***	***37,448***	***1.00***	***E***
East Bayshore Road between Glen Way & Euclid Avenue	10,218	0.82	D	10,218	0.82	D	10,218	0.82	D
East Bayshore Road between Clarke Avenue & Pulgas Avenue	9,444	0.76	C	***14,107***	***1.13***	***F***	***13,975***	***1.12***	***F***
West Bayshore Road between Cooley Avenue & Newell Road	4,780	0.38	A	5,598	0.45	A	5,516	0.44	A

Note: Values in **bold** denote an unacceptable LOS (i.e., failure to meet designated LOS standards).
Values in ***italics*** represent a significant degradation in LOS relative to existing conditions based on the most stringent LOS standards.

Source: Nelson\Nygaard Consulting Associates, Inc., Transportation Impact Analysis, February 2016

Comparison of Cumulative No Project and Cumulative with Project

Cumulative with Project conditions were evaluated relative to Cumulative No Project conditions to provide a realistic discussion of future conditions. However, the impact analysis uses a comparison of existing conditions with Cumulative with Project conditions, discussed below. Under Cumulative with Project conditions, relative to Cumulative No Project conditions, significant automobile delay impacts are projected to occur on the following roadway study segments:

- University Avenue between Michigan Avenue and Bay Road
- Donohoe Street between University Avenue and Capitol Avenue

University Avenue between Michigan Avenue and Bay Road: This roadway segment is projected to operate at LOS E under Cumulative No Project conditions. The addition of project-generated traffic is expected to cause the level of service to change from LOS E to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Donohoe Street between University Avenue and Capitol Avenue: Under Cumulative No Project Conditions, this roadway segment is projected to operate at LOS E. The addition of project-generated traffic is expected to cause the V/C ratio to change from 0.99 to 1.00, with the roadway segment continuing to operate at LOS E. This increase in the V/C ratio could be considered a "substantial increase in traffic on a roadway already projected to operate at LOS E or F." This could be considered to constitute a significant impact according to the thresholds established by the City of East Palo Alto.

Comparison of Existing Conditions with Cumulative with Project

Under existing conditions, one roadway segment operates at an unacceptable LOS E:

- Donohoe Street between University Avenue and Capitol Avenue

Under Cumulative with Project conditions, three roadway segments would be expected to operate at an unacceptable LOS of E or F, all of which would degrade significantly with implementation of the General Plan Update based on the more stringent standards set by the Cities of East Palo Alto and Menlo Park.

- University Avenue between Michigan Avenue and Bay Road
- Donohoe Street between University Avenue and Capitol Avenue
- East Bayshore Road between Clarke Avenue and Pulgas Avenue

University Avenue between Michigan Avenue and Bay Road: This roadway segment operates at LOS B under existing conditions. The addition of cumulative and project-generated traffic would be expected to cause the level of service to change from LOS B to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Donohoe Street between University Avenue and Capitol Avenue: Under existing conditions, this roadway segment operates at LOS E. The addition of cumulative and project-generated traffic would be expected to cause the V/C ratio to change from 0.91 to 1.00, with the roadway segment continuing to operate at LOS E. This increase in the V/C ratio could be considered a "substantial increase in traffic on a roadway already projected to operate at LOS E or F." This could be considered to constitute a significant impact according to the thresholds established by the City of East Palo Alto.

East Bayshore Road between Clarke Avenue and Pulgas Avenue: This roadway segment operates at LOS C under existing conditions. The addition of cumulative and project-generated traffic would be expected to cause the level of service to change from LOS C to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Feasibility of Mitigation

This section presents mitigation measures for identified project impacts. Mitigation measures are also included as policies and/or implementation actions in the General Plan Update. East Palo Alto intends to adopt a multimodal transportation impact fee, as required by General Plan Transportation Element Policy 7.3. Proceeds from the fee would be used to fund the pedestrian, bicycle, transit, and TDM facilities and services outlined in the General Plan Update, in order to support future development within the City. The impact fee would be used to fund improvements as they become warranted based on the development pattern that occurs in the City.

Fully mitigating traffic impacts under cumulative conditions associated with implementation of the General Plan Update at the affected intersections and roadway segments, discussed above, would require adding through lanes or additional lanes. City staff would continue to review opportunities to add capacity as individual projects were reviewed. However, because such improvements would entail extensive right-of-way acquisition and roadway widening (which Policy 8.2 in the General Plan Update's Transportation Element seeks to avoid), the City considers mitigation in this manner to be infeasible at this time.

Improvements to pedestrian, bicycle, and transit facilities would help offset traffic congestion impacts from the General Plan Update. Broadening opportunities for non-motorized travel would help balance transportation choices and enhance mobility and connectivity, reduce automobile traffic and associated problems, and help create a more healthy and livable community. Further, development of retail in underserved parts of the City could also reduce vehicle trips or VMT in some areas.

Building and operating the pedestrian, bicycle, and transit facilities and services outlined in the General Plan Update and in the Ravenswood/4 Corners Specific Plan, and implementing the TDM policies in those plans, may cause a reduction in the vehicle trips generated by buildout under the General Plan Update. Implementation of some transit facilities and services, such as building and operating a new high-capacity transit service on the Dumbarton Rail Corridor, would require additional funding from outside agencies, and coordination with and approval by other jurisdictions, such as the San Mateo County Transportation Authority and the San Mateo County Transit District.

Because implementation of some transit facilities and services would require additional funding from outside agencies and the approval of outside agencies and the City cannot guarantee they would be implemented, and because the effects of the pedestrian, bicycle, transit, and TDM measures on vehicle trips are uncertain, the impact would be considered to be significant and unavoidable.

c) The General Plan Update 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 (less-than-significant impact).

Development allowed under the General Plan Update would not change air traffic patterns, increase air traffic levels, or result in a change in location that results in substantial safety risks. While the Palo Alto Airport is located within 2 miles southeast of East Palo Alto, any development projects occurring within airport safety zones set forth in the Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan (CLUP) would comply with regulations to ensure that future surrounding land uses are compatible with the operation of the airport. As such, this impact would be less than significant.

d) The General Plan Update would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (less-than-significant impact).

A number of roadway and intersection changes have been planned, as part of previous planning efforts, to accommodate the buildout of the Ravenswood/4

Corners TOD Specific Plan and other already-approved projects within the study area. These roadway network changes are summarized below, none of which created additional roadway hazards in their design:

- Willow Road and Bayfront Expressway
  - Northbound shared left/through lane converted to left turn only lane
  - Added a third northbound right turn only lane
- University Avenue and Bay Road
  - Added a northbound right turn only lane
  - Added a second westbound left turn only lane
- University Avenue and Donohoe Street
  - Added a southbound right turn only lane
  - Westbound approach converted to include dual left turn only lanes, one through lane, and one right turn only lane
- Pulgas Avenue and Bay Road
  - Converted from all-way stop control to a signalized intersection
- New "Loop" Road
  - New "Loop" Road constructed, with the new road extending northward from the current termination point of Demeter Street, turning west at a point just south of the Dumbarton Rail Line, and connecting with University Avenue near the East Palo Alto city limits[3]

These changes to the roadway network are assumed to occur under both the Cumulative No Project and Cumulative with Project scenarios. Like the roadway improvements listed above, the General Plan Update also would not substantially increase hazards due to a design feature or incompatible uses and the impact would be less than significant.

e) The General Plan Update would not result in inadequate emergency access (less-than-significant).

The General Plan Update contains the following goals and policies to ensure safe and efficient circulation and better incorporate an emergency vehicle access into its transportation network:

Transportation Element Goal T-1. Improve safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements.

[3] The City also investigated a scenario assuming that Loop Road would not be constructed. This analysis is included in **Appendix E1**.

- *Policy 1.5, Coordination with public safety.* Ensure that the Menlo Park Fire Protection District (MPFPD) and the City's Police Department review construction plans for roadway modifications, internal circulation, and establish, if needed, temporary alternative emergency routes to be used the duration of any construction project. During design review, ensure that roads and driveways are established that meet applicable code requirements for emergency access, potentially including signal preemption mechanisms. Ensure that the MPFPD reviews related building plans for compliance with the Fire Code and establishes a future inspection schedule for continued compliance. Continue the existing practice of informing the MPFPD and the Police Department of projects and proactively engaging with the MPFPD and the Police Department through the Development Review Committee (DRC) and the plan check process.

Implementation Element.

- Infrastructure, Services, and Facilities Programs/Public Safety Programs/Public Safety.
  7) *Signal pre-emption for emergency response.* Install traffic signal pre-emption technology for police/emergency vehicles.

Adherence to the above goals and policies would ensure that any impacts to emergency access would be less than significant.

f) The General Plan Update would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (less-than-significant impact).

Project impacts on bicycle, pedestrian and transit facilities and services were determined on the basis of engineering judgment. To conduct this evaluation, the significance criteria for bicycle, pedestrian, and transit impacts established by applicable policies, regulations, goals, and guidelines of the City of East Palo Alto, the City of Menlo Park, and C/CAG were reviewed. Engineering judgment was then applied to determine the impacts of each scenario, given these significance criteria.

Pedestrian Impacts

Development allowed under the General Plan Update would increase the City's population and can therefore be expected to increase the number of pedestrians in various parts of the City. With new developments, construction or upgrading of pedestrian facilities would be required and would enhance the overall pedestrian network. However, increased vehicle trips due to new development could make crossing streets (e.g., at uncontrolled intersections) more difficult. Pedestrian

crossing times and/or exposure at signalized intersections would not be expected to change substantially due to implementation of the General Plan Update since no new roadway or intersection widenings are proposed. Implementing the following policies regarding pedestrians set forth in the proposed General Plan would complete the City's pedestrian network and substantially improve conditions for walking.

Transportation Element Goal T-1. Improve safety through the design and maintenance of sidewalks, streets, intersections, and other roadway improvements.

- *Policy 1.1, Vision Zero.* Eliminate traffic fatalities and reduce the number of non-fatal injury collisions by 50% by 2030.
- *Policy 1.2, Traffic calming.* Implement traffic-calming and traffic-slowing measures on roads and at intersections with a high level of existing or planned pedestrian and non-motorized vehicle activity and/or collisions.
- *Policy 1.3, Safe Routes to Schools.* Actively promote safety around schools, pursue funding to implement physical education programs around traffic safety (such as "walking school buses," walking audits, bike rodeos, classroom instruction, and promotional events).
- *Policy 1.4, ADA-compliant Sidewalks.* Ensure sidewalks are ADA compliant and free of blockage resulting from parked vehicles or other obstructions.

Transportation Element Goal T-2. Foster the creation of complete, multimodal streets.

- *Policy 2.6, Pedestrian and bicycle crossings.* Encourage pedestrian and bicycle crossings at key locations and across existing barriers such as Highway 101 and to local employment and schools, such as Bay Road.

Transportation Element Goal T-3. Create a complete, safe, and comfortable pedestrian network for people of all ages and abilities.

- *Policy 3.3, Pedestrian network.* Create a safe, comfortable, and convenient pedestrian network that focuses on a) safe travel; b) improving connections between neighborhoods and commercial areas, and across existing barriers; c) providing places to sit or gather, pedestrian-scaled street lighting, and buffers from moving vehicle traffic; and d) includes amenities that attract people of all ages and abilities.
- *Policy 3.4, Pedestrian and bicycling education, encouragement, and awareness.* Actively engage the community in promoting walking and bicycling through education, encouragement (such as Bike to Work Day, Walk to Work Day, and Bike/Walk to School days and programs), and outreach on improvement projects and programs.

- *Policy 3.5, Coordination with neighboring jurisdictions.* Coordinate pedestrian and bicycle improvements with the plans of neighboring jurisdictions and the region.

Transportation Element Goal T-5. Support local and regional transit that is efficient, frequent, convenient, and safe.

- *Policy 5.4, Access to transit.* Provide connecting bicycle and pedestrian infrastructure and amenities to improve access to transit stations and stops, and encourage new development projects near transit to improve transit stop amenities.

As described above, East Palo Alto intends to adopt a multimodal transportation impact fee, as required by General Plan Transportation Element Policy 7.3, to fund these pedestrian improvements. Based on the above considerations, adoption and implementation of the General Plan Update would have a less-than-significant impact on the pedestrian network.

Bicycle Impacts

Development allowed under the General Plan Update would increase the City's population and can therefore be expected to increase the number of bicyclists in various parts of the City. With new developments, construction or upgrading of bicycle facilities would be required and would enhance the overall bicycle network. However, increased vehicle trips due to new development may make riding along and crossing streets more difficult. Bicycle crossing times and/or exposure at signalized intersections are not expected to change substantially due to the project since no new roadway or intersection widenings are proposed. Implementing the policies regarding pedestrians set forth in the General Plan Update, described above, in addition to the following General Plan Update goals and policies, would complete the City's bicycle network and substantially improve conditions for cyclists.

Transportation Element Goal T-4. Build a comprehensive and well-used bicycle network that comfortably accommodates bicyclists of all ages and skill-levels.

- *Policy 4.1, Bicycle network.* Improve facilities and eliminate gaps along the bicycle network to connect destinations across the city and create a network of bicycle facilities of multiple types that connect to neighboring cities, including a path along Newell Road between Highway 101 and San Francisquito Creek. The network should facilitate bicycling for commuting, school, shopping, and recreational trips by riders of all ages and levels of experience.

- *Policy 4.2, Bicycle Transportation Plan.* Utilize the City's Bicycle Transportation Plan to help guide the location and timing for bicycle improvements.
- *Policy 4.3, Wayfinding.* Increase the convenience of walking and bicycling by supporting the phased implementation of a comprehensive citywide, consistent bicycle and pedestrian wayfinding system connecting major destinations.
- *Policy 4.4, Bicycle safety.* Support bicycle education, encouragement, and enforcement activities that promote bicycle safety.
- *Policy 4.5, Public bicycle parking.* Increase the amount of safe and convenient short- and long-term bicycle parking and storage available to the public throughout the city.
- *Policy 4.6, Bicycle parking standards.* Require large public and private development projects to provide sufficient bicycle parking, shower and locker facilities.
- *Policy 4.7, Bikeshare.* Support the expansion of the regional bike share pilot program, helping to identify appropriate locations for system expansion within East Palo Alto.
- *Policy 4.8, San Francisco Bay Trail.* Support the completion of the San Francisco Bay Trail, including relevant portions within East Palo Alto.

As described above, East Palo Alto intends to adopt a multimodal transportation impact fee, as required by General Plan Transportation Element Policy 7.3, to fund these bicycle improvements. Development allowed by the General Plan Update would also adhere to the City's Bike Plan. Based on the above considerations, adoption and implementation of the General Plan Update would have a less-than-significant impact to the bicycle network.

Transit Impacts

Development allowed under the General Plan Update would increase the City's population of residents and employees and could therefore be expected to increase overall transit demand. This increase would include both demand for bus transit in the City and demand for rail transit (Caltrain) at the Palo Alto Station. Both SamTrans and Caltrain are improving service and plan to provide sufficient facilities and services to accommodate this modest increase in ridership. However, traffic delays on streets with bus service may affect service efficiency. SamTrans may experience impacts during the peak hour on the following routes:

- Route 281, 297, and 397 may experience increased delays on University Avenue
- Route 296 may experience increased delays on University Avenue and Donohoe Street

Implementing the policies regarding transit set forth in the General Plan Update, such as advanced traffic control measures to provide transit vehicles with priority at traffic signals on transit network streets, should allow buses to maintain schedules and provide necessary service. These policies include the following:

Transportation Element Goal T-5. Support local and regional transit that is efficient, frequent, convenient, and safe.

- *Policy 5.1, Dumbarton rail service.* Support ongoing regional efforts to reintroduce passenger rail service along the Dumbarton corridor and support multimodal access improvements to future rail station(s).
- *Policy 5.2, Coordination with transit agencies.* Support ongoing regional efforts to reintroduce passenger rail service along the Dumbarton corridor and support multimodal access improvements to future rail station(s).
- *Policy 5.3, Transit priority.* Ensure transit vehicles retain priority over other vehicles along transit network streets, prioritizing transit speed and schedule reliability.
- *Policy 5.4, Access to transit.* Provide connecting bicycle and pedestrian infrastructure and amenities to improve access to transit stations and stops, and encourage new development projects near transit to improve transit stop amenities.
- *Policy 5.5, Transit stops.* Support the installation of transit stop amenities, including shelters, benches, real-time information panels, lighting, bike parking, bike sharing stations, etc.
- *Policy 5.6, Local transportation services.* Create or partner with transit providers, employers, educational institutions, major commercial entities and event organizers to improve local transportation services, including developing discount transit pass programs for groups such as students.

Based on the above considerations, adoption and implementation of the General Plan Update would have a less-than-significant impact to the transit network.

4.14.5 CONCLUSION

Development allowed by the General Plan Update would have significant and unavoidable impacts at five intersections and three roadway segments such that it would degrade LOS to unacceptable levels based on the performance thresholds established by the Cities of East Palo Alto and Menlo Park. Impacts related to air traffic patterns, increased hazards resulting from design features, emergency access, and public transit, bicycle, and pedestrian facilities would be less than significant.

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4.15 UTILITIES AND SERVICE SYSTEMS

This section describes the existing wastewater, water supply, stormwater, and solid waste services in the City of East Palo Alto and evaluates whether adoption and implementation of the General Plan Update would have significant impacts on such services.

4.15.1 REGULATORY REQUIREMENTS

Wastewater

Federal

Biosolids Disposal Requirements

The Code of Federal Regulations (CFR) contains standards for the use or disposal of sewage sludge (40 CFR Part 503) regulating the treatment, reuse and disposal of solid residues from wastewater treatment (i.e., biosolids). After treatment, these can be made into fertilizer, incinerated, or buried in a Dedicated Land Disposal (DLD) site. Some of the biosolids produced in East Palo Alto are sent to a DLD.

State

California Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). Each are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems.

The RWQCBs' regulatory role involves the formation and implementation of basic policies for water protection. These are reflected in the San Francisco Bay (Region 2) RWQCB's Basin Plan in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB provides overall policy direction, organizational and technical assistance, and a communications link to the state legislature. Information on the role of the RWQCBs and permits for wastewater discharge is contained in **Section 4.8, Hydrology and Water Quality**.

Water

A number of federal and state agencies manage and regulate water resources for the City of East Palo Alto with the intention of safeguarding these resources for a variety of beneficial uses.

Federal and State Water Quality and Supply Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA; 42 USC Section 300f et seq.), passed in 1974, is the initial federal legislation passed to ensure the quality of drinking water. The law was amended in 1986 and 1996, and requires many actions to protect drinking water and its sources, such as rivers, lakes, reservoirs, springs, and groundwater wells.[1]

Under SDWA, the U.S. Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the water suppliers that implement those standards. Regulatory standards established by the SDWA include maximum allowable levels of chemicals and other substances in drinking water, protocols for monitoring drinking water quality and methods for treating drinking water.

California Safe Drinking Water Act

In 1976, California enacted its own Safe Drinking Water Act (Health and Safety Code Section 116270 et seq.), granting the California Department of Health Services (CDHS) primary enforcement responsibility. In 1989, the California Legislature passed Assembly Bill (AB) 21 (Sher, Chapter 823, Statutes of 1989), which amended California's Safe Drinking Water Act. The law requires the California Department of Public Health (CDPH) to regulate drinking water by:

- Setting and enforcing federal and state drinking water standards;
- Administering water quality testing programs; and
- Administering permits for public water system operations.

The standards established by CDPH are found in the California Code of Regulations, Title 22.

[1] U. S. Environmental Protection Agency. Drinking Water Contaminants – Standards and Regulations. Accessed on January 29, 2016. Retrieved from http://www.epa.gov/dwstandardsregulations.

California State Water Resources Control Board

The SWRCB and the nine RWQCBs have the authority in California to protect and enhance water quality. The RWQCB Region 2 office in Oakland regulates water quality for all waters that flow into the San Francisco Bay, which includes all rivers, streams, and tributaries within the nine-county San Francisco Bay region. The RWQCB establishes water quality objectives, administers the National Pollutant Discharge Elimination System (NPDES) permit program for stormwater and construction site runoff, and regulates infill of jurisdictional wetlands or waters of the United States under Section 404 of the Clean Water Act (CWA).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Water Code Section 13000 et seq.) requires the state to adopt water quality policies, plans, and objectives to protect the state's waters for the use and enjoyment of the people. The Act states that the SWRCB and RWQCBs must adopt and periodically update water quality control plans to establish water quality objectives and implementation programs for each of the nine regions in California. East Palo Alto falls under the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin.[2] The Act also requires waste dischargers to notify the RWQCBs of their activities via Reports of Waste Discharge. It authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, and other approvals.

Water Quality Control Plan for the San Francisco Bay Basin

The RWQCB Region 2 office regulates water quality in the San Francisco Bay Basin in accordance with the Basin Plan.[3] The Basin Plan presents the beneficial uses that the Regional Board has identified for surface water, groundwater, marshes, and mudflats, as well as the water-quality objectives and criteria that must be met to protect these uses. The Basin Plan identifies several beneficial uses for San Francisquito Creek and its tributaries. These beneficial uses for include cold and warm freshwater habitat, fish migration, and fish spawning.

[2] California Regional Water Quality Control Board (RWQCB). 2007. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). Figure 1-1.

[3] California Regional Water Quality Control Board (RWQCB). 2007. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).

Urban Water Management Planning Act

Through the Urban Water Management Act of 1983 (California Water Code Section 10610 et seq.), the California Water Code requires all urban water suppliers within California that either have 3,000 or more customers or provide over 3,000 acre-feet (AF) of water annually to prepare and adopt an UWMP and update it every five years. The Act is intended to support conservation and efficient use of urban water supplies at the local level. The Act requires that UWMPs describe the suppliers' service area, water use by customer class, water supply and demand, water service reliability and shortage response options over a 20-year planning horizon in five-year increments, water transfer and exchange opportunities, water recycling efforts, and conservation measures.[4]

The City of East Palo Alto's 2010 UWMP, adopted on June 21, 2011 and amended on April 2, 2013, describes water supply sources, historical and projected water use, and existing water supply and demand within the city boundary.5 It fulfills the requirements of the California Urban Water Management Planning Act.

Water Supply Assessment

Under SB 610, Water Code Section 10910(a) states that projects, as defined in Section 10912, subject to CEQA are required to prepare a Water Supply Assessment (WSA). A "project" under Section 10912 includes "a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-unit dwelling project." SB 221 requires an affirmative written verification of sufficient water supply for residential subdivisions including more than 500 dwelling units.[6] The basic requirement of WSAs is that they include a discussion of whether projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected demand of existing and planned future uses, plus the demand of the proposed project.

Technically, the General Plan Update is not a development project, but rather provides the framework for future development within the City. Therefore, the requirements of Section 10910 of the California Water Code may not apply to the General Plan Update. Nevertheless, the City of East Palo Alto conducted a WSA[7]

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[4] California Department of Water Resources. 2015. Urban Water Management. Accessed January 29, 2016. Retrieved from http://www.water.ca.gov/urbanwatermanagement/.

[5] City of East Palo Alto. 2013. 2010 Urban Water Management Plan. Prepared by Integrated Resource Management, Inc. Adopted June 21, 2011; amended April 2, 2013.

[6] SB 610 (Costa, 2001), SB 221 (Kuehl, 2001), AB 901 (Daucher, 2001). http://www.sen.ca.gov/.

[7] City of East Palo Alto. 2015. Water Supply Assessment: City of East Palo Alto General Plan Update. Prepared by Integrated Resource Management, Inc. January 29, 2015.

(provided in **Appendix F** of this EIR) for informational purposes. This EIR uses data from the WSA. This 2015 WSA presents similar conclusions to the 2010 UWMP. The WSA describes existing water sources in East Palo Alto, uses population and job growth projections to assess water system demands over the next 20 years, and assesses water supply reliability (see **Appendix F** for more details).

Executive Order 29-B-15 (Mandatory Water Use Restrictions)

Executive Order B-29-15, signed by Governor Brown on April 1, 2015, imposed mandatory water restrictions in California. The Order requires the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016 as compared to the amount used in 2013. In addition to requiring cities and towns to save water, the Order is intended to increase enforcement to prevent wasteful water use, streamline the State's drought response and invest in new technologies that will make California more drought resilient.

Groundwater Management Act

The Groundwater Management Act of 1992 (California Water Code Section 10753 et seq., originally AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan (GMP) in state-designated groundwater basins. GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facility maintenance, and water quality.[8]

Sustainable Groundwater Management Act

In September 2014, the state enacted three legislative bills (AB 1739, SB 1168, and SB 1319), more commonly known as the Sustainable Groundwater Management Act (SGMA). This legislation mandates sustainable management of groundwater resources and provides expanded powers to local public water agencies that organize as groundwater sustainability agencies. Sustainability is defined in terms of a basin's yield as the maximum long-term quantity of water that can be withdrawn annually without causing an undesirable result.

Compliance with the SGMA is required for groundwater basins or subbasins that the California Department of Water Resources (CDWR) has designated as medium or high priority. Although the San Mateo Subbasin is considered to be of very low

[8] California Department of Water Resources. 2015. Groundwater. Accessed January 29, 2016. Retrieved from http://www.water.ca.gov/groundwater/.

priority, the City, on its own initiative, developed a Groundwater Management Plan[9] for the portion of the subbasin underlying the City. The plan, finalized in August 2015, seeks to better understand the interconnection of groundwater and surface water, monitor groundwater levels, monitor the potential risk of new contaminants, contamination migration, overdraft, salt water intrusion, and land subsidence.[10]

Regulations for Water Use Efficiency

The California Constitution prohibits the waste, unreasonable use, unreasonable method of use, and unreasonable method of diversion of water. It also declares that the conservation and use of water "shall be exercised with a view to the reasonable and beneficial use thereof in the public interest and for the public welfare." To this end, Water Code Section 275 directs the CDWR and SWRCB to "take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste or unreasonable use of water."[11]

Local Regulations and Plans

Water and other public utilities in San Mateo County are subject to oversight and coordination by the San Mateo County Local Agency Formation Commission (LAFCo). San Mateo LAFCo develops and updates the sphere of influence (SOI) for local jurisdictions within the county, and is the arbiter of service area boundaries. As part of the SOI determination report, called a Municipal Service Review (MSR), LAFCo must also examine the adequacy of public services and capacity of public facilities within the SOI. San Mateo LAFCo updated the East Palo Alto MSR on July 7, 2009.

East Palo Alto Municipal Code

Chapter 13.24, Article VI of the East Palo Alto Municipal Code outlines the City's water conservation plan. The code identifies three phases of conservation pending a 20, 40, or 60 percent reduction of the City's water supply from the Hetch Hetchy watershed.

[9] The City of East Palo Alto's Groundwater Management Plan is available at http://www.ci.east-palo-alto.ca.us/DocumentCenter/View/2045.

[10] City of East Palo Alto. 2015. Groundwater Management Plan: City of East Palo Alto. Prepared by Todd Groundwater. August 2015.

[11] California Legislative Counsel. Official California Legislative Information. Accessed January 29, 2016. Retrieved from http://www.leginfo.ca.gov.

Stormwater

Several federal, state, and local regulations pertain to stormwater management service in East Palo Alto.

Federal Clean Water Act and National Pollutant Discharge Elimination System

The CWA (33 USC Section 1251 et seq.) of 1972 is the primary federal law in the U.S. governing the discharge of pollutants into watersheds throughout the nation. The CWA consists of two parts, one being the provisions that authorize federal financial assistance for municipal sewage treatment plant construction. The other is the regulatory requirements that apply to industrial and municipal dischargers. Under the CWA, the United States Environmental Protection Agency (EPA) implements pollution control programs and sets wastewater standards.

NPDES Municipal Regional Stormwater Permit

The NPDES permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from MS4s. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and urban stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The City of East Palo Alto is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (Order No. R2-2015-0049) and NPDES Permit No. CAS612008, issued on November 19, 2015 and in effect starting on January 1, 2016. San Mateo County and 11 cities and two towns, including East Palo Alto, are co-permittees under the permit, which covers a total of 76 co-permittees in the Bay Area.

Under Provision C.3 of the Municipal Regional Stormwater Permit (MRP), the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects. The measures address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows, primarily through the implementation of low impact development (LID) techniques. In addition, one of the new provisions under the recently issued MRP is the requirement to implement a Green Infrastructure Plan that incorporates LID drainage design into storm drain infrastructure on public and private land, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements. The intent of the Plan is to shift from "gray" or traditional storm drain infrastructure, where runoff flows directly into the storm drain and then into the receiving water, to a more sustainable "green" system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.

The NPDES Program also covers stormwater discharges and waste discharge requirements (WDRs) for industrial activities. The NPDES General Permit for stormwater industrial discharges was recently revised and became effective on July 1, 2015 as Order No. 2014-0057-DWQ and NPDES No. CAS000001. Designated industrial sources are required to submit Permit Registration Documents (PRDs) to the SWRCB, implement Best Available Technology (BAT), prepare a Stormwater Pollution Prevention Control Plan (SWPPP), and comply with stormwater monitoring requirements. The NPDES Program also regulates point discharges through the WDR program. One wastewater NPDES permit has been issued to the Palo Alto Regional Water Quality Control Plant (PARWQCP), which is the regional wastewater treatment plant that serves the East Palo Alto Sanitary District (EPASD); Cities of Los Altos, Los Altos Hills, Palo Alto, and Mountain View; and Stanford University. The WDR permit requirements are set forth in Order No. R2-2014-0024 (NPDES No. CA0037834). The PARWQCP also must comply with two watershed permits, the region-wide Mercury and PCB Watershed Permit (Order No. R2-2012-0096) and the Nutrient Watershed Permit (Order No. R2-2014-0014).

Solid Waste and Recycling

State Regulation

California Integrated Waste Management Act of 1989 (AB 939 or Public Resources Code Section 40050 et seq.)[12] set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, though source reduction, recycling, and composting. To help achieve this, the Act requires that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity. As part of the California Integrated Waste Management Board's (CIWMB) Zero Waste Campaign, regulations affect what common household items can be placed in the trash. As of February 2006, household materials including fluorescent lamps and tubes, batteries, electronic devices, and thermostats that contain mercury are no longer permitted in the trash.[13]

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. CIWMB sets a target per capita disposal rate for each jurisdiction based on the amount of disposal a jurisdiction would have had it the diversion rate were exactly 50 percent. Each jurisdiction must submit an annual report to CIWMB with an update of its progress in implementing diversion programs and its current per capita disposal rate.[14]

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act (Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The Act required the CIWMB to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their

[12] Public Resources Code Sections 40050-40063 Accessed on November 16, 2011. Retrieved from http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=40001-41000&file=40050-40063.

[13] California Integrated Waste Management Board. 2015. Zero Waste Home Page: CalRecycle. Accessed January 29, 2016. Retrieved from http://www.calrecycle.ca.gov/zerowaste/.

[14] California Department of Resources Recycling and Recovery (CalRecycle). 2012. Accessed February 3, 2016. Retrieved from http://www.calrecycle.ca.gov/lgcentral/basics/PerCapitaDsp.htm.

own, governing adequate areas for collection and loading of recyclable materials in development projects.

4.15.2 ENVIRONMENTAL SETTING

Wastewater

East Palo Alto conveys its wastewater to two different sanitary districts: the EPASD (established in 1939), which covers the majority of the City's service area and a portion of Menlo Park, and the West Bay Sanitary District (WBSD; established in 1909), which covers a small portion of the City as part of its larger service area to the north and east, including areas in the cities of Menlo Park, Atherton, Redwood City, and Woodside, and some unincorporated areas within San Mateo and Santa Clara counties.

East Palo Alto Sanitary District

The EPASD has connections to 3,327 single-family residential units, 3,510 multi-family units, and 229 commercial, industrial, and institutional facilities.[15] EPASD infrastructure includes 32 miles of sewer pipeline[16] and 560 manholes.[17]

Sewage collected by the EPASD is treated at the Palo Alto Regional Water Quality Control Plant (PARWQCP). The City of Palo Alto owns, maintains, and upgrades the PARWQCP, based on the RWQCB permit, and the contributing jurisdictions purchase capacity rights. The City of Palo Alto bills each contributing agency for its share of facility construction, maintenance, and upgrade costs. Costs to each contributing agency are allocated proportionately based on each agency's purchased capacity. When an agency's flow reaches 80 percent of its capacity rights, the agency is required to perform an engineering study to redefine future needs.[18]

The City of Palo Alto owns meters that measure and record flows into the plant. The meters at the plant track average flows from each agency for the purposes of

[15] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.

[16] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.

[17] San Mateo LAFCo. 2009. Municipal Service Review and Sphere of Influence Update for the East Palo Alto Sanitary District, p. 4.

[18] City of Los Altos. Sewer System Management Plan. 2015. Accessed February 3, 2016. Retrieved from http://www.losaltosca.gov/sites/default/files/fileattachments/Public%20Works/page/5183/ssmp_2015_update_final.pdf.

determining the proportionate cost of maintaining the plant. As of March 2016, all of the contributing agencies were operating under their allowed capacity.[19]

The PARWQCP treats approximately 22 million gallons per day (MGD) of wastewater from the EPASD, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford University[20] and has a dry-weather capacity of 39 MGD[21] and a wet-weather capacity of 80 MGD.[22] The PARWQCP does not limit the treatment of wet-weather flow for its contributing agencies. Peak wet-weather flows into the plant typically do not exceed 70 MGD. Peak flows are approximately 40 MGD.[23] Discharge from the PARWQCP is required to meet stringent standards to protect the health of the San Francisco Bay, where the water is discharged.[24] The PARWQCP operates under the conditions of three NPDES permits for discharges to San Francisco Bay: the general waste discharge permit (NPDES Permit No. CA0037834; effective from August 1, 2014 until July 31, 2019[25]), the waste discharge requirements for mercury and PCBs from municipal and industrial wastewater discharges (NPDES Permit No. CA0038849), and waste discharge requirements for nutrients from municipal wastewater discharges (NPDES Permit No. CA0038873[26]).

The EPASD has a 2.9-MGD annual average dry-weather flow capacity allotment at the PARWQCP.[27] Currently, the EPASD is operating below its system dry-weather flow capacity, with an average dry-weather flow of 1.5 MGD, or 548 million gallons of wastewater per year. The average wet-weather flow for the EPASD is unknown. Peak dry- and wet-weather flows are typically 2 MGD and 5 MGD, respectively.[28] To

[19] Allen, James. Plant Manager, PARWQCP. Personal communication. March 23, 2016.

[20] City of Palo Alto. 2016. Wastewater Plant. Accessed February 5, 2016. Retrieved from http://www.cityofpaloalto.org/gov/depts/pwd/rwqcp/default.asp.

[21] Palo Alto Regional Water Quality Control Plant. 2015. Clean Bay Pollution Prevention Plan. Accessed February 9, 2016. Retrieved from http://www.cityofpaloalto.org/civicax/filebank/documents/46444.

[22] Allen, James. Plant Manager, PARWQCP. Personal communication. March 23, 2016.

[23] Allen, James. Plant Manager, PARWQCP. Personal communication. March 23, 2016.

[24] City of Palo Alto. 2007. Utilities Newsletter, pp. 33-34.

[25] San Francisco Bay Regional Water Quality Control Board. Order No. R2-2014-0024, NPDES No. CA0037834. Accessed February 5, 2016. Retrieved from http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2014/R2-2014-0024.pdf.

[26] San Francisco Bay Regional Water Quality Control Board. Order No. R2-2014-0014, NPDES No. CA0038873. Waste Discharge Requirements for Nutrients from Municipal Wastewater Discharges to San Francisco Bay. Accessed February 9, 2016. Retrieved from http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2014/R2-2014-0014.pdf.

[27] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.

[28] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.

acquire additional capacity at the PARWQCP, East Palo Alto would have to purchase treatment rights from the City of Los Altos, the City of Mountain View, and/or the City of Palo Alto.[29]

The EPASD population was expected to grow by 27 to 49 percent within its East Palo Alto service area and by 15 percent within its Menlo Park service area by 2030.[30] Future dry-weather flows from the EPASD would be limited to 2.9 MGD unless EPASD were to purchase additional capacity from the PARWQCP.[31]

The PARWQCP facilities are well-maintained, but are aging and may require repair or replacement over the next 10 to 15 years.[32] In 2010, the plant converted from chlorine to ultraviolet disinfection. The PARWQCP projects an average dry-weather flow of 26.3 MGD in 2040[33] and 28.8 MGD in 2062[34], both of which are still well below its dry-weather flow capacity of 39 MGD. Wet-weather flows are projected to be near the 80-MGD capacity by 2062. [35]

West Bay Sanitary District

As of 2016, there were 14,092 single-family residential connections, 4,499 multi-family residential connections, 622 commercial connections, and 6 industrial connections within WBSD.[36] System infrastructure consists of approximately 200 miles of sewer mains, 5,200 manholes,[37] and 12 pump stations.[38] Wastewater from the WBSD is delivered to a pump station and is then pumped to the Silicon Valley Clean Water (SVCW) treatment plant located in Redwood Shores.

[29] San Mateo LAFCo. 2009. Municipal Service Review and Sphere of Influence Update for the East Palo Alto Sanitary District, pp. 4-5.

[30] San Mateo LAFCo. 2009. Municipal Service Review and Sphere of Influence Update for the East Palo Alto Sanitary District, p. 5.

[31] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.

[32] City of Palo Alto. 2012. Long Range Facilities Plan for the Regional Water Quality Control Plant: Final Report. Prepared by Carollo Engineers. Accessed February 9, 2016. Retrieved from http://www.cityofpaloalto.org/civicax/filebank/documents/32042.

[33] City of Palo Alto. 2012. Long Range Facilities Plan for the Regional Water Quality Control Plant: Final Report. Prepared by Carollo Engineers. Accessed February 9, 2016. Retrieved from http://www.cityofpaloalto.org/civicax/filebank/documents/32042.

[34] Allen, James. Plant Manager, PARWQCP. Personal communication. March 23, 2016.

[35] Allen, James. Plant Manager, PARWQCP. Personal communication. March 23, 2016.

[36] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.

[37] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.

[38] San Mateo LAFCo. 2009. Municipal Service Review and Sphere of Influence Update for the West Bay Sanitary District, p. 5.

The SVCW treatment plant operates under the conditions of a RWQCB discharge permit that regulates the discharge limits. The SVCW is a joint powers authority managed by one elected official each from Belmont, Redwood City, San Carlos, and the WBSD. The SVCW serves about 200,000 people and businesses in an area that covers about 45 square miles.[39] The discharge permit (NPDES Permit No. CA0038369) is effective from October 1, 2012 to September 30, 2017.[40]

The SVCW plant has a dry-weather capacity of 29 MGD and a wet-weather capacity of 68 MGD.[41] Of this total, the WBSD is allocated a dry-weather capacity of 7.98 MGD (27.5 percent of treatment capacity based on average annual dry weather) and a wet-weather capacity of 16.4 MGD at the SVCW plant.[42] Average dry-weather flow is 3.08 MGD and average wet-weather flow is 3.73 MGD. Typical peak dry-weather flow is 3.92 MGD and typical peak wet-weather flow is 9 MGD.[43] The SVCW conveyance system is comprised of a nine-mile-long reinforced concrete force main pipeline, four pump stations, a wet-weather booster station, and a lift station. When capacity is temporarily exceeded, as might occur during wet weather, wastewater is stored in WBSD's Flow Equalization Facility,[44] which can hold 9.2 million gallons. Current average dry-weather flow for the SVCW plant is approximately 13 MGD and peak wet-weather flow is approximately 65 MGD (with diversion to flow equalization).[45] The SVCW's 45-year-old force main's condition is poor with joint leaks caused by moving young bay mud soil conditions and the SVCW Commission is reviewing an option to continue improvements to the conveyance system.[46]

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[39] Silicon Valley Clean Water. Facilities: Wastewater Treatment. Accessed February 3, 2016. Retrieved from http://www.svcw.org/facilities/sitePages/wastewater%20treatment.aspx.

[40] San Francisco Bay Regional Water Quality Control Board. Order No. R2-2012-0062, NPDES No. CA0038369. Accessed February 2, 2016. Retrieved from http://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2012/R2-2012-0062.pdf.

[41] Herrera, Teresa. Authority Engineer, SVCW. Personal communication. March 21, 2016.

[42] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.

[43] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.

[44] Silicon Valley Clean Water. July 22, 2015. "SVCW Commission Authorizes Next Steps for Recommended Project for Critically Needed Conveyance System Improvements. Accessed February 9, 2016. Retrieved from http://www.svcw.org/projects/Shared%20Documents/SVCW%20Commission%20Authorizes%20Next%20Steps%20.pdf.

[45] Herrera, Teresa. Authority Engineer, SVCW. Personal communication. March 21, 2016.

[46] Silicon Valley Clean Water News. July 22, 2015. "SVCW Commission Authorizes Next Steps for Recommended Project for Critically Needed Conveyance System Improvements. Accessed February 9, 2016. Retrieved from http://www.svcw.org/projects/Shared%20Documents/SVCW%20Commission%20Authorizes%20Next%20Steps%20.pdf.

The WBSD projected that its service population would grow by 16 percent, or approximately 8,460 people, by 2035.[47] The WBSD estimates that future average dry-weather flow will be 3.56 MGD, and that average wet-weather flows will be 4.32 MGD.[48] All of SVCW's planning efforts take the WBSD's flows—both current and future—into consideration. As of March 2016, all contributing agencies are operating under their capacity rights. SVCW estimates that its 2040 average dry-weather flows will be 16 MGD and estimates 2030 peak wet-weather flows will be 108 MGD.[49]

To maintain capacity, the SVCW launched a $339 million, 10-year Capital Improvements Program (CIP) in 2008 to upgrade its facilities, including improving the sewer main. In addition, the CIP will assure compliance with new environmental standards.[50] While the CIP originated as a 10-year plan, its timeframe was extended in 2015 to Fiscal Year 2022-2023.[51]

Water

Existing Water Supply

Three water companies supply water to the City of East Palo Alto: City of East Palo Alto/American Water Enterprises, Palo Alto Park Mutual Water Company (PAPMWC), and O'Connor Tract Co-Operative Water Company.[52] All water supplied to the City by American Water Enterprises (approximately 80 percent of the City's water) comes from the San Francisco Public Utilities Commission (SFPUC) supply. The main source of the SFPUC's water (approximately 85 percent) is from the upper

[47] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.

[48] Laureta, Rich, President, Freyer & Laureta, Inc. Personal e-mail communication with Carey Stone, DC&E. November 9, 2009.

[49] Herrera, Teresa. Authority Engineer, SVCW. Personal communication. March 21, 2016.

[50] Silicon Valley Clean Water. 2008. Press Advisory: SBSA Announces $339 Million, 10-Year Capital Improvement Program. Accessed February 3, 2016. Retrieved from http://www.svcw.org/facilities/Capital%20Improvements/Capital%20Improvement%20Program%20Press%20Release.pdf.

[51] Silicon Valley Clean Water. 2015. Capital Improvement Program 2015 Update. Accessed April 19, 2016. Retrieved from http://www.svcw.org/programs/Shared%20Documents/Final%202015%20CIP%20Update%2007152015.pdf.

[52] Approximately 20 percent of the City's water comes from the Palo Alto Park Mutual Water Company (PAPMWC) and the O'Connor Tract Co-Operative Water Company (OTCWC). PAPMWC obtains its water from groundwater wells located on its property, 0.6 miles south west of Bay Road and University Avenue: http://www.paloaltoparkmutualwatercompany.com/. OTCWC also obtains water from groundwater wells. It is located south of I-101 and close to San Francisquito Creek. The Urban Water Management Plan, 2010, page 11 includes a map of the service areas.

Tuolumne River watershed in the Sierra Nevada, and is stored in three major reservoirs: Hetch Hetchy Reservoir, Lake Lloyd, and Lake Eleanor. Water is delivered to the Bay Area via a system of aqueducts. The remaining 15 percent of the water supply comes from Bay Area reservoirs in the Alameda and Peninsula watersheds.[53] East Palo Alto has an individual supply guarantee from SFPUC for 1.963 MGD (approximately 2,199 acre-feet per year [AFY]).

The Hetch Hetchy Reservoir water is a relatively pure supply and requires only pH adjustment to control pipeline corrosion and disinfection to kill bacteria. Water from all other sources is treated at treatment plants. The Harry Tracy Water Treatment Plant (HTWTP), near San Bruno and Millbrae, treats water from the Peninsula System reservoirs. It has a peak capacity of 140 MGD and a sustainable capacity of 120 MGD. In March 2011, construction was launched on an approximately $280 million improvement project involving seismic retrofits and electrical upgrades to enhance the HTWTP's treatment capacity. The upgrade was completed in April 2015.[54]

There is currently one groundwater supply well in East Palo Alto at Gloria Way and Bay Road.[55] The well had the capacity to produce approximately 300 gallons per minute (gpm). Installed in 1981, the well was used for potable water until it was taken out of service in 1989 due to odor complaints (although samples passed the California Department of Public Health State drinking water standards at the time). The water from this well has since only been used for non-potable purposes such as street cleaning, dust-control, and sewer-line flushing. There is currently no storage within the City of East Palo Alto's managed water system. The City is reliant upon the SFPUC supply system for the necessary storage for equalization, fire flows, and emergency use.[56]

In 2000, the SVCW produced a small quantity of recycled water for landscaped irrigation at several sites in Redwood Shores. There is currently no recycled water infrastructure in place for the City of East Palo Alto. However, the East Palo Alto Sanitary District Recycled Water Project is currently in Phase 3 of the City of Palo

[53] San Francisco Public Utilities Commission. 2005. 2005 Urban Water Management Plan for the City and County of San Francisco, p. 11.

[54] Kinney, Aaron. 2015. "SFPUC: San Bruno project will keep water flowing after earthquake." San Jose Mercury News. Accessed February 5, 2016. Retrieved from http://www.mercurynews.com/san-mateo-county-times/ci_27890298/sfpuc-san-bruno-project-will-keep-water-flowing.

[55] City of East Palo Alto. 2015. Water Supply Assessment: City of East Palo Alto General Plan Update. Prepared by Integrated Resource Management, Inc. January 29, 2015.

[56] City of East Palo Alto. 2015. Water Supply Assessment: City of East Palo Alto General Plan Update. Prepared by Integrated Resource Management, Inc. January 29, 2015.

Alto Water Reuse Program. Phase 1 and Phase 2 of the project could directly serve East Palo Alto. In order to access recycled water, the City would have to connect to the SVCW recycled water line, which would require the construction of approximately 4 miles of pipe, or EPASD recycled water line, which would require the construction of approximately 4,000 feet of pipe.[57]

Existing Water Demand

American Water Enterprises serves 4,183 accounts in the City of East Palo Alto, of which 3,923 are residential accounts. In FY 2014/15, residential, commercial, and municipal accounts in East Palo Alto used 1,755 acre-feet per year (AFY) of water. Water use was 444 AF below the individual supply guarantee, a reduction in demand that is primarily attributed to conservation measures during the ongoing drought and demand elasticity due to higher water prices charged by the SFPUC.[58] **Table 4.15-1** shows historical water use in East Palo Alto.

Stormwater

Stormwater in East Palo Alto drains into two major drainage systems: the Runnymede Storm Drain System and the O'Connor Storm Drain System. Stormwater infrastructure within the City is considered to be inadequate. Many of the streets do not have storm drains, and those that do are unable to handle stormwater during peak events, resulting in flooding during 10- and 20-year storm events.

Runnymede Storm Drain System

Approximately two-thirds of the City's stormwater drains into the Runnymede Storm Drain System outfall.[59] A drainage ditch originating at the terminus of the storm drain at Runnymede Street receives water from the storm drain and transports it to the detention basin at the O'Connor Pump Station, where it is pumped into San Francisquito Creek and ultimately flows into San Francisco Bay. Stormwater is discharged through two TideFlex gates, located at the eastern terminus of Runnymede Street. TideFlex gates discharge stormwater while preventing tidal inundation. During extremely high tides (at or above elevation 7.6

[57] City of East Palo Alto. 2010. Water System Master Plan. Prepared by Integrated Resource Management, Inc. October 7, 2010.

[58] City of East Palo Alto. 2015. Water Supply Assessment: City of East Palo Alto General Plan Update. Prepared by Integrated Resource Management, Inc. January 29, 2015.

[59] Charpentier, Sean. Assistant City Manager, City of East Palo Alto. Personal communication. March 2016.

feet), the gates cease to function, which causes stormwater backup and local flooding. The TideFlex gates also operate at a reduced capacity, between 50 to 100 percent, during high tides greater than elevation 4.6 feet.

Table 4.15-1 Historical Water Use in East Palo Alto

Year	East Palo Alto Demand/Purchase (acre-feet)	Under/(Over) Allocation (acre-feet)
2001-02	2,110	89
2002-03	2,111	88
2003-04	2,303	(104)
2004-05	2,108	91
2005-06	2,113	86
2006-07	2,291	(92)
2007-08	2,284	(85)
2008-09	2,147	52
2009-10	1,935	264
2010-11	1,988	211
2011-12	2,088	111
2012-13	2,315	(116)
2013-14	1,650	535
2014-15	1,755	444
Average	**2,086**	**112**

Source: City of East Palo Alto, 2015 Water Supply Assessment

O'Connor Storm Drain System

The O'Connor Storm Drain System collects stormwater from multiple areas of the City and drains to the O'Connor detention pond and the O'Connor Pump Station.

The O'Connor Pump Station receives stormwater from throughout the City and an at-grade canal, which runs along the eastern City limit. The O'Connor Pump Station distributes stormwater outfall into San Francisquito Creek.

Stormwater System Infrastructure Improvements

In May 2013, the East Palo Alto City Council approved the Runnymede Storm Drain Phase II and Repair of the O'Connor Pump Station Outfall Structure Project (Runnymede Storm Drain Improvement Project) to alleviate residential and commercial flooding in the eastern portion of the City. The project excavated accumulated sediments and widened the Runnymede drainage ditch, installed new culverts under an existing footpath, installed an additional footpath with culverts underneath, completed the box culvert outfall which feeds the Runnymede drainage ditch at the north end, and repaired the O'Connor Pump Station outfall structure.[60] Substantial completion of the project was achieved by January 31, 2015[61] and the project is expected to be completed in early 2017.[62]

The Ravenswood/4 Corners TOD Specific Plan also includes planned improvements to the City's stormwater system, including the construction of a new Ravenswood Stormwater System, which would join the Runnymede System at the point of discharge into the existing surface channel at the end of Runnymede Street, and improvements to existing stormwater infrastructure to provide additional storage capacity.

Solid Waste and Recycling

East Palo Alto is a member of the South Bay Waste Management Authority (SBWMA), a joint powers authority whose other members include Atherton, Belmont, Burlingame, Foster City, Hillsborough, Menlo Park, Redwood City, San Carlos, San Mateo, WBSD, and San Mateo County. The Shoreway Environmental Center (SEC) serves as a regional solid waste and recycling facility for the receipt, handling, and transfer of solid waste and recyclables collected from the SBWMA service area (southern and central San Mateo County). The SEC receives solid waste and recyclables and consolidates them into large transfer trailers for shipment. Refuse is sent to the Ox Mountain Landfill. Construction and demolition waste and organic materials are sent to recycling facilities.[63]

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[60] City of East Palo Alto. 2016. "Runnymede Storm Drain Phase II." Accessed March 23, 2016. Retrieved from http://www.ci.east-palo-alto.ca.us/index.aspx?nid=492.

[61] City of East Palo Alto. 2015. Meeting Minutes for Special Joint Meeting: Planning Commission and Public Works and Transportation Commission. March 23, 2015.

[62] Bozorginia, Maziar. Senior Engineer, City of East Palo Alto. Personal communication. April 1, 2016.

[63] South Bayside Waste Management Authority. Rethink Waste. Accessed December 5, 2011. Retrieved from http://www.rethinkwaste.org/.

Landfills

The vast majority of solid waste generated in East Palo Alto has been transported to the Ox Mountain Landfill near Half Moon Bay. The landfill, owned and operated by Allied Waste, is expected to reach capacity in 2023 (as of its 2001 permit). However, City of East Palo Alto staff have indicated that this facility has sufficient capacity to accommodate waste materials through the year 2035.[64] In 2014, the landfill received 496,419 tons of solid waste, of which 10,011 tons of solid waste was from East Palo Alto.[65] East Palo Alto's annual per capita disposal rate was 2.0 pounds per resident per day (PPD) in 2014, well below its target of 8.5 PPD. According to the most recent data available from the San Mateo County RecycleWorks program, East Palo Alto had the highest diversion rate in San Mateo County—83 percent in 2005 and 82 percent in 2006.[66]

4.15.3 THRESHOLDS OF SIGNIFICANCE

A significant impact could occur with respect to local utility systems if implementation of the General Plan Update would:

a) Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control District.

b) Require or result in the need for new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could result in significant environmental effects.

c) Require or result in the construction of new stormwater drain facilities or the expansion of new facilities, the construction of which would result in significant environmental effects.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded water entitlements.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

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[64] Daher, Michelle. City of East Palo Alto. Personal communication. October 12, 2015.

[65] CalRecycle. 2016. Landfill Tonnage Reports. Retrieved from http://www.calrecycle.ca.gov/SWFacilities/Landfills/Tonnages/Default.aspx.

[66] CalRecycle. 2016. Diversion Rate Statistics. Retrieved from http://www.calrecycle.ca.gov/lgcentral/Reports/jurisdiction/diversiondisposal.aspx. Accessed March 30, 2016.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

g) Comply with federal, state, and local statutes and regulations related to solid waste.

4.15.4 ENVIRONMENTAL IMPACTS

a) Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board (less-than-significant impact).

Both the PARWQCP and SVCW adhere to the requirements of their NPDES permits, and are bound to continue to do so. As noted above, the SVCW launched a 10-year CIP in 2008 to assure compliance with wastewaster treatment standards established by the San Francisco Bay RWQCB. The General Plan Update contains the following policy to ensure continued compliance with NPDES requirements:

Infrastructure, Services, and Facilities Element Goal ISF-1. Manage stormwater safely, efficiently and sustainably.

- *Policy 1.1, NPDES compliance.* Ensure compliance with all NPDES requirements for litter control, dumping, pollutants of control, business operations, and new/re- development.

As a result, impacts to wastewater treatment requirements from development allowed by the General Plan Update would be less than significant.

***b) Require or result in the need for new water or wastewater treatment facilities or the expansion of existing facilities (significant and unavoidable impact)*.**

Proposed development under the General Plan Update would increase the need for additional potable water supplies and would thus increase the amount of wastewater that would require treatment. Planning efforts by the EPASD and WBSD account for both current and future flows. As noted above, the SVCW launched a 10-year CIP in 2008 and the PARWQCP completed its Long Range Facilities Plan in 2012 to maintain capacity and provide reliable treatment.

The General Plan Update contains the following goals and policies that pertain to water and wastewater infrastructure:

Infrastructure, Services, and Facilities Element Goal ISF-2. Ensure a sustainable, clean, long-term water supply.

- *Policy 2.2, Water supply infrastructure.* Improve infrastructure to ensure the provision of a clean, reliable citywide water supply sufficient to serve existing and planned development.

- *Policy 2.5, Priority improvement areas.* Prioritize water improvements in areas identified in the Land Use Element as areas of growth/change and economic activity generators, particularly the Westside, University Avenue and Bay Road, the Gateway 101 area, and the Ravenswood TOD Specific Plan area.
- *Policy 2.6, Water infrastructure for new development.* Require development projects to pay for their share of new water infrastructure or improvements necessitated by that development, including but not limited to water supply, storage, and conservation: and recycled water.

Infrastructure, Services, and Facilities Element Goal ISF-5. Fund construction and maintenance of basic infrastructure and public facilities.

- *Policy 5.1, Impact fees.* Collect nexus-based impact fees that mitigate the cost of providing infrastructure and public facilities to serve new development.
- *Policy 5.2, Community benefits.* For large-scale projects, negotiate with developers to maximize the potential for acquiring community benefits like new facilities and infrastructure.
- *Policy 5.3, Grants and funding.* Pursue grants and funding sources that can be directed towards existing deficiencies in infrastructure and facilities, including regular maintenance.
- *Policy 5.4, Special districts.* As feasible, work with other infrastructure providers (fire, water, sanitary) in East Palo Alto to provide more effective municipal services through improved coordination or consolidation.

The above goals and policies would ensure that adequate water and wastewater infrastructure is provided to support anticipated General Plan Update growth. New water infrastructure may be required to support development projects under the General Plan Update. The exact sizing, location, and extent of such improvements are not known at this time. As such, the impact would be considered significant and unavoidable. Future projects to improve, expand, or develop new water and wastewater infrastructure would be subject to project-specific CEQA analysis.

c) Require or result in the construction of new stormwater drainage facilities or the expansion of new facilities, the construction of which would result in significant environmental effects (significant and unavoidable impact).

Peak stormwater flow exceeds the capacity of the City's existing Runnymede and O'Connor stormwater drainage systems, resulting in local flooding. New development under the General Plan Update would increase stormwater flows into the system, worsening the existing shortfall.

New commercial, residential, industrial, office and public facilities envisioned in the General Plan Update could increase the amount of impervious surfaces for building

lots, parking lots, paved pathways, and other purposes. Such additional impervious surfaces would not allow infiltration of water into the ground and, instead, it would run off of each site into nearby streets, into the local and regional storm drain system and ultimately into San Francisco Bay.

As noted in the **Section 4.15.2, Affected Environment**, certain areas of East Palo Alto lack local storm drainage systems, while other portions of the City's drainage system cannot accommodate larger storm events. There is also a history of San Francisquito Creek overtopping its banks during major storm events.

Under current regulations as identified in **Section 4.15.1, Regulatory Requirements**, new development would be required to temporarily detain peak stormwater flows to minimize peak flows into the local and storm drain system. Adherence to stormwater drainage regulations would reduce the impact of new development on the stormwater system.

In addition, the General Plan Update contains the following goals and policies to ensure that adequately sized storm drainage facilities are available to support new development in the community.

Infrastructure, Services, and Facilities Element Goal ISF-1. Manage stormwater safely, efficiently and sustainably.

- *Policy 1.2, On-site stormwater management.* Encourage development projects to manage stormwater on site to reduce burdens on the City's stormwater system. Whenever possible, stormwater should be infiltrated, evapotranspirated, reused, or treated on-site in other ways that improve stormwater quality and reduce flows into the storm drain system.
- *Policy 1.3, Stormwater infrastructure for new development.* Require development projects to pay for their share of new stormwater infrastructure or improvements necessitated by that development.
- *Policy 1.4, Stormwater re-use and recycling.* Encourage innovative ways of capturing and reusing stormwater for non-drinking purposes to reduce the use of potable water, including the creation of a recycled water system and installation of purple pipe in private and public projects.
- *Policy 1.5, Collaborative stormwater management.* Encourage collaborative, integrated stormwater management between multiple property owners and sites.
- *Policy 1.6, Green infrastructure in public rights of way.* Encourage green streets with in-street bio-retention and other forms of stormwater retention and infiltration in streets and public rights-of-way.

- *Policy 1.7, Regional and local collaboration.* Collaborate with Palo Alto, Menlo Park, the San Francisquito Creek Joint Powers Authority and other jurisdictions and agencies in the watershed to reduce and remove contaminants from stormwater runoff.
- *Policy 1.8, Stormwater best practices.* Encourage the use of best practices in stormwater treatment, retention, and quality and quantity control into flood control efforts, ensuring that flood control measures do not have negative ecological impacts on stormwater runoff.
- *Policy 1.9, Stormwater and flooding.* Integrate stormwater management efforts with flood control efforts, seeking synergies and innovative strategies for stormwater treatment to reduce flood risks and volumes.
- *Policy 1.10, Storm Drain Master Plan.* Implement the adopted East Palo Alto Storm Drain Master Plan. Seek funding sources to complete the identified capital improvements.
- *Policy 1.11, Assessment district.* Consider avenues for sustainable funding of landscaping and maintenance to fund the maintenance of the stormwater conveyance and treatment systems.
- *Policy 1.12, Ravenswood stormwater management.* All new projects in the Ravenswood TOD Specific Plan Area must follow the stormwater policies established in Goal LU-9: Hydrological Context in the plan. Guidance in the Specific Plan supersedes policies from this General Plan.

Despite recent and planned future improvements to the City's stormwater system, the existing deficiencies in the City's stormwater system make some areas in the City prone to flooding. New development allowed under the General Plan Update may require further improvements to the existing system or the construction of new facilities. The location, sizing, and nature of any prospective improvements are not known at this time; as such, the impact would be significant and unavoidable. Future projects to improve, expand, or develop new stormwater infrastructure would be subject to project-specific CEQA analysis.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded water entitlements (significant and unavoidable impact).

Development allowed by the General Plan Update would generate an increase in future water demand that would not be fully met by the City's existing and future water supplies (significant and unavoidable impact). If development occurs as projected, the City's water demands could outpace available supplies by 2020.

The 2015 WSA projected water demand in East Palo Alto through 2040 using population and job growth projections under the General Plan Update.[67] This projection points to an expected shortfall.

As part of the adoption of its Water System Improvement Program in October 2008, SFPUC is limiting its sales of water to each customer through 2018. It has established an interim supply allocation of 2,199 AFY (1.96 MGD) for East Palo Alto. In times of drought, SFPUC would provide less than the assurance.

Table 4.15-2 shows water supply and demand in East Palo Alto from 2015-2040 at five-year increments for normal, single dry, and multiple dry water years.

Table 4.15-2 Water Supply and Demand in East Palo Alto, 2015-2040

	2015	2020	2025	2030	2035	2040
	(acre-feet)					
Normal Water Year						
Supply totals*	2,760	2,767	2,775	2,782	2,789	2,797
Demand totals	2,316	2,819	2,973	3,161	3,436	4,015
Surplus or (shortfall)	444	(52)	(198)	(379)	(647)	(1,218)
Single Dry Year						
Supply totals	2,594	2,601	2,609	2,616	2,623	2,631
Demand totals	2,316	2,414	2,542	2,697	2,923	3,400
Surplus or (shortfall)	278	187	67	(81)	(300)	(769)
Multiple Dry Years**						
Supply totals	2,594	2,601	2,609	2,616	2,623	2,631
Demand totals	2,316	2,616	2,758	2,929	3,180	3,707
Surplus or (shortfall)	278	(15)	(149)	(313)	(557)	(1,076)

* Supply totals include combined water supplies from American Water, PAPMWC, and O'Connor Tract. Supply from American Water is 2,199 AFY in normal years and 2,033 in dry years; supply from PAPMWC and O'Connor Tract vary.
** Figures are the same for the first, second, and third dry years under the multiple dry year scenario.
Source: City of East Palo Alto, 2015 Water Supply Assessment

[67] City of East Palo Alto. 2015. Water Supply Assessment: City of East Palo Alto General Plan Update. Prepared by Integrated Resource Management, Inc. January 29, 2015.

The WSA projected water demand in 2040 for each service area based on gallons per capita per day usage and a projected 2040 population of 37,781 (consistent with growth projections described in **Chapter 3.0, Project Description** and **Section 4.12, Population and Housing**). Estimated 2040 water demand for American Water Enterprises is 3,417 AF, for PAPMWC is 346 AF, and for the O'Connor Tract is 252 AF, totaling 4,015 AF within East Palo Alto city limits.

New development facilitated by the General Plan Update would increase water demand within the City by an estimated 1,699 acre-feet by the year 2040. This represents a 73 percent increase in demand from the year 2015. The majority (98 percent or 1,662 acre-feet) of the projected increase in water demand would occur within the American Water service area. Of the three water providers in the City (American Water, PAPMWC, and O'Connor Tract), American Water would be the only one with a shortfall. By 2020, American Water would not be able to meet the demands of their water system, needing an additional 10 percent of water supply during a normal water year. By 2040, American Water would need an additional 63 percent during a normal water year.

As shown in the WSA, the City's existing water supplies are not sufficient to meet the increase in demand that would occur under new development allowed by the General Plan Update. To meet this increase in demand, the City and/or development proponents would first need to acquire and develop new water supplies. **Mitigation Measure UTL-1** would help to ensure adequate water supply to serve increased demand; however, it would not guarantee that new development could be fully served by the City's existing and projected future water supplies. As such, even with mitigation, this impact would remain significant and unavoidable.

Mitigation Measure UTL-1: The General Plan Update shall be amended to include the following policy under Infrastructure, Services, and Facilities Goal ISF-2:

- *Require new or intensified development to demonstrate that adequate water is available before project approval.* Before new or intensified development projects are approved, the development proponent must provide the City with enforceable, verifiable proof that adequate water supply exists to supply the new or intensified development. The enforceable proof can take three forms:
    1) Depending on the location of the development, a will-serve letter, or similar instrument from the City of East Palo Alto, the Palo Alto Park Mutual Water Company, or the O'Connor Tract Co-Operative Water Company.
    2) A verifiable recordable water demand offset project or program that ensures that there is no net increase in new water demand.
    3) Verifiable and enforceable proof that the developer has secured new water supplies necessary to serve the project.

As of 2016, the City is considering several potential new water sources. The City has approximately $3.2 million in committed or pending funding from sources including the San Mateo County Community Development Block Grants, Environmental Protection Agency State and Tribal Assistance Grants, and Integrated Regional Water Management Grants. In June 2015, the City Council approved a Water Capital Improvement Surcharge for supply and storage projects that is estimated to generate approximately $500,000 per year for investing in supply and storage projects. The City is also planning to implement water supply and storage connection fees.

The City began addressing the supply shortfall by investigating groundwater opportunities with the *Gloria Way Water Well Production Alternatives Analysis & East Palo Alto Water Security Feasibility Study* completed in 2012 and, most recently, the development of a Groundwater Management Plan. The City is developing two groundwater well projects. The Gloria Way Well is an existing well owned by the City. The City is planning on retrofitting the Gloria Way Well and developing a treatment facility for manganese. Additionally, the City is planning to install a new groundwater well and treatment facility on Pad D. Both facilities would treat groundwater to meet California drinking water standards.

Test pumping of the Gloria Way Well has indicated that it can provide a sustained yield of approximately 100 to 300 gpm. Preliminary hydrogeologic evaluation indicates that a sustained pumping rate of 500 gpm is possible at Pad D. This would need to be confirmed by drilling a test well and performing a pumping test. Additionally, water quality would need to be analyzed to determine if a treatment system would be required.

In order to place the Gloria Way Well into a regular service and develop the Pad D well, several regulatory permits would need to be obtained. A conditional use and building permit would need to be obtained from the City. An industrial waste discharge permit would need to be obtained from the PARWQCP for the discharge from the treatment plant. The State of California Department of Public Health would need to approve the permit to change the status from inactive to active, approve the design, and review water quality. Additionally, the retrofitting of the well and the construction of a manganese treatment system would be subject to project-level environmental review under CEQA and NEPA. It is expected that retrofitting of the Gloria Way Well would take approximately 20 months to complete at a cost of $2 million and the development of the Pad D well would take 24 months and cost approximately $3.4 million.

The SFPUC Agreement allows for the transfer or exchange of water among parties, both inside and outside of the RWS. Within the SFPUC system, it is possible to

transfer individual supply guarantee and/or unused portions of water allocations among contracting agencies. The Water Shortage Allocation Plan (WSAP) adopted by SFPUC and its wholesale customers provides for voluntary transfers of water among wholesale customers during periods when mandatory rationing is in effect within the RWS. Some wholesale customers have the capacity to draw more heavily on other water supplies, such as the State Water Project or groundwater and may be willing to transfer a portion of their individual supply guarantee to other customers.

Both the SFPUC Agreement and state law also allow purchase and transfer of water from outside the SFPUC service area. As permitted by the SFPUC Agreement and state law, water may be purchased from outside of the RWS and conveyed to SFPUC and/or East Palo Alto through third-party transmission systems. Additional water could be secured either by SFPUC or East Palo Alto to augment its water supply. Such an arrangement would require both a contract with the third-party water supplier and an agreement between East Palo Alto and the SFPUC on the water quality, price, and operational terms.

In additional to acquiring transferred water individually, BAWSCA has statutory authority to assist the wholesale customers of the Hetch Hetchy regional water system to plan for and acquire supplemental water supplies.

The City is attempting to acquire additional water on an ongoing basis. The cost of acquiring this water would be at the market rate at the time of acquisition. An increase in the supply by these or other methods would have to undergo separate CEQA review to ensure feasibility.

The General Plan Update contains the following goals and policies that seek to reduce water demand and acquire new supplies:

Infrastructure, Services, and Facilities Element Goal ISF-2. Ensure a sustainable, clean, long-term water supply.

- *Policy 2.1, Water planning.* Continue to maintain a Water System Master Plan, Urban Water Management Plan, and water supply blueprint. Prepare a Recycled Water Feasibility Study.
- *Policy 2.3, New water sources.* Actively seek to secure additional water supply from SFPUC, groundwater sources, neighboring cities, or other available sources. Securing additional water supply and adding water storage facilities should be a City priority.
- *Policy 2.4, Water supply planning and demand offset regulations for new or intensified development.* Consider and adopt a water offset ordinance or other policy to reduce the water demand and to ensure adequate water supply exists

to meet the needs of new projects or intensified development. Allow the City the right to require a Water Supply Assessment of any development project. The policy will consider the type or size of projects that might be exempt, the water offset ratio, the method for analyzing the projected water demand and methods for offset demand, the types of demand reduction/mitigation implementation options (e.g., onsite or offsite design or building modification), including an in-lieu fee, that will be required, a method for estimating the savings from onsite or offsite efficiency measures, and the appropriate regulatory instruments to enforce, implement, and monitor the offset policy.

- *Policy 2.7, Municipal water conservation and efficiency.* Seek to reduce municipal water use through the following strategies.
  - Implement aggressive indoor and outdoor water efficiency measures in all new city developments, substantial rehabs, and remodels.
  - Prioritize water efficiency upgrades to existing buildings, such as water efficient fixtures.
  - Reduce potable water used for parks, by planting drought-tolerant species and implementing other water saving practices.
- *Policy 2.8, Citywide water conservation and efficiency.* Encourage and promote community water conservation and efficiency efforts, including indoor and outdoor efforts that exceed CalGreen requirements.
- *Policy 2.10, Public education about water.* Educate the public regarding water conservation, water efficiency, graywater use, stormwater reuse, water-efficient planting and outdoor efficiency, and other efforts to conserve water.

While the above policies and mitigation measure would help ensure that development projects in the City have adequate water supplies, the City's existing water resources and entitlements do not guarantee adequate water supplies and new or expanded entitlements would be needed to serve development projects under the General Plan Update. As such, the impact would remain significant and unavoidable.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (less-than-significant impact).

The General Plan Update would allow for an increment of new residential and non-residential growth that would be expected to result in an increase in wastewater generation over existing conditions. The EPASD and WBSD estimate that future average dry- and wet-weather flows at the levels expected with growth projected in the General Plan Update will be below permitted capacities. Future dry-weather

flows from the EPASD would be limited to its 2.9-MGD capacity unless EPASD were to purchase additional capacity from the PARWQCP.[68] The WBSD estimates that future average dry-weather flow will be 3.56 MGD, and that average wet-weather flows will be 4.32 MGD, below its dry-weather capacity of 7.98 MGD and wet-weather capacity of 16.4 MGD.[69]

The General Plan Update incorporates a number of policies, described below, intended to reduce water usage and thus reduce the amount of wastewater generated and requiring treatment. In addition to Goal ISF-5 and Policies 5.1 through 5.4, described above, the following goals and policies contained in the General Plan Update direct the City of East Palo Alto to work with the two wastewater service providers in the community to ensure that additional quantities of wastewater can be adequately treated and disposed of so as not to exceed waste discharge requirements.

Infrastructure, Services, and Facilities Element Goal ISF-3. Provide a well-maintained sewer system for the community.

- *Policy 3.1, Sewer system maintenance.* Work with the East Palo Alto Sanitary District and the West Bay Sanitary District to ensure sewers are operational and in good working order.
- *Sewer infrastructure for new development.* Require development projects to pay for their share of new sewer infrastructure or improvements necessitated by that development.

f) Capacity of solid waste facilities with sufficient permitted capacity to accommodate the project's solid waste disposal needs (less-than-significant impact).

The development of additional residential, commercial, and civic uses envisioned in the General Plan Update would increase the amount of solid waste generated by these new uses. Solid waste material not diverted to recyclers is hauled to the Ox Mountain Landfill near Half Moon Bay for disposal. According to its current permit (SWIS No. 41-AA-0002), the Ox Mountain Landfill has a design capacity through 2023 (as of 2001). However, City of East Palo Alto staff have indicated that this facility has sufficient capacity to accommodate waste materials for the next 20 years.[70] Other landfill facilities that could receive refuse are also available within

[68] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 18, 2016.
[69] Laureta, Richard, P.E. Freyer & Laureta, Inc. Personal communication. March 23, 2016.
[70] Daher, Michelle. City of East Palo Alto. Personal communication. October 12, 2015.

San Mateo County,[71] as well as in adjacent counties. Combined with the following goals and policies contained in the General Plan Update to encourage recycling of construction debris and other material, this impact would be less than significant. Applicable General Plan Update goals and policies include:

Infrastructure, Services, and Facilities Element Goal ISF-4. Use best practices to reduce and manage solid waste.

- *Policy 4.1, Provide waste and recycling service.* Provide solid waste, recycling, and green waste services to the community. If new funding sources are identified, consider building recycling centers in the City or partnering with Recology (or another service provider) to provide additional recycling services.
- *Policy 4.2, Waste reduction.* Seek to reduce East Palo Alto's rate of waste disposal per capita, and to increase the diversion rate of recycling and green waste.
- *Policy 4.3, Zero waste government operations.* Work towards zero waste government operations, modeling best practices in solid waste management and recycling for the rest of the community.
- *Policy 4.4, Construction waste.* Encourage all construction projects to divert 80% of their construction waste away from landfills, exceeding CalGreen requirements.
- *Policy 4.5, Hazardous waste disposal.* Work with regional agencies to educate residents about available drop-off and/or pickup points for e-waste and hazardous materials and chemicals such as paints, lubricants, motor oil, pharmaceuticals, fertilizers, pesticides, and other contaminants, to avoid their disposal into the sewer system, waste stream, or open space areas.
- *Policy 4.6, On-street recycling.* Where feasible, provide streetside recycling containers alongside public trash receptacles.
- *Policy 4.7, Recycled building material.* Encourage the use of recycled building and infrastructure materials in City operations and construction.
- *Policy 4.8, Paper waste reduction.* Reduce paper waste and encourage the use of recycled paper in City operations.
- *Policy 4.9, Packaging.* Work with local food vendors and farmer's markets to promote the use of compost-friendly packaging.

[71] CalRecycle. 2016. Solid Waste Information System (SWIS) Facility/Site Listing: SWIS Sites in San Mateo County. Accessed March 24, 2016. Retrieved from: http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=San+Mateo.

g) Compliance with federal, State, and local statutes and regulations related to solid waste (no impact).

No impact is anticipated with respect to compliance with federal, state and local regulations related to solid waste since the City of East Palo Alto does not provide solid waste or recycling services.

4.15.5 CONCLUSION

Development facilitated by the General Plan Update would increase demands on public utilities in East Palo Alto. Less-than-significant impacts would be expected with regard to meeting wastewater treatment requirements, capacity of wastewater and landfill facilities, and compliance with solid waste regulations. Adoption and implementation of the General Plan Update would result in significant and unavoidable impacts by requiring new water and stormwater infrastructure and generating water demand that would exceed the City's existing available water supplies.

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5.0 CUMULATIVE IMPACTS

The California Environmental Quality Act (CEQA) requires an evaluation of a project's contribution to cumulative environmental impacts. According to Section 15355 of the CEQA Guidelines, cumulative impacts are defined as "two or more individual effects which, when taken together, are considerable, or which can compound or increase other environmental impacts." Although an individual project may not have significant impacts, when considered in combination with other projects, these cumulative effects may be considerable. This section therefore discusses the potential cumulative effects for all less than significant and significant impacts identified in this EIR.

Section 15130 of the CEQA Guidelines provides the following direction regarding a cumulative impact analysis:

- An EIR should not discuss cumulative impacts that do not result, in part, from the proposed project.
- A lead agency may determine that an identified cumulative impact is less than significant and shall briefly identify facts and analysis in the EIR supporting its determination.
- A lead agency may determine a project's incremental effect is not cumulatively considerable and, therefore, is not significant and shall briefly describe in the EIR the basis for its determination.
- A lead agency may determine a project's cumulatively considerable contribution to a significant cumulative impact may be rendered less than cumulatively considerable and, therefore, residually not significant, if the project implements or funds its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

5.1 CUMULATIVE METHODOLOGY

CEQA Guidelines Section 15130 allow for the use of two alternative methods to determine the scope of projects for the cumulative impact analysis, including:

- List Method: A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency.
- Regional Growth Projections Method: A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines Section 15130, this cumulative impacts analysis relies upon Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) regional growth projections.[1] These projections are compiled based in part of locally adopted general plans and other related plans. **Table 5-1** compares ABAG/MTC growth projections for East Palo Alto with those for San Mateo County.

Table 5-1 Growth Projections for East Palo Alto and San Mateo County

	2010	2040	Growth 2010-2040	% Change 2010-2040
East Palo Alto				
Population	28,155	35,500	7,345	26
Employment	2,670	3,680	1,000	38
Housing Units	6,940	8,340	1,400	20
San Mateo County				
Population	718,450	904,430	185,980	26
Employment	345,200	445,080	99,880	29
Housing Units	271,030	326,070	55,040	20

Source: Plan Bay Area Final Forecast of Jobs, Population, and Housing, 2013

[1] ABAG and MTC. 2013. Source: Plan Bay Area Final Forecast of Jobs, Population, and Housing. Retrieved from: http://planbayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf. Accessed March 29, 2016.

The following is a discussion of the cumulative impacts of the East Palo Alto General Plan Update at a program level of detail. The geographic area for each impact varies depending on the nature of the impact issue area, whether it is regional, such as air quality, or local, such as noise. In the following analysis, the cumulative impacts take into account growth projected by the General Plan Update for the City limit in combination with impacts from regional projected growth in San Mateo County.

5.2 ANALYSIS OF CUMULATIVE IMPACTS

5.2.1 AESTHETICS

The area considered for cumulative impacts to aesthetic resources includes the entire City of East Palo Alto and the immediate vicinity, particularly the adjacent shoreline areas of Menlo Park and the City of Palo Alto. As discussed in **Section 4.1 Aesthetics**, the General Plan Update includes policies to ensure that new development under the General Plan Update would not result in significant aesthetic impacts.

The shoreline areas of the City will retain a land use designation that prohibits development, thus protecting scenic views of the San Francisco Bay and the East Bay Hills. Adjacent cities similarly protect views of and across the San Francisco Bay. To the north, areas adjacent to the bay are part of the South Bay Salt Pond Restoration Project, intended to restore 15,100 acres of salt ponds into a natural state. To the South, the City of Palo Alto identified the San Francisco Bay shoreline as a major view corridor, and manages the baylands as open space,.[2, 3] As such, aesthetic impacts related to growth and development along the San Francisco Bay shoreline near the City is unlikely.

The project and cumulative regional growth would result in additional infill development and transportation infrastructure that could alter the overall visual character of the City and surrounding area. In many cases, future cumulative development would replace deteriorating, vacant, or underutilized buildings within the City. The project, along with these other infill projects, would thus result in beneficial visual effects by improving the overall visual character of the City. Incremental increases in light and glare generated by new development, particularly

[2] City of Palo Alto, 2016. Our Palo Alto 2030. Comprehensive Plan Update Draft Environmental Impact Report.

[3] City of Palo Alto, 2008. Palo Alto Baylands Master Plan. 4th Edition.

if realized gradually over the implementation timeline of the General Plan Update and probable future projects, would not be substantial.

Given the above, the incremental effects of the project would be more beneficial than adverse; thus not cumulatively considerable.

5.2.2 AGRICULTURE AND FOREST RESOURCES

The cumulative impact area for agriculture and forest resources is San Mateo County. The project would have no impact to forest resources or designated Prime Farmland. Implementation of the General Plan Update may conflict with an existing Department of Conservation Williamson Act contract for a 1.2-acre property within the City. As noted in Section 4.2, County records are inconclusive on whether this contract is still in effect as of 2016. Moreover, the site is surrounded by urbanized development and does not appear to have been in any recent agricultural use. The project would include a new land use designation for the site that would not expressly permit agricultural use.

However, according to the most recent available data, San Mateo County contains 3,070 acres of Prime Farmland and 43,988 acres of Nonprime Farmland.[4] Therefore, the potential Williamson Act contract within the City represents less than 0.01 percent of the County's total farmland. Even assuming the 1.2 acre parcel is actually within a Williamson Act contract, the project would not result in any measurable change to farmlands in San Mateo County, since the site appears to have been taken out of active agricultural use. The project would therefore not contribute considerably to any cumulative agricultural impact in San Mateo County.

5.2.3 AIR QUALITY

The cumulative impact area for air quality includes the San Francisco Air Basin, which is managed by the Bay Area Air Quality Management District (BAAQMD). A cumulative impact would occur if the project would contribute substantially to an existing or projected air quality violation, or if the project is inconsistent with the relevant Air Quality Management Plan.

As discussed in **Section 4.3 Air Quality**, total vehicle miles traveled (VMT) within the City would increase at a higher rate than population with implementation of the General Plan Update, which would lead to greater regional emissions of non-

[4] California Department of Conservation, 2006. The California Land Conservation (Williamson) Act Status Report.

attainment air pollutants (or their precursors) than assumed in the latest BAAQMD *2010 Clean Air Plan*. The high VMT is partially due to the current lack of employment opportunities in East Palo Alto, which forces residents to commute out of the City for work, resulting in a high existing VMT.

As discussed in length in Section 4.3, the project would encourage employment-focused land uses in the City. Improving the availability of local jobs would promote alternative modes of transit such as walking and biking, thus reducing VMT. Though the General Plan Update is designed to directly address this issue, VMT would still increase at a higher rate than population. There are no feasible mitigation measures available to reduce this significant cumulative impact to a less-than-significant level.

Construction of new development allowable under the General Plan Update is also expected to result in additional emissions of non-attainment air pollutants. This EIR suggests several project-level mitigation measures to minimize the emission of construction-related air pollutants. However, it is unlikely that the proposed mitigation would reduce all potential impacts to a less-than-significant level. A significant cumulative, unavoidable air quality impact would occur.

5.2.4 BIOLOGICAL RESOURCES

The area considered for cumulative impacts to biological resources includes the City and immediately surrounding lands and waterways. Based on the *East Palo Alto General Plan Update Biological Resources Existing Conditions Report* prepared by H. T. Harvey & Associates in August 2013 (**Appendix C**), one special-status plant (Congdon's tarplant [*Centromadia parryi* ssp. *congdonii*]) potentially occurs in the City. The report also identified 30 special-status wildlife species that are known to occur or potentially occur in the vicinity of the City:

- Federal or state Endangered, Threatened, or Candidate Species:
  - Green sturgeon (*Acipenser medirostris*)
  - Central California Coast steelhead (*Oncorhynchus mykiss*)
  - Longfin smelt (*Spirinchus thaleichtys*)
  - California tiger salamander (*Ambystoma californiense*)
  - California red-legged frog (*Rana draytonii*)
  - San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)
  - Western snowy plover (*Charadrius alexandrines nivosus*)
  - California least tern (*Sterna antillarum browni*)
  - California clapper rail (*Rallus longirostris obsoletus*)
  - California black rail (*Laterallus jamaicensis coturniculus*)

  - Bald eagle (*Haliaeetus leucocephalus*)
  - Salt marsh harvest mouse (*Reithrodontomys raviventris*)
- California Species of Special Concern
  - Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*)
  - Foothill yellow-legged frog (*Rana boylii*)
  - Western pond turtle (*Actinemys marmorata*)
  - Northern harrier (*Circus cyaneus*)
  - Burrowing owl (*Athene cunicularia*)
  - Loggerhead shrike (*Lanius ludovicianus*)
  - San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)
  - Alameda song sparrow (*Melospiza moldia pusillula*)
  - Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)
  - San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)
  - Salt marsh wandering shrew (*Sorex vagrans halicoetes*)
  - Pallid bat (*Antrozous pallidus*)
  - Townsend's big-eared bat (*Corynorhinus townsendii*)
  - Western red bat (*Lasiurus blossevillii*)
- State Fully Protected Species
  - California brown pelican (*Pelecanus occidentalis californicus*)
  - White-tailed kite (*Elanus leucurus*)
  - American peregrine falcon (*Falco peregrinus anatum*)
  - Golden eagle (*Aquila chrysaetos*)

While the majority of East Palo Alto is already urbanized and, thus, has low habitat value for wildlife, the City contains northern coastal marsh habitat (a "community of special concern") and other marsh habitats in the Baylands that likely meet the Clean Water Act definition of Waters of the United States, and riparian habitat along the San Francisquito Creek.

Development allowed by the General Plan Update would occur in areas that are already substantially developed and would thus generally avoid areas where protected species are known or suspected to occur. The General Plan Update, does however, maintain protective land use designations over habitat and natural resource areas through the Resource Management (RM) land use designation which does not allow for any land uses except those required for the maintenance and security of the natural landscape. Areas identified in the General Plan Update as RM include the San Francisquito Creek, the Baylands Nature Preserve, Cooley Landing, and the Don Edwards San Francisco Bay National Wildlife Refuge. Resource management areas would not be subject to development under the General Plan Update that would compromise biological resources.

The General Plan Update includes policies (but no detailed plans) calling for the future creation of additional parks and trails. If created, these parks and trails could bring more people in closer proximity to natural resource areas, such as salt marsh habitat alongside the Bay Trail. However, biological resources would be protected by requiring users to stay on trails and within designated park areas.

Adherence to federal, state, and local regulations and plans, policies contained in the General Plan Update, and mitigation measures, which are identified in **Section 4.4, Biological Resources**, would further reduce impacts to biological resources. As the General Plan Update would permit development primarily in areas that are already urbanized and would not increase development pressures on natural or open space areas, the General Plan Update's cumulative contribution to biological resource impacts would not be considerable.

5.2.5 CULTURAL RESOURCES

The cumulative impact area for cultural resources is the City and immediate vicinity. Future development in this area may result in project-level impacts to cultural resources. However, potential project-level impacts are typically reduced through adherence to regulatory requirements and implementation of project-specific mitigation measures, such as those noted in **Section 4.5, Cultural Resources**. In general, the City and adjacent jurisdictions are mostly built out, except along the San Francisco Bay shoreline, which is primarily preserved as open space. Development facilitated by the General Plan Update, in addition to development in the nearby vicinity, would have no considerable contribution to cultural resource impacts.

5.2.6 GEOLOGY AND SOILS

The cumulative context for geology and soils includes future development under the General Plan Update and recent or near-future development in the project vicinity. Geologic conditions within the San Francisco Bay Area and can vary widely, even among short distances. Therefore, seismic hazards related to recent and future development in the project vicinity are heavily influenced by site-specific features such as soil composition and slope.

The General Plan Update Safety Element includes several policies that ensure adequate structural performance during a seismic event. Due to the seismically active nature of the region, all development within the project vicinity must conform to similar regulations and building codes that ensure adequate structural performance. Incorporation of these design requirements would result in the

General Plan Update having no cumulatively considerable contribution to geology and soil impacts.

5.2.7 GREENHOUSE GAS EMISSIONS AND ENERGY

The cumulative impact area for greenhouse gas (GHG) emissions includes the San Francisco Air Basin. Development throughout the San Francisco Bay Area will generate GHG's that may have a cumulative environmental effect. However, as discussed in **Section 4.7, Greenhouse Gas Emissions and Energy**, implementation of the General Plan Update would not exceed BAAQMD's plan-level GHG efficiency threshold. Therefore, although GHG emissions throughout the San Francisco Air Basin represent a cumulative issue, the General Plan Update's contribution to GHG emissions would not be cumulatively considerable.

In addition, the project proposes multiple goals and policies to promote energy efficiency, and would not cumulatively contribute to regional impacts related to wasteful energy consumption.

5.2.8 HAZARDS AND HAZARDOUS MATERIALS

The cumulative setting for hazards and hazardous materials includes the City and the immediate surrounding area. As discussed in **Section 4.8, Hazards and Hazardous Materials**, less-than-significant impacts would be expected as a result of the General Plan Update for impacts related to the routine transport, use, or disposal of hazardous materials; accidents involving the release of hazardous materials; hazardous material release sites; handling of hazardous materials within one-quarter mile of schools; interference with an adoption emergency response or evacuation plan; and exposure of people or structures to significant risks involving wildland fires. Future development allowed under the General Plan Update would comply with federal, state, and local regulatory requirements and plans, as well as applicable goals and policies contained in the General Plan Update.

Localized construction activities under the General Plan Update and other development projects could uncover contaminated substances, which may potentially impact construction workers and nearby sensitive receptors. However, these conditions are site-specific, and would not combine with one another to create cumulative impacts. Implementation of appropriate mitigation measures would therefore not increase the risk of such impacts to surrounding inhabitants or developments, and there would be no cumulatively considerable impact related to hazards and hazardous materials.

5.2.9 HYDROLOGY AND WATER QUALITY

The area considered for cumulative impacts to hydrology and water quality encompasses the City, the neighboring cities of Menlo Park and Palo Alto, and the watersheds and groundwater basins potentially impacted by development facilitated by the General Plan Update. Development of vacant lands close to the San Francisco Bay in an area within the 100-year flood hazard zone should be considered in conjunction with development of other Bayside areas. As discussed in **Section 4.5, Hydrology and Water Quality**, development in East Palo Alto would conform to federal, state, and local policies and regulations that would reduce hydrology and water quality impacts to less-than-significant levels. When applicable, additional new development allowed by the General Plan Update would be subject, on a project-by-project basis, to independent CEQA review and applicable regulatory requirements and General Plan policies, including National Pollutant Discharge Elimination System (NPDES) permits, to reduce impacts related to hydrology and water quality. All cumulative regional growth would be subject to similar requirements. The regulations of the San Francisco Bay Regional Water Quality Control Board consider water quality impairment in a regional context. For these reasons, impacts of the General Plan Update on hydrology and water quality would not be cumulatively considerable.

5.2.10 LAND USE AND PLANNING

The cumulative setting for land use and planning includes East Palo Alto and its immediate vicinity. Development facilitated by the General Plan Update, along with other nearby development projects, would result in continued infill development and increased intensity of land uses in the area.

Existing transportation infrastructure, such as U.S. Highway 101 and State Route 84, creates physical barriers within the City and immediate vicinity. The General Plan Update includes measures to reduce these barriers by encouraging alternative transit infrastructure, developing pedestrian-scaled neighborhoods, and a promoting a development pattern to enhance the City's overall community cohesion. As such, the project would serve to unify the City, and would not contribute to cumulative impacts relating to the division of an existing community.

Cumulative development in the area may result in conflicts with established land use and planning documents, such as the San Francisco Bay Conservation and Development Commission's *San Francisco Bay Plan* and BAAQMD's *2010 Clean Air Plan*. However, as discussed in **Section 4.9, Land Use and Planning**, the General Plan Update would update City policies to align with regional land use regulations.

New development under the General Plan Update would not considerably contribute to cumulative impacts related to established land use policies.

5.2.11 NOISE

The area considered for cumulative noise impacts is the entire General Plan Update plan area and surrounding municipalities. Given the anticipated growth in the region, new sources of noise and vibration may be generated by increased traffic and construction/operation of new development. However, as discussed in **Section 4.11, Noise and Vibration**, the General Plan Update proposes goals and policies to ensure that noise and vibration related to new development in the City would be reduced to a less-than-significant level. The project would not considerably contribute to a cumulative noise or vibration impact.

5.2.12 POPULATION AND HOUSING

The cumulative setting for population and housing is the entire County of San Mateo. As discussed in **Section 4.12 Population and Housing**, the project accounted for regional growth estimated by ABAG. From 2010 to 2040, ABAG predicted that the City would grow by approximately 7,345 residents (26 percent of the 2010 population), and 1,400 housing units (20 percent of the 2010 housing stock). Countywide, ABAG predicts 185,959 new residents (26 percent of the 2010 population) and 57,263 new housing units (22 percent of the 2010 housing stock) for the same time period.

The project would allow for approximately 7,500 new residents by 2040, which aligns with ABAG's growth projections for the City. The project would allow for 2,519 net additional dwelling units, which represents 185 percent of ABAG's projected housing unit growth for the City. However, if adopted, the General Plan Update would serve as the new basis for ABAG's successive population projections, and any existing discrepancies between ABAG projections and the General Plan Update would be resolved. In the greater context of the area, projected housing unit growth for the City represents 4 percent of the housing units expected in the region. Therefore, the project would not induce substantial growth beyond regional projections and the impact would not be cumulatively considerable.

Most development anticipated in the City would be on undeveloped, vacant, or underutilized sites with minimal potential to result in displacement of residences. However, the project would allow for an increment of new residential and commercial development in areas that currently contain residential development, which may lead to displacement. The General Plan Update also includes goals and

policies would discourage new development from displacing residents and provide additional resources to ensure adequate replacement housing for any displaced residents. With implementation of these policies, in tandem with existing state laws and local ordinances, the General plan Update would not contribute considerably to cumulative population and housing impacts.

5.2.13 PUBLIC SERVICES AND RECREATION

Regional growth from the General Plan Update in conjunction with cumulative regional growth would result in increased demand for public services and would compound the existing shortage of parks and recreational facilities in East Palo Alto. Future development projects allowed under the General Plan Update would pay their fair shares of impact fees and be subject to CEQA review to minimize impacts. Growth allowed by the General Plan Update would not contribute considerably to cumulative impacts to public services and recreational facilities.

5.2.14 TRANSPORTATION AND TRAFFIC

The Transportation Impact Analysis evaluated potential impacts due to the General Plan Update in conjunction with anticipated growth and cumulative conditions in the region. The analysis in **Section 4.14, Transportation and Traffic**, includes a discussion of cumulative traffic conditions, and therefore serves to outline the General Plan Update's contribution to cumulative traffic impacts.

Impacts from the General Plan Update related to air traffic patterns, increased hazards resulting from design features, emergency access, and public transit, bicycle, and pedestrian facilities would be less than significant and would not be cumulatively considerable.

However, East Palo Alto experiences disproportionate congestion from regional "cut-through" traffic that neither originates nor ends in East Palo Alto—approximately 84 percent of traffic on University Avenue and Willow Road, two of the City's highest volume streets, is estimated to be such cut-through traffic.

As a result, cumulative impacts from regional growth without the General Plan Update would significantly degrade levels of service (LOS) for at least one peak hour per the City of East Palo Alto's thresholds at four intersections and three roadway segments in East Palo Alto. In conjunction with regional growth, incremental development allowed by the General Plan Update would degrade LOS to unacceptable levels for at least one peak hour at two intersections and would impact LOS and volume-to-capacity ratios on two roadway segments based on the City's performance thresholds. These impacts would be cumulatively considerable

and, as noted in **Section 4.14, Transportation and Traffic**, significant and unavoidable as there is not feasible program-level mitigation to avoid or lessen such effects.

5.2.15 UTILITIES AND SERVICE SYSTEMS

Water

The cumulative setting for water supply includes the City of East Palo Alto and all other cities that receive water from the San Francisco Public Utilities Commission's (SFPUC's) Hetch Hetchy reservoir. East Palo Alto receives the majority of its water supply from SFPUC through American Water. As discussed in **Section 4.15, Utilities and Service Systems**, East Palo Alto has an individual supply guarantee from SFPUC for approximately 2,199 acre-feet per year (AFY) in normal water years and 2,033 AFY in dry years. Additional water supplies from the Palo Alto Park Mutual Water Company (PAPMWC) and the O'Connor Tract vary, bringing water supply totals to approximately 2,800 AFY in normal years and 2,600 AFY in dry years. New development facilitated by the General Plan Update would increase water demand within the City by an estimated 1,699 acre-feet by the year 2040. This represents a 73 percent increase in demand from the year 2015. The majority (98 percent or 1,662 acre-feet) of the projected increase in water demand would occur within the American Water service area. Of the three water providers in the City (American Water, PAPMWC, and O'Connor Tract), American Water would be the only one with a shortfall. By 2020, American Water would not be able to meet the demands of their water system, needing an additional 10 percent of water supply during a normal water year. By 2040, American Water would need an additional 63 percent during a normal water year. Thus, cumulative development would result in increased demand potentially in exceedance of existing available water supplies from SFPUC. To meet anticipated future water supply needs, East Palo Alto would need to secure additional water sources. The City is taking steps to minimize impacts from new development to water supply through verification requirements introduced as mitigation measures in this EIR. Despite this, the adoption and implementation of the General Plan Update would constitute a significant and unavoidable cumulatively considerable impact on water supply, as cumulative development would exceed existing available supplies.

Development allowed by the General Plan Update in combination with regional growth could require or result in the construction of new City water facilities or the expansion of existing facilities. While any new or expanded water facilities would be subject to separate CEQA review, the potential construction of these facilities could

result in a potentially significant cumulative impact. To ensure that both existing and future water system infrastructure needs are met, the General Plan Update includes goals, policies, and general recommendations for physical improvements to water infrastructure to ensure the long term viability of the system in light of capacity changes. The exact sizing, location, and extent of such improvements are not known at this time. As such, the General Plan Update would have a significant and unavoidable impact relative to water distribution infrastructure and would have a considerable contribution to the potentially significant cumulative impact.

Wastewater

The cumulative area for wastewater is comprised of the planning areas of the Palo Alto Regional Water Quality Control Plant (PARWQCP), Silicon Valley Clean Water (SVCW), East Palo Alto Sanitary District (EPASD), and West Bay Sanitary District (WBSD). As described in **Section 4.15, Utilities and Service Systems**, planning efforts by the PARWQCP, SVCW, EPASD, and WBSD account for both current and future flows. The PARWQCP has sufficient capacity for current and future dry- and wet-weather flows, and there are no plans to expand the plant. The PARWQCP projects 2062 average dry-weather flow to be 28.8 MGD, below its permitted capacity of 39 MGD, and estimates that future peak wet-weather flows would be approximately at the 80-MGD capacity.

However, growth from the General Plan Update in conjunction with cumulative regional growth is projected to result in an exceedance of wastewater treatment capacity at SVCW during peak wet-weather flows in 2030. SVCW projects 2040 average dry-weather flow to be 16 MGD, which is below its permitted capacity of 29 MGD. SVCW projects 2030 peak wet-weather flows to be 108 MGD, which would exceed its permitted capacity of 68 MGD. Management of peak wet-weather flows at SVCW is the joint responsibility of the individual member agencies and SVCW as the JPA. While the General Plan Update would allow for an increment of new development that would increase wastewater generation over existing conditions, future flows from EPASD and WBSD would be expected to be within existing capacities. As such, growth from the General Plan Update would not constitute a cumulatively considerable impact to wastewater generation and treatment capacity.

Development allowed by the General Plan Update in combination with cumulative regional growth could, however, require or result in the construction of new City wastewater facilities or the expansion of existing facilities. While any new or expanded wastewater facilities would be subject to separate CEQA review, the potential construction of these facilities could result in a potentially significant cumulative impact. The General Plan Update includes goals and policies to reduce

potential impacts related to construction and/or repair of wastewater collection facilities to a less-than-significant level and would not have a considerable contribution to the potentially significant cumulative impact.

To maintain adequate capacity and ensure compliance with the Regional Water Quality Control Board's (RWQCB) wastewater treatment standards denoted in SVCW's NPDES Permit, SVCW set forth a 10-year Capital Improvement Program (CIP) in 2008. The CIP was extended in 2015 through Fiscal Year 2022-2023 and individual projects are subject to separate CEQA analysis. The CIP will ensure that the facility is able to continue to meet or exceed wastewater treatments requirements established by the RWQCB for discharge into the San Francisco Bay. Impacts from the contribution of additional wastewater associated with growth from the General Plan Update would not be expected to be cumulatively considerable.

Stormwater

The cumulative area considered for impacts to the City's stormwater systems is localized, as various parts of the City may be affected at different times by stormwater runoff depending on a variety of factors. East Palo Alto's existing stormwater infrastructure is considered to be inadequate and results in flood-prone areas within the City. As such, the City has begun improvements to the Runnymede Storm Drain system, discussed in **Section 4.15, Utilities and Service Systems**, which are expected to be completed in 2017. Regardless of ongoing improvements, new development allowed by the General Plan Update may require further improvements to the existing system or construction of new facilities. The location, sizing, and nature of any prospective improvements are not known at this time. This would constitute a significant and unavoidable contribution to cumulative impacts.

Solid Waste

The cumulative area for solid waste disposal impacts is San Mateo County. New development allowed by the General Plan Update would increase the generation of solid waste in East Palo Alto and, hence, demand for disposal facilities. Likewise, additional growth in surrounding communities within San Mateo County would also increase solid waste generation and disposal needs. The Ox Mountain Landfill is expected to have sufficient capacity until at least 2023, and possibly longer. Moreover, several other solid waste disposal facilities exist in San Mateo County

that could accommodate refuse.[5] As such, development facilitated by the General Plan Update would not make a significant cumulative contribution to solid waste generation.

[5] CalRecycle. 2016. Solid Waste Information System (SWIS) Facility/Site Listing: SWIS Sites in San Mateo County. Accessed March 24, 2016. Retrieved from: http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=San+Mateo.

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6.0 ALTERNATIVES

6.1 PREFACE

California Public Resources Code Section 21002.1(a) requires that an EIR describe and evaluate alternatives to a proposed project, which in this case is the adoption of the General Plan Update. Section 15126.6(a) of the California Environmental Quality Act (CEQA) Guidelines sets forth more detailed guidance regarding the scope of alternatives evaluation in an EIR:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the effects of the project, and evaluate the comparative merits of the alternatives.*

The number and range of alternatives evaluated in an EIR is governed by a "rule of reason." The CEQA Guidelines hold that an EIR must include an adequate range of alternatives such that the lead agency can make a reasoned choice. The "rule of reason" stipulates that a lead agency can take into account many factors in defining a reasonable range of alternatives:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the Proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the Proponent) (CEQA Guidelines Section15126.6[f][1]).*

The CEQA Guidelines further require every EIR to include consideration of a "no project" alternative in which the proposed project does not proceed.

The CEQA Guidelines require that the EIR identifies an "environmentally superior alternative" among all alternatives evaluated. If the lead agency concludes that the alternative with the least environmental impact is the no project alternative, the lead agency must choose the environmentally superior alternative from among remaining action alternatives.

6.2 ALTERNATIVE SCREENING CRITERIA

Consistent with the CEQA Guidelines, pertinent case law, and good planning practice, the City selected alternatives in this EIR based on the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project;[1]
- The feasibility of the alternative, taking into account site suitability, availability of infrastructure, property control (ownership), and consistency with applicable plans and regulatory limitations;
- The extent to which an alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice, including the consideration of several alternatives that were rejected as infeasible;
- The requirement of the CEQA Guidelines to consider a no project alternative and to identify an environmentally superior alternative in addition to the no project alternative; and
- The extent to which the alternative would avoid or lessen any of the identified significant unavoidable environmental effects of the project, which for this project include the following:
    - Air quality: Noncompliance with the applicable clean air plan; exposure to substantial concentrations of criteria pollutants for which the project region is in nonattainment, and to objectionable odors
    - Transportation and traffic: Conflicts with management plans, ordinances, or policies establishing performance standards for the circulation system
        - Five intersections with level-of-service impacts:
            - University Avenue and Bayfront Expressway (PM)
            - Willow Road and Bayfront Expressway (AM and PM)
            - University Avenue and Bay Road (PM)
            - University Avenue and Woodland Avenue (AM)
            - Bay Road and Newbridge Street (AM and PM)
        - Two roadway segments with level-of-service impacts:

[1] Project objectives are identified in **Chapter 3.0, Project Description**, of this EIR.

- University Avenue between Michigan Avenue and Bay Road
- East Bayshore Road between Clarke Avenue and Pulgas Avenue

▪ One roadway segment with volume-to-capacity ratio impacts:

- Donohoe Street between University Avenue and Capitol Avenue

o Utilities and service systems: Insufficiencies in:

▪ Existing and future water supplies to meet increased water demand generated by the project

▪ Future water infrastructure

▪ Existing and future stormwater infrastructure

6.2.1 ALTERNATIVES CONSIDERED BUT REJECTED AND NOT EVALUATED IN DETAIL

CEQA Guidelines Section 15126.6 sets forth several requirements regarding the consideration of alternatives in an EIR. Section 15126.6(a) and related case law hold that alternatives that are not reasonable or infeasible need not be discussed at length; alternatives that do not offer substantial environmental advantages over the project can be rejected from consideration; and alternatives that do not accomplish most of the basic project objectives can be excluded from detailed analysis.

Accordingly, this section summarizes alternatives considered but rejected from further analysis, along with the reasons for rejection.

Alternative Locations

According to the CEQA Guidelines, two primary provisions are necessary for an adequate alternative site analysis: feasibility and location. The EIR should consider alternative project locations if a significant project impact could be avoided or substantially lessened by moving the project to an alternative site.

An alternative site for the proposed project would not be feasible because the project is the update of the City of East Palo Alto's General Plan. The project is, by definition, located in the City of East Palo Alto. Since the project consists of a plan update for a specific area, an alternative location for this project is not feasible. A discussion of an (infeasible) alternative site would not meet the "rule of reason" under CEQA. Therefore, this alternative was eliminated from further consideration in this EIR.

Open Space/Parks Focus

This alternative considered replacing a substantial amount of commercial and industrial land uses identified in the General Plan Update as park and open space areas. The purpose of this alternative would be to reduce peak-hour and total daily vehicle trips, since park and open space land uses generate far fewer trips than commercial or industrial uses.

While increased park space would have certain benefits, this alternative was rejected as not conforming to a key City objective of achieving fiscal stability. The feasibility of this alternative is questionable at best. In addition, this alternative would do little to shift local land use patterns or achieve a more balanced jobs-housing ratio—other key project objectives.

Major Road Improvements

A third alternative that the City considered but rejected from further analysis was the construction of major transportation and roadway improvements with the purpose of expediting traffic through the City. As discussed in this EIR, a substantial portion of automobile traffic that uses the East Palo Alto street network does not have an origin or destination in East Palo Alto; in other words, East Palo Alto is "passed through" by many drivers en route to other destinations. A program of major road improvements could include:

- Greatly widening intersections along University Avenue (especially at Donohoe Street, Bell Street, and Bay Road)
- Adding traffic signals and removing parking (and potentially sidewalks) on Pulgas Avenue and Clark Avenue to accommodate more vehicles
- Widening Bay Road to distribute more traffic to Willow Road
- Improving the University Avenue/Highway 101 interchange
- Constructing a "bypass" road through or adjacent to the wetlands in residential areas

This alternative would conflict with project objectives of achieving a safe and healthy community and economic equity, vitality, and diversity, as it would likely entail removing existing residences for future road rights of way. This alternative would also conflict with the objective of achieving sustainability and environmental protection due to the construction of road improvements in environmentally sensitive lands near San Francisco Bay.

While a program of major road improvements could lessen both the current and future projected levels of traffic, such improvements would have few economic, environmental, or land use benefits to East Palo Alto and the greater region. The economic feasibility of undertaking such an extensive transportation network is unknown, but such major road improvements are not likely fiscally practical.

6.2.2 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS IN DETAIL

CEQA requires that an EIR analyze a range of reasonable project alternatives that could feasibly attain most of the basic project objectives while avoiding or substantially lessening any significant impacts, even if these alternatives would impede the attainment of project objectives or would be more costly (CEQA Guidelines Section 15126.6[b]). An EIR need not consider every conceivable alternative to a project; rather, an EIR must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (CEQA Guidelines Section 15126.6[a]). As required by CEQA, this chapter also includes an analysis of a no project alternative (Alternative 1).

The project—the City of East Palo Alto General Plan Update—has been described and analyzed in the previous chapters and sections of this EIR (This chapter uses the terms "the project" and the "General Plan Update" interchangeably). This EIR has identified significant environmental impacts that would result from the project, along with recommended mitigation measures to avoid, minimize, or lessen these impacts. The following analysis is intended to inform the public and decision-makers of project alternatives and to provide meaningful evaluation, analysis, and comparison of these alternatives.

The General Plan Update would result in significant impacts on air quality, traffic and transportation, and utilities and service systems. Some of these significant and unavoidable impacts (as well as other impacts reduced to a less-than-significant level with mitigation) could be avoided, minimized, or lessened by the alternatives presented in this chapter. Based on a review of project impacts and objectives, the City selected the following five alternatives for detailed analysis, described further below.

1) No Project
2) Reduced Intensity
3) Employment Focus
4) Residential Focus

5) Theoretical Maximum Buildout[2]

Alternative 1: No Project

CEQA Guidelines Section 15126.6(e)(1) states that one of the alternatives analyzed in an EIR must be a no project alternative. Analysis of the no project alternative must discuss what would be reasonably expected to occur if development continued consistent with existing plans and available infrastructure and community services (CEQA Guidelines Section 15126.6[e][2]). CEQA Guidelines Section 15126.6(e)(3)(a) states:

> *When the project is the revision of an existing land use or regulatory plan…the "no project" alternative will be the continuation of the existing plan…into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed.*

Under Alternative 1, the City would not adopt the proposed General Plan Update. The No Project Alternative is not a "no build" alternative. Instead, the City's existing 1999 General Plan would remain in place. Under this alternative, new development in the City would be subject to the goals, policies, and development intensity established by the existing General Plan. Alternative 1 assumes that, by 2040, an increment of new development would follow the existing General Plan's land use designations and circulation plan, largely maintaining and extending current development patterns.

Alternative 2: Reduced Intensity

This alternative was developed to reduce significant and unavoidable project impacts on air quality, utilities and service systems, and transportation and traffic. Development under Alternative 2 would occur under the General Plan Update, but with limitations on office and mixed uses development achieved through land use designation changes, height restrictions, setbacks, and reduced floor-area ratios (FARs). This alternative would reduce development intensity over the General Plan Update's 25-year planning horizon by approximately 25 to 40 percent. Potential opportunities to reduce density/intensity include:

- Lowering the maximum FAR in Commercial land use designations to 1.0 FAR (from 2.0 FAR)

[2] The theoretical maximum buildout is not introduced to avoid or minimize potential impacts; instead, this alternative is included to fulfill other requirements of CEQA.

- Converting the Gateway 101 Shopping Center land use designation from Mixed Use High to Commercial
- Changing the land use designation along the University Avenue corridor from Mixed Use Corridor (1.75 FAR and 5 stories) to Mixed Use Low (up to 21 dwelling units per acre [du/ac] and 0.35 FAR)
- Changing the land use designation at the University Avenue/Donohoe Street (north) parcel from Mixed Use High to Mixed Use Low or Commercial
- Changing the land use designation for residential parcels south of Ravenswood from High Density Residential to Medium Density Residential
- Prohibiting accessory dwelling units on residential parcels less than 6,000 square feet

Alternative 3: Employment Focus

Alternative 3 would replace approximately 25 percent of residential land uses proposed under the project with commercial land uses. Creating more local employment opportunities would would potentially result in less water consumption, fewer vehicle trips outside the City, shorter trip lengths regionally, and an improved the jobs-housing balance within the City. Specific locations where land use designation changes could occur under this alternative include:

- University Avenue: change Mixed Use Corridor land use designations to General Commercial
- East Bayshore Road: change Mixed Use Low land use designations to General Commercial
- Westside, south of University Avenue: change a small amount of High Density Residential land use designations to General Commercial or Office
- Gateway 101 Shopping Center: change Mixed Use High land use designations to Office
- South of the Ravenswood/4 Corners Specific Plan area: change High Density Residential parcels to Industrial Buffer/Flex Overlay

Alternative 4: Residential Focus

Alternative 4 considers the possibility of replacing proposed commercial development in some portions of East Palo Alto with residential development. This alternative would also include increasing the amount of residential development on properties designed for mixed land uses and potentially integrating a residential

component into office developments. The overall outcome would be an additional 400 multi-family housing units and a decrease of 800 jobs. Specific locations where land use designation changes could occur under this alternative include:

- Westside: Eliminate all new commercial development; allow only residential.
- University Avenue: Allow residential-only buildings, assume second Sobrato site develops as residential, not office.
- Gateway 101 Shopping Center: Allow residential-only buildings on portions of the site. This would eliminate some of the office in favor of more residential.
- East Bayshore Road: Convert Mixed Use Low land uses to residential-only and remove the potential for new commercial development.

A greater array of housing could help address the regional housing shortage, reduce the cost of housing in a high-priced market, and potentially alleviate transportation impacts by reducing regional commuting. However, this alternative would worsen the City's jobs-housing balance, and would result in higher vehicles miles traveled (VMT) per capita in the City, as residents would be more likely to seek employment outside of East Palo Alto.

Alternative 5: Theoretical Maximum Buildout

Alternative 5 evaluates the theoretical possibility that every parcel in East Palo Alto would be built out to the new maximum level permissible under the General Plan Update.[3] This buildout estimate is based on current growth projections, knowledge of local sites within the City, and other demographic information. Under Alternative 5, overall development would be substantially greater than the project's land use development program. As compared with the General Plan Update, Theoretical Maximum Buildout would comprise approximately:

- 39 percent more population growth
- 53 percent more residential development
- 73 percent more retail development
- 63 percent more office development
- 90 percent more industrial development

[3] General Plan Update growth projections assume a more targeted, realistic number based on an analysis of local sites, potential for turnover, etc.

The purpose of this alternative is to provide readers with a theoretical understanding of the most extreme development scenario allowable by the General Plan Update. Thus, Alternative 5 assumes that all residential developments would be redeveloped to the maximum allowable residential density, and non-residential land would be redeveloped at the maximum allowable FAR. Given the hypothetical nature of Alternative 5, the analysis does not account for regulations that would, under normal planning circumstances, impede the attainment of maximum development densities.

The "maximum buildout" scenario is highly unlikely; nevertheless, this EIR includes this analysis because the General Plan Update land use classifications do provide the capacity for the buildout estimates presented above. As such, Alternative 5 serves as an extreme, "worst-case" scenario in this evaluation.

6.3 ANALYSIS OF ALTERNATIVES

Throughout this section, a description of each alternative is followed by a discussion of impacts relative to the project. As permitted by CEQA Guidelines Section 15126.6(d), impacts of the alternatives are discussed in less detail than those of the project, while providing an adequate level of detail for the reader to evaluate the comparative merits of each alternative. This section describes the impacts of each alternative compared to those identified for the proposed project in terms of whether the alternative: 1) avoids the project impact, 2) is the same as the project impact, 3) is substantially greater than the project impact, or 4) is substantially less than the project impact.

Table 6-2 at the end of this chapter lists all impacts associated with the proposed project relative to the CEQA thresholds. The table notes whether the project would result in impacts that are significant and unavoidable (SU), impacts that are less than significant with mitigation (LSM), impacts that are less than significant (LTS), or no impact (NI). For each impact or threshold, the table provides comparative impacts for each alternative.

6.3.3 ALTERNATIVE 1: NO PROJECT

Implementation of Alternative 1 assumes that the General Plan Update would not be adopted. Instead, new development in the City would follow the land use designations and policy guidance contained in the existing 1999 General Plan. The existing General Plan would continue to allow for new development in the City, but at different intensities and densities than the project.

Figure 6-1 shows the land use designations under Alternative 1 (i.e., existing land use designations under the 1999 General Plan). Continuation of the existing General Plan would not result in changes in these land use designations, or permitted density or intensity. Alternative 1 assumes that this historic rate of growth and change would continue into the future. When compared to the General Plan Update, allowable development under Alternative 1 would yield approximately 1,000 fewer residents, 1,100 fewer new dwelling units, and 3,900 fewer jobs.

Alternative 1 does not include the transportation and infrastructure improvements that would occur as part of the project, as outlined in **Chapter 3.0, Project Description**. However, Alternative 1 would maintain the previously adopted Ravenswood/4 Corners Specific Plan, including the relevant land use designation and infrastructure improvements.

Aesthetics

Key scenic vistas in East Palo Alto are distant views of the East Bay hills and San Francisco Bay. Development in the City would not significantly obstruct scenic vistas under either the project or the alternative.

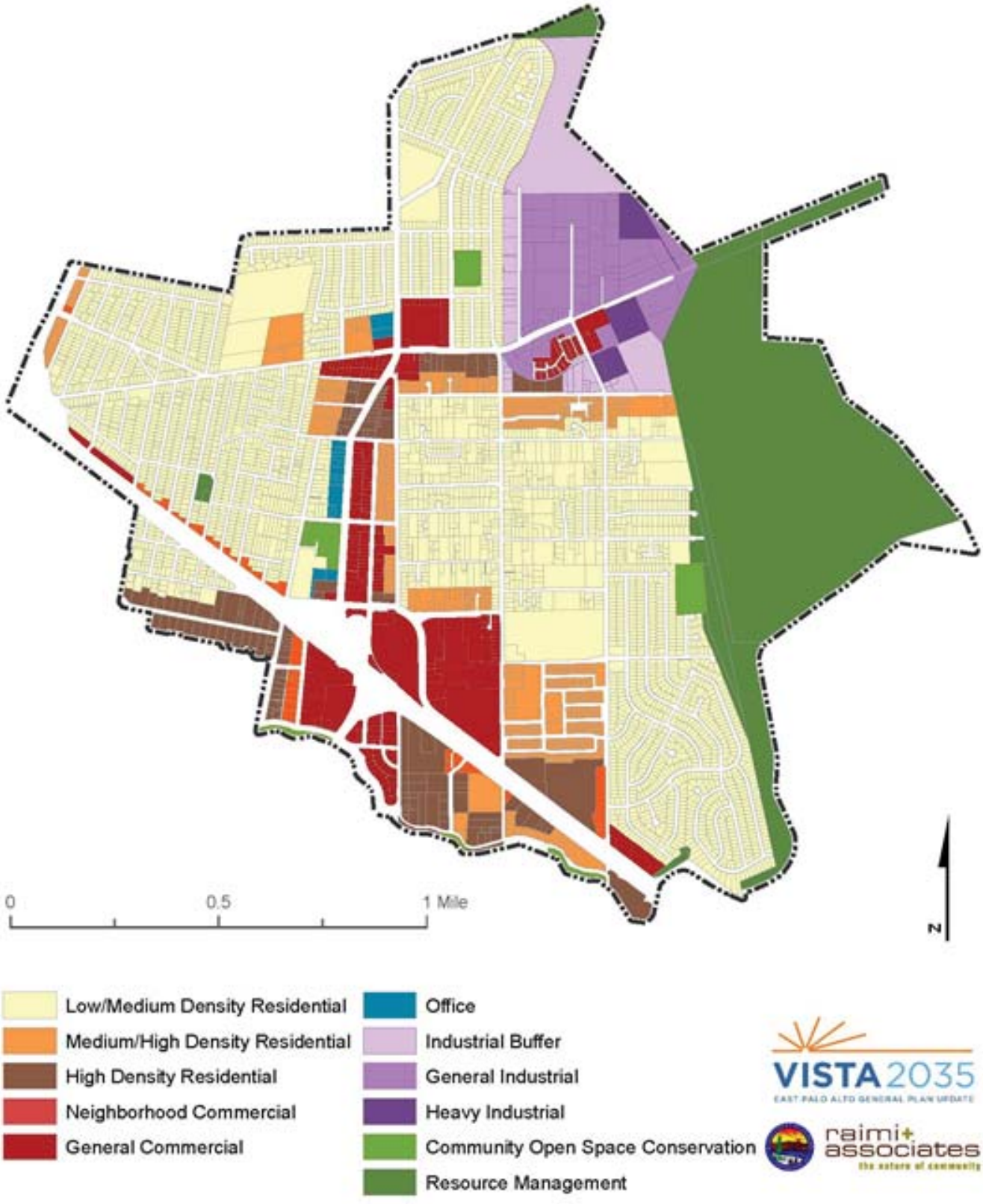
In terms of visual character, Alternative 1 would have greater aesthetic impacts than the project. Alternative 1 would maintain the City's existing visual character, while the General Plan Update contains numerous policies to visually enhance streetscapes, neighborhoods, and major transportation corridors.

While Alternative 1 would permit a lower overall level of new development than the project, the existing General Plan lacks detailed policy guidance related to reducing light and glare impacts. In comparison, the project proposes policies to reduce light and glare impacts. As such, future development under the General Plan Update would be required to incorporate stronger measures to reduce light and glare than under current conditions.

Given the above, Alternative 1 would generally greater (but still less-than-significant) aesthetic impacts relative to the project.

Agriculture and Forest Resources

Neither Alternative 1 nor the project would have any impact on forestland or timberland. Alternative 1 would not result in any change to agricultural land, while the General Plan Update may conflict with an existing Williamson Act contract within the City. However, as discussed in **Section 4.2 Agriculture and Forest Resources**, this potential impact would only affect an approximately 1.2-acre



Source: 1999 General Plan, 2010 U.S. Census, San Mateo County GIS Enterprise Database and Santa Clara County, 2012.

Existing General Plan Land Use Designations **Figure 6-1**

Source: 1999 General Plan, 2010 U.S. Census, San Mateo County GIS Enterprise Database, and Santa Clara County, 2012.

property that is surrounded by urban land uses and is not currently under agricultural cultivation.

In sum, both the project and Alternative 1 would have similar, less-than-significant impacts to agriculture and forest resources.

Air Quality

Under Alternative 1, allowable growth would occur under the regulatory environment of the existing General Plan. Compared to the General Plan Update, Alternative 1 would allow fewer housing units and less employment-related growth. The project, by comparison, proposes a dense land use pattern that would reduce automobile dependency. The General Plan Update's emphasis on mixed-use development within focus areas could reduce per capita VMT relative to Alternative 1.

The reduced level of development under Alternative 1 could generate less aggregate traffic and lower associated emissions than the General Plan Update. The General Plan Update would result in VMT increasing at a higher rate than population, thereby conflicting with the *Bay Area 2010 Clean Air Plan* (CAP), constituting a significant and unavoidable impact. Because the CAP used growth projections that are based on the existing General Plan to formulate compliance strategies, Alternative 1 would be consistent with this aspect of the CAP. However, Alternative 1 would be less consistent than the General Plan Update with the seven transportation control measures (TCMs) in the CAP. Although the City currently engages in a number of efforts to reduce vehicle trips, the General Plan Update would formalize these as policies and programs.

Alternative 1 does not incorporate the latest Bay Area Air Quality Management District (BAAQMD) Guidance regarding toxic air contaminants (TACs), whereas the General Plan Update includes policies to deal with this topic. The General Plan Update also includes stronger, more definitive policies than Alternative 1 for protecting people from exposure to unpleasant odors. Both the project and Alternative 1 would allow new residential uses near sources of odors and TACs, and impacts would be similar, though slightly greater under Alternative 1 due to less stringent policies.

Construction of new development could expose sensitive receptors to pollutant concentrations. The lower level of development under Alternative 1 would be expected to have a negligible reduction in construction-related air pollution relative to the project, given that construction would be spread throughout the 25-year horizon of the General Plan Update.

Biological Resources

Alternative 1 would allow for less new development than the General Plan Update. However, it would not include the General Plan Update's policies and programs that to avoid or minimize impacts to biological resources in the City. The presence of older and less stringent biological resource protection policies under Alternative 1 may result in greater impacts to biological resources than the General Plan Update. Both the project and Alternative 1 would have less-than-significant impacts to biological resources.

Cultural Resources

Alternative 1 would allow for less new development than the General Plan Update. This alternative is less likely to impact cultural resources, because fewer sites would be disturbed by construction. Both the project and Alternative 1 would have less-than-significant impacts to cultural resources.

Geology and Soils

Both the project and Alternative 1 would allow new growth in the City, all of which would be constructed amidst similar existing geologic conditions. Site-specific conditions are the primary driver of impacts with regard to geology and soils. All new development under either scenario would be subject to existing regulations regarding seismic safety. The relatively lower level of overall development under Alternative 1 would constitute a slight reduction in geology and soils impacts relative to the project, but the impacts would be less than significant in both scenarios.

Greenhouse Gas Emissions and Energy

Both the project and Alternative 1 would foreseeably result in new development that would generate greenhouse gas (GHG) emissions. The relatively lower level of overall development under Alternative 1 may result in lower GHG emissions than the project. However, as discussed in **Section 4.7, Greenhouse Gas Emissions and Energy,** the General Plan Update would include multiple goals and policies to reduce GHG emissions from new and existing sources, which would not take effect under Alternative 1. Construction of new development under the General Plan Update would produce fewer GHGs than construction of a lower level of new development under Alternative 1. Therefore, the project and Alternative 1 would have similar, less-than-significant impacts related to GHG emissions.

Since Alternative 1 would result in a lower level of development, it is less likely to result in a wasteful or inefficient use of energy when compared to the project. However, General Plan Update proposes multiple goals and policies to promote energy efficiency in both existing and new development, which would not take effect under Alternative 1. Though both the project and Alternative 1 would have less-than-significant impacts related to wasteful energy consumption, Alternative 1 would not apply the energy efficiency standards proposed by the project, and would therefore have a higher level of impact to energy resources.

Hazards and Hazardous Materials

Both the project and Alternative 1 would allow new growth to occur in parts of the City, which contains known areas of contamination and natural hazards. All new development under the project or Alternative 1 would be subject to pertinent regulations protecting public health and safety from such hazards. Moreover, hazards and hazardous materials impacts are highly dependent upon site-specific conditions. With adherence to all existing regulations, the project and Alternative 1 would have relatively similar impacts in terms of hazards, though they would be slightly less under Alternative 1 due to the overall lower level of development.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would inform future development under both Alternative 1 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Alternative 1 would not include the project's proposed long-term improvements to the existing transportation network. Alternative 1 would include approximately the same number of local and regional roadways as proposed in the General Plan Update that would provide emergency access routes for residents, employees, and visitors in the community. Therefore, this impact would be approximately the same for the alternative and the project.

Hydrology and Water Quality

The City is fully urbanized, composed largely of impervious surfaces, though City margins, such as Bayfront areas, are not impervious. Both the project and Alternative 1 would allow new construction to occur in the City, which could increase the amount of impervious surfaces, stormwater runoff, erosion, and sedimentation, which may result in degraded water quality. All future development under both the project and Alternative 1 would be regulated by the Federal Clean Water Act, National Pollutant Discharge Elimination System (NPDES) Permits, and state and local regulations discussed in **Section 4.9, Hydrology and Water Quality**, which would protect water quality.

Increases in the amount of impervious surfaces under Alternative 1 and the General Plan Update could result in greater stormwater runoff that would need to be accommodated in the local and regional storm drainage system. Goals and policies included in the General Plan Update would require new development to construct upgrades to the City's drainage system. Such improvements are less certain to occur under Alternative 1. Therefore, impacts related to drainage could be slightly greater under Alternative 1.

As allowable development under Alternative 1 could occur at a lower intensity than under the General Plan Update, Alternative 1 may result in fewer impervious surfaces, thus having a slightly lesser impact to groundwater recharge than the project.

Both the General Plan Update and Alternative 1 would allow development within the 100-year and 500-year floodplains, as well as in areas with elevated risk of seismic-related seiche and mudflow. However, the General Plan Update provides better policy protection from such risks than Alternative 1. Thus, impacts related to flooding, seiche, and mudflow would be slightly greater for Alternative 1.

Land Use and Planning

While Alternative 1 would maintain current land use designations, the General Plan Update would more effectively promote the City's current land use plans by encouraging compact, mixed use development. In addition, numerous programs and policies within the General Plan Update allow for greater consistency with applicable state and regional plans versus the existing General Plan. In particular, the General Plan Update supports the City's coordination with San Francisco Bay Conservation and Development Commission (BCDC) to ensure consistency with the BCDC's *San Francisco Bay Plan*. The existing General Plan does not include such comparable policies.

Finally, the amount of allowable development under the General Plan Update has been crafted to meet the City's Regional Housing Needs Allocation (RHNA) from 2014-2022. Continuation of the existing General Plan and its housing element (covering the 1999-2007 RHNA period) would not enable the City to meet the current RHNA obligation. In all, Alternative 1 would result in less consistency with pertinent state and regional plans relative to the General Plan Update.

Both the project and Alternative 1 would result in less-than-significant impacts to community division and land use conflicts. Neither Alternative 1 nor the project would involve development that would conflict with a habitat conservation plan or natural community conservation plan.

Noise and Vibration

Both the project and Alternative 1 would allow for new development to occur in the City, which would generate additional vehicle trips. New development and new vehicle trips may influence noise levels in the City. Development allowed under the General Plan Update is not expected to exceed the City's noise thresholds. Alternative 1 would allow for less new development relative to the project; therefore, Alternative 1's contribution of new noises would be incrementally lower.

Alternative 1 and the General Plan Update allow for the same level of residential development near the currently inactive Dumbarton Rail Corridor. Should this corridor become active, nearby residences could experience vibration impacts. Potential impacts related to this corridor would be similar for Alternative 1 and the project.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 1 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Population and Housing

The General Plan Update would indirectly lead to population growth by encouraging new residential land uses. The City currently contains 7,477 housing units. The project would allow for future development of about 2,500 more units, while Alternative 1 would allow for future development of about 1,300 more units. The reduced level of development allowable under Alternative 1 represents a lower displacement potential, but may hinder the City's ability to meet its RHNA obligations.

Ultimately, existing regulations to prevent displacement would result in less-than-significant impacts related to population and housing under both the project and Alternative 1. However, the project proposes additional policies to reduce the risk of displacement, and improve housing options within the City. These policies would not take effect under Alternative 1.

Public Services and Recreation

Relative to the project, the lower level of development under Alternative 1 would result in less population and job growth. Alternative 1 would thus create less new demand for public services, including fire protection, police protection, schools, and libraries, and recreational facilities like parks and open spaces. As such, impacts related to the provision of public services would be less under Alternative 1 than

under the General Plan Update. Both the project and Alternative 1 would have less-than-significant impacts on public services and recreation.

Transportation and Traffic

Many intersections and roadways in the City experience congestion and are projected to operate at unacceptable levels of service under Alternative 1 or the project. Project-generated trips contribute to significant and unavoidable traffic impacts at five intersections and three roadway segments. While the project's trip contribution would be small relative to overall traffic in the area, this contribution would still degrade existing levels of service and volume-to-capacity ratios to the extent that a significant impact would occur. Alternative 1 would result in smaller, but still significant, traffic impacts.

Neither the project nor the alternative would change air traffic patterns, increase hazards due to design features, hamper emergency access, or conflict with policies regarding public transit, bicycle, or pedestrian facilities.

Utilities and Service Systems

The City has identified several utility and service system infrastructure deficiencies (e.g., with the stormwater drainage system). In addition, the City's existing water supplies would not be sufficient to meet increased demand generated by project-related development. The lower level of development under Alternative 1 would translate to less water demand, less wastewater and solid waste generation, and a reduced need to upgrade infrastructure systems. Therefore, impacts to utilities and service systems under Alternative 1 would be at a lower intensity than those of the project. However, Alternative 1 would not include the infrastructure and water supply concurrency provisions of the project.

6.3.4 ALTERNATIVE 2: REDUCED INTENSITY

Alternative 2 assumes that future development in East Palo Alto would be guided by reduced version of the General Plan Update that would lower the level of development by 25 to 40 percent. Under Alternative 2, development of all land use types would be less than envisioned in the General Plan Update. As discussed above, Alternative 2 would achieve reduced intensity through the following changes:

- Lowering the maximum Floor Area Ratio (FAR) in Commercial land use designation to 1.0 FAR from 2.0.
- Converting the Gateway 101 Shopping Center m Mixed Use High to Commercial.

- Changing the land use designation along University Avenue Corridor (1.75 FAR and 5 stories) to Mixed Use Low (up to 21 du/ac and .35 FAR).
- Changing the land use designation at University/Donohoe (north) from Mixed Use High to Mixed Use Low or Commercial.
- Changing the land use designation for properties South of Ravenswood from High Density Residential to Medium Density Residential.
- Prohibiting accessory dwellings on residential parcels less than 6,000 square feet.

Environmental impacts of Alternative 2, relative to the proposed project, are as follows.

Aesthetics

New development under the project and Alternative 2 would be subject to the goals and policies identified in **Section 4.1, Aesthetics**, to improve the City's visual character and control sources of light and glare. Although new development under Alternative 2 would occur at lower densities and intensities than under the proposed project, aesthetic impacts between these two scenarios would be comparable and less than significant.

Agriculture and Forest Resources

Neither Alternative 2 nor the project would have any impact on forestland or timberland. The General Plan Update may conflict with an existing Williamson Act contract within the City. However, as discussed in **Section 4.2 Agriculture and Forest Resources**, this potential impact would only affect an approximately 1.2-acre property that is surrounded by urban land uses and is not currently under agricultural cultivation. Reduced development under Alternative 2 is slightly less likely to conflict with this Williamson Act contract. In sum, both the project and Alternative 2 would have similar, less-than-significant impacts to agriculture and forest resources.

Air Quality

Compared to the project, the lower level of development under Alternative 2 would result in reduced air quality impacts. However, VMT would still increase at a higher rate than population, leading to greater regional emissions of non-attainment air pollutants and their precursors. Construction and operation of new development under Alternative 2 may also result in emission of non-attainment air pollutants and TACs near sensitive receptors, which may result in increased health risks.

Though these impacts can be diminished through plan-level mitigation and project-level analysis, Alternative 2 would still have significant and unavoidable impacts related to non-attainment air pollutants, TACs, and inconsistency with the BAAQMD 2010 *Clean Air Plan*. While reduced development intensity would, like the project, result in significant and unavoidable impacts, these impacts would be less under Alternative 2 than under the General Plan Update.

Biological Resources

Alternative 2 would allow for less intensive new development than would be permitted by the project. Additionally, General Plan Update policies and programs to avoid or minimize impacts to biological resources would still apply to Alternative 2. Therefore, impacts to biological resources would be less under Alternative 2 than under the General Plan Update.

Cultural Resources

The decreased level of development allowed under Alternative 2 would generate fewer construction-related activities that could impact known and unknown cultural resources than the General Plan Update. However, East Palo Alto is already substantially built out and impacts to cultural or Native American resources would likely be minimal under Alternative 2 or the General Plan Update.

Geology and Soils

Both the project and Alternative 2 would allow new growth in the City, which would be constructed amidst similar existing geologic and soils conditions. Site-specific conditions are the primary driver of impacts with regard to geology and soils. All new development constructed under either scenario would be subject to existing regulations regarding seismic safety. The relatively lower level of overall development under Alternative 2 would constitute a slight reduction in geology and soils impacts relative to the project, but the impacts would be less than significant in both scenarios.

Greenhouse Gas Emissions and Energy

Both the project and Alternative 2 would result in new development that would emit GHGs below the BAAQMD threshold. However, reduced allowable development under Alternative 2 could also be expected to reduce automobile traffic. Alternative 2's degree of impact would therefore be less than that under the General Plan Update. Alternative 2 would also apply new policies and goals proposed in the General Plan Update to reduce GHG emissions.

Alternative 2 would apply the goals and policies proposed in the General Plan Update to improve energy efficiency in old and new development across the City. Since Alternative 2 would result in a lower level of development, it is less likely to result in a wasteful or inefficient use of energy when compared to the project.

Hazards and Hazardous Materials

Both the project and Alternative 2 would allow new growth to occur in parts of the City, which contains known areas of contamination and natural hazards. All new development under the project or Alternative 2 would be subject to all pertinent regulations protecting public health and safety from such hazards. Moreover, the reduced allowable intensity of development would result in less new square footage, but not necessarily a substantially lower level of hazards and hazardous materials impacts. Such impacts do not tend to vary substantially with building size but are instead highly dependent upon site-specific conditions. With adherence to all existing regulations, there would be no substantial difference in impacts between the project and the alternative in terms of hazards.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would inform future land use patterns in the airport vicinity. Therefore, future impacts in terms of airport safety hazards would be similar.

Alternative 2 and the project would have the same transportation network. As such, Alternative 2 would include approximately the same number of local and regional roadways as proposed in the General Plan Update that would provide emergency access routes for residents, employees, and visitors in the community. Therefore, this impact would be approximately the same for the alternative and the project.

Hydrology and Water Quality

Both the project and Alternative 2 would allow new construction to occur in the City. Development could increase the amount of impervious surfaces, stormwater runoff, erosion, and sedimentation, which could degrade water quality. However, East Palo Alto is mostly urbanized with impervious surfaces, and the lower development intensity under Alternative 2 does not necessarily equate to reduced water quality impacts. Development under both the project and Alternative 2 would be regulated by the Federal Clean Water Act, NPDES Permits, and state and local regulations to protect water quality. Given this, there would be no substantial difference in water quality impacts between the project and the alternative.

Both the project and Alternative 2 would allow development within the 100-year and 500-year floodplains, as well as in areas with elevated risk of seismic-related

seiche and mudflow. However, both the project and Alternative 2 provide the same policy protection from such risks. Thus, impacts related to flooding, seiche, and mudflow would be similar for both.

Land Use and Planning

Alternative 2, like the project, would encourage more compact urban development. Reduced development under Alternative 2, when compared to the project, would not materially reduce the intensity of land use impacts. However, the amount of allowable development under the General Plan Update has been crafted to meet the City's current RHNA. Alternative 2 may not meet the City's RHNA requirement.

Neither Alternative 2 nor the project would involve development that would sever existing communities or conflict with an adopted habitat conservation plan.

Noise and Vibration

Both the project and Alternative 2 would allow for new development to occur in the City, which would generate additional vehicle trips. New development and associated vehicle trips may influence noise levels in the City. Development allowed under the General Plan Update is not expected to exceed the City's noise thresholds. Since Alternative 2 would allow for less new development relative to the project, Alternative 2's contribution of new noises would be incrementally lower.

Alternative 2 and the General Plan Update allow for the same level of residential development near the currently inactive Dumbarton Rail Corridor. Should this corridor become active, nearby residences could experience vibration impacts. Potential impacts related to this corridor would be similar for Alternative 2 and the project.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 2 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Population and Housing

The General Plan Update would indirectly lead to population growth by encouraging new residential land uses. The City currently contains 7,477 housing units, and the project would allow for the construction of approximately 2,500 more units. The reduced development intensity under Alternative 2 would result in fewer housing units and a lower potential for displacement, but may hinder the City's ability to meet its regional housing obligations.

Ultimately, existing regulations to prevent displacement, along with additional policies proposed by the General Plan Update that would also apply to Alternative 2, would result in less-than-significant impacts related to population and housing under both the project and Alternative 2.

Public Services and Recreation

Relative to the project, the lower level of development under Alternative 2 would result in less population and job growth. Alternative 2 would thus create less new demand for public services, including fire protection, police protection, schools, and libraries, and recreational facilities, including parks and open spaces. As such, Alternative 2 would have less-than-significant impacts related to the provision of public services and these would be less under Alternative 2 than under the General Plan Update.

Transportation and Traffic

Many intersections and roadways in the City experience congestion and are projected to operate at unacceptable levels of service in the future regardless of the project. Project-generated trips contribute to significant and unavoidable traffic impacts at five intersections and three roadway segments. While the project's trip contribution would be small relative to overall traffic in the area, this contribution would still degrade existing levels of service and volume-to-capacity ratios to the extent that a significant impact would occur. With reduced development intensity, Alternative 2 would result in relatively less, but still significant, traffic impacts.

Neither the project nor the alternative would change air traffic patterns, increase hazards due to design features, hamper emergency access, or conflict with policies regarding public transit, bicycle, or pedestrian facilities.

Utilities and Service Systems

The City has identified several utility and service system infrastructure deficiencies (e.g., with the stormwater drainage system). In addition, the City's existing water supplies would not be sufficient to meet increased demand generated by project-related development. The lower level of development under Alternative 2 would translate to less water demand, less wastewater and solid waste generation, and a reduced need to upgrade infrastructure systems. Like the project, Alternative 2 would include infrastructure and water supply concurrency provisions for development projects. Therefore, impacts to utilities and service systems under Alternative 2 would be at a lower intensity than those of the project.

6.3.5 ALTERNATIVE 3: EMPLOYMENT FOCUS

This alternative would include replacing some planned residential land uses with commercial, particularly along University Avenue and other select locations, including:

- The land use designation for University Avenue would be changed from "Corridor" to General Commercial.
- The Mixed Use Low land use designation on East Bayshore would change to General Commercial.
- A small amount of High Density Residential in Westside neighborhood south of University Avenue would be changed to General Commercial or Office.
- The Mixed Use High land use designation located at Gateway 101 shopping center would be changed to an Office land use designation.
- The High Density Residential designated properties south of Ravenswood Specific Plan area would be changed to Industrial Buffer/Flex Overlay.

This section compares potential environmental impacts that would result from implementation of this alternative relative to the project.

Aesthetics

Both the project and Alternative 3 would allow for new development in the City. The project and Alternative 3 would both apply the goals and policies identified in **Section 4.1, Aesthetics**, intended to improve planning considerations with respect to visual character and light/glare in new development. While development under Alternative 3 would occur at lower densities and intensities than under the proposed project, aesthetic impacts would be generally similar. Aesthetics and visual effects of Alternative 3 would be at a similar less-than-significant level as the project.

Agriculture and Forest Resources

Neither Alternative 3 nor the project would have any impact on forestland or timberland. The General Plan Update may conflict with an existing Williamson Act contract within the City. However, as discussed in **Section 4.2 Agriculture and Forest Resources**, this potential impact would only affect an approximately 1.2-acre property that is surrounded by urban land uses and is not currently under agricultural cultivation. Alternative 3 has a similar likelihood to conflict with this Williamson Act contract. As such, both the project and Alternative 3 would have similar, less-than-significant impacts to agriculture and forest resources.

Air Quality

Under Alternative 3, an increase in commercial land uses and employment in East Palo Alto would likely result in more peak period vehicle trips with a slower VMT growth rate. Nevertheless, Alternative 3, like the project, would have significant and unavoidable impacts related to consistency with the BAAQMD 2010 *Clean Air Plan*. Alternative 3 would contain the same goals and policies as the General Plan Update to minimize construction impacts and long-term operational air quality impacts.

In terms of exposure TAC exposure, Alternative 3 would, like the project, result in significant impacts. However, this employment-focused alternative would result in fewer new residential land uses than the project, which are particularly sensitive to TACs. In sum, Alternative 3 would result in comparable, yet slightly reduced, impacts relative to the project.

Biological Resources

Alternative 3 would allow for approximately the same amount of new development as the General Plan Update, but with a greater emphasis on commercial and employment uses. General Plan Update policies and programs that would serve to avoid or minimize impacts to biological resources in the community would still apply to Alternative 3. Therefore, impacts to biological resources would be similar under Alternative 3 and the project.

Cultural Resources

Impacts to cultural resources under Alternative 3 would be comparable to impacts under the project, since the same amount of ground would be disturbed for development purposes. As previously noted, East Palo Alto is already substantially urbanized, and impacts to cultural or Native American resources would likely be minimal under either scenario.

Geology and Soils

Both the project and Alternative 3 would allow increments of new growth to occur in the City, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or Alternative 2 would be subject to existing regulations regarding seismic safety. While Alternative 3 would shift the type of development to include more commercial uses, development intensity would be the same. As such, future development under Alternative 3 would convert approximately the same amount of currently vacant land to urban

uses and the same quantity of existing properties converted to more intense uses. There would be no substantial difference in impacts between the project and Alternative 3.

Greenhouse Gas Emissions and Energy

Development under Alternative 3 would not be expected to exceed BAAQMD GHG thresholds, and there would be no substantial difference in emissions between Alternative 3 and the project. Alternative 3 would also apply the goals and policies proposed in the General Plan Update to improve energy efficiency in old and new development across the City. Therefore, both the project and Alternative 3 would have similar, less-than-significant impacts related to wasteful energy consumption.

Hazards and Hazardous Materials

Both the project and Alternative 3 would allow new growth to occur in parts of the City, which contains known areas of contamination and natural hazards. All new development under the project or Alternative 3 would be subject to all pertinent regulations protecting public health and safety from such hazards. Moreover, hazards and hazardous materials impacts are highly dependent upon site-specific conditions. With adherence to all existing regulations, the project and Alternative 3 would have relatively similar impacts in terms of hazards.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 3 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Alternative 3 would include the same provisions in the General Plan Update that pertain to providing emergency access for residents, employees, and visitors in the community. Therefore, this impact would be approximately the same for the alternative and the project.

Hydrology and Water Quality

The City is fully urbanized and, except for certain parks and areas on the Bayfront, has extensive impervious surface coverage. Both the project and Alternative 3 would allow the same amount of new construction to occur in the City, with the alternative shifting a portion of residential development to commercial development. Development could increase the amount of impervious surfaces, stormwater runoff, erosion, and sedimentation, which could degrade water quality. The shift in the type, but not amount, of development under Alternative 3 would not result in differences in water quality impacts. All future development under both the project and Alternative 3 would be regulated by the Federal Clean Water

Act, NPDES Permits, and state and local regulations to protect water quality. Assuming that future development would adhere to these regulations, there would be no substantial difference in water quality impacts between the project and Alternative 3.

Both the project and Alternative 3 would allow development within the 100-year and 500-year floodplains, as well as in areas with elevated risk of seismic-related seiche and mudflow. However, both the project and Alternative 3 would provide new policies to avoid or minimize damage resulting from such risks. Thus, impacts related to flooding, seiche, and mudflow would be similar for both the project and Alternative 3.

Land Use and Planning

A shift from residential to commercial land uses is the only substantial difference between the project and the Alternative 3. This shift would not materially reduce the intensity of any land use impacts identified under the project. However, the amount of residential development proposed under the General Plan Update was designed to meet the City's RHNA for 2014-2022. The employment-focused alternative may not meet this RHNA requirement.

Neither Alternative 3 nor the project would involve development that would be in conflict with a habitat conservation plan or natural community conservation plan. Impacts related to conflicts with applicable habitat conservation plans would be similar for Alternative 3 and the project.

Noise and Vibration

Both the project and Alternative 3 would allow for new development to occur in the City, which would generate additional vehicle trips. New development and new vehicle trips may influence noise levels in the City. Development allowed under the General Plan Update is not expected to exceed the City's noise thresholds. However, Alternative 3 would allow for less residential development relative to the project, creating fewer sensitive noise receptors.

Alternative 3 and the General Plan Update allow for the same level of residential development near the currently inactive Dumbarton Rail Corridor. Should this corridor become active, nearby residences could experience vibration impacts. Potential impacts related to this corridor would be similar for Alternative 3 and the project.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 3 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Population and Housing

Growth under Alternative 3 would generally follow development patterns established in the General Plan Update, but with an emphasis on commercial land uses over residential land uses. The City currently contains 7,477 housing units. The project would allow for future development of about 2,500 more units, while Alternative 3 would reduce the number of new housing units, thereby potentially reducing population growth relative to the project. In addition, Alternative 3 may be less likely to meet the City's RHNA relative to the project.

The City has significant regulations to prevent displacement, with additional policies contained in the General Plan Update, which would apply to both the project and Alternative 3. However, this employment-focused alternative may convert existing residential land uses into commercial land uses without constructing the amount of replacement housing proposed by the project. Therefore, the potential for displacement under Alternative 3 is higher than under the project.

Public Services and Recreation

Relative to the project, Alternative 3 would result in an overall lower level of residential development and, hence, population growth, and an overall higher level of commercial development and, hence, job growth. As such, Alternative 3 may result in slightly less new demand for public services than the project.

Transportation and Traffic

Many intersections and roadways in the City experience congestion and are projected to operate at unacceptable levels under Alternative 3 or the project. Project-generated trips would contribute to significant and unavoidable traffic impacts at five intersections and three roadway segments. While the project's trip contribution would be small relative to overall traffic in the area, this contribution would still degrade existing levels of service and volume-to-capacity ratios to the extent that a significant impact would occur. With an emphasis on commercial development in the City, Alternative 3 would likely result more peak period vehicle trips with a slower VMT growth rate. However, Alternative 3 would not generate substantially different traffic impacts relative to the project.

Neither the project nor Alternative 3 would change air traffic patterns, increase hazards due to design features, hamper emergency access, or conflict with policies regarding public transit, bicycle, or pedestrian facilities.

Utilities and Service Systems

Alternative 3 would allow for approximately the same amount of new growth as permitted by the project. However, residential land uses typically demand more water than commercial land uses. As such, a shift from residential to commercial development under Alternative 3 would reduce water demand relative to the project. Wastewater generation, solid waste generation, and the need to upgrade infrastructure systems under Alternative 3 would be similar to the project. Like the project, Alternative 3 would include infrastructure and water supply concurrency requirements for future development. Impacts regarding long-term water supply would be similar to those of the project.

6.3.6 ALTERNATIVE 4: RESIDENTIAL FOCUS

Alternative 4 proposes emphasizing residential development over commercial development in some portions of East Palo Alto with residential development, such as adjacent to Highway 101 in the Gateway 101 Shopping Center area. This alternative would also include increasing the amount of residential development on properties designed for mixed land uses and potentially integrating a residential component into office developments. A greater array of housing could help alleviate the regional housing shortage and reduce the cost of housing in this relatively costly region.

Specific areas that would see a change under Alternative 4 are:

- Westside: Eliminate all new commercial development; allow only residential
- University Avenue: Allow residential-only buildings, assume second Sobrato site develops as residential, not office.
- Gateway 101 Shopping Center: Allow residential-only buildings on portions of the site. This would eliminate some of the office in favor of more residential.
- East Bayshore Road: Convert Mixed Use Low land uses to residential-only and remove the potential for new commercial development.

Alternative 4 would redistribute development capacity from employment uses to residential uses in the Westside area, University Avenue corridor, Gateway district, and East Bayshore Road corridor. The overall outcome would be an additional 400 multi-family housing units and a decrease of 800 jobs.

Aesthetics

New development under the project and Alternative 4 would be subject to the goals and policies identified in **Section 4.1, Aesthetics**, to improve the City's visual character and control sources of light and glare. As development intensity would be similar under either the project or the alternative, aesthetic impacts under the project and Alternative 4 would be comparable and less than significant.

Agriculture and Forest Resources

Neither Alternative 4 nor the project would have any impact on forestland or timberland. The General Plan Update may conflict with an existing Williamson Act contract within the City. However, as discussed in **Section 4.2 Agriculture and Forest Resources**, this potential impact would only affect an approximately 1.2-acre property that is surrounded by urban land uses and is not currently under agricultural cultivation. Alternative 4 has a similar likelihood to conflict with this Williamson Act contract. In sum, both the project and Alternative 4 would have less-than-significant impacts to agriculture and forest resources.

Air Quality

Under Alternative 4, less employment growth would likely result in fewer peak period vehicle trips, resulting in somewhat lower air quality impacts than the project. However, VMT under Alternative 4 would still increase at a higher rate than population, especially because there would be fewer job sources within the City, which would require more City residents to commute farther for work. This would result in greater regional emissions of non-attainment air pollutants and their precursors. Construction of and operation of new development under Alternative 4 would result in emission of non-attainment air pollutants and TACs. By focusing on residential land uses, Alternative 4 would also create more sensitive receptors than the project.

Though these impacts can be diminished through plan-level mitigation and project-level analysis, Alternative 4 would still have significant and unavoidable impacts related to non-attainment air pollutants, TACs, and inconsistency with the BAAQMD 2010 *Clean Air Plan*.

Biological Resources

Alternative 4 would allow for approximately the same amount of new development as the General Plan Update, but with a greater emphasis on residential land uses. General Plan Update policies and programs that would serve to avoid or minimize

impacts to biological resources in the community would still apply to Alternative 4. Therefore, impacts to biological resources would be similar under Alternative 4 and the project.

Cultural Resources

Impacts to cultural resources under Alternative 4 would be approximately the same as under the project, since the same amount of ground would be disturbed for development purposes. East Palo Alto is substantially urbanized, and impacts to cultural or Native American resources would likely be minimal under Alternative 4 and the project.

Geology and Soils

Both the project and Alternative 4 would allow increments of new growth to occur in the City, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or Alternative 4 would be subject to existing regulations regarding seismic safety. While Alternative 4 would shift the type of development to include more residential uses, development intensity would be the same. As such, future development under Alternative 4 would convert approximately the same amount of currently vacant land to urban uses and the same quantity of existing properties converted to more intense uses. There would be no substantial difference in impacts between the project and Alternative 4.

Greenhouse Gas Emissions and Energy

Development under Alternative 4 would not be expected to exceed BAAQMD GHG thresholds, and there would be no substantial difference in emissions between Alternative 4 and the project. Alternative 4 would also apply the goals and policies proposed in the General Plan Update to improve energy efficiency in old and new development across the City. Therefore, both the project and Alternative 4 would have similar, less-than-significant impacts related to wasteful energy consumption.

Hazards and Hazardous Materials

Both the project and Alternative 4 would allow new growth to occur in parts of the City, which contains known areas of contamination and natural hazards. All new development under the project or Alternative 4 would be subject to all pertinent regulations protecting public health and safety from such hazards. Moreover, hazards and hazardous materials impacts are highly dependent upon site-specific

conditions. With adherence to all existing regulations, the project and Alternative 4 would have relatively similar impacts in terms of hazards.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 4 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Alternative 4 would include the same provisions in the General Plan Update that pertain to providing emergency access for residents, employees, and visitors in the community. Therefore, this impact would be approximately the same for the alternative and the project.

Hydrology and Water Quality

Hydrology and water quality impacts would be at less-than-significant levels for both the project and Alternative 4. The City is fully urbanized, composed largely of impervious surfaces, though City margins, such as Bayfront areas, are not impervious. Both the project and Alternative 4 would allow the same amount of new construction to occur in the City, with the alternative shifting a portion of commercial development to residential development. Development could increase the amount of impervious surfaces, stormwater runoff, erosion, and sedimentation, which could degrade water quality. The shift in the type of development under Alternative 4 would not result in differences in water quality impacts. All future development under both the project and Alternative 4 would be regulated by the Federal Clean Water Act, NPDES Permits, and state and local regulations to protect water quality. Assuming that future development would adhere to these regulations, there would be no substantial difference in water quality impacts between the project and Alternative 4.

Both the project and Alternative 4 would allow development within the 100-year and 500-year floodplains, as well as in areas with elevated risk of seismic-related seiche and mudflow. However, both the project and Alternative 4 would provide new policies to avoid or minimize damage resulting from such risks. Thus, impacts related to flooding, seiche, and mudflow would be similar for both the project and Alternative 4.

Land Use and Planning

A shift from commercial to residential land uses is the only substantial difference between the project and the Alternative 4. This shift would not materially reduce the intensity of any land use impacts. Neither Alternative 4 nor the project would involve development that would be in conflict with a habitat conservation plan or

natural community conservation plan. Impacts related to land use and planning would be similar for Alternative 4 and the project.

Noise and Vibration

Both the project and Alternative 4 would allow for new development to occur in the City, which would generate additional vehicle trips. New development and new vehicle trips may influence noise levels in the City. Development allowed under the General Plan Update is not expected to exceed the City's noise thresholds. However, Alternative 4 would allow for more residential development relative to the project, creating additional sensitive noise receptors.

Alternative 4 and the General Plan Update allow for the same level of residential development near the currently inactive Dumbarton Rail Corridor. Should this corridor become active, nearby residences could experience vibration impacts. Potential impacts related to this corridor would be similar for Alternative 4 and the project.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 4 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Population and Housing

New development allowed by Alternative 4 would generally follow existing growth and development patterns as set forth in the General Plan Update, but with a development pattern that would emphasize residential land uses over commercial land uses. The City as a whole contains 7,477 housing units. The project would allow for future development of about 2,500 more units, while Alternative 4 would further increase the number of new housing units in the City. Therefore, Alternative 4 may lead to higher population growth than the project.

The City has significant regulations to prevent displacement, with additional policies contained in the General Plan Update, which would apply to both the project and Alternative 4. Neither the project nor the alternative would substantially displace people or housing units and impacts to population.

Public Services and Recreation

Both the project and Alternative 4 would have less-than-significant impacts on public services and recreation. Relative to the project, Alternative 4 would result in an overall lower level of commercial development and, hence, job growth, and an overall higher level of residential development and, hence, population growth. As

such, Alternative 4 may result in greater new demand for public services, including fire protection, police protection, schools, and libraries, and recreational facilities, including parks and open spaces.

Transportation and Traffic

Many intersections and roadways in the City experience congestion and are projected to operate at unacceptable levels of service in the future regardless of the project. Project-generated trips contribute to significant and unavoidable traffic impacts at five intersections and three roadway segments. While the project's overall contribution of trips is small relative to overall traffic levels in the area, the contribution is such that existing levels of service and volume-to-capacity ratios are worsened to the extent that results in a significant impact. With a shift in the type, but not amount, of development relative to the project, Alternative 4 would not generate substantially different traffic congestion impacts. More residential uses instead of more commercial uses might result in slower peak period traffic growth but would not foreseeably reduce local VMT (with fewer job opportunities in East Palo Alto, more residents would need to travel outside the community for jobs).

Neither the project nor the alternative would change air traffic patterns, increase hazards due to design features, hamper emergency access, or conflict with policies regarding public transit, bicycle, or pedestrian facilities.

Utilities and Service Systems

Alternative 4 would allow for approximately the same amount of new growth as permitted by the project. However, residential development typically uses much more water than commercial development. As such, a shift from commercial development to residential development would increase water demand relative to the project. Wastewater generation, solid waste generation, and the need to upgrade associated infrastructure systems under Alternative 4 would be similar to the project.

Although East Palo Alto has a very low per capita water use rate, increased residential uses in favor of more commercial development would likely increase demands for potable water relative to the project. Impacts regarding water supply would be similar to those of the project.

6.3.7 ALTERNATIVE 5: THEORETICAL MAXIMUM BUILDOUT

Alternative 5 evaluates the theoretical possibility that every parcel in East Palo Alto would be built out to the new maximum level permissible under the General Plan Update. This alternative would be unlikely to occur as, only a relatively small percentage of parcels citywide would see new or intensified development with the General Plan Update. **Table 6-1** shows the existing and projected population, housing and industrial growth associated with both the project and Alternative 5.

Table 6-1 Comparison between Existing Conditions, General Plan Update, and Theoretical Maximum Buildout

	Existing	General Plan Update (2040)	Theoretical Maximum Buildout (2040)
Total Population	30,017	37,781	52,629
Total Dwelling Units	7,187	9,706	14,849
Total Retail (sf)	591,600	925,006	3,489,800
Total Office (sf)	763,200	2,703,053	7,374,400
Total Industrial (sf)	93,000	360,987	3,701,600

Source: Circlepoint, 2016

Under the Theoretical Maximum Buildout Alternative, overall development would be substantially greater than the project's land use development program. As compared with the General Plan Update, Theoretical Maximum Buildout would comprise approximately:

- 39 percent more population growth
- 53 percent more residential development
- 73 percent more retail development
- 63 percent more office development
- 90 percent more industrial development

The purpose of the Theoretical Maximum Buildout Alternative is to provide readers with a theoretical understanding of what the highest extent of development in the City and its entire planning area would represent. Thus, this theoretical buildout scenario assumes that all residential developments would be redeveloped to the maximum point of their allowable residential density, and likewise, that non-

residential land would be redeveloped at the maximum allowed FAR. These hypothetical maximum buildout scenarios assume that the maximum density of the entire City and its planning area would be reached according to the land use designations outlined in the General Plan Update.

Given the hypothetical nature of the Theoretical Maximum Buildout, the analysis does not account for regulations that would, under normal planning circumstances, affect/impede the attainment of maximum development densities.

The "maximum buildout" scenario is considered highly unlikely to occur; nevertheless, this Program EIR includes an analysis of this scenario because the General Plan Update land use classifications do provide the theoretical capacity for the buildout estimates presented above. As such, Alternative 5 serves as an extreme, "worst-case" scenario in this evaluation.

Environmental impacts of Alternative 5, relative to the proposed project, are as follows.

Aesthetics

Aesthetic and visual effects of Alternative 5 would be greater than the project. Both the project and Alternative 5 would allow for new development and both would institute the project's goals and policies intended to improve site planning considerations with respect to visual character and light and glare, which generally enhance the appearance of individual projects. While development under Alternative 5 would occur at much higher densities and intensities than under the proposed project, all projects would be required to adhere to the City policies that pertain to preserving aesthetic appeal within the City, as well as reducing the light and glare potentially generated by new developments. Development under the Theoretical Maximum Buildout, however, would still result in an entirely different visual character than the project as there would be a significantly higher potential for light and glare irrespective of adherence to new policies.

Agriculture and Forest Resources

Neither Alternative 5 nor the project would have any impact on forestland or timberland. The General Plan Update may conflict with an existing Williamson Act contract within the City. However, as discussed in **Section 4.2 Agriculture and Forest Resources**, this potential impact would only affect an approximately 1.2-acre property that is surrounded by urban land uses and is not currently under agricultural cultivation. Increased development under Alternative 5 is more likely to conflict with this Williamson Act contract. In sum, both the project and Alternative 5 would have a less-than-significant impact to agriculture and forest resources.

Air Quality

Relative to the project, Alternative 5 would result in a significant increase in the amount of both new development and infill development that could impact air quality in East Palo Alto.

Under the Theoretical Maximum Buildout, substantially more square footage would be built than under the proposed General Plan Update. As a result, Alternative 5 would have much greater impacts related to consistency with the applicable Clean Air Plan. More intensive development would result in greater construction-level, operational, cumulative air quality impacts compared to the General Plan Update, as larger quantities of air pollutants would be released into the atmosphere. In addition, the alternative would have a high likelihood of increasing sensitive receptors, such as residential development, near new and existing sources of TACs and odors.

Given the above, Alternative 5 would result in a greater magnitude of significant and unavoidable air quality impacts. Alternative 5 would contain the same goals and policies as the General Plan Update to minimize construction impacts and long-term operational air quality impacts.

Biological Resources

Alternative 5 would allow for more intensive new development than permitted by the General Plan Update. However, General Plan Update policies and programs that would serve to avoid or minimize impacts to biological resources in the community would still apply to Alternative 5. New development everywhere in the City would likely result in substantial tree removal, even if trees were ultimately replaced. This would be a significant unavoidable impact. Therefore, impacts to biological resources would be greater under Alternative 5 than under the General Plan Update.

Cultural Resources

Although the increased level of development allowed under Alternative 5 would generate greater construction-related activities that could impact known and unknown cultural resources than the General Plan Update, East Palo Alto is already substantially built out and potential impacts to cultural or Native American resources would likely be minimal. However, because Alternative 5 would theoretically entail the maximum buildout of every parcel in the City, impacts to cultural resources would be significantly greater than under the project. A new significant impact would occur with implementation of Alternative 5, as existing

structures would be replaced with development at maximum allowable land use densities, and any potential risk to undiscovered buried cultural resources would be significantly greater than under the General Plan Update. As a result, impacts to historic features and structures would be significant and unavoidable under Alternative 5.

Geology and Soils

The project and Alternative 5 would result in similar levels of impacts to geology and soils. Both the project and Alternative 5 would allow increments of new growth to occur in the City, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or Alternative 5 would be subject to existing regulations regarding seismic safety. Moreover, although Alternative 5 would involve development at an increased intensity that the General Plan Update, the level of impact with regard to geology and soils issues do not tend to vary substantially with building size but are instead dependent upon site-specific conditions. The higher level of overall development under Alternative 5 would constitute a slight increase in geology and soils impacts relative to the project, but the impacts would be less than significant in both scenarios.

Greenhouse Gas Emissions and Energy

The higher intensity of development under Alternative 5 may emit GHGs beyond the BAAQMD threshold, resulting in a new significant impact that would not occur under the project. Alternative 5 would apply new policies and goals proposed in the General Plan Update to reduce GHG emissions.

Alternative 5 would apply the goals and policies proposed in the General Plan Update to improve energy efficiency in old and new development across the City. However, since Alternative 5 would result in a higher level of development, it would be more likely to result in a wasteful or inefficient use of energy when compared to the project.

Hazards and Hazardous Materials

Under Alternative 5, impacts related to the handling, use, transportation, and disposal of hazardous materials would increase; specifically, the handling of hazardous materials within close proximity to existing schools, as well as the increased development of properties listed on the Cortese List would occur. Both the project and Alternative 5 would allow new growth to occur in the City, all of which would be constructed in an area with known areas of contamination and subject to certain natural hazards. However, all new development under the project

or Alternative 5 would be subject to all pertinent regulations protecting public health and safety from such hazards. The increased density of development under Alternative 5 would result in more new square footage, and a resultant higher level of hazards and hazardous materials impacts. Redevelopment of every parcel in the City to the maximum allowable intensity, as proposed under Alternative 5, would require substantially more contaminated soil remediation and transport of hazardous materials to off-site disposal facilities. Ultimately, this would result in the cleanup of hazardous sites across the City, reducing hazards over the long term relative to the project.

The Santa Clara County Comprehensive Land Use Plan for Palo Alto Airport would guide future development under both Alternative 5 and the project. Therefore, future impacts in terms of airport safety hazards would be approximately the same.

Alternative 5 and the project would have the same basic existing transportation network. As such, Alternative 5 would include approximately the same number of local and regional roadways as proposed in the General Plan Update that would provide emergency access routes for residents, employees, and visitors in the community. Therefore, this impact would be approximately the same for the alternative and the project. With adherence to state and local regulations pertaining to the handling, transport, and disposal of hazardous wastes and materials, both the General Plan Update and Alternative 5 would have similar less than significant impacts to hazards.

Hydrology and Water Quality

Hydrology and water quality impacts would be at less-than-significant levels for both the project and Alternative 5. The City is fully urbanized, composed largely of impervious surfaces. Both the project and Alternative 5 would allow new construction to occur in the City, with Alternative 5 allowing a higher level of development intensity. Higher development intensity under Alternative 5 would increase the amount of impervious surfaces, stormwater runoff, erosion, and sedimentation, which would, in turn, decrease potential for infiltration and degrade water quality. All future development under both the project and Alternative 5 would be regulated by the Federal Clean Water Act, NPDES Permits, and state and local regulations to limit erosion and sedimentation and protect water quality. Despite that all future development would adhere to such regulations, there would be substantially greater impacts to hydrology and water quality under Alternative 5 relative to the project.

Both the project and Alternative 5 would allow development within the 100-year and 500-year floodplains, as well as in areas with elevated risk of seismic-related

seiche, and mudflow. However, both the project and Alternative 5 provide the same policy protection from such risks. Thus, impacts related to flooding, seiche, and mudflow would be similar, and less than significant, for both.

Land Use and Planning

Alternative 5 has a greater potential to divide communities and present land use conflicts relative to the project. As a result of the maximum intensity buildout associated with Alternative 5, the potential for conflicts with established land use and planning documents is significantly higher under Alternative 5 relative to the project. However, neither the project nor the alternative pose any foreseeable conflicts with any applicable land use plan, policy, or regulation, and impacts would be less than significant.

Neither Alternative 5 nor the project would involve development that would conflict with a habitat conservation plan or natural community conservation plan. Impacts related to conflicts with applicable habitat conservation plans would be similar, and less than significant, for both Alternative 5 and the project.

Noise and Vibration

Both the project and Alternative 5 would allow for new development to occur in the City and would result in additional construction as well as additional vehicle trips in the City. Construction and operation of new development, along with associated vehicle trips, have the potential to influence noise and vibration levels in the City. Though the level of growth under the General Plan Update is expected to stay within the City's noise standards, Alternative 5 could exceed these thresholds near noise-sensitive land uses. This represents a potentially significant impact under Alternative 5.

Alternative 5 would allow for a significantly greater level of residential development near the currently inactive Dumbarton Rail Corridor. Should this corridor become active, nearby residences could experience significant noise and vibration impacts. Potential impacts related to this corridor would be greater under Alternative 5 than under the project.

Both the project and Alternative 5 would allow for limited new development near the airport influence area of Palo Alto Airport. The Santa Clara County Comprehensive Airport Land Use Plan would govern land uses near Palo Alto Airport under both the proposed project and Alternative 5. However, the higher level of development under Alternative 5 could increase the likelihood of potential impacts when compared to the project.

Population and Housing

Alternative 5 would involve substantially greater population growth and development in the City in comparison to the project. The project and the alternative would indirectly lead to population growth through its proposed changes to existing land use regulation that would allow more residential uses and greater intensities of job-generating land uses.

The City has significant regulations to prevent displacement, with additional policies contained in the General Plan Update, which would apply to both the project and Alternative 5. However, even with adherence to these policies, the maximum theoretical buildout under Alternative 5 has a much greater potential to result in the displacement of people and housing relative to the project. Alternative 5 would result in more residential, commercial, and industrial development, resulting in new, significant unavoidable impacts when compared to the project.

Public Services and Recreation

Compared to the project, Alternative 5 would result in a much higher level of overall development intensity and, hence, population and job growth relative to the project. Alternative 5 would thus create more new demand for public services, including fire protection, police protection, schools, and libraries, and recreational facilities, including parks and open spaces. As such, impacts related to the provision of public services would be greater under Alternative 5 than under the General Plan Update. With the near doubling of population in the City relative to existing conditions, demand for public services would significantly increase under Alternative 5, and providers would likely need to expand their existing staffing levels and facilities to meet the needs of the larger population. Given this, impacts to public services and recreation may increase to significant and unavoidable levels under Alternative 5.

Transportation and Traffic

Both the project and Alternative 5 would have significant unavoidable impacts to transportation and traffic. Many intersections and roadways in the City experience congestion and are projected to operate at unacceptable levels of service in the future regardless of the project. Project-generated trips contribute to significant and unavoidable traffic impacts at five intersections and three roadway segments. While the project's overall contribution of trips would be small relative to overall traffic levels in the area, the contribution would be such that existing levels of service and volume-to-capacity ratios are worsened to the extent that would result in a significant impact. By substantially increasing development to the theoretical

maximum allowed, Alternative 5 would significantly increase traffic both within the City and on arterial roadways. Although Alternative 5 would also expand employment opportunities within the City, the magnitude of the increase in development is such that it is reasonable to infer significant and unavoidable new traffic impacts.

Neither the project nor the alternative would change air traffic patterns, increase hazards due to design features, hamper emergency access, or conflict with policies regarding public transit, bicycle, or pedestrian facilities.

Utilities and Service Systems

The City has some identified infrastructure deficiencies (e.g., with the stormwater drainage system). The City's existing water supplies would not be sufficient to meet increased demand generated by project-related development. Alternative 5 would allow for more intense development than the project, which would translate into an increased demand for water, increased wastewater generation, and increased solid waste generation, as well as an increased need to upgrade associated infrastructure systems. Therefore, impacts to utilities and service systems under Alternative 5 would be at a substantially higher intensity when compared to the project.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative among the alternatives to the project. The environmentally superior alternative is the alternative that would avoid or substantially lessen, to the greatest extent, the environmental impacts associated with the project. If the no project alternative is determined to be the environmentally superior alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other action alternatives (CEQA Guidelines Section 15126.6[e]).

The environmentally superior alternative was identified by comparing impacts associated with each alternative, as listed in **Table 6-2**. Based on this analysis, Alternative 2 (Reduced Intensity) is considered environmentally superior because it would reduce the severity of the project's impacts on air quality, transportation and traffic, and utilities and service systems. Though impacts related to these three topics would be reduced under Alternative 2, they would still remain significant and unavoidable. In addition, reduced development intensity under Alternative 2 may struggle to achieve some of the City's key project objectives, such as strengthening the tax base, improving the jobs-housing balance, creating high-density housing along University Avenue, and encouraging mixed use development.

Table 6-2 Summary Comparison of Impacts: Project and Alternatives

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Aesthetics						
Would the project have a substantial adverse effect on a scenic vista?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	NI	LTS	NI≈	NI≈	NI≈	NI≈
Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS↑
Agriculture and Forest Resources						
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland	NI	NI≈	NI≈	NI≈	NI≈	NI≈

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?						
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220[g]), timberland (as defined in Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])?	NI	NI≈	NI≈	NI≈	NI≈	NI≈
Would the project result in the loss of forest land or conversion of forest land to non-forest use?	NI	NI≈	NI≈	NI≈	NI≈	NI≈
Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	NI	NI≈	NI≈	NI≈	NI≈	NI≈

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Air Quality						
As a result of the project, VMT would increase by 35 percent and population would increase by 25 percent. Given that VMT would increase at a higher rate than population, the project would conflict with the *Bay Area 2010 Clean Air Plan*.	SU	LTS	SU↓	SU≈	SU↑	SU↑
The project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors.	SU	SU≈	SU↓	SU≈	SU↑	SU↑
VMT would increase at a rate higher than population growth, and the project would violate operational air quality standards.	SU	SU↑	SU↓	SU≈	SU↑	SU↑
The project has the potential to expose sensitive receptors to substantial pollutant concentrations during short-term construction-related activities, as well as long-term operational activities.	SU	SU↑	SU↓	SU↓	SU↑	SU↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
The project could create objectionable odors affecting a substantial number of people?	LSM	LSM↑	LSM↓	LSM≈	LSM≈	LSM↑
Biological Resources						
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑
Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑
Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	NI	NI≈	NI↓	NI≈	NI≈	NI↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Cultural Resources						
Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Section 15064.5?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project disturb any human remains, including those interred outside of formal cemeteries?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Geology and Soils						
Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						
Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS≈
Strong seismic ground shaking;	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Seismic-related ground failure, including: liquefaction; or	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Landslides.	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project result in substantial soil erosion or the loss of topsoil?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	NI	NI≈	NI≈	NI ≈	NI ≈	NI↑
Would the project result in the loss of availability of a known mineral resource that would be of value to the region or residents of the state?	NI	NI≈	NI≈	NI≈	NI≈	NI≈

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project result in the loss of availability of a mineral recovery site as shown on the General Plan, applicable specific plan or other land use plan?	NI	NI≈	LTS≈	LTS≈	LTS≈	LTS≈
Greenhouse Gas Emissions and Energy						
Would the project generate greenhouse gas emissions, either directly or indirectly; however, emissions would be below a level-of-significance per relevant thresholds?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	SU↑
Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	LTS	LTS≈	LTS↓	LTS≈	LTS≈	SU ↑
Would the project result in a wasteful or inefficient consumption of energy?	LTS	LTS↑	LTS↓	LTS≈	LTS≈	LTS↑
Hazards and Hazardous Materials						
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS	LTS↓	LTS≈	LTS≈	LTS≈	LTS↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LTS	LTS↓	LTS≈	LTS≈	LTS≈	LTS↑
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school?	LTS	LTS↓	LTS≈	LTS≈	LTS≈	LTS↑
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport public use airport, would the project result in a safety hazard for people residing or working in the project area?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑
Would the project expose people or structures to a significant loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Hydrology and Water Quality						
Would the project violate any water quality standards or waste discharge requirements?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS≈

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	NI	NI↓	NI≈	NI≈	NI≈	NI≈
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS↑
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS≈

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS≈
Would the project otherwise substantially degrade water quality?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow?	LTS	LTS↑	LTS≈	LTS≈	LTS≈	LTS≈
Land Use and Planning						
Would the project physically divide an established community?	NI	NI≈	NI≈	NI≈	NI≈	LTS
Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	NI	LTS	NI≈	NI≈	NI≈	LTS
Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	NI	NI≈	NI≈	NI≈	NI≈	LTS

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Noise and Vibration						
The project would temporarily expose people to, and generate, noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies?	LTS	LTS↓	LTS↓	LTS↓	LTS↑	SU
Would the project expose people to or generate excessive groundborne vibration or groundborne noise levels?	LSM	LTS↓	LSM≈	LSM≈	LSM≈	SU
Increased traffic, transportation, and infrastructure associated with the project would create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	SU
The project would create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	LSM	LTS↓	LSM↓	LSM≈	LSM≈	SU

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Aircraft noise over proposed noise-sensitive land uses would exceed ALUC noise thresholds, which could expose individuals living and working within the plan area to excessive aircraft noise.	LTS	LTS≈	LTS↓	LTS≈	LTS≈	LTS↑
Population and Housing						
Would the project induce substantial population growth in an area, either directly or indirectly?	LTS	LTS↓	LTS↓	LTS↓	LTS↑	SU
Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	LTM	LTS↓	LTM↓	LTM↑	LTM≈	LTM↑
Would the project displace substantial numbers of people, resulting in the construction of replacement housing elsewhere?	LTM	LTS↓	LTM ↓	LTM ↑	LTM ≈	LTM ↑
Would the project result in the loss of four existing dwelling units?	LTM	LTS≈	LTM ≈	LTM ≈	LTM ≈	LTM ≈

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project result in the loss of potential housing units equal to, or more than, 2 percent of the current balance of the Regional Housing Needs Determination in the Housing Element?	LTM	LTS≈	LTM ≈	LTM ≈	LTM ≈	LTM ≈
Public Services and Recreation						
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other similar performance objectives for any of the following services: • Fire protection • Police protection • Schools • Parks • Other public facilities	LTS	LTS↓	LTS↓	LTS↓	LTS↑	SU

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	LTS	LTS↓	LTS↓	LTS↓	LTS↑	SU
Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	LTS	LTS↓	LTS↓	LTS↓	LTS↑	SU
Transportation and Traffic						
Development facilitated by the General Plan Update would degrade levels of service and/or volume-to-capacity ratios at five intersections and three roadway segments such that they would conflict with applicable plans, ordinances, and policies establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets,	SU	SU↓	SU↓	SU≈	SU≈	SU↑

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Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
highways, and freeways, pedestrian and bicycle paths, and mass transit.						
Development facilitated by the General Plan Update would degrade levels of service and/or volume-to-capacity ratios at five intersections and three roadway segments such that they would also conflict with an applicable 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.	SU	SU↓	SU↓	SU≈	SU≈	SU↑
Would the project 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.	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS≈
Would the project result in inadequate emergency access?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	LTS	LTS≈	LTS≈	LTS≈	LTS≈	LTS↑
Utilities and Service Systems						
Would the project exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control District?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project require or result in the need for new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could result in significant environmental effects.	SU	SU↓	SU↓	SU≈	SU≈	SU↑
Would the project require or result in the construction of new stormwater drain facilities or the expansion of new facilities, the construction of which would result in significant environmental effects?	SU	SU↓	SU↓	SU≈	SU≈	SU↑

Table Key: LTS: Less than Significant; LSM: Less than Significant after Mitigation; SU: Significant Unavoidable; NI: No Impact; ↑: Greater; ↓: Lesser; ≈: Similar.

Impact	Proposed Project	No Project (Alternative 1)	Reduced Intensity (Alternative 2)	Employment Focus (Alternative 3)	Residential Focus (Alternative 4)	Theoretical Maximum Buildout (Alternative 5)
Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded water entitlements?	SU	SU↓	SU↓	SU↓	SU↑	SU↑
Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	SU
Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	LTS	LTS↓	LTS↓	LTS≈	LTS≈	LTS↑
Would the project comply with federal, state, and local statutes and regulations related to solid waste?	NI	NI↓	NI↓	NI≈	NI≈	NI↑

Source: Circlepoint, 2016

7.0 CEQA REQUIRED DISCUSSION

As required by the California Environmental Quality Act (CEQA), this chapter provides a discussion of significant irreversible environmental changes that could be caused by implementation of the East Palo Alto General Plan Update (General Plan Update) and growth-inducing impacts of the project.

7.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Section 15126.2(c) requires that an environmental impact report (EIR) discuss any environmental changes that would be irreversible if the project were implemented. CEQA defines irreversible environmental changes as the irretrievable commitment of resources and/or irreversible damage resulting from environmental accidents. Irreversible changes may include current or future uses of non-renewable resources, and secondary or growth inducing impacts that commit future generations to similar uses. The CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future generations to specific uses; irreversible changes from environmental actions/accidents; and consumption of non-renewable resources.

7.1.1 CHANGES IN LAND USE WHICH WOULD COMMIT FUTURE GENERATIONS

The project area consists of all lands within the jurisdictional limits of the City of East Palo Alto (City); all of which are considered within the General Plan Update planning area. **Figure 1** shows the Project location.

The General Plan Update is intended as a comprehensive update to the City's 1999 General Plan, and will serve as a blueprint to guide the City's vision (also known as "Vista 2035") for its long-term land use and development through the year 2035.

Implementation of the General Plan Update could result in the long-term commitment of various resources to urban development, including land resources designated for development.

While the General Plan Update itself would not directly entitle or result in any new development, it is reasonably foreseeable that the document, as the City's blueprint for growth and development over the next twenty years, could allow development that results in such significant irreversible impacts as: a change in visual character of the City, the increased generation of pollutants, and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as water resources during construction. Ongoing operations associated with allowable future uses on land designated for development could also consume fossil fuels, water, natural gas, and electrical energy. These unavoidable consequences of allowing for new urban growth are described in the appropriate sections of **Chapter 4.0** of this Draft EIR.

7.1.2 IRREVERSIBLE CHANGES FROM ENVIRONMENTAL ACTIONS

CEQA Guidelines section 15126.2(b) requires that the EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented." Significant unavoidable impacts are those that would not be reduced to less-than-significant levels by the mitigation measures recommended in this EIR.

The following impacts are considered to be significant and unavoidable:

Air Quality

- Vehicle Miles Travelled (VMT) would increase at a higher rate than population which conflicts with the *Bay Area 2010 Clean Air Plan*.
- Construction-related emissions would result in a cumulatively considerable net increase of Fine Particulate Matter ($PM_{2.5}$) and PM_{10}- criteria pollutants for which the project region is nonattainment. Additionally, implementation of the General Plan Update would result in long-term area and mobile source emissions from operation and use of subsequent development.
- Subsequent land use activities associated with implementation of the General Plan Update could potentially include short-term construction sources of Toxic Air Contaminants (TACs) and long-term operational sources of TACs, including stationary and mobile sources - the emission of which could expose sensitive receptors to substantial pollutant concentrations.
- The General Plan Update would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector

roadways, highways, and stationary sources of TAC emissions. Screening levels indicate that sensitive receptors within the Planning Area would be exposed to levels of TACs and/or $PM_{2.5}$ that could cause an unacceptable cancer risk or hazard near highways and stationary sources.

TAC sources were identified within a 1,000 foot radius from the Planning Area. These sources include: stationary sources permitted by BAAQMD, roadways with more than 10,000 annual average daily traffic (AADT), and highways or freeways.

Traffic

Under Cumulative with Project conditions, relative to Cumulative No Project conditions, significant automobile delay impacts are projected to occur at the following study intersections:

- University Avenue and Bay Road: This intersection is projected to operate at acceptable levels of service (LOS) during both the AM and PM peak hours under Cumulative No Project conditions. The addition of project-generated traffic is expected to cause the PM peak hour level of service to change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.
- University Avenue and Donohoe Street: Under Cumulative No Project Conditions, this intersection is projected to operate at acceptable levels of service (LOS D) during the AM peak hour and at LOS F during the PM peak hour. The addition of project-generated traffic is expected to cause the AM peak hour level of service to change from LOS D to LOS E. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.

Under Cumulative with Project conditions, relative to Cumulative No Project conditions, significant automobile delay impacts are projected to occur on the following roadway study segments:

- University Avenue between Michigan Avenue and Bay Road: This roadway segment is projected to operate at LOS E under Cumulative No Project conditions. The addition of project-generated traffic is expected to cause the level of service to change from LOS E to LOS F. This constitutes a significant impact according to the thresholds established by the City of East Palo Alto.
- Donohoe Street between University Avenue and Capitol Avenue: Under Cumulative No Project Conditions, this roadway segment is projected to operate at LOS E. The addition of project-generated traffic is expected to cause the V/C ratio to change from 0.99 to 1.00, with the roadway segment continuing to

operate at LOS E. This increase in the V/C ratio could be considered a "substantial increase in traffic on a roadway already projected to operate at LOS E or F." This could be considered to constitute a significant impact according to the thresholds established by the City of East Palo Alto.

Fully mitigating traffic impacts under cumulative conditions associated with implementation of the General Plan Update at the affected intersections and roadway segments, discussed above, would require adding through lanes or additional lanes. Because such improvements would entail extensive right-of-way acquisition and roadway widening (which Policy 8.2 in the General Plan Update's Transportation Element seeks to avoid), this is considered to be infeasible.

Utilities

The area considered for cumulative impacts related to utilities and service systems includes the City and any areas within adjacent communities served by the City's facilities, including the cities of Belmont, Redwood City, San Carlos, Los Altos, Los Altos Hills, Palo Alto, Mountain View, and Menlo Park; the incorporated towns of Atherton, Portola Valley, and Woodside; unincorporated San Mateo and Santa Clara counties; and Stanford University. Development allowed by the General Plan Update in conjunction with cumulative growth in the region would increase demand for water, wastewater, stormwater, and solid waste services.

Significant and unavoidable impacts to utilities would occur as buildout of projects approved under the General Plan are approved. Increased development in the plan area would impact utilities due to future demand that is not anticipated to be met by the City's limited availability of water and wastewater treatment facilities, stormwater drainage facilities, and available water supply.

With the current growth rates in the Bay Area, the existing General Plan would likely result in significant unavoidable environmental effects (see **Chapter 6.0, Alternatives** under the No Build Alternative [Alternative 1]). Although the General Plan Update would result in the significant unavoidable impacts listed above, updated policies and procedures within the General Plan Update are designed to reduce impacts to the largest extent feasible, while accompanying increasing growth.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. The General Plan Update is a long-range planning document to guide growth and development in the City and the plan area through the year 2035. The City's adoption of the General Plan Update would not specifically entitle any new development.

The General Plan Update would not directly result in any new development with the potential to cause irreversible environmental damage through an accident. Future development proposals consistent with the General Plan Update, could, however, include the routine use, transport, storage, and disposal of hazardous wastes, perhaps as part of construction activity or an incidental use associated with commercial/industrial operations. As described in **Section 4.8, Hazards and Hazardous Materials**, all such activities are required to comply with applicable state and federal laws related to hazardous materials transport, use and storage, which significantly reduces the likelihood and severity of accidents that could result in irreversible environmental damage.

7.1.3 CONSUMPTION OF NONRENEWABLE RESOURCES

Future development within the City would result in the commitment of non-renewable resources. Resources that could be permanently consumed by implementation of the General Plan Update include fossil fuels, water, natural gas, and electricity. Although these resources would be utilized for future development, projects allowed under the General Plan Update would not necessarily result in the wasteful or inefficient use of non-renewable resources. Compliance with all proposed General Plan policies, conservation programs, and City building codes and ordinances would ensure that natural resources are conserved to the maximum extent possible.

The potential for new technologies or systems exists, which could enhance the more cost-effective or user-friendly use of resources, and further reduce the reliance upon non-renewable natural resources. Nonetheless, future development under the General Plan Update would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

7.2 GROWTH INDUCEMENT

CEQA requires a discussion of the ways in which a project could be growth inducing. The CEQA Guidelines Section 15126.2(d) identify a project as growth inducing if it would "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The CEQA Guidelines do not provide specific criteria for evaluating growth inducement and state that growth in any area is "necessarily beneficial, detrimental, or of little significance to the environment." CEQA does not require separate mitigation for growth inducement as it is assumed that these impacts are already captured in the

analysis of environmental impacts (**Chapter 4.0, Setting, Impacts, and Mitigation Measures**, of this draft EIR). Furthermore, the CEQA Guidelines require that an EIR "discuss the ways" a project could be growth inducing and to "discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment."

According to the CEQA Guidelines, the project would have potential to induce growth if it would:

- Remove obstacles to population growth (e.g., through the expansion of public services into an area that does not currently receive these services), or through the provision of new access to an area, or a change in a restrictive zoning or General Plan land use designation.
- Result in economic expansion and population growth through employment opportunities and/or construction of new housing.

In general, a project could be considered growth inducing if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way. However, the CEQA Guidelines Section 15145 do not require a prediction or speculation of where, when, and in what form such growth would occur.

7.2.1 ECONOMIC, POPULATION, AND HOUSING GROWTH

The purpose of a general plan is to guide growth and development in a community.

The entire San Francisco Bay Area Region has experienced sustained growth the past two decades and this trend is expected to continue within the timeframe of the General Plan Update. The focus of the General Plan Update is to serve as a template for the City from which physical developments can be guided and growth can be managed to the best extent possible, and with the least environmental impacts.

The General Plan Update's revised goals, policies, and programs provide a framework for accommodating the orderly growth of the plan area. The General Plan Update provides the necessary tools to accommodate future growth and defines the geographic limits of future growth in the plan area.

The General Plan Update's purpose is to respond to socio-economic and demographic changes within East Palo Alto. The General Plan Updates strives to enhance the diverse character of the City, and to decrease dependence on non-renewable resources through improved efficiency in appropriate land use and transportation planning.

In order to accommodate this potential new growth, the General Plan Update provides appropriate land use designations, and a land use pattern that provides sufficient land for orderly development and redevelopment.

7.2.2 REMOVAL OF OBSTACLES TO GROWTH OR EXCEED CAPACITY OF COMMUNITY FACILITIES

The growth associated with implementation of the General Plan Update would require the gradual expansion of existing public works such as water, wastewater treatment and solid waste removal services. Individual proposed projects would have to adhere to the General Plan Update's policies pertaining to utilities and infrastructure needs during the planning and design phases of project initiation. As stated above, additions to infrastructure would need to occur over time irrespective of the planned policy updates; however, with implementation of the General Plan Update, these additions would be subject to revised and improved policies. Given this, environmental impacts and other obstacles to growth would be reduced with implementation of the General Plan Update.

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