4. Environmental Analysis

This section of the Draft EIR is made up of 14 subsections, which evaluate the direct, indirect, and cumulative environmental impacts of the proposed Plan. In accordance with Appendix G, Environmental Checklist Form, and Appendix F, Energy Conservation, of the CEQA Guidelines, and the City of Palo Alto's *Environmental Criteria Used by the City of Palo Alto*, the potential environmental effects of the proposed Project are analyzed for potential significant impacts in the following environmental issue areas:

- Aesthetics and Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Traffic
- Utilities and Service Systems

CHAPTER ORGANIZATION

Each subsection is organized into the following sections:

- **Environmental Setting** provides a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed Project can be compared, and an overview of federal, State, regional and local laws, regulations, and plans relevant to each environmental issue.
- **Thresholds of Significance** refer to the quantitative or qualitative standards, performance levels, or criteria used to compare the existing setting with and without the proposed Plan to determine whether the impact is significant. Section 15064.7 of the CEQA Guidelines encourages each public agency to develop and publish its own thresholds of significance that the agency uses in evaluating the significance of environmental effects for projects in its jurisdiction. The City of Palo Alto prepared its *Environmental Criteria Used by the City of Palo Alto* in 2007 (contained in Appendix B, Thresholds of Significance Used in the Analysis, of this EIR). Some of the City's criteria are relevant to the environmental review of specific

development projects but are not appropriate for a broad policy document such as the Comprehensive Plan. In determining which thresholds of significance to use for evaluating the impact analysis of the proposed Plan, Appendix G of the CEQA Guidelines and the City's published environmental criteria were considered. The thresholds may also reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.

- **Impact Discussion** gives an overview of the potential impacts of the proposed Plan and explains why impacts were found to be significant or less than significant prior to mitigation. As described in Chapter 2, Introduction, this EIR provides a program-level analysis that considers the implementation of the Plan as a document that will allow future development within the city through the horizon of the Plan. However, as a program EIR, it is not project-specific, and does not evaluate the impacts of individual projects that may be proposed under the General Plan. Impacts and mitigation measures are numbered to correspond with an individual threshold of significance and begin with an acronymic or abbreviated reference to the impact section.
- **Cumulative Impacts** analyzes cumulative impacts when considering the proposed Plan along with other projects. The cumulative impact analysis is described in greater detail below.

THRESHOLDS OF SIGNIFICANCE

As noted above, the significance criteria are identified before the impact discussion subsection, under the subsection, "Thresholds of Significance." For each impact identified, a level of significance is determined using the following classifications:

- Significant (S) impacts include a description of the circumstances where an established or defined threshold would be exceeded.
- Less-than-significant (LTS) impacts include effects that are noticeable, but do not exceed established or defined thresholds, or are mitigated below such thresholds.
- No impact describes the circumstances where there is no adverse effect on the environment.

For each impact identified as being significant, the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the EIR. However, significant and unavoidable (SU) impacts are described where mitigation measures would not diminish these effects to less-than-significant levels.

CUMULATIVE IMPACT ANALYSIS

A cumulative impact consists of an impact created as a result of the combination of the project evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts. Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Used in this context, cumulatively considerable means that the

incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

In the case of the Comprehensive Plan, cumulative effects occur when future development under the Plan is combined with development in the surrounding areas or in some instances in the entire region.

Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the effect is not cumulatively considerable. The cumulative impacts discussions in Sections 4.1 through 4.14 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, city, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing aesthetic impacts, the pertinent geographic study area is the vicinity of the areas of new development under the proposed Plan from which the new development can be publicly viewed and may contribute to a significant cumulative visual effect. In assessing macro-scale air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect.

Section 15130 of the CEQA Guidelines permits two different methodologies for completion of the cumulative impact analysis:

- The "list" approach permits the use of a list of past, present, and probable future projects producing related or cumulative impacts, including projects both within and outside the city; and
- The "projections" approach allows the use of a summary of projections contained in an adopted plan or related planning document, such as a regional transportation plan, or in an EIR prepared for such a plan. The projections may be supplemented with additional information such as regional modeling.

This EIR uses the projections approach and takes into account growth from the proposed Plan within the city boundary and Sphere of Influence (SOI) (together referred to as the "EIR Study Area" throughout this EIR), in combination with impacts from projected growth in the rest of Santa Clara County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG) in *Projections 2013*, the most current forecast of population, households, and employment for the San Francisco Bay Area through 2040. The forecasts in *Projections 2013* are based on *Plan Bay Area,* the adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the Bay Area region. The projected distribution of population, employment and housing within the region in *Projections 2013* is informed by local land use and growth policies and expected infrastructure investments.[1] *Projections 2013* is available for review at the Planning and Community Environment office located on the fifth floor of City Hall. A detailed

[1] Association of Bay Area Governments, 2013, *Projections 2013*, page 5.

explanation of the methodology and data sources used to create these forecasts can be found in the Final Forecast of Jobs, Population, and Housing, a supplemental report to *Plan Bay Area*.[2]

The following provides a summary of the cumulative impact scope for each impact area:

- **Aesthetics and Visual Resources:** The cumulative setting for visual impacts includes potential future development under the proposed General Pan combined with effects of development on lands adjacent to the city.
- **Air Quality:** Cumulative air quality impacts could occur from a combination of the proposed Plan combined with regional growth within the San Francisco Bay Area Air Basin, based on the Santa Clara Valley Transportation Authority's (VTA) countywide travel demand forecasting model, described in greater detail below.
- **Biological Resources:** Cumulative impacts to biological resources considers growth projected by the proposed Plan within the Palo Alto EIR Study Area, in combination with impacts from development in surrounding incorporated and unincorporated lands and lands within the Stanford Habitat Conservation Plan area.
- **Cultural Resources:** Cumulative impacts to cultural resources could occur from development planned for under the proposed Plan and the region.
- **Geology, Soils, and Seismicity:** Potential cumulative geological impacts could arise from a combination of development allowed by the proposed Plan together with future development in the immediate vicinity of the adjoining jurisdictions.
- **Greenhouse Gas Emissions and Climate Change:** The cumulative impact analysis for greenhouse gas (GHG) emissions is related to the ongoing development in the City of Palo Alto and the entire region, based on development quantified in the VTA countywide travel demand forecasting model.
- **Hazards and Hazardous Materials:** This chapter analyzes potential cumulative hazardous impacts that could arise from a combination of the development of the proposed Plan together with growth in the immediate vicinity of the EIR Study Area.
- **Hydrology and Water Quality:** Cumulative impacts to hydrology and water quality take into account growth projected by the proposed Plan within Palo Alto and its SOI, in combination with impacts from projected growth in the rest of Santa Clara County and the surrounding region. The geographic context used for this cumulative assessment encompasses the four watersheds that include the City of Palo Alto and SOI, including San Francisquito Creek watershed, Matadero Creek watershed, Barron Creek watershed, and Adobe Creek watershed.

[2] Association of Bay Area Governments and Metropolitan Transportation Commission, 2013, Final Forecast of Jobs, Population and Housing, http://planbayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf, accessed on October 21, 2015.

- **Land Use and Planning:** The geographic context for the cumulative land use and planning effects occur from potential future development under the proposed Plan combined with effects of development on lands adjacent to the city, as quantified in ABAG's *Projections 2013*.
- **Noise:** The traffic noise levels are based on cumulative traffic conditions that take into account cumulative development in the region, based on the VTA countywide travel demand forecasting model.
- **Population and Housing:** Impacts from cumulative growth are considered in the context of growth projected by the proposed Plan within the Palo Alto city limit and SOI, including impacts from projected growth in Stanford University as set forth in the 2000 Stanford General Use Permit, and projected growth from the rest of Santa Clara County, and the nine-county Bay Area, as forecast by ABAG in *Projections 2013*.
- **Public Services and Recreation:** Cumulative impacts are considered in the context of the growth from development under the proposed Plan within the city combined with the estimated growth in the service areas of each service provider.
- **Transportation and Traffic:** The travel demand forecasting modeling in the Transportation Impact Analysis is based on the VTA countywide travel demand forecasting model. VTA's model, in turn, is based on the Metropolitan Transportation Commission's (MTC's) regional model for the entire Bay Area. Land use assumptions for the zones outside of Palo Alto are based on ABAG 2030 land use data, in this case *Projections 2013*. The model includes a certain number of households and jobs for every TAZ (traffic analysis zone) in every city for 2013 and for 2030. VTA gives every city the opportunity to update/revise the land use assumptions used in the ABAG/MTC model. Therefore, while the model does not specify whether individual future projects are included, the increment of growth in each jurisdiction is assumed to accurately reflect growth from approved, allowed, and anticipated projects.
- **Utilities and Service Systems:** Cumulative impacts are considered in the context of the growth from development under the proposed Plan within the city combined with the estimated growth in each utility's service area.

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