4. ENVIRONMENTAL IMPACT ANALYSIS

Introduction

This chapter presents an assessment of the environmental impacts of the nine SPAS alternatives described in Chapter 2, *Project Description*. This chapter describes the physical environment at and within the vicinity of LAX that may be affected by the improvements under the SPAS alternatives; the potential impacts to that physical environment; and the measures proposed to mitigate those impacts, as required.

The following topics are addressed in this chapter:

- Aesthetics
- Air Quality
- Biological Resources
- Coastal Resources
- Cultural Resources
- Greenhouse Gases
- Hazards/Hazardous Materials
  - Human Health Risk Assessment
  - Safety
  - Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
  - Aircraft Noise
  - Road Traffic Noise
  - Construction Traffic and Equipment Noise
  - Transit Noise and Vibration
- Public Services
  - Fire Protection
  - Law Enforcement
- Transportation
  - On-Airport Transportation
  - Off-Airport Transportation
- Utilities
  - Energy
  - Solid Waste
  - Wastewater Generation
  - Water Supply

Organization of the Chapter

Each of the 13 main environmental disciplines addressed in this chapter is discussed in a separate section using a common organization. Sections are numbered 4.1 through 4.13. Several sections are divided into subsections to simplify and clarify the discussion.

Within each environmental topic section, discussion of the following is provided:

- The **Introduction** briefly describes the issues addressed in the analysis and identifies related topics. The Introduction also identifies any specific issue area of the topic that is not being addressed as part of the SPAS EIR and provides a discussion explaining the reasons why. In many cases, a number of specific issue areas were evaluated, and impacts determined to be less than significant, in the revised LAX SPAS EIR Notice of Preparation/Initial Study (October 2010), included as Appendix A, *Notice of Preparation/Scoping*, of this EIR. In accordance with Sections 15063(c)(3)(A) and 15128 of the State CEQA Guidelines, further analysis of specific issue areas where impacts were determined to be less than significant in the Initial Study is not required and is not provided in this chapter.
- The **Methodology** describes how the issue was approached, including explanations of any assumptions, equations, or calculations; identification of information sources used for the analysis; and delineation of the study area considered for each environmental discipline. This section also identifies the environmental baseline used to determine the significance of potential impacts. A discussion of the environmental baseline is provided below under *Analytical Framework*.
- The **Existing Conditions** discusses the baseline conditions for the environmental discipline in the study area, including relevant activities, facilities, and regulations. The environmental baseline is described below under *Analytical Framework*.
- The **Thresholds of Significance** are quantitative or qualitative measures used to determine whether a significant environmental impact would occur as a result of the project. This section identifies the origins of the thresholds of significance used in the analysis. In general, and unless otherwise noted, the thresholds of significance used in the analysis of SPAS impacts reflect guidance provided in Appendix G of the State CEQA Guidelines[32] and/or criteria or guidance included in the L.A. CEQA Thresholds Guide.[33]
- The **Applicable LAX Master Plan Commitments and Mitigation Measures** section lists the LAX Master Plan commitments and mitigation measures applicable to the SPAS alternatives. As background, in conjunction with approval of the LAX Master Plan and certification of the Final EIR in December 2004, the Los Angeles City Council adopted a Mitigation Monitoring and Reporting Program (MMRP)[34] to ensure that mitigation measures and LAX Master Plan commitments identified in the Final EIR are implemented. Mitigation measures are activities, policies, or practices designed to avoid or minimize significant environmental impacts. Besides mitigation measures, the MMRP for the LAX Master Plan includes Master Plan commitments. LAX Master Plan commitments were determined to be more appropriate than mitigation measures where: (1) standards and regulations exist with which compliance is already required by the applicable regulatory agency; (2) impacts would be adverse but not significant; and (3) design refinements could be incorporated into the project to reduce or avoid potential impacts. The timing of implementation of LAX Master Plan commitments and mitigation measures is set forth in the LAX Master Plan MMRP. Unless otherwise noted, the impacts analysis for the SPAS alternatives assumes that the applicable LAX Master Plan commitments and mitigation measures would be implemented concurrently with and as part of each alternative. To the extent that the LAX Master Plan commitments and mitigation measures would not reduce significant environmental impacts to a level that is less than significant, SPAS-specific

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32 State of California, Guidelines for California Environmental Quality Act (State CEQA Guidelines), California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387.

33 City of Los Angeles, L.A. CEQA Thresholds Guide, Your Resource for Planning CEQA Analysis in Los Angeles, 2006.

34 City of Los Angeles, Los Angeles World Airports, Alternative D Mitigation Monitoring and Reporting Program, September 2004.

mitigation measures, if feasible, are separately identified in the Mitigation Measures section (described below).

- The **Impacts Analysis** section presents the analysis of impacts for the nine SPAS alternatives for the buildout horizon year 2025. Impacts were compared to the thresholds of significance to determine whether they would be, under CEQA, significant or less than significant. For purposes of determining significance, potential impacts were compared to the environmental baseline conditions, as further described in the *Analytical Framework* below.
- **Mitigation Measures** are specified procedures, plans, policies, or activities proposed for adoption by the lead agency to reduce or avoid the significant impacts identified in the analysis of environmental impacts. This section identifies SPAS-specific mitigation measures proposed to address significant impacts that would occur with implementation of the SPAS alternatives. In accordance with the requirements of CEQA, an MMRP would be adopted as part of the SPAS project approvals, to ensure that implementation of mitigation measures is properly monitored and documented.
- **Level of Significance After Mitigation** is a CEQA determination of the significance of a particular impact after implementation of the proposed mitigation measures. This section identifies any significant impacts that cannot be mitigated to a level that is less than significant. These "significant unavoidable impacts" are also listed in Section 7.1, Significant Environmental Effects, of this EIR. The level of significance after mitigation is not included for those environmental topics where no significant impacts would occur and, as a result, where no mitigation measures specific to SPAS are required.

Analytical Framework

Program Level vs. Project Level Environmental Entitlements and Analysis

As described in Chapter 1, *Introduction and Executive Summary*, the SPAS project is intended to formulate and address alternatives to the Yellow Light Projects associated with the LAX Master Plan. Nine alternatives have been formulated at a programmatic level of conceptual planning in order to provide an effective means of delineating, and comparing and contrasting, the overall characteristics, performance levels, and environmental impacts of each alternative. Based on the results of the SPAS process, the LAX Plan (i.e., the General Plan land use document for LAX) and/or the LAX Specific Plan (i.e., the zoning document for LAX) may be amended to reflect the characteristics of any SPAS alternative that may be selected. In addition to needing several local approvals in order to advance the selected alternative, approvals from federal agencies, especially the FAA, would also be necessary in order to advance any alternative that may be selected.

As discussed under Section 15146(b) of the State CEQA Guidelines, an EIR prepared for "program level" entitlements, such as the adoption of a general plan amendment or a related zoning amendment, "need not be as detailed as an EIR on the specific construction projects that might follow." This CEQA guideline incorporates the "rule of reason" and counsels public agencies to avoid "speculative analysis of environmental consequences for future and unspecified development" that has not yet been formulated at greater levels of detail. Furthermore, in such situations, the decision-makers and the public normally have the opportunity to review later environmental documents that will provide additional analysis when more specific plans, such as construction plans, are available. Such has been the case in the implementation of LAX Master Plan projects to date, for which each major project, including the South Airfield Improvement Project, the Crossfield Taxiway Project, and the Bradley West Project, LAWA has completed a project-level EIR that was based on detailed planning, engineering, design, and construction information specific to each project. Consequently, this Draft EIR has been prepared to address the more general level of detail that is required for "program level" entitlements under CEQA.

Environmental Baseline

Section 15125 of the State CEQA Guidelines requires that an EIR describe the physical environmental conditions in the vicinity of a proposed project "as they exist at the time the notice of preparation is published…." and further states that "[t]his environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant."

The Notice of Preparation (NOP) for the SPAS EIR was first published in March 2008; however, the EIR work effort was temporarily suspended while the North Airfield Safety Study (NASS) was being completed, based on the possibility that the study results would yield new information relative to the range of airfield alternatives being considered for the SPAS Draft EIR (see Section 4.7.2, *Safety*, for a description of that study). Upon completion of the NASS, work on the SPAS Draft EIR resumed and a revised NOP was published in October 2010.

In accordance with the provisions of CEQA, October 2010 is the baseline date for characterizing existing conditions in the environmental analysis. Where existing conditions data specific to October 2010 were not available or where October 2010, by itself, was not an appropriate representation of baseline conditions, this Draft EIR identifies this fact, explains what data was used to determine existing conditions, and provides evidence of why this information is representative of baseline conditions. For example, in some cases, available reports and other documentation were only available for timeframes preceding 2010. For those topics which relied upon site surveys, such information was collected during preparation of the Draft EIR, typically in 2011. Due to the highly developed nature of LAX and the surrounding communities, and the lack of economic growth in recent years, site conditions at and around LAX have not materially changed. Therefore, the available information in 2009 or 2011 that was used to characterize baseline conditions is considered to be generally representative of 2010 conditions. The methodology discussion for each environmental topic addressed in this section describes the nature, timeframe, and basis of the data used to characterize existing baseline conditions.

For certain analyses, a full year's worth of data was considered necessary and appropriate to characterize existing baseline conditions. Such is the case relative to existing aircraft noise, existing aircraft-related air pollutant emissions, and existing airport traffic generation, whereby the variability in airport operations throughout the year, especially seasonal variations, results in "existing" conditions for those topics being very different depending on time of year. Similar to the approach used in the LAX Master Plan Final EIR, airport operations data for the prior calendar year, which in the case of the SPAS EIR NOP is 2009, were used to define existing baseline conditions for those topics.

In certain instances, using existing conditions to measure the "significance" of impacts from the SPAS alternatives does not provide the most realistic or meaningful assessment of project impacts, especially given that buildout of any of the SPAS alternatives is not anticipated to occur until 2025. Between now and completion of any of the SPAS alternatives, the baseline conditions will be substantially influenced by, and change because of, local and regional growth that is projected to occur irrespective of SPAS. On a local level, existing operations-related conditions at LAX will change over time based on the growth in passenger activity levels that are projected to increase from 56.5 million annual passengers (MAP) in 2009 (i.e., the calendar year used to define existing baseline operations) to 78.9 MAP by 2025 (i.e., buildout year for SPAS). The projected increase in passenger activity at LAX to 78.9 MAP by 2025 is consistent with current FAA growth forecasts. The future passenger activity level of 78.9 MAP at LAX is also consistent with the adopted Southern California Association of Governments 2012 Regional Transportation Plan. The future growth in passenger activity level of 78.9 MAP at LAX is projected to occur regardless of SPAS. Notwithstanding that the future growth in activity levels at LAX is anticipated to occur even if none of the SPAS alternatives are implemented, the impacts analysis presented for most resources in this Draft EIR includes that future growth in quantifying the impacts associated with each alternative. As such, the impacts analysis for SPAS is very conservative.

On a regional level, existing background traffic (i.e., non-airport traffic) around LAX is anticipated to increase in conjunction with regional population, housing, and employment growth projected by the Southern California Association of Governments to occur in the future regardless of SPAS. An impacts

analysis that simply compares the environmental conditions in 2025 upon completion of the SPAS alternatives to the existing baseline conditions in 2010 does not truly or meaningfully reflect the impacts of the project for those environmental topics that are based on activity levels, such as traffic, air quality, and noise impacts. For most topics within this chapter, the impacts analysis evaluates conditions at buildout of each SPAS alternative compared to existing baseline conditions, and also provides, where possible, a comparison of conditions at buildout of each SPAS alternative in 2025 to conditions anticipated to occur in 2025 without the improvements proposed under the various SPAS alternatives. That latter form of comparison is intended to provide the public, agencies, and decision-makers with a clearer delineation of impacts attributable directly or indirectly to the improvements proposed under each SPAS alternative, which cannot be so discerned in evaluating impacts against baseline conditions.

Impacts of Fully Integrated Alternatives and Focused Alternatives

As described in Section 2.3.1, the nine SPAS alternatives addressed in this Draft EIR include four "fully-integrated" alternatives and five "focused" alternatives. Alternatives 1 through 4 are "fully-integrated" alternatives that include specific improvements in all three of the following categories: airfield improvements, terminal improvements, and ground access improvements. Alternatives 5 through 7 focus on variations to the airfield improvements, which, in turn, affect the terminal improvements. Alternatives 8 and 9 focus on variations to the ground access improvements.

Although the primary focus of Alternatives 5 through 9 is on specific categories of improvements, there is a certain amount of compatibility or "interchangeability" between the SPAS alternatives. Specifically, the airfield and terminal improvements in Alternatives 5 through 7 are equally compatible with the ground access improvements in Alternatives 1, 2, 8, and 9. Likewise, the ground access improvements in Alternatives 8 and 9 are equally compatible with the airfield and terminal improvements in Alternatives 1, 2, 5, 6, and 7. In other words, the proposed ground transportation system incorporated into Alternatives 1 and 2 could function in the same manner with Alternatives 5, 6, or 7. That would also be the case for the ground transportation systems under Alternatives 8 and 9, which could be developed under Alternatives 5, 6, or 7, and could also replace the ground transportation system currently proposed for Alternatives 1 and 2. On the other hand, Alternatives 3 and 4 are unique "fully-integrated" alternatives and are not considered to have elements that are "interchangeable" with the other SPAS alternatives. While Alternatives 5, 6, and 7 focus on options for airfield/terminal improvements and Alternatives 8 and 9 focus on options for ground access improvements, these five alternatives (Alternatives 5 through 9) would only address all of the problems that the Yellow Light Projects were designed to address in conjunction with another alternative (Alternatives 1 through 4), or portion thereof.

In order to provide an equivalent basis of impacts comparison between the nine alternatives, for some environmental topics (e.g., Air Quality), the summary of impacts associated with each of the focused alternatives (i.e., Alternatives 5 through 9) took into account the additional impacts that would occur when paired with another alternative. In other words, the analyses of impacts associated with Alternatives 5, 6, and 7 directly addressed the airfield and terminal improvements particular to each alternative; however, in the delineation of impacts for each such alternative, as presented in comparison with the impacts of the eight other alternatives, the range of potential impacts associated with the ground access improvement associated with Alternatives 1, 2, 8, and 9 were also included with the subject alternative. Similarly, the impacts analyses for Alternatives 8 and 9 directly addressed the ground access improvements particular to each alternative, but also delineated the range of impacts associated with the airfield/terminal improvements associated with Alternatives 1, 2, 5, 6, and 7 in the delineation of impacts for each of those two alternatives. For certain environmental topics where the impacts are quantified, such as for air quality impacts where air pollutant emissions and concentrations are estimated for each alternative, the tabular presentation of impacts distinguishes between the impacts associated with airfield/terminal improvements and the impacts associated with ground access improvements. This presentation approach enables the reader to discern between impacts associated with the improvements specific to a given alternative and the range of impacts that is associated with other related improvements that could be paired with that alternative. For other environmental topics (e.g., Cultural Resources), information is provided in the summary of impacts that distinguishes impacts of Alternatives 1 and 2 that are related to airfield and

terminal improvements from impacts associated with ground access improvements. This presentation allows the full range of impacts to be determined for the various combinations described above. This approach provides the public, agencies, and decision-makers with an analogous basis of comparison between the nine SPAS alternatives.