Case No. 21-71170

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

CITY OF LOS ANGELES, CALIFORNIA

Petitioner,

v.

UNITED STATES FEDERAL AVIATION ADMINISTRATION and STEPHEN M. DICKSON, in his official capacity as Administrator; UNITED STATES DEPARTMENT OF TRANSPORTATION and PETER P. BUTTIGIEG, in his official capacity as Secretary,

Respondents,

BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY

Real Party in Interest and Respondent.

FIRST AMENDED PETITION FOR REVIEW OF AGENCY ACTION
(49 U.S.C. § 46110)

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Pursuant to 49 U.S.C. Section 46110, and Rule 15(a) of the Federal Rules of Appellate Procedure, City of Los Angeles ("Petitioner"), hereby respectfully petitions this Court for review of the May 2021 Final Environmental Impact Statement ("EIS") and Record of Decision ("ROD") (collectively the "Final EIS/ROD") adopted for the Proposed Replacement Passenger Terminal at the Bob Hope "Hollywood Burbank" Airport (the "Airport") (the "Proposed Action"). A true and correct copy of the ROD, obtained from https://www.faa.gov/airports/environmental/records_decision/ media/ ROD-BUR-Replacement-Passenger-Terminal- 2021-05.pdf, is attached as **Exhibit A**.

INTRODUCTION

1. This case involves the United States Department of Transportation, Federal Aviation Administration's ("FAA's") failure to adequately define the whole of the Proposed Action as well as sufficiently analyze all of the adverse environmental impacts associated with the construction and operation of the Replacement Passenger Terminal Project at the Bob Hope "Hollywood Burbank" Airport.

2. The 555-acre Airport is located about 12 miles northwest of downtown Los Angeles and is primarily within the City of Burbank (about 455 acres) and partially within the City of Los Angeles (approximately 100 acres). City residents live and work adjacent to the Airport, including off Sherman Way and

Clybourn Avenue and directly neighboring the northwest and southwest quadrants of the Airport.

3. The Proposed Action includes replacement of the existing 14-gate passenger terminal building located in the southeast quadrant of the Airport with a 14-gate replacement passenger terminal building in the northeast quadrant of the Airport. The Proposed Action also includes construction of: (i) a new parking garage that would be at least 5 levels high and, possibly, 7 levels high; (ii) a new passenger terminal access road; (iii) a new utility plant; (iv) a new 45,900 square-yard aircraft apron; and (v) relocation of the existing Aircraft Rescue and Firefighting ("ARFF") station to a new ARFF station that would be constructed south of the replacement passenger terminal building, thereby allowing the existing ARFF hanger to be used for general aviation uses. The existing passenger terminal building would also be demolished and parallel Taxiways would be extended as part of the Proposed Action.

4. Numerous state, federal, and local agencies, including Petitioner, in addition to private citizens and organizations, submitted comments and evidence concerning the significant and potentially significant adverse environmental impacts of the Proposed Action that the Draft EIS did not adequately consider, such as comments and concerns regarding the inadequacy of the proposed

alternative actions and mitigation measures, including impacts related to noise, air quality, traffic, health effects and environmental justice, among others.

5. Notwithstanding the voluminous specific concerns expressed in comments on the Draft EIS, and notwithstanding the FAA's legal obligation to take a "hard look" at the environmental consequences of the Project under the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 et seq., the FAA issued the Final EIS/ROD on May 22, 2021, without recirculating the Draft EIS.

6. The Final EIS/ROD granted authorization to the Burbank-Glendale-Pasadena Airport Authority ("Airport Authority") to implement the Proposed Action.

7. The FAA's abdication of its duty to disclose and adequately analyze all of the significant impacts that may result from the Action is the basis for this Petition. The FAA's Final EIS/ROD approving the Proposed Action are deficient for failing to have an adequate project description, failing to take a "hard look" at the Proposed Action and by not disclosing and evaluating all of the significant impacts arising from the Proposed Action. The Final EIS/ROD are also deficient for failing to adequately consider the whole of the Action and to adequately consider the alternative actions to the Proposed Action. By accepting the Airport Authority's Airport Layout Plan as the only feasible build alternative, FAA

predetermined the result of the NEPA analysis and precluded consideration other alternatives to the Proposed Action.

8. By this Petition for Review of Agency Action, Petitioner seeks review of the Final EIS/ROD in its entirety, including but not limited to, the matters raised in Petitioner's comment letter. Petitioner requests that this Court set aside the FAA's Final EIS/ROD and require the agency to fully analyze the potential effects of the Proposed Action. Petitioner also seeks an injunction prohibiting the Airport Authority from implementing the Proposed Action.

JURISDICTION

9. This Court has jurisdiction over this Petition for Review of Agency Action under 49 U.S.C. § 46110(a) (orders issued by the FAA regarding "aviation duties and powers designated to be carried out by the Administrator") and 5 U.S.C. §§ 701–706 (Administrative Procedure Act).

10. This Court has "exclusive jurisdiction to affirm, amend, modify, or set aside any part of the order and may order the … [FAA] Administrator to conduct further proceedings." 49 U.S.C. § 46110(c).

11. The FAA has issued a final order (ROD) that is subject to review under 49 U.S.C. § 46110.

PARTIES

12. Petitioner City of Los Angeles is a municipal corporation organized

and existing under and by virtue of the laws of the State of California. Petitioner is located in Los Angeles County. Petitioner has a substantial interest in the Action because City of Los Angeles residents live and work adjacent to the BUR airport and airport terminal, including the portions of the BUR that will be disturbed in order to implement the proposed Action. This interest, on behalf of City residents, includes concerns relating to construction impacts and changes in future terminal and airport operations that will result in new or more severe air quality, traffic, noise and environmental justice impacts, among others, that were not properly considered in the Final EIS/ROD.

13. Respondent United States Department of Transportation is the federal agency responsible for the activities of the Respondent FAA.

14. Respondent Peter B. Buttigieg, the Secretary of the Department of Transportation, is responsible for the Department of Transportation's activities and is sued in his official capacity.

15. Respondent FAA is the federal agency responsible for the EIS and ROD that are challenged by Petitioner.

16. Respondent Stephen M. Dickson, the Administrator of the FAA, is responsible for the FAA's activities and is sued in his official capacity.

17. Respondent and Real Party in Interest Burbank-Glendale-Pasadena Airport Authority is a joint powers authority created by the Cities of Burbank,

Glendale, and Pasadena under California Government Code section 6546.1 in 1977 for the purpose of owning and operating the Burbank-Glendale-Pasadena Airport. The Airport Authority is responsible for the acquisition, operation, repair, maintenance, improvement, and administration of the Hollywood-Burbank Airport. The Airport Authority, pursuant to 49 U.S.C. § 47107(a)(16), sought and received from FAA unconditional approval of the Action.

SUMMARY OF NEPA'S STATUTORY AND REGULATORY FRAMEWORK

18. NEPA requires federal agencies undertaking any major federal action to review the environmental impacts of the proposed action and to "study, develop, and describe appropriate alternatives to recommended curses of action. 42 U.S.C. § 4332(2)(C), (E). NEPA's purpose is two-fold: first, to ensure federal agencies undertaking a major federal action take a hard look at the proposed action's environmental effects before deciding hot to proceed, and, second, to ensure that relevant information about the impacts of the proposed action and its alternative is provided to the public and agencies to provide meaningful opportunity for public and agency comment and participation in the federal decision-making process.

19. To achieve these purposes, NEPA requires all federal agencies to prepare a "detailed statement," known as an EIS, regarding all "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C).

20. An EIS must, among other things: "encourage good analysis and clear presentation of the alternatives including the proposed action," 40 C.F.R. § 1502.10 (2005), *see also* 40 C.F.R. § 1502.10(a) (2020)[1]; be "easily understood," *Columbia Basin Land Protection Assn. v. Schlesinger*, 643 F.2d 585, 610 (9th Cir. 1981); take a "'hard look' at the impacts of the proposed action by providing a reasonably thorough discussion of the significant aspects of the probable environmental consequences," *Center for Biological Diversity v. National Highway Traffic Safety Admin.,* 538 F.3d 1172, 1194 (9th Cir. 2008) (internal quotations omitted), *see also Metcalf v. Daley*, 214 F.3d 1135, 1141 (9th Cir. 2000); contain analysis that is "supported by evidence," 40 C.F.R. § 1502.1 (2005 & 2020); contain "meaningful analysis," 40 C.F.R. § 1502.9(a) (2005), *see also* 40 C.F.R. § 1502.9(b) (2020); contain "professional integrity, including scientific integrity," 40 C.F.R. § 1502.24 (2005), *see also* 40 C.F.R. § 1502.23 (2020); discuss mitigation measures "in sufficient detail to ensure that environmental consequences have been fairly evaluated," *City of Carmel-by-the-Sea v. U.S.*

[1] In July 2020, the Council on Environmental Quality (CEQ) comprehensively updated its NEPA regulations and made changes to almost every provision, effective September 14, 2020. These updated regulations mandatorily apply to any NEPA process begun after the effective date but only discretionarily apply to an ongoing NEPA process that predates the revisions. 40 C.F.R. § 1506.13. The FAA stated that it has applied the "prior regulations, which were in effect at the time" of document preparation. Final EIS/ROD, p. M-111. CEQ originally adopted the NEPA regulations in 1978 and subsequently amended them in 1986 and 2005 (and, as noted, in 2020). In this Petition, the former regulations are denoted with the parenthetical year "2005," and the current regulations are denoted with the parenthetical year "2020."

Department of Transportation, 123 F.3d 1142, 1154 (9th Cir. 1997) (internal quotations omitted); analyze connected actions together as "a single course of action" in the same EIS, 40 C.F.R. § 1502.4(a) (2005 & 2020), 40 C.F.R. § 1508.25 (2005); *see also* 40 C.F.R. §§ 1501.3(b), 1501.9(e)(1) (2005); and "[r]igorously explore and objectively evaluate all reasonable alternatives," 40 C.F.R. § 1502.14(a) (2020).

FACTUAL BACKGROUND

21. On December 18, 2018, the FAA published Notice of Intent to prepare an EIS in the Federal Register for the Proposed Action.

22. On August 21, 2020, the FAA released a Draft EIS for an initial 45-day public review and comment period. The comment period was extended until October 27, 2020, pursuant to FAA Order 5050.4B at the request of Petitioner.

23. On May 22, 2021, the FAA released the Final EIS/ROD, granting authorization to the Burbank-Glendale-Pasadena Airport Authority to implement the Action.

24. Petitioner submitted a 27-page comment letter, dated October 26, 2020, explaining the inadequacies of the Draft EIS. A true and correct copy of Petitioner's comment letter is attached hereto as **Exhibit B**. Included as attachments to Petitioner's letter were expert comment letters summarizing the inadequacies of the Draft EIS's traffic and air quality, including health risk,

analysis. In its letter, and as described more fully below, Petitioner raised NEPA violations including: the FAA's incomplete project description, inadequate analysis of noise, air quality, traffic, health risks, environmental justice, construction impacts and cumulative impacts, among others related to the Project.

25. Following the close of the comment period, the FAA immediately prepared the Final EIS and issued the ROD for the Proposed Action.

26. In failing to consider Petitioner's concerns in reaching its conclusions about the impacts of the Project, and failing to respond to substantive comments raised by Petitioner, the FAA abdicated its duties.

27. The Final EIS/ROD, like the Draft EIS, suffers from the same inadequacies raised by Petitioner in its comment letter.

FIRST CAUSE OF ACTION
INADEQUATE PROJECT DESCRIPTION

28. Petitioner hereby realleges and incorporates each and every paragraph above.

29. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to present a clear, full and accurate, and easily understood Proposed Action. The full description of the Proposed Action improperly appears throughout various parts of the EIS instead of in one, understandable location. It fails to identify sufficient information about construction activities and fails to estimate the number and type of support

services, such as restaurants and stores, that are proposed. The EIS also does not include meaningful information about the existing and future use of the air traffic control tower and how it may be impacted by construction. Further, the EIS does not identify other public improvements, such as street and sidewalk construction, that may be required to implement the Proposed Action.

30. The FAA maintains that because the Proposed Action is designed at 25%, it is not possible to assess the environmental effects of the increased concession activities at the new, greatly enlarged terminal. But one of the Airport Authority's purpose of proposing the Proposed Action is to provide improved concessions (restaurants, stores, etc.) to passengers and visitors at the terminal. Even if the exact future uses are not known, FAA was required to evaluate the environmental effects associated with an increased amount of concession activities at the airport.

31. FAA also maintains that impacts to and of the air traffic control tower need not be disclosed in the EIS because the Airport Authority would be required to submit a Notice of Proposed Construction or Alternation (i.e., an obstruction evaluation) prior to construction of the replacement passenger terminal building. But such a notice/evaluation does not serve NEPA's purposes of providing meaningful environmental analysis *before* a Proposed Action is approved.

32. Consequently, the EIS prohibited the public from having a meaningful

opportunity to comment on the Proposed Action and deprived the FAA decisionmakers of the opportunity to make a fully informed decision.

SECOND CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE AIR QUALITY IMPACTS

33. Petitioner hereby realleges and incorporates each and every paragraph above.

34. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant air quality impacts of the Proposed Action, as briefly described below.

35. The air quality analysis contained in the technical appendices of the EIS contains multiple omissions, errors, and conflicting and incomplete information.

36. The EIS's air quality analysis omits, underestimates, or is vague about remediation and substantial project construction and operational air emissions, including from diesel (particulate matter [PM]), VOC (volatile organic compounds), and NOx (nitrogen oxide) emissions, as well as an underestimates greenhouse gas emissions, and improperly presents mitigation and alternatives for those operational and construction related air emissions.

37. The Final EIS fails to respond to all the air quality related issues of concern raised by commenters.

THIRD CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE TRANSPORTATION IMPACTS

38. Petitioner hereby realleges and incorporates each and every paragraph above.

39. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant transportation impacts of the Proposed Action, as briefly described below.

40. The EIS does not contain a dedicated section on transportation impacts making it nearly impossible to understand potential adverse transportation effects, including potential effects on streets located within the City of Los Angeles.

41. The EIS does not discuss with sufficient detail the mitigation measures for transportation effects caused by construction activities nor does it adequately explain how those measures will lessen impacts.

FOURTH CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE HEALTH IMPACTS

42. Petitioner hereby realleges and incorporates each and every paragraph above.

43. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant health impacts of the Proposed Action, as briefly described below.

44. NEPA requires the FAA to analyze the direct and indirect environmental consequences that a proposed action might have on public health and safety. *See* 40 C.F.R. §§ 1501.3(b)(2), 1508.8(a)–(b), 1508.27(b)(2) (2005); *see also* 40 C.F.R. §§ 1501.3(b)(2)(iii) (2020), 1502.16(a)(1),(2)–(b) (2020), 1508.1(g)(1) (2020). But, the EIS fails to include enough meaningful analysis of the risks to human health and provides unconvincing evidence, rather than substantial evidence, in support of its health-related conclusions.

45. The EIS fails to include, for example, adequate air emissions data, as identified above, and therefore cannot adequately determine whether City of Los Angeles residents or other members of the public may be exposed to harmful emissions during demolition, construction and future operations. It also fails to consider the health effects of cumulative noise impacts, discussed in the eighth cause of action below, that might result in, for example, significant adverse health impacts on adjacent environmental justice populations, such as tinnitus, hearing loss, increased blood pressure, stress and higher incidences of human error.

46. The EIS's health analysis improperly excludes nearby sensitive receptors, such as schools and hospitals, and thereby inadequately analyzes impacts to these sensitive receptors.

47. The EIS improperly limits its health analysis to potential impacts to children, but such a constrained approach is inadequate under NEPA.

FIFTH CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE NOISE AND VIBRATION IMPACTS

48. Petitioner hereby realleges and incorporates each and every paragraph above.

49. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant noise and vibration impacts of the Proposed Action, as briefly described below.

50. The EIS omits discussion of certain construction-related noise and vibration impacts, such as haul trips, pile driving, and jack hammering.

51. The EIS fails to adequately identify nearby sensitive noise receptors and fails to suggest or adopt mitigation measures to minimize impacts to sensitive noise receptors within the City of Los Angeles.

52. The EIS fails to evaluate the Proposed Action's consistency with the City of Los Angeles's noise standards, where noise impacts will be incurred. In its responses to Petitioner's comments, FAA asserted that the Proposed Action is not required to comply with the City's construction noise standards. This assertion is inconsistent with other statements in the EIS that claim that the Airport Authority's "land use assurance" letter would ensure that the Proposed Action complies with applicable City standards.

SIXTH CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE ENVIRONMENTAL JUSTICE IMPACTS

53. Petitioner hereby realleges and incorporates each and every paragraph above.

54. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at disproportionately high and adverse potentially significant impacts of the Proposed Action on environmental justice populations, as briefly described below.

55. The EIS fails to properly characterize the affected environment by failing to adequately identify environmental justice populations (i.e., low income and minority populations) that immediately surround the Airport and misleadingly includes several non-environmental justice populations that improperly skew analysis, therefore, cannot have adequately assessed whether potentially significant impacts would have a disproportionately high and adverse effect on these populations.

56. The EIS presents data on environmental justice populations that conflicts with other data from a reliable, government data source and does not offer a reasonable explanation as to the disparity. It also fails to consider the effects of cumulative noise impacts, discussed in the eighth cause of action below, on environmental justice populations.

SEVENTH CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE SOCIOECONOMIC IMPACTS

57. Petitioner hereby realleges and incorporates each and every paragraph above.

58. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant socioeconomic impacts of the Proposed Action, as briefly described below.

59. NEPA requires an EIS to examine all potential adverse effects of a Proposed Action, including "economic and social" effects, which may include effects on property taxes and values. 40 C.F.R. § 1502.16(b) (2005); *Minisink Residents for Environmental Preservation and Safety v. F.E.R.C.,* 762 F.3d 97, 112 (D.C. Cir. 2014). The EIS fails to analyze the likely reduction in home values surrounding the Airport and commensurate negative impact on property taxes to nearby jurisdictions.

60. The EIS also fails to consider costs associated with treatment of respiratory diseases and other related socio-economic effects caused by increased particulates, greenhouse gas ("GHG") and other emissions anticipated to be generated by the Project.

61. The EIS does not contain a costs/benefits analysis for the Proposed Action, nor does it consider more cost-effect alternatives, to properly inform FAA decisionmakers.

EIGHTH CAUSE OF ACTION
FAILURE TO ADEQUATELY ANALYZE CUMULATIVE IMPACTS

62. Petitioner hereby realleges and incorporates each and every paragraph above.

63. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to take a "hard look" at potentially significant cumulative impacts of the Proposed Action, as briefly described below.

64. Cumulative impact refers to "the impact on the environment which results from the incremental impact of the action when added to other past, preset, and reasonably foreseeable future actions...[c]umulative impacts can result from individual minor but collectively significant actions taking place over time." 40 C.F.R. § 1508.1(g) (2005), *see also* 40 C.F.R. § 1508.1(g) (2020). "Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment." 40 C.F.R. § 1501.3(b)(7) (2005). An agency must take a "'hard look' at all actions" that may combine with the action under consideration to affect the environment, *Te-Moak Tribe of W. Shoshone of Nevada v. U.S. Dept. of Interior*, 608 F.3d 592, 603 (9th Cir. 2010), and provide a "'quantified assessment of [the] combined impacts.'" *Bark v. United States Forest Service*, 958 F.3d 865,

872 (9th Cir. 2020) (quoting *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 994 (9th Cir. 2004).

65. The EIS fails to include any discussion of cumulative noise impacts and associated health impacts, discussed above in the fourth cause of action, and failed to explain the absence of this analysis when it was brought to the agency's attention.

66. The EIS also fails to analyze the cumulative effect of construction and operation activities occurring simultaneously, including the potential health risks of those effects, although the EIS describes an overlap of these activities.

NINTH CAUSE OF ACTION
FAILURE TO ANALYZE INTERCONNECTED ACTIONS AS A "SINGLE COURSE OF ACTION"

67. Petitioner hereby realleges and incorporates each and every paragraph above.

68. The Final EIS/ROD violates NEPA and its implementing regulations and orders because it fails to analyze connected actions together as a "single course of action," as briefly described below.

69. The EIS fails to include as part of its Proposed Action the repair and extension of an Airport ramp, known formally as the Delta Ramp Rehabilitation and Expansion Project, which is closely connected to the Proposed Action but which was erroneously evaluated under a separate NEPA action.

TENTH CAUSE OF ACTION
FAILURE TO ANALYZE ALL REASONABLE ALTERNATIVES/IMPROPER PREDETERMINATION

70. Petitioner hereby realleges and incorporates each and every paragraph above.

71. The touchstone for determining whether an EIS contains sufficient discussion of alternatives to satisfy NEPA is whether the selection and discussion of alternatives fosters informed decision-making and informed public participation. *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 575 (9th Cir. 1998).

72. The Final EIS/ROD violates NEPA because it fails to take a "hard look" at a reasonable range of alternative and thereby fails to foster informed decision-making and informed participation. To the contrary, FAA improperly predetermined its decision to select the Proposed Alterative by only evaluating the version of the Airport Authority's Proposed Action, as briefly described below.

73. In particular, the EIS fails to analyze any alternative that is not consistent with a version of a project that was included in a 2016 measure passed by voters (Measure B) that allowed the Airport Authority to move forward with its plans to relocate the Airport terminal. Indeed, FAA expressly screened out any alternative that was inconsistent with the alternative approved by Measure B. However, some of the alternatives screened out are reasonable, in that they could feasibly meet the Proposed Action's purpose and need despite not being previously

approved by voters and the Airport Authority, and lead to fewer impacts than the Proposed Action, and must be looked at in detail in the EIS. See *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985).

74. The FAA cannot allow the Airport Authority's actions to foreclose its ability to analyze (and approve) alternatives superior to the Proposed Action and improperly predetermine the outcome of the process. See *Metcalf*, *supra*, 214 F.3d 1141–1144; 40 C.F.R. § 1506.1(b) (2005).

75. The Draft EIS identified potentially feasible alternatives that could meet the Purpose and Need, including the new terminal alternative and the remote land side alternative. FAA did not analyze these alternatives in detail, however, because they were not consistent with what was approved by Measure B.

76. Several comments on the Draft EIS also suggested reasonable and potentially feasible alternatives that should have been evaluated by FAA under NEPA. These alternatives included, but were not limited to, an alternative that would not increase the size of the terminal from the existing terminal and an alternative that reconfigures the existing airfield to meet FAA's safety standards and updates the existing terminal to meet building standards.

77. Rather than recirculate the Draft EIS to include an assessment of these and other reasonable alternatives so as to foster informed decision, FAA continued to maintain that that there were no additional potentially feasible alternatives. This

assertion, however, contradicts substantial evidence in the record, including evidence contained the environmental impact report (EIR) prepared by the Airport Authority for the Proposed Action, which identified numerous potentially feasible alternatives. Rather than rubber-stamping the Airport Authority's Land Use Plan, FAA was required by NEPA to consider a range of alternatives to the Proposed Action.

78. Moreover, in its responses to comments, FAA frequently stated that additional information about the Proposed Action's environmental effects could not be provided because the Action was only designed at a 25-percent level. But if there is only one potentially feasible build alternative, surly additional information about that alternative could have been provided. One purpose behind the statement in FAA Order 5050.4b that "normally" an action should be designed only to a 25-percent level is to ensure that the action's design is not so far along that the environmental analysis appears to be a *fait accompli*. *See* FAA Order 5050.4b, § 1004c. FAA's assertion the only feasible alternative is that alternative approved by the Airport Authority, however, demonstrates that FAA has not kept an open mind regarding the Proposed Action. FAA should thus revise and recirculate the EIS to evaluate a range of alternatives as required by NEPA.

RELIEF REQUESTED

WHEREFORE, Petitioner requests that this Court:

1. Set aside the Final EIS and ROD approving the Project as in violation of NEPA;

2. Order FAA to conduct a revised environmental analysis in the form of a revised EIS that complies with NEPA and is recirculated for public review and comment;

3. Stay the ROD and temporarily enjoin the FAA and the Airport Authority from implementing any portion of the Proposed Action, other than any public safety improvements that would not preclude other project alternatives from implementation, until the FAA has taken all actions necessary to fully comply with NEPA;

4. Award Petitioner costs, expenses and reasonable attorney fees pursuant to the Equal Access of Justice Act, 28 U.S.C. § 2412 or other authority; and

5. For such other relief as this Court deems just and proper.

Respectfully submitted,

Dated: August 26, 2021

By: /s/ *Robert M. Mahlowitz*

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on this 26th day of August, 2021.

All participants in this case are registered CM/ECF users and will be served by the appellate CM/ECF system.

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/s/ *Kathryn A. Ramirez*
KATHRYN A. RAMIREZ

FIRST AMENDED PETITION FOR REVIEW
OF AGENCY ACTION

EXHIBIT A

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RECORD OF DECISION

PROPOSED REPLACEMENT PASSENGER TERMINAL PROJECT
BOB HOPE "HOLLYWOOD BURBANK" AIRPORT
Burbank, Los Angeles County, California

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May 2021

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ROD.1 INTRODUCTION

This Record of Decision (ROD) reflects the final environmental determination and approval of the Federal Aviation Administration (FAA) regarding the proposed Replacement Passenger Terminal Project (Proposed Project) at Bob Hope "Hollywood-Burbank" Airport (Airport or BUR), in Burbank, Los Angeles County, California. The Proposed Project includes replacement of the existing 14-gate passenger terminal building located in the southeast quadrant of the Airport with a 14-gate replacement passenger terminal building in the northeast quadrant of the Airport. BUR is owned and operated by the Burbank-Glendale-Pasadena Airport Authority (the Authority), the Sponsor for the Airport. This environmental determination and approval are based upon a thorough and careful environmental decision making process, including review of the analysis of impacts described in the 2021 Final Environmental Impact Statement which follows this ROD. This ROD was prepared by the FAA as the lead federal agency.

FAA has prepared and is publishing this combined FEIS/ROD pursuant to the implementing regulations of the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (Title 40, Code of Federal Regulations [CFR] parts 1500-1508); the provisions in 49 USC § 304a(b), Accelerated decisionmaking in environmental reviews; FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.* This FEIS/ROD reflects the decisions and approvals of the FAA pursuant to 40 CFR § 1505.2.

The Authority's Proposed Project is described in detail in **Section 1.4** of the EIS. The FAA has selected the Proposed Project as FAA's Preferred Alternative for implementation at BUR. See **Exhibit ROD 1** and **Exhibit ROD 2** of this ROD.

The Proposed Project includes the following project components:

- Construction of a 14-gate 355,000-square-foot replacement passenger terminal building
- Construction of a 45,900-square-yard aircraft parking apron
- Construction of replacement employee automobile parking
- Construction of a public automobile parking structure
- Construction of a new passenger terminal access road
- Realignment of Avenue A – the existing terminal loop road
- Construction of a replacement airline cargo building
- Construction of a replacement Aircraft Rescue and Firefighting (ARFF) station

EXHIBIT ROD 1
PROPOSED PROJECT CONSTRUCTION

EXHIBIT ROD 2
PROPOSED PROJECT DEMOLITION/REMOVAL

- Construction of ground access vehicle storage and staging area
- Construction of a ground support equipment (GSE) and passenger terminal maintenance building
- Construction of a central utility plant
- Extension of Taxiway A and Taxiway C
- Realignment of the Airport service road
- Relocation of the shuttle bus dispatch office and staging area
- Demolition of the existing passenger terminal building
- Removal of commercial aircraft apron and adjacent taxilanes
- Removal of a parking booth
- Removal of the employee parking lot
- Removal of Parking Lot A
- Removal of Parking Lot B
- Removal of Parking Lot E
- Removal of the public parking structure
- Removal of a tenant lease area
- Demolition of the airline cargo and GSE maintenance building and associated pavement
- Removal of the shuttle bus dispatch office and staging area

The Proposed Project would not result in changes to the runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace.

Section ROD.2 of this ROD provides background information on the Authority's Proposed Project. Section ROD.3 of this ROD identifies the proposed federal actions that are necessary to implement the FAA's Preferred Alternative. Section ROD.4 of this ROD describes the Purpose and Need. Section ROD.5 describes the multi-step screening process to identify a range of reasonable alternatives that were capable of achieving the Purpose and Need. FAA's Preferred Alternative for implementation as well as the Environmentally Preferred Alternative are described in Section ROD.6. Section ROD.7 describes the public and agency involvement efforts for the EIS including all public and agency meetings during scoping and the public comment period for the Draft EIS. Native American consultation under Section 106 of the National Historic Preservation Act (NHPA) is described in Section ROD.8 and coordination and consultation done with federal, state, and local government entities

is described in Section ROD.9. Section ROD.10 summarizes the potential environmental impacts of the alternatives as well as any mitigation, avoidance, and minimization measures that would be implemented. Section ROD.11 includes the Agency Findings and Determinations and Section ROD.12 includes the Decision and Orders.

ROD.2 BACKGROUND

In 2000, the City (City) of Burbank City Council passed Ordinance No. 3541 that ordered a special election for Measure B, which was held on November 7, 2000. On December 19, 2000, the City of Burbank passed Resolution No. 25,914 that accepted the result of the special election for Measure B, which included a provision stating that any City approval or discretionary act, or agreement between the City and Authority related to the relocation or expansion of the Airport passenger terminal building would require voter approval at a City election.[1] In 2015, after decades of disagreements between the Authority and the City of Burbank, the two parties developed a Conceptual Term Sheet[2] for a replacement passenger terminal building that stipulated the following:

1. The Authority would receive a vested right to build a replacement passenger terminal building on airport-zoned property, including the proposed former Lockheed B-6 Plant site;
2. The City of Burbank would receive certain governance protections to be created and documented in a Joint Powers Agreement (JPA) governing the Authority; and
3. A California Environmental Quality Act (CEQA) analysis must be completed by the Authority for the replacement passenger terminal building.

In July 2016, the Authority prepared an Environmental Impact Report (EIR) for the replacement passenger terminal building and ancillary projects to comply with the requirements of CEQA and the JPA. City of Burbank citizens then voted on the replacement passenger terminal building, as required by Measure B, in the November

[1] City of Burbank. (2001). Municipal Code, 2-3-112: *Airport Agreements*. Retrieved, October 2018, from City of Burbank: https://www.codepublishing.com/CA/Burbank/?burbankcr.html&?f.

[2] City of Burbank and Burbank-Glendale-Pasadena Airport Authority. (2015, December). City of Burbank and Burbank-Glendale-Pasadena Airport Authority, *Bob Hope Airport Replacement Terminal Conceptual Term Sheet*.

2016 election.[3] [4] Measure B passed in favor of the replacement passenger terminal building project. The Authority subsequently submitted an Airport Layout Plan (ALP) depicting the Proposed Project to FAA for approval. ALP approval by the FAA requires compliance with NEPA. Thus, the FAA began preparation of the EIS in 2018.

ROD.3 PROPOSED FEDERAL ACTIONS AND APPROVALS

ROD.3.1 Federal Actions Requested from the FAA

The Authority is seeking the following federal actions and approvals from the FAA. The FAA must grant these approvals to the Authority prior to implementation of the Proposed Project.

1. Unconditional approval of portions of the ALP that depict those portions of the Proposed Project subject to FAA review and approval pursuant to 49 USC § 47107(a)(16);
2. Determinations under 49 USC §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program (AIP) and under 49 USC § 40117, as implemented by Title 14 CFR § 158.25, to use passenger facility charges (PFC) collected at the Airport for the Proposed Project to assist with construction of potentially eligible development items from the ALP.

The major federal actions which define FAA's Proposed Action involve those project components of the Authority's Proposed Project identified in bold text in **Table ROD 1**. The FAA does not have the authority to approve or disapprove the Proposed Project components which are not part of FAA's Proposed Action.

[3] The text for this measure is as follows: "Shall Ordinance No. 16-3,882 be approved allowing no more than a 14-gate, 355,000 square foot replacement terminal and ancillary improvements to be built at the Bob Hope Airport meeting current safety, seismic standards and improving disabled access; demolishing the existing terminal; and modifying Adjacent Property easement and authorizing future agreements necessary to implement the project; in exchange for governance changes that provide Burbank a greater voice in the future of the airport?" Adjacent Property refers to the portion of the former Lockheed B-6 property obtained through condemnation and retained by the Authority (other property obtained through this condemnation action was placed in trust and has since been sold by the Authority). For purposes of this EIS, the northeast quadrant is the same as the Adjacent Property.

[4] City of Burbank. (2016, October 16). Ballot Measure B – Proposed 14-Gate Replacement Terminal at the Bob Hope Airport. Retrieved January 2021, from City of Burbank: https://www.burbankca.gov/departments/city-clerk-s-office/elections/previous-municipal-elections/measure-b-special-election-november-8-2016.

TABLE ROD 1
PROPOSED PROJECT COMPONENTS AND IDENTIFICATION OF ASSOCIATED FEDERAL ACTIONS /A/

Proposed Project Component	Airside or Landside Improvement	Identification of FAA ALP Approval (YES[/b/] or NO[/c/])	Eligibility for AIP or PFC Funding (YES[/d/] or NO)
Project Component 1: Construction of a replacement passenger terminal building	Landside	YES	YES
Project Component 2: Construction of a 45,900-square-yard aircraft apron	Airside	YES	YES
Project Component 3: Construction of replacement employee automobile parking	Landside	NO	NO
Project Component 4: Construction of a public automobile parking structure	Landside	NO	NO
Project Component 5: Construction of a new passenger terminal access road	Landside	NO	YES
Project Component 6: Realignment of Avenue A	Landside	NO	YES
Project Component 7: Construction of replacement airline cargo building	Landside	NO	NO
Project Component 8: Construction of replacement ARFF station	Airside	YES	YES
Project Component 9: Construction of GSE and passenger terminal maintenance building	Airside	NO	YES
Project Component 10: Construction of a central utility plant	Landside	NO	YES
Project Component 11: Construction of ground access vehicle storage and staging area	Landside	NO	YES
Project Component 12: Taxiway A and Taxiway C Extensions	Airside	YES	YES
Project Component 13: Realignment of the Airport service road	Airside	NO	YES

Proposed Project Component	Airside or Landside Improvement	Identification of FAA ALP Approval (YES[/b/] or NO[/c/])	Eligibility for AIP or PFC Funding (YES[/d/] or NO)
Project Component 14: Relocation of Shuttle Bus Dispatch Office and staging area	Landside	NO	YES
Project Component 15: Demolition of existing passenger terminal building	Landside	YES	YES
Project Component 16: Removal of commercial aircraft apron and adjacent taxilanes	Airside	YES	YES
Project Component 17: Removal of parking booth	Landside	NO	YES
Project Component 18: Removal of employee parking lot	Landside	NO	YES
Project Component 19: Removal of Parking Lot A	Landside	NO	YES
Project Component 20: Removal of Parking Lot B	Landside	NO	YES
Project Component 21: Removal of Parking Lot E	Landside	NO	YES
Project Component 22: Removal of public parking structure	Landside	NO	YES
Project Component 23: Removal of tenant lease area	Airside	YES	YES
Project Component 24: Demolition of airline cargo and GSE maintenance building and associated pavement	Landside	NO	YES
Project Component 25: Removal of shuttle bus dispatch office and staging area	Landside	NO	YES

Sources: FAA, 2021; RS&H, 2021.

Notes:
/a/ The Draft EIS for this Proposed Project was released for public review and comment prior to a final determination of FAA's statutory approval authority related to the Proposed Project as a result of passage of the *FAA Reauthorization Act of 2018*. Congress limited the FAA's statutory authority over airport development projects in Section 163 of the *FAA Reauthorization Act of 2018*, H. R. 302, (P.L. 115-254). In the statute, Congress limited FAA's approval authority to portions of ALPs that meet certain statutorily defined criteria, and further, prohibited the FAA from directly or indirectly regulating airport land use unless certain exceptions for continued "direct or indirect" regulation exist. The revisions made here to the EIS are intended to more accurately reflect the scope of the Federal action, but no changes have been made in the EIS as to the analysis of effects. The FAA limited its revisions in the EIS to ensure a

conservative approach to NEPA for this particular project, given its advanced progress through the NEPA process at the time of final determinations of agency approval authority, and because it appears that certain components of the Proposed Project may be eligible for federal funding.

/b/ Because portions of the Proposed Project involve the demolition of existing, and construction of new terminal buildings and aircraft movement and aircraft parking areas, these portions may have a material impact to the safe and efficient operation of aircraft at, to, or from the Airport. Therefore, the FAA retains the legal authority to approve or disapprove these changes to the ALP.

/c/ These portions of the Proposed Project would have no material impact on aircraft operations at, to, or from the Airport, and would not adversely affect the safety of people or property on the ground adjacent to the Airport as a result of aircraft operations. In addition, these portions of the Proposed Project would not have an adverse effect on the value of prior Federal investments to a significant extent. Therefore, the FAA lacks the legal authority to approve or disapprove the changes to the ALP.

/d/ A "YES" in this column denotes that the project component is eligible for AIP or PFC funding granted that it meets the requirements in the AIP Handbook.

ROD.4 PURPOSE AND NEED

The purpose and need for the FAA's Preferred Alternative is documented in detail in **Section 2.7** of the EIS. The next paragraphs of this section describe the purpose and need of the FAA and the Authority.

The purpose of the Proposed Project is to provide a replacement passenger terminal building that meets current FAA Airport Design Standards[5], passenger demand, and building requirements as well as improve utilization and operational efficiency of the passenger terminal building. The existing passenger terminal building does not meet current FAA Airport Design Standards related to runway separation and object free areas. It is also obsolete in terms of contemporary passenger terminal building design and efficient utilization standards. Further, it does not meet current building requirements or current and future passenger amenities. FAA's need is to ensure that the Airport operates in a safe manner pursuant to 49 USC § 47101(a)(1) and defined by the statutory requirement to decide whether to approve the Proposed Action as depicted on the Airport Layout Plan (ALP) developed by the Authority, pursuant to 49 USC § 47107(a)(16).

The Authority has specific objectives to meet the goal of modernizing the passenger terminal and to meet the expectations of the current and future travelling public. The Authority's objectives to meet the goal of modernizing the passenger terminal building and to meet the expectations of the current and future travelling public are to:

- Have a replacement passenger terminal building that meets Americans with Disabilities Act standards, as well as the latest seismic (earthquake) design requirements of the California Building Code (California Code of Regulations, Title 24, Chapter 16).
- Have a replacement passenger terminal building that consolidates air facilities (including passenger, tenant, and Authority facilities) into a single passenger terminal building.
- Provide an energy-efficient passenger terminal building with the same number of aircraft gates and the same number of public parking spaces as the existing facilities for commercial passengers.
- Maintain intermodal connectivity between the replacement passenger terminal building and the various fixed-rail and bus options located near the Airport.

[5] FAA. (2014, February 26). Federal Aviation Administration Advisory Circular (AC) 150/5300-13A, Change 1, *Airport Design.*

ROD.5 ALTERNATIVES CONSIDERED

ROD.5.1 Evaluation and Screening of Alternatives

The FAA completed a thorough and objective review of a range of reasonable alternatives in accordance with President's Council on Environmental Quality (CEQ) regulations (40 CFR § 1502.14), the implementing regulations for NEPA. The FAA established a two-step screening process to identify a range of reasonable replacement passenger terminal building alternatives that were capable of achieving the Purpose and Need for the FAA's Preferred Alternative. **Section 2.3** of the EIS identifies the two step alternatives screening process used for the Proposed Project:

- **Step 1:** Each alternative was analyzed to determine whether the alternative could achieve the objectives of the Purpose and Need to meet current FAA standards regarding the terminal building, passenger demand, and building requirements, as well as improving utilization and operational efficiency of the passenger terminal building. Alternatives that would not meet these objectives were eliminated from further consideration.
- **Step 2:** In Step 2, alternatives were eliminated if they would not be practical or feasible to implement from a technical or economic standpoint. This screening criteria includes whether the alternative is consistent with the requirements entered into by the City of Burbank and the Authority and ratification of Measure B by Burbank voters. Any alternatives that were not eliminated through this screening process were retained for a detailed evaluation of their environmental impacts.

The FAA identified and considered ten alternatives, which included alternatives that were considered in the 1995 EIS prepared under NEPA, as well as alternatives that were considered in the 2016 California Environmental Quality Act (CEQA) EIR, and other reasonable alternatives. In the first step of the alternatives screening, two off-airport alternatives and two on-airport alternatives were identified as satisfying the Purpose and Need.

These four alternatives were the construction of a new airport, the construction of an off-airport landside facility, construction of a replacement passenger terminal building in the southeast quadrant of BUR, and construction of a replacement passenger terminal building in the northeast quadrant of BUR.

All four of these alternatives, as well as the No Action Alternative, moved forward to the second step of the alternatives screening process. Analysis of the No Action Alternative is required by 40 CFR 1502.14(d). The second step analyzed the alternatives further to evaluate whether each alternative was practical or feasible

to implement from a technical and economic standpoint, as well as consistent with the requirements of the Authority's agreements with the City of Burbank ratified in Measure B. The only alternative that met the second step criteria in the screening is the Proposed Project to construct a replacement passenger terminal building in the northeast quadrant of the Airport. This alternative, as well as the No Action alternative, was retained for further analysis in the EIS. Although the No Action Alternative would not meet the purpose and need of the Proposed Project, it is carried forward as required by 40 CFR § 1502.14(d).[6] **Table ROD 2** provides a summary of the alternatives screening analysis.

TABLE ROD 2
ALTERNATIVES SCREENING ANALYSIS TABLE

	Achieve the Objectives of the Purpose and Need?	**Move to Step 2 Screening?**	**Is This Alternative Practical and Feasible to Implement and Meets the Requirements of Voter-Approved Measure B?**	**Retain for Detailed Evaluation?**
Construction of a New Airport	Yes	Yes	No	No
Construction of a Remote Landside Facility	Yes	Yes	No	No
Transfer of Aviation Activity to Other Airports/a/	No	No		
Use of Other Modes of Transportation/a/	No	No		
Airfield Reconfiguration/a/	No	No		
Southeast Quadrant	Yes	Yes	No	No
Southwest Quadrant/a/	No	No		
Northwest Quadrant/a/	No	No		
Northeast Quadrant	Yes	Yes	Yes	Yes
No Action Alternative/b/	No	Yes	No	Yes

Notes:/a/ This alternative did not move to Step 2 Screening and subsequent steps in the screening process are blacked out to show that this analysis did not occur.
/b/ - Required to be included in the EIS by 40 CFR § 1502.14(d).

[6] FAA began the EIS process prior to the revision of the CEQ Regulations on September 14, 2020. Therefore, this EIS and ROD use the 1978 version of the CEQ Regulations.

ROD.6 AGENCY PREFERRED ALTERNATIVE AND ENVIRONMENTALLY PREFERRED ALTERNATIVE

The provisions in 49 USC 304(a) (implemented in the DOT document "*Guidance on the Use of Combined Final Environmental Impact Statements/Records of Decision and Errata Sheets in National Environmental Policy Act Reviews"*) and CEQ regulations (40 CFR § 1502.14(e)) require that a lead agency identify its preferred alternative in the Draft and Final EIS and identify the environmentally preferred alternative (40 CFR § 1505.2(b)) in the ROD. The FAA's Preferred Alternative is the alternative "*the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors*." The environmentally preferred alternative is the alternative that best promotes the national environmental policies incorporated into Section 101 of NEPA. In general, this would be the alternative that results in the least impact to the environment while still meeting the purpose and need, and that best protects natural and cultural resources.

The Approving Official for this ROD has selected the Preferred Alternative based on a review of each alternative's ability to fulfill the agency's mission while considering their economic and environmental impacts, and technical factors. The FAA identified the Proposed Project as the preferred alternative for implementation. This alternative would address the purpose and need for the proposed project to meet current FAA standards, passenger demand, and building requirements as well as improve utilization and operational efficiency of the passenger terminal building. With implementation of the Proposed Project, the proposed replacement passenger terminal building would be properly separated from the runways and taxiways and maintain adequate Runway Object Free Area (ROFA), Taxiway Object Free Area (TOFA) and Building Restriction Line (BRL) standards which reduces collision risk in the event that an aircraft deviates from the runway or taxiway.

Of all alternatives considered, the No Action Alternative has the fewest environmental impacts. However, the No Action Alternative does not meet the project purpose and need. Therefore, the Proposed Project is also the Environmentally Preferred Alternative because it is the most practicable alternative that meets the purpose and need of the Proposed Project and would not result in any significant impacts when implemented with the minimization, avoidance, and mitigation measures described in Chapter 4 of the EIS and Section ROD.10 of this ROD.

ROD.7 PUBLIC AND AGENCY INVOLVEMENT

The EIS process was initiated when the FAA published the Notice of Intent (NOI) in the *Federal Register* on December 18, 2018. FAA held two in-person scoping

meetings, one for federal, state, regional, and local agencies and the second for the public, on January 29, 2019, at the Buena Vista Library in Burbank, California. Oral and written comments were accepted at both scoping meetings. In addition, written comments were accepted during the scoping comment period, which ended on March 1, 2019.

On March 25, 2019, the FAA's Air Traffic Organization (ATO) announced a separate NEPA process to prepare an Environmental Assessment (EA) addressing proposed amendments to the Airport's existing aircraft departure routes. This is an independent project to the Proposed Project and not considered a connected action.[7]

In order for the replacement passenger terminal building and the change in the flight procedures to be connected actions, the construction of a replacement passenger terminal building could not be implemented without the change in the flight procedure or the change in the flight procedure could not be implemented without the construction of a replacement passenger terminal building. Several comments acknowledged that some changes in flight procedures had already occurred in 2017. These changes to the flight procedures occurred independent of construction of a replacement passenger and have no relationship to the location of the passenger terminal building at the Airport. Any future change in flight procedures is not dependent on the location of a replacement passenger terminal building at the Airport. Similarly, a replacement passenger terminal building could be constructed without any change in flight procedures for aircraft operating to and from the Airport. Further, the Proposed Project would not result in changes to the runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace. Thus, these projects are separate and independent and are not connected actions.

Justification for the Proposed Replacement Passenger Terminal Project is described in detail in **Section 1.3** of the EIS. FAA's need is to ensure that the Airport operates in a safe manner pursuant to 49 USC § 47101(a)(1) and defined by the statutory requirement to decide whether to approve the Proposed Action as depicted on the Airport Layout Plan (ALP) developed by the Authority, pursuant to 49 USC § 47107(a)(16). The existing passenger terminal building, initially built in the 1930s, does not meet current FAA Airport Design Standards. Flight procedures used while the aircraft is in the air have no bearing on whether or not the passenger terminal

[7] 40 CFR § 1508.25(a)(1) defines a connected action as: "*Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:*
(i) *Automatically trigger other actions which may require environmental impact statements.*
(ii) *Cannot or will not proceed unless other actions are taken previously or simultaneously.*
(iii) *Are interdependent parts of a larger action and depend on the larger action for their justification.*
A project has independent utility when the project has logical starting and end points and would have a useful purpose without relying on other transportation improvements. See FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, Section 202(c)(4)(a).

building complies with FAA Airport Design Standards. Specifically, flight procedures have no influence on the distance between the passenger terminal building and the runway or taxiway centerlines nor the proximity of the passenger terminal building to the primary and transitional surfaces that protect imaginary surfaces around runways at the Airport. No changes to the runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace would occur as a result of the Proposed Project.

In addition, changes to the flight procedures are within the jurisdiction of the FAA's ATO and would occur beyond the General Study Area. The proposed changes to flight procedures are included in the list of past, present, and reasonably foreseeable projects in **Section 3.16** of the EIS. Since the Proposed Project would have no effect on flight procedures and because the changes to the flight procedures occurred outside the General Study Area for the EIS, no additional analysis regarding the change in flight procedures is warranted.

While many comments on the Draft EIS claimed that the two proposals are connected because they both involve BUR, the projects are not interdependent. As discussed previously, proposed flight procedure changes could be implemented without the Authority relocating the passenger terminal building. Further, the passenger terminal building could be relocated to the northeast quadrant of the Airport without affecting the flight procedures and how aircraft fly over areas miles away from the Airport.

Public involvement for projects involving flight procedure changes at the Airport would be part of the NEPA processes that ATO would conduct, as required by the CEQ regulations, and FAA Order 1050.1F.[8]

For the Proposed Replacement Passenger Terminal project, no verbal agency comments were received during the agency scoping meeting. One federal government agency, seven local and state government agencies, and one elected official provided written comments during the scoping comment period (see **Appendix B** of this EIS).

During the public scoping meeting, a stenographer was available to transcribe oral comments. A total of 19 persons provided oral comments at the public scoping meeting, which the stenographer transcribed, and about 200 written public comments were received during the public scoping meeting. Approximately 300 written public comments were received during the scoping comment period, in addition to the comments received at the scoping meetings (see **Appendix B** of this EIS).

[8] For updates regarding the FAA ATO's OROSZ Three Departure (RNAV) and SLAPP Two Departure (RNAV) Proposed Procedure Amendments Project, visit https://www.faa.gov/air_traffic/community_involvement/bur/.

A Notice of Availability (NOA) of the Draft EIS was published in the *Federal Register* on August 21, 2020. The NOA described the Proposed Project, provided the public hearing date and time, informed the public on how to obtain a copy of the Draft EIS, and initiated the public comment period. Advertisements announcing the availability of the Draft EIS were published on August 21, 2020, in the *La Opinión* and *Pasadena Star News* newspapers and on August 22, 2020, in *Asbarez*, *The Burbank Leader*, and *Glendale News Press* newspapers. Copies of the NOA in the *Federal Register* and the local newspaper advertisements are contained in **Appendix A**. Notice of Availability for the Draft EIS was sent to all stakeholders who submitted comments during the EIS scoping process. The Draft EIS was available for review online at the following website: https://www.bobhopeairporteis.com/.

Due to the Pandemic, public libraries and most city halls were not open to the public for review of the DEIS. Two copies of the Draft EIS were available for public review at Burbank City Hall (275 East Olive Avenue, Burbank, CA 91502) during normal business hours.

The public comment period was scheduled to end on October 5, 2020, affording the required 45-day minimum public comment period per subsection 40 CFR § 1506.10(c) Council on Environmental Quality (CEQ) regulations that were in place at the time of publication. In compliance with FAA Order 5050.4B, paragraph 1102(a), the FAA considered requests for extension of the public comment period and decided to extend the public comment period for 22 days. This comment period extension included the 15 days referenced in FAA Order 5050.4B, Section 1102(a) plus an additional 7 days to account for the delay in posting the scoping comments from Studio City for Quiet Skies on the project website 7 days after the Draft EIS was published in the Federal Register. In reviewing the extension requests, FAA considered the rationale and need for each request when determining the appropriateness of the extension.

As a result of the on-going Pandemic, the FAA conducted two virtual public information workshops as part of the process of preparing the EIS. The virtual public information workshops were held on Wednesday, September 23, 2020 using Zoom from 1:00 pm to 3:00 pm Pacific Daylight Time (PDT) and from 6:00 pm to 8:00 pm PDT. The purposes of the virtual public workshops were to update the public on the Draft EIS, give a presentation on the Draft EIS, and respond to questions from the public.

In addition, FAA hosted a virtual public hearing from 6:00 pm to 9:00 pm PDT on Thursday, September 24, 2020. The FAA provided a brief presentation during the virtual public hearing followed by an opportunity for members of the public to provide oral comments on the Draft EIS. A stenographer was present to transcribe all speech at the hearing and create a typed record of all the oral comments.

FAA received a total of 332 comment submissions from governmental agencies, organizations, and members of the public on the Draft EIS during the 67-day comment period (August 21, 2020 through October 27, 2020). A copy of the comments FAA received and FAA's responses to those comments are provided in **Appendix M.**

The Final EIS provides 14 detailed topical responses to common issues and questions that several comments raised as well as specific responses to each comment submission on the Draft EIS in **Appendix M**.

The Final EIS and ROD are issued in this combined document, pursuant to the provisions in 49 USC § 304a. In accordance with the Department of Transportation policy, the FAA disclosed its intention to publish a combined Final EIS and ROD document in the Draft EIS that was published on August 21, 2020.

ROD.8 NATIVE AMERICAN CONSULTATION

The State of California, Native American Heritage Commission (NAHC) recommended consulting with the following tribes: Gabrieleno Band of Mission Indians-Kizh Nation, Gabrielino/Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, and the Gabrielino-Tongva. On January 17, 2020, the FAA provided detailed information about the Proposed Project to the tribes noted above via the U.S. Mail. Copies of these letters can be found in **Appendix H**. One response was received from the Gabrieleno Band of Mission Indians–Kizh Nation requesting a more detailed discussion regarding the Proposed Project. A conference call occurred on February 7, 2020 between the FAA and the Tribal representative. The FAA and Gabrieleno Band of Mission Indians–Kizh Nation concluded the likelihood of finding intact Native American Resources during construction of the Proposed Project is extremely low because of the initial construction disturbance on the former northeast quadrant by Lockheed in the 1930s and the following hazardous materials remediation that occurred in the 1990s and 2000s. The likelihood of finding archaeological resources in the area is low in areas that were previously disturbed and excavated to a depth of 25 feet bgs. FAA is including an Unanticipated Discovery Plan consistent with 36 CFR §800.13(b) as a condition of approval of this ROD. This plan states that in the event that historic or prehistoric archaeological resources are unearthed during ground-disturbing activities, construction activities shall halt or redirect ground-disturbing activities away from the vicinity of the find so that the find could be evaluated by a qualified archaeologist. A buffer area would be established around the find where construction activities would be halted until after a qualified archaeologist can be retained to assess the find, and the Gabrieleno-Tongva – Kizh Nation has been contacted.

ROD.9 AGENCY COORDINATION AND CONSULTATION

Throughout the EIS process, the FAA coordinated with federal, state, and local agencies to ensure that concerns of both the general public and federal, state, and local agencies are considered during the preparation of the EIS. In addition to the Native American consultation/coordination described above, the federal, state, and local agencies listed in **Table 5.4-1** were invited to attend the agency scoping meeting. The agency scoping meeting was held in Burbank on January 29, 2019.

As discussed in **Section 4.8** of the EIS, the FAA conducted National Historic Preservation Act, Section 106, consultation with the California State Historic Preservation Officer (SHPO) to evaluate the potential impacts of the Proposed Project to historic properties listed or eligible for listing on the National Register of Historic Places (NRHP). The FAA delineated a Direct Area of Potential Effects (APE) where physical impacts of the Proposed Project would occur and an Indirect APE where indirect effects of implementation of the Proposed Project would potentially occur. The SHPO concurred with FAA's APEs for the proposed undertaking.

The Historic Resources Assessment evaluated 12 buildings at the Airport for eligibility for inclusion into the NRHP. One of the buildings was the existing passenger terminal building and the other eleven buildings were aircraft hangars. After completion of the Historic Resources Assessment and analysis regarding the direct and indirect impacts of the Proposed Undertaking, the FAA completed consultation with the SHPO and sent a letter on April 12, 2020 regarding the following determinations:

- Hangars 1 and 2 are eligible for listing on the NRHP under Criterion C;
- The terminal building is ineligible for listing on the NRHP; and
- The remaining nine hangars in the APE are ineligible for listing on the NRHP.

The FAA found the Proposed Undertaking would not affect historic properties. The SHPO concurred with FAA's determinations and findings by letter dated July 20, 2020. FAA included an Unanticipated Discovery Plan consistent with 36 CFR §800.13(b). See **Section 4.8** of the EIS.

On August 21, 2020, FAA distributed the Draft EIS electronically before the U.S. EPA's publication of the Notice of Availability of the Draft EIS in the Federal Register to various federal, state, and local government agencies who have jurisdiction or participated in the scoping process for the EIS.

ROD.10 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

The EIS discusses potential impacts resulting from implementation of the Proposed Project and the No Action Alternative in accordance with the requirements of NEPA, the CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508) as well as FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

This section includes a brief summary of the potential impacts resulting from implementation of the Proposed Project and the No Action Alternative. More detailed discussions of the potential impacts for each environmental impact category are contained in Chapter 4 of the EIS.

Based on requirements set forth in FAA Order 1050.1F and Order 5050.4B and guidance in the FAA Order 1050.1F Desk Reference, analysis of each resource category includes direct and indirect effects of constructing and implementing the Proposed Project as compared to the No Action Alternative. Each environmental resource category was analyzed based on the significance thresholds as described in FAA Order 1050.1F and Order 5050.4B. Specific study years were broken out for certain resources (air quality, climate, noise, and socioeconomics [surface traffic]) in order to assess the near-term and long-term (8 to 10 years)[9] impacts.

The EIS examined the following environmental impact categories: Air Quality; Biological Resources; Climate; Department of Transportation, Section 4(f) and Land and Water Conservation Act, Section 6(f) resources; Hazardous Materials, Solid Waste, and Pollution Prevention; Historical, Architectural, Archaeological, and Cultural Resources; Land Use; Natural Resources and Energy Supply; Noise and Noise-Compatible Land Use; Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks (includes Surface Traffic); Visual Effects; Water Resources; Cumulative Impacts; and Irreversible and Irretrievable Commitment of Resources.

The following resources would not be affected by either the Proposed Project or No Action Alternative and were not included in the environmental impacts analysis in Chapter 4: Coastal Resources, Farmlands, Wetlands, and Wild and Scenic Rivers (see **Section 3.2** of the EIS).

Section 3.2 of the EIS defines a Detailed Study Area and a General Study Area. The Detailed Study Area is a subset of the General Study Area and is defined by the

[9] FAA Order 5050.4B Desk Reference paragraph 6(e)(4).

Airport property boundary, which encompasses about 555 acres with portions in both the cities of Burbank and Los Angeles. This study area consists of areas where "direct," or physical ground-disturbance, impacts could occur from construction of the Proposed Project and other reasonable alternatives. The General Study Area is about 4,900 acres in size and encompasses the Detailed Study Area. This study area delineates a larger geographic area to assess "indirect" impacts that could occur in the surrounding communities. Indirect impacts may include effects on air quality, noise-sensitive land uses, socioeconomic conditions, historic and cultural resources, and/or U.S. DOT Act, Section 4(f) resources. FAA delineated the General Study Area boundary to encompass the current 65-decibel (dB) Community Noise Equivalent Level (CNEL)[10] noise contour from BUR, with the boundary lines adjusted to follow logical boundaries such as major roadways in the area (**Exhibit 3.2-2** in the EIS). FAA determined the extent of the General Study Area using the 65 dB CNEL noise contour. FAA used the 65 dB[11] CNEL for the threshold of significance for airport noise as allowed under FAA Order 1050.1F.

Where appropriate, mitigation, avoidance, and minimization measures that the Authority would implement as conditions of approval of this ROD, in order to eliminate or reduce any potential significant impacts resulting from the Proposed Project, are presented in the EIS. All the avoidance, minimization, or mitigation measures for the Proposed Project are outlined in this section of the ROD. The FAA will ensure implementation of these measures through special conditions in grant-in-aid agreement and other appropriate follow-up actions in accordance with 40 CFR § 1505.3. A summary of the potential impacts resulting from construction and implementation of the Proposed Project when compared to the No Action Alternative, and the mitigation, avoidance, or minimization measures associated with potential impacts are presented in **Table ROD 3.**

The FAA has adopted all practicable means to avoid or minimize the FAA's preferred alternative's environmental harm.

[10] For aviation noise analyses, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities is established in terms of Day Night Average Sound Level (DNL), the FAA's primary noise metric. The CNEL may be used in lieu of DNL for FAA actions needing approval in California.

[11] Federal Interagency Committee on Noise (FICON), *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992, page 1-2 and 1-4.

TABLE ROD 3
ENVIRONMENTAL IMPACTS AND MITIGATION SUMMARY

IMPACT CATEGORY	NO ACTION ALTERNATIVE	PROPOSED PROJECT	PROJECT AVOIDANCE, OR MINIMIZATION MEASURES	FAA REQUIRED MITIGATION MEASURES
Air Quality	No significant impact. Would not exceed National Ambient Air Quality Standards (NAAQS).	No significant impact. Would not exceed NAAQS.	Compliance with the Air Quality Implementation Plan (AQIP) and Memorandum of Understanding (MOU) with the South Coast Air Quality Management District (SCAQMD).	None required
Biological Resources	No impact	No effect to any federally listed species or designated critical habitat. No adverse effect to non-federally listed species.	Tree removal to occur prior to nesting season. A qualified wildlife biologist to conduct preconstruction surveys for migratory birds and burrowing owls. A qualified wildlife biologist to perform a take avoidance burrowing owl survey.	None required
Climate	No impact	No impact	Compliance with the State Implementation Plan (SIP) and Memorandum of Understanding	None required

			(MOU) with the South Coast Air Quality Management District (SCAQMD).	
Department of Transportation, Section 4(f)	No impact	No impact – no direct or constructive use	None required	None required
Hazardous Materials, Solid Waste, and Pollution Prevention	No impact	Does not violate federal, state, tribal, or local laws or regulations, produce appreciably different quantity of hazardous materials or solid waste, and does not adversely affect human health and the environment. The Proposed Project site is a former contaminated site, but the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) has determined the site as compatible for construction of the Proposed Project.	Compliance with SCAQMD rules that govern air quality pollutant emissions (specifically for volatile organic compound) emissions. Development of and compliance with a soil management plan (SMP). Development of and compliance with an Asbestos Operations and Management Plan. Compliance with Cal-OSHA requirements for removal of lead-based paint. Compliance with all federal, state, and local regulations for the use, storage, transportation, disposal, and	None required

			incidental spills of hazardous materials.	
Historic, Architectural, Archaeological, and Cultural Resources				
Historic and Architectural	No historic architectural properties affected	No historic architectural properties affected	None required.	None required
Archaeological and Cultural Resources	No effect	No effect	None required.	In consultation with SHPO and the Gabrielino-Tongva – Kizh Nation and consistent with the requirements of 36 CFR §800.13(b), FAA will require the following unanticipated discovery plan as a mitigation measure: - If human remains or funerary objects are encountered during the undertaking, all work shall cease within 100 feet of the find and the Los Angeles County Coroner shall

				be contacted pursuant to State Health and Safety Code §7050.5; - If any Native American cultural resources are discovered, all work shall cease within a 60-foot buffer so that a qualified archaeologist can be retained to assess the find, and the Gabrielino-Tongva – Kizh Nation will be contacted; - If significant Native American cultural resources are discovered and avoidance cannot be ensured, a

				treatment plan shall be developed by a qualified archaeologist, followed by further consultation with the Gabrielino-Tongva – Kizh Nation.
Land Use	No land use, zoning, or Airport property boundary changes.	No land use, zoning, or Airport property boundary changes.	None required	None required
Natural Resources and Energy Supply	No exceedance from demand on available or future supply of resources	No exceedance from demand on available or future supply of resources	Incorporate energy efficiency and sustainability measures during design wherever possible including implementing LEED Silver standards.	None required
Noise and Noise-Compatible Land Use	No CNEL 1.5 dB increase in CNEL 65+ dB noise contour over noise sensitive land uses	No CNEL 1.5 dB increase in CNEL 65+ dB noise contour over noise sensitive land uses	None required	None required
Residential properties in the CNEL 65+	1,067 residential properties in the	The same 1,067 residential properties in the	None required	None required

dB noise contour (2024)	CNEL 65+ dB noise contour	CNEL 65+ dB noise contour as the No Action Alternative		
Other Noise Sensitive Sites in the CNEL 65+ dB noise contour (2024)	Five noise sensitive sites in the CNEL 65+ dB noise contour	The same five noise sensitive sites in the CNEL 65+ dB noise contour as the No Action Alternative.	None required	None required
Residential properties in the CNEL 65+ dB noise contour (2029)	1,159 residential properties in the CNEL 65+ dB noise contour	The same 1,159 residential properties in the CNEL 65+ dB noise contour as the No Action Alternative	None required	None required
Other Noise Sensitive Sites in the CNEL 65+ dB noise contour (2029)	Five noise sensitive sites in the CNEL 65+ dB noise contour	The same five noise sensitive sites in the CNEL 65+ dB noise contour as the No Action Alternative.	None required	None required
Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks				
Socioeconomics	No induced socioeconomic impacts	No induced socioeconomic impacts	None required	None required
Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks				
Environmental Justice	No disproportionately high and adverse	No disproportionately high and adverse	None required	None required

	effect on minority and low-income populations	effect on minority and low-income populations		
Children's Environmental Health and Safety Risks	No disproportionate environmental risks to the health or safety of children	No disproportionate environmental risks to the health or safety of children	None required	None required
Visual Effects				
Light Emissions	Does not create annoyance or interfere with normal activities	Does not create annoyance or interfere with normal activities	Compliance with City of Burbank Zoning Ordinance and FAA regulations for airport lighting.	None required
Visual Resources and Visual Character	Does not contrast, block or obstruct, or affect the aesthetic value of visual resources	Does not contrast, block or obstruct, or affect the aesthetic value of visual resources	None required	None required
Water Resources				
Floodplains	No impact	No impact	None required	None required
Surface Waters	No impact	No significant impact	Compliance with Stormwater Pollution Prevention Plan (SWPPP) and National Pollutant Discharge Elimination System (NPDES) permit requirements. Development of and compliance with Spill Prevention, Control,	None required

			and countermeasure (SPCC) Plan, and SMP. Compliance with Low Impact Development (LID) requirements.	
Groundwater	No impact	No significant impact	Development of and compliance with SMP. Obtain Regional Board approval prior to initiating construction activities.	None required
Cumulative Impacts	No impact	No impacts to any resource categories that would result in a significant impact and/or violate a factor to consider as identified by the FAA	None required	None required
Irreversible and Irretrievable Commitment of Resources	No impact	No impacts on, or losses to, resources that cannot be recovered or reversed	None required	None required

Source: RS&H, 2020.

ROD.10.1 Air Quality

The potential for Proposed Project and No Action Alternative to have an environmental impact on air quality is discussed in **Section 4.3** of the EIS. The General Study Area is located within the South Coast Air Basin (SCAB). For the State of California, the SCAB is under the jurisdiction of the South Coast Air Quality Management District.

As shown in **Table 3.4-1**, for the National Ambient Air Quality Standards (NAAQS), the Los Angeles County portion of SCAB where the Proposed Project is located is in extreme nonattainment for ozone (O_3) and serious nonattainment for particulate matter ($PM_{2.5}$). The SCAB is in maintenance status for CO and particulate matter (PM_{10}) and unclassified attainment for NO_2 and SO_2. Therefore, a general conformity applicability analysis was conducted for the Proposed Project. The attainment statuses and *de minimis* thresholds applicable to the Proposed Project are presented in **Table 4.3-1** of the EIS.

If the general conformity applicability for this air quality assessment were to show that any of the applicable *de minimis* thresholds (O_3 and $PM_{2.5}$) were equaled or exceeded due to the Proposed Project, more detailed analysis to demonstrate conformity would be required through development of a General Conformity Determination (GCD). The net air emissions of the NAAQS criteria pollutants and VOCs generated from the Proposed Project and the No Action Alternative for the 2024 and 2029 study years are provided in the EIS (see **Table 4.3.7** and **Table 4.3-8**, respectively). FAA's detailed analysis contained in the EIS disclosed that the net air emissions from 2024 and 2029 do ***not*** exceed the *de minimis* thresholds. Therefore, the FAA has determined preparation of a GCD was not required. FAA has determined that implementation of the Proposed Project would not result in a new violation of the NAAQS nor delay timely attainment of the NAAQS. FAA notes, as described in the EIS, the Authority entered into a Memorandum of Understanding (MOU) with SCAQMD and agreed to implement an Air Quality Implementation Plan (AQIP). The measures associated with this agreement are incorporated as features of the Proposed Project and were included in the data and assumptions utilized in the air quality analysis, including the general conformity applicability.

ROD.10.2 Biological Resources

Section 4.4 of the EIS describes the potential impacts to plants and wildlife in the project area including Federal Endangered Species Act listed species and designated critical habitat Migratory Bird Treaty Act (MBTA) species, and special-status species as a result of the Proposed Project as compared to the No Action Alternative.

The FAA made the following determinations regarding biological resources:

- No physical development would occur with the No Action Alternative. Therefore, there would be no impacts on federally listed species, migratory birds, or special-status species.
- The Proposed Project has little potential to affect native and non-native vegetation communities because of the highly disturbed condition of the airport, including pavement and unpaved areas with limited vegetation that exist within the Detailed Study Area.
- Due to the paved and developed nature of the Detailed Study Area, the frequent disturbance from Airport operations, and the treatment of undeveloped areas with soil sterilizer, as well as the activities to discourage wildlife under the Airport's WHMP, the FAA has determined the Proposed Project **will not affect** any federally-listed species or designated critical habitat and formal consultation with the USFWS under Section 7 of the Endangered Species Act is not required.
- Current wildlife hazard management activities already deter the presence of wildlife on Airport property. As such, there are no mitigation, avoidance, or minimization measures required for other wildlife species.
- There is a potential for nesting songbirds to be present in the ornamental trees and shrubs within the Airport's developed areas.

In order to avoid impacts to burrowing owl and other birds protected under the MBTA, the following measures will be implemented to minimize and avoid potential impacts if said birds were present during the implementation of the project:

The following surveys and actions would be implemented and are incorporated into the Authority's Proposed Project as avoidance measures:

- No more than 14 days prior to ground-disturbing activities (vegetation clearance, grading), a qualified wildlife biologist with previous burrowing owl survey experience would conduct a preconstruction take avoidance survey on and within 200 meters (656 feet) of the construction zone (where legally accessible) to identify occupied breeding or wintering burrowing owl burrows as well as unoccupied burrows.
- The take-avoidance burrowing owl survey would be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation*[12] and consist of walking parallel transects 7 to 20 meters (23 to 66 feet) apart, adjusting for vegetation

[12] California Department of Fish and Game. (2012). *Staff Report on Burrowing Owl Mitigation*. Retrieved November 2019, from California Department of Fish and Game: https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281284-birds.

height and density or other obstacles as needed, and noting any burrows containing owls or with fresh signs that burrowing owl may be present.[13] Note that owl signs can wash away during rain events and may take several days to build back up again. Copies of the burrowing owl survey results shall be submitted to the Authority prior to ground-disturbing activities.

- If potential burrows are detected on site, a qualified biologist would conduct three consecutive days of camera surveys using an endoscope ("burrow camera") to verify if burrowing owls are present or absent in the burrow. Burrows shall not be dismantled until it is confirmed with 100 percent certainty that there are no owls present. It is important to completely collapse the burrow network when closing the burrow.
- If burrowing owls are detected on site, no ground-disturbing activities would be permitted within 200 meters (656 feet) of an occupied burrow during the breeding season (February 1 to August 31), unless otherwise authorized by the California Department of Fish and Wildlife (CDFW). During the nonbreeding ("wintering") season (September 1 to January 31), ground-disturbing work can proceed near active burrows as long as the work occurs no closer than 50 meters (165 feet) from the burrow, or as allowed by the CDFW. Depending on the level of disturbance and proposed measures, a smaller buffer may be established in consultation with a qualified wildlife biologist.
- If the owls are not in danger of direct impact, then the default action should always be to allow the owls to leave the existing burrow site on their own volition. A qualified wildlife biologist would monitor all active burrows to note when the young have fledged and the burrow is no longer active. The qualified wildlife biologist would obtain three consecutive days of negative surveillance camera results to verify owls are not present and would further support this information by scoping with an endoscope ("burrow camera") immediately prior to dismantling the burrow.

Implementation of minimization measures would reduce the potential impacts to nesting birds and burrowing owls if they are present.

Because nesting songbirds and burrowing owls could appear at the Airport during construction, the following minimization measures would be implemented to reduce potential impacts on these biological resources during nesting season from February 1 to August 31:

1. All potential nesting trees scheduled to be cut down to allow for construction would be removed prior to the nesting season.

2. A qualified wildlife biologist would conduct preconstruction surveys of all potential nesting habitat. The surveying biologist must be qualified to determine the status and stage of migratory bird nesting without causing intrusive disturbance.
    - Surveys would be conducted no more than 3 days prior to construction activities.
    - Surveys would not be conducted for the entire Detailed Study Area at one time; the surveys must be phased so that each occurs shortly before a portion of the Detailed Study Area is disturbed by construction activities.
3. If active nests are found, the qualified wildlife biologist would determine an appropriate no-disturbance buffer requirement, and no construction within the buffer would be allowed until the onsite qualified wildlife biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the onsite qualified wildlife biologist who would monitor nest activities.

Implementation of the measures identified above are incorporated into the Proposed Project as minimization measures. The Authority is required to implement these measures under state law.

ROD.10.3 Climate

The potential impacts to climate due to the Proposed Project as compared to the No Action Alternative is discussed in **Section 4.5** of the EIS.

The FAA has not established a significance threshold for climate and GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions. This GHG assessment in the EIS includes direct and indirect emissions inventories for landside sources (area, energy, and mobile) and airside sources (aircraft operations, central utility plant, GSE) for the study years 2024 and 2029.

The GHG emissions that would be associated with the No Action Alternative in 2024 and 2029 are summarized in **Table 4.5-1** and the Proposed Project GHG emissions estimates for 2024 (construction and operations) and 2029 (operations only) are summarized in **Table 4.5-4** and **Table 4.5-5**. FAA notes that construction and operation of the Proposed Project would continue to overlap in 2024-2026 due to operations of the replacement passenger terminal building and overlapping construction activities associated with the demolition of the existing passenger terminal building, paving of the taxiway, and construction of the Aircraft Rescue and Fire Fighting (ARFF) station.

Given the enormity of GHG emissions worldwide, the contributions of one project, such as the Proposed Project are negligibile. As noted by CEQ, *"climate change is a particularly complex challenge given its global nature and inherent interrelationships among its sources, causation, mechanisms of action and impacts…."* CEQ has also noted, *"it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand."*[14]

ROD.10.4 U.S. Department of Transportation Act, Section 4(f)

Section 4.6 discusses the potential for impacts to Department of Transportation Act (DOT), Section 4(f) resources. There are 14 resources subject to U.S. DOT Act, Section 4(f) within the General Study Area.

Under the Proposed Project, five Section 4(f) resources, Hangar 1, Hangar 2, the Portal of the Folded Wings Shrine to Aviation, Larry L. Maxam Memorial Park, and the Maple Street Playground, are within the 2024 and 2029 CNEL 65 dB noise contours. However, since the Proposed Project does not increase aircraft operations, change the types of aircraft operating at the Airport, or alter the runway endpoints, the Airport's noise contours do not change as a result of the Proposed Project and are the same as the No Action Alternative.

There is no constructive use of any Section 4(f) property by the Proposed Project because the noise levels do not change. The Proposed Project does not change any access to the Section 4(f) properties or result in any visual resource impairment or any other substantial impairment compared to the No Action Alternative. No mitigation, avoidance or minimization measures are necessary for any protected resources under DOT, Section 4(f).

ROD.10.5 Hazardous Materials, Solid Waste, And Pollution Prevention

Discussion regarding potential impacts to hazardous materials and waste is contained in **Section 4.7** of the EIS. Both the Proposed Project and No Action Alternative would utilize, store, and generate hazardous waste that is associated with aviation activities. Hazardous materials and wastes generated, stored, used, transported, and disposed would be similar for operations under both alternatives and would slightly increase due to the forecasted increases in aircraft operations that would be needed to meet forecasted passenger demands and changes in airfield and terminal maintenance associated with those demands and would not exceed the capacity of local landfills.

[14] 79 Federal Register 77802 (December 24, 2014). *Revised Draft Guidance for Federal Departments and Agencies, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate change in National Environmental Policy Act Reviews*.

During the Proposed Project, solid waste disposal and recycling services would be performed by private waste haulers which would transfer solid waste to regional landfills the Sanitation Districts of Los Angeles County operate. Handling, storage, and disposal of these hazardous materials and hazardous wastes would comply with federal, state, and local regulations under both alternatives. The Proposed Project would temporarily increase the volume of solid waste generated during construction, including waste from both demolition and construction activities. The Authority intends to reuse 75 percent of non-hazardous demolition and construction materials in onsite construction and/or hauled offsite for recycling, thereby reducing the quantity of waste materials transported to landfills serving the Proposed Project area. Given the amount of remaining landfill capacity (see **Table 4.7-1**), and the fact that construction materials would be reused and/or recycled, demolition and construction activities associated with the Proposed Project are not expected to exceed local capacity.

There are five areas of historical contamination within the Airport property associated primarily with past aviation uses that resulted in hazardous materials contamination of soil and groundwater, primarily by VOCs and hexavalent chromium, which are: San Fernando Valley Groundwater Basin Superfund Site (Area 1), Moderate; Former Lockheed Plant B-5, Low: Former Lockheed Plant C-1, Moderate; Former Lockheed Plant B-6, Low; and Physicians Clinical Laboratory (formerly known as the Aviall property located at 3111 North Kenwood),[15] Moderate. All five sites would continue to use existing pollution prevention measures and be managed as they are today under the No Action Alternative. For Site 1, the U.S. EPA is currently overseeing the remediation. For Site 2, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) has issued a No Further Requirements determination. For Site 3, the Regional Board is currently monitoring the site. Site 4, the former Lockheed Plant B-6 is part of the U.S. EPA Superfund Program and has undergone extensive soil and groundwater decontamination activities over the years and the Regional Board has indicated that the site is compatible with the construction and operation of the replacement passenger terminal given that the mitigation, minimization, and avoidance measures in their "No Further Requirements" letter issued in 1996 for soil including a Soil Management Plan (SMP) and a limit of excavation set at 25 ft bgs. are enforced. U.S. EPA oversaw the cleanup actions at Site 5, the Physicians Clinic Laboratory (formerly the Aviall Property), from 1991 through 1995, along with numerous site investigations throughout the 2000's. Site investigations in 2014 and 2015 reported concentrations of hexavalent chromium in soil. In 2016, the Regional Board requested onsite groundwater sampling as part of

[15] The Aviall Property also has been known as the Physicians Clinical Laboratory. As evidenced in the Regional Board database, GeoTracker (https://geotracker.waterboards.ca.gov/ , Accessed on July 29, 2020), Physicians Clinical Laboratory and the Aviall Property are one site, sharing both the same identification number (SL603798596) and physical address.

the U.S. EPA Superfund Program. Although construction and operation of the Proposed Project would not occur on this site, the Hazardous Materials Assessment identified this site as a moderate risk because of its hydrologically gradient location, which creates the potential for contamination to migrate to the Proposed Project site. Under the Proposed Project, the Airport would continue to implement pollution prevention measures to the greatest extent possible, including measures to minimize accidental spills and releases and the use of low-VOC paints and solvents. Compliance with the implementing regulations of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) under the Proposed Project would ensure that operational activities would not disturb soils or groundwater or contribute to further contamination in the area.

In summary, the Proposed Project incorporates the following minimization and avoidance measures which would avoid or reduce potential impacts related to hazardous materials, hazardous waste, and solid waste:

- Removal of Asbestos Containing Materials (ACMs) would be subject to Cal-OSHA requirements to ensure proper handling, notification, and disposal and would be performed by a licensed asbestos abatement contractor.
- Prior to any interior demolition or renovation within the buildings containing ACMs, an asbestos survey would be performed prior to demolition and in accordance with the requirements of SCAQMD Rule 1403
- Polychlorinated Biphenyls (PCB)-containing equipment (transformers, other electrical equipment, hydraulic systems) would be handled per industry and Resource Conservation and Recovery Act (RCRA) standards
- The removal of Lead Based Paint (LBP) would be subject to Cal-OSHA requirements to ensure proper handling, notification, and monitoring and would be performed by a licensed LBP abatement contractor. All trucks transporting lead-based waste would be covered or enclosed. All lead-based waste material would be contained properly, labeled appropriately, transported, and disposed of in accordance with applicable rules and regulations.
- The Authority would follow the Soil Management Plan (SMP), which includes monitoring and sampling of exposed soils with signs of contamination during construction and demolition activities, to minimize worker exposure to VOC emissions during excavation, grading, handling, and treatment of contaminated soil. If excavation unexpectedly encounters VOC-contaminated soil with PID measurements greater than 50 parts per million, the continuation of excavation would be carried out in accordance with SCAQMD Rule 1166.
- Soil affected by high concentrations of hexavalent chromium and/or total

chromium may also be disturbed during project construction. Soils contaminated with this metal appear to be stained a yellow color, dissimilar to surrounding non-impacted soil. At a minimum, the construction contractor would collect at least one soil sample at or near the center of the suspected contaminant area for chemical analysis.

- The final design of the replacement passenger terminal shall include necessary consideration of vapor intrusion strategies and/or technologies, as warranted. The need for the strategies would be based upon a refined review of existing soil gas survey data and relevant Photoionization Detector measurements, soils samples, test results) collected during construction in accordance with the SMP and SCAQMD Rule 1166.
- The Regional Board requires that the Authority notify them of any changes to a building or parking location whose excavation would exceed 25 feet bgs.
- If construction activities extend 25 feet bgs in the areas defined as D-DU3 and F-DU1,[16] as shown on **Exhibit 4.7-1**, the Authority will notify the Regional Board requesting its determination on the need for additional soil/vapor sampling.

ROD.10.6 Historical, Architectural, Archaeological, and Cultural Resources

Section 4.8 of the EIS assesses potential direct and indirect impacts to the historical, architectural, archaeological, and cultural resources. Consultation was conducted under Section 106 of the National Historic Preservation Act of 1966 with the California State Historic Preservation Officer (SHPO). A Historical Resources Assessment and an Archaeological Resources Assessment was conducted that meets Section 106 requirements and that includes an evaluation of the buildings on the Airport property that either meet the 50-year threshold for eligibility to the National Register of Historic Places (NRHP) or were approaching historic age (45 years or older).

Eighteen buildings were reviewed for eligibility (all of which were located on Airport property) for inclusion in the NRHP. FAA determined two properties, Hangars 1 and 2, were eligible for inclusion in the NRHP. Operation of the Airport would not change as a result of the Proposed Undertaking, nor would the conditions in the immediate vicinity of Hangars 1 or 2 change as a result. Therefore, the FAA determined that Proposed Undertaking would have no direct or indirect effects on historic resources located within the APE when compared to the No Action Alternative.

[16] Three separate focus areas, previously designated by Lockheed as Areas B, D, and F, were identified within the northeast quadrant. Areas B and D were each subsequently divided into three decision units (DUs): Area B was divided into B-DU1, B-DU2, and B-DU3; Area D was divided into D-DU1, D-DU2, and D-DU3; and area F remained one small DU, F-DU1.

The SHPO concurred with the FAA's determination and finding on July 20, 2020 (see **Appendix H**).

As determined during FAA's Native American consultation with the Gabrielino-Tongva – Kizh Nation as well as consistent with the requirements of 36 CFR §800.13(b) and the letter from the SHPO on July 20, 2020, FAA will require the following unanticipated discovery plan as a mitigation measure:

- If human remains or funerary objects are encountered during the undertaking, all work shall cease within 100 feet of the find and the Los Angeles County Coroner shall be contacted pursuant to State Health and Safety Code § 7050.5;
- If any Native American cultural resources are discovered, all work shall cease within a 60-foot buffer so that a qualified archaeologist can be retained to assess the find, and the Gabrielino-Tongva – Kizh Nation will be contacted;
- If significant Native American cultural resources are discovered and avoidance cannot be ensured, a treatment plan shall be developed by a qualified archaeologist, followed by further consultation with the Gabrielino-Tongva – Kizh Nation.

ROD.10.7 Land Use

Section 4.9 of the EIS contains the analysis regarding potential impacts to land use associated with the Proposed Project and No Action Alternative.

The construction and operation of the Proposed Project would occur entirely on Airport property and would not change existing or future land uses. The Proposed Project would be compatible with the Airport environment. Also, per 49 USC 47107(a)(10), the Authority provided a land use assurance letter to FAA on April 24, 2020, stating that they have taken and will continue to take appropriate action to ensure that the Proposed Project would comply with local zoning laws as well as restrict the use of land adjacent to or in the immediate vicinity of the airport to non-compatible uses, to the extent reasonable, now and in the future (see **Appendix I** of the EIS). The Proposed Project is also consistent with local Measure B that was passed by Burbank voters in November 2016, and aviation activities (operations and enplanements) would not change as a result of a replacement passenger terminal to the northeast quadrant of the Airport. In addition, there were no significant impacts identified for any other resource impact categories that could indirectly affect land use including: DOT Section 4(f); Noise and Noise-Compatible Land Use; and Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks.

ROD.10.8 Natural Resources and Energy Supply

As discussed in **Section 4.10** of the EIS, both the Proposed Project and the No Action Alternative would result in the same demand on natural resources over time to continue to operate the Airport, perform maintenance, and serve the forecasted aviation demands. The Proposed Project would result in long term increases in electricity and natural gas consumption to operate the Airport facilities and central utility plant, but these increases equal less than 1 percent of the demand from the current electricity and natural gas providers serving the Airport. Fuel consumption will increase temporarily during construction as a result of the construction vehicles, but it would not exceed existing and future fuel supplies and due to the reduction in runway crossings and idling times for taxiing aircraft, aircraft fuel usage would decrease slightly over time. Increased usage of resources such as prefabricated building components, aggregate, soils, sub-base materials, and oils will increase during construction of the Proposed Project, but they are neither rare nor in short supply, and the quantity required for a development of this size would not place an undue strain on supplies when compared to the No Action Alternative.

Though the Proposed Project would not cause significant impacts to natural resources, the Authority would incorporate energy efficiency and sustainability measures wherever possible to further reduce energy consumption including designing the proposed replacement terminal with modern mechanical and utility systems to comply with the standards of the American Society of Heating, Refrigerating and Air-Conditioning Engineers and Leadership in Energy and Environmental Design (LEED) and using excavated soils for fill material to reduce the amount of soil that would be removed from the Airport, when appropriate, if the project were approved and implemented.

ROD.10.9 Noise and Noise-Compatible Land Use

Section 4.11 of the EIS evaluates the potential for noise impacts to occur as a result of implementing the Proposed Project and the No Action Alternative. For aircraft noise, a significant noise impact would occur if the Proposed Project would increase noise by 1.5 decibels (dB) or more for a noise sensitive area that is exposed to noise at or above the Community Noise Equivalent Level[17] (CNEL) 65 dB noise exposure level, or that will be exposed at or above the CNEL 65 dB level due to a CNEL 1.5 dB or greater increase, when compared to the No Action Alternative for the same timeframe.

[17] For aviation noise analyses, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities is established in terms of Day Night Average Sound Level (DNL), the FAA's primary noise metric. The CNEL may be used in lieu of DNL for FAA actions needing approval in California (see FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Appendix B, Section B-1

For purposes of the noise analysis, the two analysis years are 2024 and 2029. Year 2024 represents the near-term impacts of the Proposed Project and is associated with the opening year of the replacement passenger terminal. Year 2029 represents the long-term impacts of the Proposed Project and is associated with five years after the opening of the replacement passenger terminal. The 2024 CNEL 65 dB and greater noise contours include 1,067 residential properties and the following five Section 4(f) properties: Hangar 1, Hangar 2, the Portal of the Folded Wings Shrine to Aviation, Larry L. Maxam Memorial Park, and Maple Street Playground. The 2029 CNEL 65 dB and greater noise contour includes 1,159 residential properties and the same five Section 4(f) properties. The increase in the acreage and number of residential properties in the 2029 65 dB noise contour as compared to the 2024 noise contour is due to the forecasted increase operations between those years, which would occur with or without the implementation of the Proposed Project. The Proposed Project would not result in changes to the runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace. Therefore, the near-term and long-term noise levels experienced under both alternatives would be the same. Noise impacts due to construction would be temporary and intermittent in nature and would attenuate to less than CNEL 70 dB at the noise sensitive land use closest to the northeast quadrant as well as the noise sensitive land use closest to the southeast quadrant.

ROD.10.10 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

The analysis FAA performed to determine if there were any potential impacts to Socioeconomics, Environmental Justice, and Children's Health is located in **Section 4.12** of the EIS.

With respect to socioeconomic impacts, neither alternative has the potential to do the following:

- "move people from their homes";
- "move businesses";
- "divide or disrupt established communities";
- "disrupt orderly, planned development";
- "disrupt local traffic patterns and substantially reduce the levels of service of roads"; or
- "create a notable change in employment".

No census tracts within the General Study Area have a low income population greater than 50 percent. There are two census tracts within the General Study Area (Census

Tract 1232.03 and 1232.04) that have a higher percentage of minority population than Los Angeles County. However, the average minority population percentage of all of the census tracts within the General Study Area is lower than Los Angeles County and is below 50 percent. Furthermore, there are no significant impacts identified in any other environmental impact categories and there are no impacts on the physical or natural environment that would have disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations due to the Proposed Project. Nine schools are located in the General Study Area; however, none of these schools are located within the CNEL 65 dB noise contour for the Proposed Project or the No Action Alternative. Thus, there would be no significant impacts resulting from the Proposed Project that would disproportionately affect children's health.

ROD.10.11 Visual Effects

Section 4.13 of the EIS evaluates the potential environmental effects of the Proposed Project in regard to light emissions and visual impacts. The proposed project involves construction of a larger terminal and would add more lighting. The new and relocated lighting (at the replacement terminal building) would not be substantially different from current light emissions and would not cause any new light emission annoyance or disrupt community activities in the General Study Area.

Although the Proposed Project would alter views across the northeast quadrant from existing conditions, those views would be consistent with the visual aesthetic associated with the Airport and would not contrast with the visual resources and/or visual character in the Detailed Study Area which already includes buildings which obstruct views of the Verdugo Mountains, Santa Monica Mountains, and open spaces.

Construction would be visible in the Airport vicinity from public roadways such as Hollywood Way, and associated construction equipment would be present and visible during the construction period. However, these impacts would be temporary in nature. Demolition of existing facilities on Airport and the taxiway extensions is not expected to contrast, block or obstruct, or affect the aesthetic value of visual resources viewed from off-airport when compared to the No Action Alternative.

ROD.10.12 Water Resources

Section 4.14 of the EIS evaluates the potential for impacts to water resources including floodplains, surface waters and groundwater that would occur as a result of implementing the Proposed Project or the No Action Alternative.

The only portion of the Detailed Study Area that lies within the 100- and 500-year floodplains is a small area in the southeast quadrant of the Airport and a portion of

the southwest quadrant of the Airport (see **Exhibit 3.14-1**). However, under the Proposed Project there is no proposed development that would affect either the 100-year or 500-year floodplains in these areas.

Proposed Project construction would involve the use of heavy equipment and construction-related chemicals such as fuels, oils, grease, solvents, and paints, which would be stored in limited quantities on site and increase the risk of spills and leaks that could impact surface waters and groundwater. Construction of the Proposed Project would also involve soil disturbing activity, which could, in the absence of proper controls, pollute surface waters with sediment.

The groundwater basin beneath the Proposed Project site is contaminated, primarily with volatile organic compounds (VOCs) and hexavalent chromium. Construction of the Proposed Project would not interfere with ongoing groundwater remediation activities or monitoring wells in the Well Investigation Program (WIP) and the Soil Management Plan (SMP) outlines the process to follow in the instance that contaminated soils are discovered during ground-disturbing activities.

The project contains measures to avoid and minimize impacts to water resources. The Authority will be following the Storm Water Prevention and Pollution Program (SWPPP) and adhering to its National Pollution Discharge Elimination System (NPDES) permit. In addition, they will be following a Low Impact Development (LID) plan to manage and treat runoff. Finally, the Authority must prepare and abide by a Soil Management Plan (SMP), as required by the Regional Board, to ensure soil disturbance activities do not result in the release of hazardous substances. These project measures will mitigate, minimize, and avoid impacts to water resources as a result of the Proposed Project.

ROD.10.13 Cumulative Impacts

Section 4.16 of the EIS describes the past, present, and reasonably foreseeable future actions relevant to cumulative impacts. Cumulative impacts are defined by the CEQ in 40 CFR § 1058.7 as: *"The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions."* The evaluation of cumulative impacts in the EIS considered the past, present, and reasonably foreseeable future projects or actions undertaken by individuals and municipalities in the vicinity of BUR.

Table 3.16-1 of the EIS identifies the past, present, and reasonably foreseeable actions that have occurred, are currently taking place, or will occur on- and off-Airport property within the General Study Area. Since the approval in 2005 of the development agreement between the Authority and City of Burbank, the only projects

at the Airport in the years prior to 2015 were associated with maintenance of existing facilities.

Section 4.15 of the EIS presents the conclusions regarding cumulative impacts. Environmental resource categories that would not result in potential adverse effects as a result of the Proposed Project cannot result in cumulative impacts (Climate, U.S. Department of Transportation Section 4(f), Land Use, Natural Resources and Energy Supply, Noise and Noise-Compatible Land Use, Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety, and Visual Effects). In this EIS, the surface traffic analysis included an increase in vehicle traffic associated with all past, present, and reasonably foreseeable projects as part of the analysis of impacts from the Proposed Project. Only environmental categories where impacts could occur are discussed. These categories include Air Quality, Biological Resources, Hazardous Materials, Solid Waste, and Pollution Prevention, Historical, Architectural, Archaeological, and Cultural Resources, and Water Resources. FAA concluded that the Authority's implementation of minimization measures, BMPs, and compliance with all permit requirements outlined for the resources in the previous sections, would ensure that the Proposed Project would not exceed any significance thresholds identified in FAA Orders 1050.1F or 5050.4B. Therefore, the environmental effects of construction and operation of the Proposed Project when added to impacts from past, present, and reasonably foreseeable future projects would not result in any significant cumulative environmental impacts.

ROD.10.14 Irreversible and Irretrievable Commitment of Resources

Section 4.16 of the EIS discusses the potential irreversible and irretrievable commitments of resources that would occur as a result of implementing the Proposed Project. The No Action Alternative would not result in an irreversible or irretrievable commitment of resources.

Under the Proposed Project and the No Action Alternative, there would be a minor, but irretrievable, increase in demand for Aviation Gasoline (AvGas), and Jet-A fuel, because aircraft would burn more fuel due to the increase in forecasted operations that would take place under both alternatives. The construction of, and travel to and from, the Proposed Project site would require the irreversible consumption of petroleum products and petroleum-based electrical generation by the local power company. As a result of implementing the Proposed Project, proposed construction activities would require the irreversible use of typical paving and construction materials such as sand, gravel, concrete, and asphalt. Metal wiring and plastic insulation would be irreversibly used for new lighting. These materials are not in short supply and construction for the Proposed Project would not exceed the available supply of these materials. Construction activities would require natural resources such as fill material, asphalt, water, wood, or gravel. The demand for nonrenewable

resources is not expected to exceed current or future supplies. The Proposed Project would be consistent with the existing urban development within the General Study Area. Construction of the replacement passenger terminal building is not expected to alter, contrast, or obstruct the existing views due to the existing similar-sized buildings.

Finally, as **Chapter 4** of the EIS describes, there are no significant impacts and/or exceedance of any factors to consider as outlined in FAA Order 1050.1F as a result of implementing the Proposed Project for any of the resource impact categories analyzed in this EIS. Additionally, the Authority would incorporate energy efficiency and sustainable measures to the extent possible into the Proposed Project, including those measures identified and discussed in **Section 4.3**, Air Quality; **Section 4.4**, Biological Resources; **Section 4.7**, Hazardous Materials, Solid Waste, and Pollution Prevention; **Section 4.8**, Historical, Architectural, Archeological, and Cultural Resources; and **Section 4.14**, Water Resources.

ROD.11 AGENCY FINDINGS AND DETERMINATIONS

The following text identifies the various specific federal agency findings and determinations that support the Federal Actions for the proposed replacement passenger terminal project at BUR. There are numerous findings and determinations prescribed by law that must be made by the FAA as preconditions to agency approvals of airport layout plan changes and airport project funding applications. Any grant-in-aid application and approval would also reflect appropriate statutory and regulatory assurances and other terms and conditions for FAA's actions. This ROD provides the basis to proceed with making those findings and determinations in conjunction with its consideration of appropriate applications and availability of funding.

ROD.11.1 Federal Aviation Administration Determination Under Provisions of the Airport and Airway Improvement Act (49 USC §§ 47106 and 47107).

The following determinations are prescribed by the statutory provisions set forth in the Airport and Airway Improvement Act of 1982, as codified in 49 USC §§ 47106 and 47107.

- **The project is reasonably consistent with existing plans of public agencies for development of the area (49 USC § 47106(a) and Executive Order 12372):** The determination prescribed by this statutory provision is a precondition to agency approval by the FAA of airport project grant funding applications. To make this determination, the FAA considered local land use and development plans and requested confirmation from local

authorities concerning consistency determinations. The FAA reviewed and considered the plans, goals, and policies of local governments and provided opportunities for local governments and the public to comment on the scope and findings of the EIS. The City of Burbank's *Burbank2035* General Plan describe planning goals for the areas near and adjacent to BUR. As described in **Section 3.10.2** and shown in **Exhibit 3.10-2** of the EIS, most of the Detailed Study Area is zoned as "AP Airport," with smaller portions zoned as Limited Industrial, General Industrial, and Commercial Limited business. The Proposed Project is consistent with this zoning as well as with Measure B that was passed by Burbank voters in November 2016. The runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace would not change as a result of a replacement passenger terminal. The FAA has received a land use assurance letter from the Authority that it would continue to ensure appropriate land use regulations are adopted and enforced to ensure land uses are compatible with airport operations. This letter is included in **Appendix I** of the EIS.

- **Fair consideration has been given to the interests of communities in or near the Project location (49 USC § 47106(b)(2)):** The determination prescribed by this statutory provision is a precondition to agency approval of airport development project funding applications. Sections ROD.7, ROD.8, and ROD.9 of this ROD, respectively, summarize FAA public involvement activities, tribal consultations, and interagency consultations. More information on FAA's public involvement activities is provided in **Chapter 5** of the EIS. Documentation of completion of National Historic Preservation Act, Section 106 consultation, and information regarding Native American consultation is provided in **Appendix H** of the EIS.

  The FAA has determined that, throughout the environmental process from its earliest planning stages through the publication of the Final EIS and through public comment on the Draft EIS, fair consideration was given to the interests of communities in or near the proposed replacement passenger terminal building at BUR.

- **Appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land in the vicinity of the airport to purposes compatible with airport operations (49 USC §47107(a)10)).** The determination prescribed by this statutory provision is a precondition to agency approval or airport development project grant funding applications. Throughout the EIS process, the FAA invited all the local municipalities with jurisdiction to participate with regard to compatible land use. The FAA received the required Land Use Assurance letter that the Authority has provided its assurance that appropriate action and

enforcement of zoning laws, has been or will be taken, to the extent reasonable, to restrict use of land adjacent to or in the vicinity or BUR to activities and purposes compatible with normal airport operation, including the landing and takeoff of aircraft. A copy of the Land use Assurance letter is included in **Appendix I** of the EIS.

- **Determination that the airport development is reasonably necessary for the use in air commerce or in the interests of national defense pursuant to (49 USC § 44502(b)):** The FAA has determined that implementation of the Proposed Project would maintain the safety, utility, and efficiency of BUR. Implementation of the Proposed Project, as described below, would enhance safety at the Airport by meeting FAA Airport Design Standards consistent with the FAA Advisory Circular 150/5300-13A, Change 1, *Airport Design*, and the FAA's regulations described in, 14 CFR Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*. The proposed replacement passenger terminal building would be separated from the runways and maintain adequate ROFA, TOFA and BRL standards consistent with FAA A/C 150/5300-13A. Also, the replacement passenger terminal building's location would reduce the need for departing or arriving aircraft to perform additional runway crossings.

- **The FAA has given the Project an independent and objective evaluation required by the Council on Environmental Quality (40 CFR § 1506.5):** As documented in the EIS and in this ROD, the FAA has objectively evaluated all reasonable alternatives meeting the Purpose and Need (see 40 CFR § 1502.1.4(a)). The process included the FAA's selection of a third-party EIS contractor through a competitive process to assist in conducting the environmental review. The environmental review included determining the Purpose and Need, identifying reasonable alternatives, fully analyzing and disclosing potential environmental impacts, and developing appropriate mitigation measures. The FAA directed the technical analysis provided in the Draft and Final EIS. The FAA furnished guidance and participated in preparation of the EIS by providing input, advice, and expertise throughout the planning and technical analysis, along with administrative direction and legal review of the project. From its inception, the FAA has taken a strong leadership role in the environmental evaluation of the proposed runway extension and has maintained its objectivity. In addition, the FAA has on file a disclosure statement from the environmental consultant that satisfies the requirement of 40 CFR § 1506.3(c).

ROD.11.2 FAA Reauthorization Act of 2018

The following determinations are prescribed by the statutory provisions set forth in the FAA Reauthorization Act of 2018, (Public Law 115-254) which amends provisions of 49 USC §47107(a)(16):

- **Determination Regarding the Airport Layout Plan:** For the purpose of determining whether the Proposed Project at BUR requires FAA ALP approval, FAA has made the following determinations:

  1. Since components of the Proposed Project involve the demolition of existing, and construction of new terminal buildings and aircraft movement and parking areas, the development may have a material impact to the safe and efficient operation of aircraft at, to, or from the Airport. Therefore, the FAA retains the legal authority to approve or disapprove the following changes to the BUR ALP which comprise the Proposed Action:

     a. All Airside Improvements:

        i. Construction of a 45,900-square-yard aircraft parking apron that would accommodate 14 aircraft;

        ii. Taxiway A and Taxiway C Extensions: Taxiway A would be extended from Runway 8-26 south to the Runway 33 threshold, and Taxiway C would be extended between Taxiway G and the Runway 26 threshold;

        iii. Removal of existing commercial aircraft apron and adjacent taxilanes; and

        iv. Construction of a replacement Aircraft Rescue and Firefighting (ARFF) station: The existing ARFF station is in a hangar in the northwest quadrant of the Airport.

     b. Landside Improvements:

        i. Construction of a replacement passenger terminal building: The 355,000-square-foot replacement passenger terminal building would have 14 gates and would meet FAA Airport Design Standards; and

        ii. Demolition of the existing passenger terminal building.

  2. The remaining portions of the Proposed Project would have no material impact on aircraft operations at, to, or from the Airport, and would not adversely affect the safety of people or property on the ground adjacent to the Airport as a result of aircraft operations. FAA has determined that the remaining portions of the Proposed Project would not have an adverse effect on the value of prior Federal investments to a significant extent.

Therefore, the FAA lacks the legal authority to approve or disapprove the following changes to the BUR ALP which are included in the Proposed Project but not in the FAA's Proposed Action:

a. Airside Improvements:

   i. Construction of a ground support equipment (GSE) and passenger terminal maintenance building; and

   ii. Realignment of the Airport service road.

b. Landside Improvements:

   i. Construction of replacement employee automobile parking: About 200 spaces would be provided for employee parking in a surface parking lot north of the proposed replacement passenger terminal building;

   ii. Construction of a public automobile parking structure: The public automobile parking structure would be at least five levels, but not more than seven levels, and would include a valet drop-off and pickup area;

   iii. Construction of a new passenger terminal access road: A new multi-lane road extending from the intersection of North Hollywood Way and Winona Avenue would be constructed;

   iv. Realignment of Avenue A: Avenue A, the existing passenger terminal loop road in the southeast quadrant of the Airport would be realigned. The east-west segment of Avenue A would be shifted to the south to permit the extension of Taxiway C;

   v. Construction of a replacement airline cargo building: An 8,000-square-foot replacement airline cargo building would be constructed adjacent to the north of the replacement passenger terminal building;

   vi. Construction of a central utility plant;

   vii. Construction of ground access vehicle storage and staging area;

   viii. Relocation of the Shuttle Bus Dispatch Office and staging area;

   ix. Removal of a parking booth;

   x. Removal of the employee parking lot;

   xi. Removal of Parking Lots A, B, and E;

   xii. Removal of the public parking structure;

   xiii. Removal of a tenant lease area

xiv. Demolition of the airline cargo and GSE maintenance building and associated pavement; and

xv. Removal of the shuttle bus dispatch office and staging area.

Applicability of the National Environmental Policy Act (NEPA): The FAA's ALP approval authority for the Proposed Action is a federal action subject to the National Environmental Policy Act (NEPA).

- **Sponsor Obligations Still In Effect**: Section 163 of the FAA Reauthorization Act of 2018, still requires the airport to receive not less than fair market value for proposed development for which the FAA retains approval authority and is used for non-aeronautical use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities. The Authority, as the airport sponsor, must also ensure that all revenues generated as a result of this lease may only be expended for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport, per the FAA Revenue Use Policy.

  The Authority also has the responsibility to comply with all federal, state, and local environmental laws and regulations.

  Additionally, this development is still subject to airspace review under the requirements of 14 CFR part 77, and Grant Assurance 29 still requires the airport to update and maintain a current ALP. An updated ALP depicting the completed components of the project must be submitted to the FAA Los Angeles Airports District Office once the project is completed.

ROD.11.3 Compliance with Laws, Regulations, and Executive Orders

This section addresses compliance with laws, regulations, and EOs not specific to FAA regulatory authority.

- **Accelerated Decision-making in Environmental Reviews (49 USC § 304a):** This Final EIS does not makes substantial changes to the Proposed Action that are relevant to environmental or safety concerns and no significant new circumstance or information relevant to environmental concerns that bears on the Proposed Project or the impacts of the Proposed Project has been identified. Therefore, the FAA is issuing the Final EIS and ROD in a single document, in accordance with this provision.
- **Clean Air Act of 1970, as amended (42 USC §7401 et seq.):** Implementation of Alternative E would not cause an increase in air emissions

above the applicable federal *de minimis* thresholds. In addition, implementation of the Proposed Project must comply with California Air Resources Board requirements as implemented through the South Coast Air Quality Management District (SCAQMD) and the MOU between the Authority and SCAQMD. The Proposed Project would comply with the State Implementation Plan applicable to the area including BUR. As discussed in **Section 4.3.1.1** of the EIS, the evaluation of CAA General Conformity requirements for the Proposed Project showed that air emissions for the Proposed Project are below CAA General Conformity *de minimis* levels. Implementation would not create any new violation of the NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is expected by implementation of the Proposed Project. No further air quality impact evaluations, including CAA General Conformity Determinations, were necessary.

- **Endangered Species Act of 1973 (16 USC § et seq.):** The Proposed Project would have no effect on any federally-listed species nor would it impact any critical habitat.
- **Migratory Bird Treaty Act of 1918 (16 USC §703-712):** The EIS documents the FAA consideration of the potential for impacts to migratory birds. The EIS identifies in **Section 4.4.5.2** that the Authority would conduct a preconstruction survey for burrowing owls and establish a no disturbance buffer zone between construction activities and any active burrowing owl burrows during the February 1 to August 31 breeding season until young burrowing owls are able to fly away from the burrow. If construction is commenced outside of the burrowing owl breeding season and active burrowing owl burrows were located, the burrowing owls would be passively relocated using one-way doors at the burrow entrance.
- **Department of Transportation Act, Section 4(f) (49 USC § 303(c)):** As discussed in **Section 4.6** of the EIS and this ROD, implementation of Proposed Project would not result in the physical or constructive use of any Section 4(f) resource to other purposes, impair the use of any Section 4(f) property, or subject any Section 4(f) property to incompatible noise levels.
- **National Historic Preservation Act of 1966 (16 USC §470):** Pursuant to Section 106 of the NHPA, , the FAA evaluated 18 properties for eligibility in the NRHP. Of these 18 buildings reviewed; the FAA determined only two, Hangars 1 and 2, were eligible for inclusion in the NRHP. However, neither of the two properties identified as eligible for listing on the NHRP are within the Direct APE and would not be physically affected by the Proposed Undertaking. Also, as concurred with by the SHPO and as required by 36 CFR 800.13 of the

regulations implementing Section 106, FAA requires an unanticipated discovery plan as a condition of approval. Therefore, the FAA made the determination of *No historic properties affected* by the Proposed Undertaking within the APE. The SHPO concurred with the FAA's NHRP eligibility determinations and finding of *No historic properties affected* on July 20, 2020 (see **Appendix H**).

- **Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations***: **and Department of Transportation Order 5610.2, *Environmental Justice in Minority and Low-Income Populations*:** In accordance with EO 12898, the Proposed Action would not cause a significant impact because it would not have a disproportionately high and adverse effect on minority populations and/or low-income populations. Implementation of the Proposed Project would not cause the two census tracts with greater than 50 percent minority populations to experience more severe impacts from noise or any other environmental resource category analyzed in the EIS compared to the populations in the other census tracts in the General Study Area.

  In accordance with EO 12898 and DOT Order 5610.2, the FAA provided opportunities for meaningful public involvement by minority and low-income populations. Local outreach to environmental justice populations was conducted as part of the EIS process. FAA sent EIS scoping meeting invitations to representatives of the Gabrieleno Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, and the Gabrielino Tongva Tribe. Notification of the public meetings and the requests for comments during scoping and Draft EIS public comment period were advertised in in three different languages (English, Spanish, and Armenian) in the following publications: *Opinión*, *Asbarez*, *Pasadena Star News, The Burbank Leader*, and the *Glendale News Press* newspapers. The flyer and the newspaper advertisements are contained in **Appendix A**. The FAA issued a Notice of Intent (NOI) to prepare an EIS on December 18, 2018 and the U.S. EPA published its Notice of Availability for the Draft EIS on August 21, 2021.

- **Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*:** The FAA has determined there would be no change in risk to the health or safety of children due to the implementation of the Proposed Project.

- **Executive Order 11990, *Protection of Wetlands*, and Department of Transportation Order 5660.1A, Preservation of the Nation's Wetlands:** The Proposed Project sites does not contain wetlands. No impacts to wetlands will occur.

- **Executive Order 11988, *Floodplain Management,* and Department of Transportation Order 5650.2, *Floodplain Management and Protection*:** There is no proposed development that would affect either the 100-year or 500-year floodplains in the study areas for the Proposed Project.

ROD.12 DECISION

Approval by the FAA to implement the FAA's Preferred Alternative signifies that applicable federal requirements relating to airport development and planning have been met and permits the Burbank-Glendale-Pasadena Airport Authority to proceed with the Proposed Project. This decision does not constitute a commitment of funds under the AIP. However, it does fulfill the environmental prerequisites to approve applications for grants and AIP funds for the proposed project in the future.

Decision

I have carefully considered the FAA's goals and objectives in relation to the various aeronautical aspects of the proposed replacement passenger terminal building at Bob Hope "Hollywood Burbank" Airport as discussed in the Final EIS. I have considered the purpose and need that this project would serve; the alternative means of achieving the purpose and need; the environmental impacts of these alternatives; and the mitigation and minimization measures to preserve and enhance the human, cultural, and natural environment.

Under the authority delegated by the Administrator of the Federal Aviation Administration, I find that the Project in the ROD is reasonably supported. I therefore direct that the following Agency Actions and Approvals be taken to carry out this decision, including the following:

Federal Actions by the FAA

1. Unconditional approval of portions of the Airport Layout Plan (ALP) that depict those portions of the Proposed Project subject to FAA review and approval pursuant to 47107(a)(16); and

2. Determinations under 49 USC §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program and under 49 USC § 40117, as implemented by 14 CFR § 158.25, to use passenger facility charges collected at the Airport for the Proposed Project to assist with construction of potentially eligible development items from the Airport Layout Plan.

Date: _____

Mark A. McClardy, Director,
Office of Airports,
Western-Pacific Region,
Federal Aviation Administration

RIGHT OF APPEAL

This ROD constitutes a Final Order of the FAA Administrator and is subject to exclusive judicial review under 49 USC § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the order is issued in accordance with the provisions of 49 USC § 46110.

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FIRST AMENDED PETITION FOR REVIEW
OF AGENCY ACTION

EXHIBIT B

MICHAEL N. FEUER
CITY ATTORNEY

October 26, 2020

Via Overnight Mail

Ms. Edvige B. Mbakoup
U.S. Department of Transportation
Federal Aviation Administration
Western-Pacific Region
777 S. Aviation Boulevard, Suite 150
El Segundo, California 90245

Re: City of Los Angeles Comments on the Draft Environmental Impact Statement prepared for the Proposed Replacement Passenger Terminal Project at the Bob Hope "Hollywood Burbank" Airport

Dear Ms. Mbakoup:

The City of Los Angeles ("City") appreciates the opportunity to provide comments on the August 2020 Draft Environmental Impact Statement ("DEIS") prepared by the Federal Aviation Administration ("FAA") for the Proposed Replacement Passenger Terminal Project (the "Proposed Action") at the Bob Hope "Hollywood Burbank" Airport. For the reasons set forth in detail below, the City requests the FAA revise and recirculate the DEIS to address the City's concerns and achieve compliance with the National Environmental Policy Act ("NEPA") (42 U.S.C. § 4321 et seq.) and the Council on Environmental Quality regulations implementing NEPA (40 C.F.R. §§ 1500–1508.)

This letter also includes expert comments in the corresponding exhibits, a comment letter from the City of Los Angeles Department of Transportation ("LADOT") at Exhibit A, and a technical letter from Environmental Compliance Solutions, experts on air quality and NEPA, at Exhibit B. These comments are incorporated herein by

reference; thus, the FAA must also respond to the specific comments provided in Exhibits A and B. This letter includes the following sections:

I. The DEIS lacks an adequate description of the Proposed Action. 2

II. The DEIS must be revised and recirculated to take a hard look at the Proposed Action's adverse effects. 4

A. The DEIS fails to take a hard look at the Proposed Action's air quality impacts. 5

B. The DEIS fails to take a hard look at the Proposed Action's transportation effects. 7

C. The DEIS fails to take a hard look at the Proposed Action's health impacts 8

D. The DEIS fails take a hard look at the Proposed Action's noise and vibration impacts, including impacts to nearby residents, including those in the City of Los Angeles. 12

E. The DEIS fails to take a hard look at the Proposed Action's impacts on environmental justice. 14

F. The DEIS fails to take a hard look at the Proposed Action's socioeconomic impacts on the City of Los Angeles, its residents, or businesses. 19

G. The DEIS fails to take a hard look at cumulative impacts. 20

III. The DEIS fails to analyze all interconnected actions as a single course of action – resulting in improper segmentation. 23

IV. The FAA may not foreclose consideration of reasonable alternatives merely because the Airport Authority has approved the Proposed Action; NEPA prohibits the FAA from predetermining the outcome of its environmental review. 25

Enclosures: Exhibits A to O 27

I. The DEIS lacks an adequate description of the Proposed Action.

First, as a threshold matter, the DEIS lacks a complete and easy-to-understand description of the Proposed Action as required by NEPA. (40 C.F.R. § 1502.10(a) [An EIS should be drafted and organized in a way "that will encourage good analysis and clear presentation of the alternatives including the proposed action"].) The FAA's DEIS is defective because, to understand the Proposed Project, a reader must piece together information provided in various parts of the DEIS, including the Executive Summary, Purpose and Need, and Alternatives chapters. This organization is contrary to NEPA,

which requires an EIS to be "easily understood." (*Columbia Basin Land Protection Assn. v. Schlesinger* (9th Cir. 1981) 643 F.2d 585, 610; see also *NRDC v. Hughes*, 437 F. Supp. 981 (D.D.C. 1977) (enjoining project due to inadequate project description) modified on other grounds, 454 F. Supp. 148.)

A full and accurate description of the Proposed Action is essential to adequate NEPA review. (See *Aberdeen & Rockfish Railroad v. SCRAP* (1975), 422 U.S. 289, 322.) Here, the DEIS omits sufficient information to allow agencies and the public to meaningfully understand the Proposed Action and its potential environmental, economic, and social consequences. For example, stated purposes of the Proposed Action include improving the terminal's concession services and increasing concession revenues, yet these purposes are not included for consideration in the DEIS.[1]

Second, the DEIS lacks sufficient information about construction activities. For instance, the DEIS does not identify where the construction staging/laydown areas will be located or how large they will be. Nor does the DEIS specify the location or scope and size of construction-worker parking. The DEIS should be revised to provide this information and analyze any impacts associated with the staging and parking areas, including transportation, air quality, noise, and health effects.

Relatedly, the DEIS does not identify the construction haul routes that are anticipated to be used by diesel trucks as part of the demolition and construction of the Project, making it impossible to determine whether the haul routes would adversely affect residents within the City of Los Angeles or elsewhere, including potential transportation, noise, and air quality, and health impacts.

Third, the DEIS fails to estimate how many new restaurants, stores and other supportive services are proposed as part of the new much-larger terminal. For instance, increased and improved concession services will result in increased deliveries of goods (e.g., food and supplies) and lead to greater waste being generated at the airport. Yet, the DEIS does not address these indirect impacts.

Fourth, the DEIS appears to exclude any information about the Proposed Action's air traffic control tower. According to the EIR for the Proposed Action, the new terminal will use the existing control tower. If this is the case, the DEIS should analyze any construction and operational safety impacts associated with using the existing control

[1] See the Airport Authority's presentation for Industry Day. Available at https://elevatebur.com/wp-content/uploads/2020/02/RPT-Industry-Day-R1.pdf (as of September 25, 2020) and attached at Exhibit C.

tower for the new terminal. For instance, there is no analysis of whether construction might interfere with views necessary for safe operation of the control tower.

Fifth, it is unclear whether the Proposed Action includes terminal improvements that will also serve private jet operators. If so, this could potentially present new security risks at the airport since, historically, much of the responsibility for general aviation security falls on the Authority. The FAA must clarify whether the Proposed Action includes improvements for private aircraft operators and, if so, the scope of such improvements.

Lastly, to the extent possible, the DEIS should also identify the public improvements that will be included in the Project, such as improvements to streets, sidewalks, landscaping, signage etc., and identify where such improvements will occur. The DEIS must be revised and recirculated to include a comprehensive and understandable description of the Proposed Action to ensure adequate NEPA review by the public and decision makers.

II. The DEIS must be revised and recirculated to take a hard look at the Proposed Action's adverse effects.

NEPA requires federal agencies to carefully identify and analyze the environmental effects of their proposed action. (*Strycker's Bay Neighborhood Council, Inc. v. Karlen* (1980), 444 U.S. 223, 226–228.) This means that federal agencies must take a '"hard look' at the impacts of their actions by providing a reasonably thorough discussion of the significant aspects of the probable environmental consequences." (*Center for Biological Diversity v. National Highway Traffic Safety Admin.* (9th Cir. 2008) 538 F.3d 1172, 1194, internal quotations omitted.) The hard-look requirement entails "both a complete discussion of relevant issues as well as meaningful statements regarding the actual impact of proposed projects." (*Earth Island Inst. v. United States Forest Serv.* (9th Cir. 2006), 442 F.3d 1147, 1172, abrogated on other grounds by *Winter v. Natural Resources Defense Council, Inc.* (2008) 555 U.S. 7.) Here, the FAA's DEIA fails to take a hard look at several adverse environmental effects of the Proposed Action, including transportation, health, noise, environmental justice, and socioeconomic effects, as well as cumulative impacts, as discussed below.

A. The DEIS fails to take a hard look at the Proposed Action's air quality impacts.

As a preliminary issue, Appendix E, Air Quality, of the DEIS contains multiple omissions, errors, and conflicting and incomplete information, as described in Exhibit B (§ I) to this comment letter. The DEIS should be revised and recirculated to address these issues, and others, and clarify and correct Appendix E so that it contains the level of "professional integrity" and "meaningful analysis" that is required under NEPA. (40 C.F.R. §§ 1502.9(b), 1502.23.)

Further, the DEIS's construction air quality analysis is flawed. It omits emissions associated with requisite remediation activities, such as the removal and disposal of significant volumes of soil contaminated with toxic chemicals such as hexavalent chromium, arsenic, beryllium, cadmium, and lead—to name a few. (Exhibit B, § II.)

Construction-related emission estimates also improperly include "mitigation credit of an unrealistic and unsubstantiated 85% reduction in volatile organic compounds (VOCs), a nearly 94% reduction in nitrogen oxide (NO_x), and a more than 96% reduction in diesel exhaust for several construction phases" as a result of a "CalEEMod model [that] appears to have been altered." (*Ibid*.) Other flaws in the construction air quality analysis include the lack of explanation regarding the proposed use "clean burning diesel" in generators and the massive under-estimation of VOCs associated with "architectural coating and consumer product." (*Ibid*.)

The DEIS presents air emission calculations from construction and operations and concludes emissions are *de minimis* in comparison to regulatory-established threshold levels. No further conformity analysis is provided. However, inspection of the calculation effort identifies several flaws, as follows:

1. Hazardous materials studies show that lead-based paint was used extensively on the buildings to be demolished. The scale of the demolition and the potential for lead release should be, but were not, quantified and disclosed in the DEIS. Specifically, DEIS Appendix E, Section 4.1, Conformity Evaluation, states that the region is in non-attainment for lead. However, the DEIS text dismisses lead from further evaluation, concluding "the Proposed Action will not affect general aviation." Omission of lead emissions during construction from the Hazardous Air Pollutants assessment underestimates the impacts associated with the Project and does not adequately evaluate the impacts relative to thresholds applicable to the Proposed Action under General Conformity.

2. The CalEEMOD construction emission estimates in the DEIS are based on the assumption that all off-road diesel-powered construction equipment greater than 50 horsepower would adhere to the U.S. EPA Tier 4 final emission standards, citing adherence to the Air Quality Plan's ("AQIP") Clean Construction Policy. However, the AQIP states that "Contractor's fleet must achieve 90% Tier 4 Final and 10% Tier 4 Interim by 2023 and 100% Tier 4 Final by 2031." Accordingly, this assumption is not valid until 2031. Therefore, because construction activities projected to begin in 2021 and completed by 2026, the analysis underestimates construction impacts for all years. As an example, for demolition during year 2021, the unmitigated NO_x is estimated at 4.9 tons/year, where the implementation of exclusive use of Tier 4 Final equipment results in a 95.72% reduction of NO_x emissions (so that only 0.31 tons/year are accounted for in the emission estimates presented in the impact analysis). This reduction is unrealistic during year 2021 and will likely not be fully realized until year 2031 in accordance with the terms of the AQIP.

3. The on-road emission estimates dramatically underestimate the number of vendor and haul trips required for construction of the Project for all years. Specifically, water truck haul trips required to meet SCAQMD Rule 303 for fugitive dust suppression and/or fleet mobilization is not included in on-road demolition estimates. In addition, the on-road emission estimates dramatically underestimate the number of trips associated with import of structural backfill, concrete, building supplies, and equipment. Import of concrete for the foundation of the new 355,000 ft^2 terminal alone would account at least 1,300 trips with an order of magnitude additional trips needed for import of structural backfill, asphalt, concrete, utilities, supplies, etc. needed for build-out of the Proposed Project. According to the data provided in DEIS Appendix E, only 429 vendor trips (one-way) per day are identified for building construction for years 2022, 2023, and 2024, with no daily haul trips included in the emissions estimates. Similarly, there are no vendor or haul trips accounted for in the Paving or Architectural Coating phase of construction in 2024 or 2026. Accounting for a more realistic number of vendor and haul trips would increase the NO_x emission estimates (and likely VOC emissions as well) above the *de minimis* threshold.

4. The Air Quality analysis does not consider the additional operational transportation emissions related to the relocation of the terminal. The current location of the Intermodal Transportation Center was specifically selected to be walking distance to the existing terminal. The new terminal would require shuttles or alternate transportation services to transport people to/from the Intermodal Transportation Center and long-term parking in the southeast quadrant of the Airport. The impact assessment, therefore,

underestimates the emissions associated with a change in operations from existing conditions and the estimated annual emissions of criteria pollutants presented in DEIS Table 4.3-8 for Mobile – Passengers, does not represent the full extent of operational emissions associated with this change.

5. The CalEEMod operation emissions for the Future with Project 2029 may be underestimating the operational emissions when compared with the Future No Project scenario. Specifically, the total lot acreage used for calculations in the Future With Project scenario sums to only 58.73 acres where the summed lot acreage used for the Future No Project scenario is 85.8 acres. This discrepancy in the overall footprint of the two scenarios results in an underestimation of the net change in annual emissions of criteria pollutants associated with the Project compared with the No Project scenario presented in DEIS Table 4.3-8.

Correcting the air quality emissions analysis of the DEIS leads to emissions for NO_x being above the *de minimis* threshold for NO_x, and likely for VOC and lead as well. Appendix E, Air Quality of the DEIS specifies that if the air emission is above the *de minimis* thresholds (as is the case, once corrected), then consideration must be given to additional measures that may reduce air emissions to less than the *de minimis* thresholds. If the emissions cannot be reduced to below the *de minimis* thresholds, then a Conformity Determination should be prepared. The Conformity Determination should be available for public and agency review and comment. The DEIS should also be recirculated for comment.

In all, the DEIS presents a flawed, inadequate, and confusing air quality analysis. Accordingly, the FAA should correctly analyze air quality emissions and revise and recirculate the DEIS to fulfill the "meaningful analysis" criteria required under NEPA. (See 40 C.F.R. §§ 1502.1, 1502.9(b).)

B. The DEIS fails to take a hard look at the Proposed Action's transportation effects.

The DEIS does not take a thorough, hard look at the Proposed Action's transportation effects. In addition, the DEIS does not contain a dedicated section on transportation impacts; instead, impacts are discussed in disparate resource sections, *e.g.*, socioeconomic impacts at DEIS, p. 4-80. As a result, it is difficult for the reader to fully understand potential adverse transportation effects, including potential adverse effects to the City of Los Angeles and other surrounding jurisdictions.

The DEIS does not adequately discuss or mitigate for surface transportation effects caused by construction activities. NEPA requires the FAA to discuss mitigation measures "in sufficient detail to ensure that environmental consequences have been fairly evaluated." (*City of Carmel-by-the-Sea v. U.S. Department of Transportation* (9th Cir. 1997), 123 F.3d 1142, 1154, internal quotations omitted.) The DEIS violates this requirement by concluding that the Proposed Action would not cause construction-related impacts to surface transportation because the Airport Authority would prepare a traffic management plan. (DEIS, p. 4-82.) It is not sufficient, however, to state that there will be no impact based on a future, undisclosed plan, when no information about the Project's potential construction-related transportation is provided. (See *ibid*.; see also *Neighbors of Cuddy Mountain v. U.S. Forest Service* (9th Cir. 1998), 137 F.3d 1372, 1380 ["'[a] mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.'"].)

The DEIS should first identify potential construction-related transportation impacts and then discuss, in meaningful detail, what the traffic management plan will entail, what standards it will require and how it will ensure impacts to surface transportation are not adverse. In particular, this analysis should include a discussion of the impacts and mitigation measures for the intersections of Lockheed Drive and San Fernando Road, San Fernando Boulevard and Cohasset Street, Hollywood Way and the I-5 Southbound Ramps, and Hollywood Way and San Fernando Boulevard Ramps.

LADOT expounds on these transportation concerns in its comment letter to the FAA on the Proposed Action. (See Exhibit A.) In particular, LADOT notes that the DEIS ignores impacts to adjacent roadway segments that are considered "Vision Zero Priority Corridors" because they "experience a high percentage...of traffic collisions," and because the DEIS relies upon outdated 12-year old trip generation data—from 2008—without any industry-standard efforts to validate or update it. The FAA should revise and recirculate the DEIS to include the information identified by LADOT. (See 40 C.F.R. § 1502.1.)

C. The DEIS fails to take a hard look at the Proposed Action's health impacts

NEPA requires an agency such as the FAA to analyze the direct and indirect environmental consequences that a proposed action might have on public health and safety. (40 C.F.R. §§ 1501.3(b)(2)(iii), 1502.16(a)–(b), 1508.1(g).) A federal agency normally meets this statutory requirement by preparing a health risk assessment

("HRA"), or other comparable study, that is subject to a public comment and review process to ensure all "likely health effects" are "adequately disclosed." (*Natural Resources Defense Council, Inc. v. U.S. Dept. of Transp.* (9th Cir. 2014) 770 F.3d 1260, 1272 ("*Natural Resources Defense Council*"); see also *Beverly Hills Unified School District v. Federal Transit Administration* (C.D. Cal., Feb. 1, 2016, No. CV 12-9861-GW(SSX)) 2016 WL 4650428, at *61.) As discussed below, the DEIS fails to take a hard look at the Proposed Action's air quality impacts by failing to include an HRA or any comparable analysis and provides no support for the health and safety conclusions made in DEIS Section 4.12.3. Indeed, the DEIS explicitly states that the DEIS does not contain an HRA and refers to the EIR's health risk analysis "with no interpretation." (DEIS, Appendix E [pp. 46 to 47].)

As a threshold issue, the DEIS's analysis is improperly constrained to consideration only of health impacts to children. NEPA does not limit an agency's health impact analysis to just children; rather, it mandates an agency consider "the degree of [a proposed action's] effects on *public* health and safety." (40 C.F.R. § 1501.3(b)(2)(iii), emphasis added.) The Environmental Protection Agency's ("EPA's") guidance advises agencies such as the FAA to assess health impacts for *all* "population groups of concern."[2] This is especially true in regard to "population groups of concern," which are, as discussed in subsection E, below (environmental justice), under-analyzed in the DEIS.

An HRA for a proposed action of this size and scope should include, at least, emissions estimations of hazardous air pollutants ("HAPs"), exposure assessments, dose-response assessments, and a potential health risk quantification. (Exhibit B, § IV.). This requires consideration of *all* construction and operational sources of emissions, including on- and off-road equipment, and emissions/toxins associated with demolition. (*Ibid*.) For example, the DEIS indicates that there may be hexavalent chromium and/or other toxic materials in soil unearthed as part of the project. (DEIS, p. 4-52.) In addition to this hexavalent chromium, the soil underneath and around the Airport likely contains other federally-regulated metals, including, but not limited to: arsenic, beryllium, cadmium, and lead. (See Section III, above (air quality analysis).) The task of removing and remediating this contamination, alone, should be subject to an HRA-style analysis before this construction phase begins. (See Exhibit B, § III.)

[2] EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (June 2016). Available at: https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf (as of Oct. 1, 2020), and attached at Exhibit D.

The six-year, six-day per week, construction schedule for the Proposed Project is large in scope and length and will produce substantial toxic air contaminants, which should be factored into the analysis. More than 52,000 heavy duty diesel truck trips will be used to demolish and grade the area in the first phases of construction. (DEIS, Appendix E [pp. 70 and 76].) Given the densely populated areas immediately surrounding the Airport, anticipated routes for trucks carrying potentially hazardous materials (including contaminated soil) should be disclosed as part of the air quality, noise, and transportation assessments. An HRA should be conducted that includes not only exhaust from construction-related diesel trucks, but exposure to hauled contaminated soils. (See Exhibit B, § IV.)

Further, while the federal government may not consider diesel particulate matter ("DPM") exhaust in total to be a carcinogen, nearly all of the more than twenty individual exhaust constituents are regulated as HAPs by the Federal Clean Air Act. (42 U.S.C. § 7412(b).) As such, the DEIS should include an HRA that analyzes potential health impacts associated with exposure to all HAP airport sources including diesel exhaust from both construction activities as well as on-going airport operations (ground support equipment, emergency generators, truck deliveries, etc.). Diesel exhaust contains benzene, formaldehyde, PAH's, naphthalene, acetaldehyde, acrolein, 1,3-butadiene, chlorobenzene, propylene, xylene, ethyl benzene, arsenic, cadmium, chromium, lead, manganese, mercury, nickel and selenium. (*Ibid*.) Yet, most of these federally regulated compounds are absent from the DEIS' list of project-related HAPs, and several of the ones that are included on one list as "possible HAPS associated with the project" are improperly categorized later as in the documents as having "zero project-related emissions." (DEIS, Appendix E-1 [p. 45], Appendix E-4; Exhibit B, § IV.) These toxic contaminants must be analyzed in the DEIS in relation to human health.

The DEIS, in an effort to be as transparent and informative as possible as required by NEPA, should contain an HRA that includes all of the aforementioned sources and associated risks to human health. Inclusion of an HRA is commonplace as part of an EIS, especially for projects of this scope and length, and, in this instance, is required to fulfill Executive directives that all federal agencies identify "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations." (See subsection E, below; see also Exhibit B, § IV.) An HRA is critical for ensuring an adequate disclosure of the Proposed Action's health effects to the

public and decisionmakers, especially those that are disproportionate to at-risk populations. (*Natural Resources Defense Council*, *supra*, 770 F.3d at p. 1272.)[3]

As indicated above, the DEIS does not include any useful air emissions data to allow anyone to determine whether City residents or other members of the public may be exposed to harmful emissions during the Proposed Action's terminal demolition and construction. The DEIS addresses only annual construction emissions measured in tons per year, which does little to aid assessment of the surrounding population's daily exposure to toxic construction air emissions. (DEIS, p. 4-17 [Table 4.3-5].) To properly assess this specific impact, the FAA must look at daily average construction emissions for at least particulate matter ("PM") $_{2.5}$, PM_{10}, and nitrogen oxide (NO_X)—all of which are toxic at certain concentrations and can create long-term health effects in adults and children.[4] This analysis is crucial to ascertain potential health impacts to the immediately surrounding population, a majority of which is composed of minority individuals (see subsection E, below), as well as potential impacts to the nine schools located within the General Study Area, one of which is only approximately 2,000 feet from a primary area of construction (demolishment of existing terminal). (DEIS, p. 4-86.) The statement that, "there would be no significant air quality impacts resulting from the Proposed Action" is misleading and premised on the inaccurate presumption that disclosure of potential health impacts is unnecessary. (*Ibid*.)

Furthermore, when preparing the HRA for the Proposed Action, the General Study Area should be expanded to include a broader range of sensitive receptors. A cursory review shows that a significant number of schools, hospitals, and other sensitive receptors exist within a two mile radius of the Airport. (Exhibit B, § IV.) Construction-related emissions such as diesel construction trucks, soil hauling, and rock crushing operations would be expected to impact areas more than two miles away as a result of their operational characteristics and haul routes. Additionally, aircraft exhaust from increasing numbers of planes using the Airport will also affect an area considerably larger than the General Study Area. (*Ibid*.)

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[3] See also EPA, Memorandum, Subject: Promoting the Use of Health Impact Assessment to Address Human Health in Reviews Conducted Pursuant to [NEPA] and Section 309 of the Clean Air Act (Nov. 10, 2015). Available at: https://www.epa.gov/sites/production/files/2016-03/documents/hia_memo_from_bromm.pdf (as of Oct. 1, 2020), and attached at Exhibit E.

[4] See e.g., EPA, Health and Environmental Effects of Particulate Matter (PM) (Apr. 13, 2020). Available at: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm (as of Oct. 1, 2020), and attached hereto as Exhibit F.

The DEIS concludes that there are no "significant impacts that would disproportionally affect children's health or safety," including those related to air quality because the DEIS found that "there would be no significant air quality impacts." (DEIS, p. 4-86.) However, the DEIS lacks data to support such a conclusion, and experienced air quality/health risk experts reach a different conclusion entirely. (See Exhibit B, § IV.)

The FAA should prepare an HRA for the Proposed Action that looks to the public as a whole, revise the DEIS's health risk analysis accordingly, and recirculate the document for public review and comment.

D. The DEIS fails take a hard look at the Proposed Action's noise and vibration impacts, including impacts to nearby residents, including those in the City of Los Angeles.

The DEIS' noise analysis fails to provide sufficient information to enable the public to meaningfully understand the Proposed Action's potential noise and vibration impacts. Among other things, the DEIS omits any discussion of additional operational noise generated by changes in the aircraft taxi routes. It also omits analysis of the noise impacts caused by haul trips needed for construction. Furthermore, the DEIS does not examine construction-related vibration impacts. For example, pile driving of deep foundations and the use of scrapers could cause adverse vibration impacts in the form of annoyance to nearby sensitive (residential) receptors, including those living within the City of Los Angeles. The DEIS should be revised and recirculated to include a full disclosure of these potential impacts, including identification of mitigation measures to minimize noise and vibration.

Additionally, construction of the Proposed Action would increase roadway traffic and would involve the use of heavy construction equipment on the site. The construction noise analysis explains that the nearest sensitive receptor is a residence approximately 830 feet to the northeast of the project site, on the other side of San Fernando Boulevard,[5] although the DEIS does not provide a map or other means of allowing the public to "readily understand" where that residence exists. (See 40 C.F.R. § 1502.8.) The DEIS then states that DEIS Table 4.11-1 shows that construction and demolition equipment would attenuate to less than a community noise equivalent level ("CNEL") 70 decibel

[5] The actual distance to the nearest sensitive receptor is likely smaller than disclosed in the DEIS. The EIR, for example, reported that the nearest sensitive receptor to the northeast of the Proposed Action is 740 feet from the closest edge of the replacement terminal. (EIR, p. 3.4-23.) The DEIS must address and correct this discrepancy.

("dB") at the closest noise sensitive land use, but, in actuality, Table 4.11-1 does not demonstrate this conclusion. (DEIS, p. 4-77.) All Table 4.11-1 does is state standard construction equipment noise attenuation levels. In fact, it is impossible to verify the FAA's conclusory statement on this matter because of the DEIS' dearth of identifying information concerning sensitive receptors. Table 4.11-1, moreover, does not address all types of construction equipment, but rather only a sample of equipment.

Table 4.11-1, among other things, does not address vibratory impact hammer (i.e., jack hammer). This equipment is typically used to remove concrete and asphalt from such things as parking lots; which is a main component of project construction and will be conducted over extended periods of time. The typical jackhammer has a decibel (dBA) rating of approximately 130 while a jet plane has a decibel rating of approximately 120 dBA. (See Exhibit B, § V.) The DEIS noise analysis must include all types of equipment to be used during construction, especially the exceptionally noisy equipment. The FAA should ensure the "professional integrity" of its work and provide "meaningful analysis" to the public and decision makers by revising the DEIS to properly explain its conclusion that noise will be attenuated such that there will not be adverse noise impacts. (40 C.F.R. §§ 1502.9(b), 1502.23.)

The DEIS also fails to evaluate the Proposed Action's consistency with the City of Los Angeles's noise standards, where noise impacts will be incurred. The Noise Element of the City General Plan provides that a CNEL value of 65 dB is the upper limit of what is considered a "normally acceptable" noise environment for multi-family residential uses, although a CNEL up to 70 dB may be "conditionally acceptable." A CNEL value of 60 dB is the upper limit of what is considered "normally acceptable" for single-family residential uses, and a CNEL range of 55 dB to 65 dB is considered "conditionally acceptable" for single-family residential uses. (Noise Element of the Los Angeles City General Plan, at 4-5.)

Given this, even if noise attenuates to less than CNEL 70 dB at the nearest noise sensitive land uses within the City, the noise level will still exceed the City's normally acceptable noise standard. To minimize this impact, the FAA should adopt mitigation measures to ensure sensitive receptors within the City are not adversely affected. Such mitigation could include, but is not limited to, added sound insulation for the nearby residential and multi-family sensitive receptors, including improved windows, insulation, and landscaping. The FAA should also design the proposed terminal to minimize impacts to sensitive receptors within the City and other sensitive receptors to the east of the new terminal. The DEIS acknowledges that in 2024 and 2029 the CNEL 65 dB noise counter

would include more properties than the existing CNEL 65 dB noise contours. (DEIS, pp. 4-73 to 4-77.) Many of the sensitive receptors that would experience these noise increases are the single- and multi-family family homes in the City, to the northeast of the airport, and many of these areas include a majority of minority residents (see subsection E, below). To reduce these anticipated noise impacts, the new terminal should be designed to function as a noise barrier from Airport runways, shielding the City's residential and multi-family uses near the airport.

E. The DEIS fails to take a hard look at the Proposed Action's impacts on environmental justice.

NEPA requires federal agencies to "analyze the environmental effects including human health, economic, and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA." (Exec. Order No. 12898, 59 Fed. Reg. 7629 (1994).) Analysis of environmental justice, or "EJ", as it is known, should consider the unique conditions of a region and its population and draw its boundaries for the affected environment accordingly, which "may be larger (or smaller) and differently shaped than the boundaries that would have been drawn without the existence of [unique conditions]."[6] Agencies may need to revise their "baseline characterization...of the affected environment" to reflect "pockets of minority population and low-income populations." (*Id.*, p. 17.)

The DEIS inadequately assesses EJ impacts by failing to properly characterize the affected environment. Table 3.13-1 and Exhibit 3.13-1 of the DEIS list and show the twenty-six U.S. census tracts utilized by the FAA to establish the affected area for the EJ analysis. As an initial observation, these twenty-six tracts well exceed the boundaries of the General Study Area, at some points by more than half a mile. (See DEIS, p. 3-68.) This overly broad affected environment skews the DEIS's EJ analysis by including census tracts that do not consider the unique conditions of the Proposed Action.

Indeed, the tracts that would be *most* affected by the construction and operation of the Proposed Action are the ten that immediately surround the airport because those are the tracts that include the populations directly impacted by noise, air emissions, and traffic resulting from demolition of the old terminal, construction of the new terminal.

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[6] Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for EJ Methodologies in NEPA Reviews (Mar. 2016). Available at: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf (as of Oct. 5, 2020), and at Exhibit G.

These direct and indirect impacts lessen with increased distance from the airport. The DEIS states that it uses these twenty-six tracts for "consistency across" Section 3.13, but this generalized approach does not reflect the areas of minority populations that surround the airport, in contravention of EPA recommended practices, as discussed in detail below.

The mistake made by having an overly broad affected area is compounded by significant problems with the DEIS's EJ data. The DEIS' minority population data for, *at least*, the ten tracts surrounding the airport: (i) cannot be verified through its cited source; (ii) is not included as an appendix to the DEIS for substantiation; and (iii) most concerning, is contradicted by other reliable data.

As to the first point, the link on DEIS page 3-84, footnote 107, to "U.S. Census Bureau, American Fact Finder. (2017). 2013–2017 American Community Survey 5-Year Estimates," is not functional. The website for American Fact Finder utilized by the DEIS is located at https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml. However, following that website link results in a message stating that "American FactFinder has been decommissioned and is no longer available," and leads to another webpage containing a convoluted plethora of links that make it impossible to substantiate where and how the FAA gathered its underlying data to ensure the "necessary environmental analyses" were conducted as NEPA requires. (See 40 C.F.R. § 1502.1.)

As to the second point, the DEIS does not include any raw data or other query information in an appendix or otherwise that might otherwise substantiate and support the dataset supposedly used by the FAA in its EJ analysis on minority populations. The DEIS only provides the above, defunct reference. As a result, the DEIS does not provide a "full and fair discussion" and does not fulfill the EJ directives of Executive Order 12898, as required by NEPA. (40 C.F.R. §§ 1502.1, 1502.23; Exec. Order No. 12898 (1994).)

As to the third and most critical point, the data used by the FAA, and supposedly derived from the 2013–2017 American Community Survey 5-Year Estimates, as provided by the U.S. Census Bureau, is contradicted by data derived from the same survey, as provided by the EPA's EJSCREEN—the agency's principal "environmental justice (EJ) mapping and screening tool." [7]

EJSCREEN is commonly used by federal agencies in NEPA EJ analysis, including by the FAA because it "provides a nationally consistent dataset and approach for

[7] EPA, EJSCREEN: Environmental Justice Screening and Mapping Tool (Aug. 2, 2018). Available at: https://www.epa.gov/ejscreen (as of Oct. 1, 2020), and attached at Exhibit H.

combining environmental and demographic indicators."[8] EJSCREEN draws from the same 2013–2017 American Community Survey 5-Year data cited in the DEIS but provides extraordinarily different minority population numbers for the ten census tracts that immediately surround the Airport. The following table shows the results from an October 5, 2020, EJSCREEN query for those ten census tracts using the map demographic layer for "Minority Population." EJSCREEN breaks down the census tracts into smaller geographical units than those presented in Exhibit 3.13-1 of the DEIS, and, for transparency and accuracy, each smaller unit is presented as a separate line item, along with tract totals and percent minority population in relation to total population.

Tract No.	Minority Population per EJSCREEN	Total Population per EJSCREEN	Total Percent Minority Population per EJSCREEN
1021.05	953	820	
	1003	715	
TOTALS	**1956**	**1535**	**78.5**
1222.00	1837	1583	
	635	575	
TOTALS	**2472**	**2158**	**87.3**
1230.10	1621	1465	
	2626	2332	
TOTALS	**4247**	**3797**	**89.4**
1230.20	2139	1976	
	1382	1314	
TOTALS	**3521**	**3290**	**93.4**
1231.03	2523	2091	
	1492	879	
TOTALS	**4015**	**2970**	**74.0**
1232.06	2798	2522	
TOTALS	**2798**	**2522**	**90.1**
3104.00	1221	310	
	1314	384	

[8] FAA, 1050.1F Desk Reference (v2) (Feb. 2020), p. 12-11. Available at: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/12-socioecon-enviro.pdf (as of Oct. 5, 2020), and attached at Exhibit I. See also page A-12 of Exhibit N, as labeled below, for an example where the FAA used the EJSCREEN in a NEPA analysis.

Tract No.	Minority Population per EJSCREEN	Total Population per EJSCREEN	Total Percent Minority Population per EJSCREEN
	678	277	
TOTALS	**3213**	**971**	**30.2**
3105.01	1861	1325	
	1217	866	
	927	707	
TOTALS	**4005**	**2898**	**72.4**
3110.00	696	406	
	456	182	
	1888	948	
	805	474	
TOTALS	**3845**	**2010**	**52.3**
3111.00	1561	1021	
	1555	794	
	948	358	
TOTALS	**4064**	**2173**	**53.5**

Attached to this letter as Exhibit J is a screenshot of the EJSCREEN interface that shows the dataset used, the query request, and the delineation of the smaller geographical units that comprise the census tracts. Also attached is a marked-up screenshot showing how one can obtain the total population and minority population estimates for each geographical unit by clicking on that unit; for this, Tract No. 1232.06 is used as an example because it is depicted as one unit on EJSCREEN as well as in DEIS Exhibit 3.13-1.

The next table compares the DEIS total percent of minority population for these ten tracts (see Table 3.13-11) alongside the percentages calculated from EJSCREEN data. There is an obvious discrepancy in data.

Tract No.	FAA's Total Percent Minority Population (DEIS, Table 3.13-11)	Total Percent Minority Population per EJSCREEN
1021.05	37.0	78.5
1222.00	21.7	87.3
1230.10	16.0	89.4

Tract No.	FAA's Total Percent Minority Population (DEIS, Table 3.13-11)	Total Percent Minority Population per EJSCREEN
1230.20	33.6	93.4
1231.03	49.6	74.0
1232.06	49.2	90.1
3104.00	23.0	30.2
3105.01	45.5	72.4
3110.00	40.1	52.3
3111.00	36.2	53.5

It is impossible to determine why the minority population percentages given in the DEIS are so much lower than those extrapolated from the EPA's EJSCREEN tool because, as previously stated, the DEIS does not include a verifiable source or supporting information that could substantiate its data. This EJSCREEN data seriously calls into question the DEIS' remaining census tract data and its related conclusion that "the average minority population percentage of all of the census tracts within the General Study Area is lower than Los Angeles County and is below 50 percent." (DEIS, p. 4-85.)

In actuality, the average percentage of the minority population of these combined ten census tracts, which actually represents the genuine affected area, is 71.3 percent—that is 21 percentage points higher than the minority population for Los Angeles County and 21.3 points higher than the given criteria for determining effected populations. (DEIS, pp. 3-86 ["50.3 percent for Los Angeles County"], 4-84 ["tracts that have a population of 50 percent or more exceeding the minority guideline"].) In terms of impact, this 71.3 percent means that minority populations "would endure a disproportionately high and adverse human health and environmental effect of significant impacts." (*Id.*, p. 4-84.)

The FAA should revise and recirculate the DEIS to reconfigure the affected area, include accurate and supported data for its minority populations, and change the EJ impact conclusion for minority populations to be consistent with accurate information.

F. The DEIS fails to take a hard look at the Proposed Action's socioeconomic impacts on the City of Los Angeles, its residents, or businesses.

NEPA requires an EIS to examine all potential adverse effects of a Proposed Action, including "economic…, social, or health effects," that "occur at the same time and place as the proposed action" or that "are later in time or farther removed." (40 C.F.R. § 1508.1(g); see also § 1502.16(b); .) The socioeconomic costs of a project related to physical environmental impacts, including adverse effects on property taxes, must be analyzed. (*See Minisink Residents for Environmental Preservation and Safety v. F.E.R.C.* (D.C. Cir. 2014) 762 F.3d 97, 112.) Here, the Proposed Action would locate the terminal closer to residents within the City of Los Angeles, yet the socioeconomic impacts of the new terminal on the City of Los Angeles are not addressed in the DEIS. Specifically, these effects are not adequately addressed because the DEIS does not include any actual, quantitative analysis of the Proposed Action's potential economic and social effects. Instead, the DEIS concludes, without citing evidence, that "[t]here would be slight increases in economic activity or income from the temporary and full-time jobs created" by the Proposed Action, but that "the size of the increase would be minor compared to ongoing economic activity within the area." (DEIS, p. 4-82.) Although the new, expanded terminal would likely bring economic benefits to the City of Burbank (see *id*. at pp. 4-81 to 4-82), the new terminal will likely bring economic costs too, particularly to the City of Los Angeles, which the DEIS fails to address and ignores.

For example, it is well known that airports reduce home values, which, in turn, affects property taxes, including those owed to the City of Los Angeles and other nearby jurisdictions. There are also costs associated with treatment of respiratory diseases caused by increased particulates, and costs of cleaning and repainting buildings caused by airport air pollution. The City of Los Angeles will bear these costs without receiving most, if any, of the Project's economic benefits. The DEIS does not discuss any of this.

Notably, under the heading "Significance Thresholds," the DEIS states that the Proposed Action may have an adverse socioeconomic impact, if among other things, it would "produce a substantial change in the community tax base." (DEIS, p. 4-79.) Yet, as noted, the DEIS does not actually consider whether the Project would adversely affect local tax bases. The DEIS should be revised and recirculated to assess the potential loss of property taxes, including those that ultimately make their way to the City of Los Angeles, with short-term economic impacts related to nuisances caused by construction.

Also missing from the DEIS is a costs/benefits analysis. A cost analyses should be conducted for an expenditure of AIP discretionary funds such as proposed here. The DEIS does not, however, contain any information regarding the costs of the Proposed Action. In 2018, the Los Angeles Times reported that the Proposed Action is anticipated to cost over $1 billion.[9] The DEIS does not address the cost of the Proposed Action at all. The public and decision makers should be provided with information concerning the overall capital costs of the Proposed Action, including construction costs and operation and maintenance costs, as well as information about the Project's funding sources, ability to generate non-aeronautical revenue, and cost recovery options. These factors must be considered by FAA decision makers to determine whether to move forward with the Project.

The FAA should also consider whether more cost-effective alternatives exist due to the burden on the implementing agency funding for a more than one billion dollar endeavor such as the Proposed Action. For example, the FAA should analyze, in full, and consider adopting a modified version of the "Airfield Reconfiguration" alternative briefly discussed, but rejected, in the DEIS. (DEIS, p. 2-5.) In particular, the FAA should consider an alternative that both reconfigures the airfield to meet the FAA's standards, but also includes renovations to the existing terminal meeting applicable California building standards. Such a viable alternative would achieve most of the Proposed Action's basic objectives, but would cost less than the Proposed Action and will result in fewer adverse impacts that the Proposed Project, particularly during construction because there would be far less construction activity than required by the Proposed Action. This, therefore, must be examined to ensure an adequate document. (See *Citizens for a Better Henderson v. Hodel* (9th Cir. 1985) 768 F.2d 1051, 1057 ["[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate"].)

G. The DEIS fails to take a hard look at cumulative impacts.

NEPA requires the FAA to consider the cumulative impacts of the Proposed Action. Cumulative impact refers to "effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives." (40 C.F.R. § 1508.1(g).)

[9] See EIR, p. 1-1; LA Times, "Cost of replacement airport terminal estimated to soar over $1 billion" (Nov. 6, 2018) (Available at: https://www.latimes.com/socal/burbank-leader/news/tn-blr-me-terminal-concept-20181106-story.html#:~:text=Although%20a%20355%2C000%2Dsquare%2Dfoot,%241%20billion%2C%20according%20to%20officials (as of September 25, 2020), and attached hereto as Exhibit K.)

"In a cumulative impact analysis, an agency must take a 'hard look' at *all* actions" that may combine with the action under consideration to affect the environment. (*Te-Moak Tribe of W. Shoshone of Nevada v. U.S. Dept. of Interior* (9th Cir. 2010) 608 F.3d 592, 603, italics added.) In preparing a cumulative impact analysis, "simply listing all relevant actions is not sufficient." (*Great Basin Resource Watch v. Bureau of Land Management* (9th Cir. 2016) 844 F.3d 1095, 1104.) Instead, "some quantified or detailed information is required." (*Ibid*.) "[T]he fact that [a cumulative impacts] section exists [in the EIS] is not enough." (*Earth Island Institute v. U.S. Forest Serv.* (9th Cir. 2003), 351 F3d 1291, 1306–1307.)

Crucially, the DEIS does not contain *any* discussion of cumulative noise or transportation impacts, either during construction or operations. Among other things, the new terminal facilities together with the proposed new departure routes (see DEIS, Table 3.16-1, p. 3-103 [identifying the "OROSZ" and "SLAPP" departure routes]) could alter noise contours resulting in adverse cumulative operational noise effects. Such noise effects would, in turn, lead to cumulative EJ and socioeconomic effects. For example, noise impacts from living in close proximity to an airport can be significant and often include adverse health impacts, including tinnitus, hearing loss, increased blood pressure, stress and higher incidences of human error. (See Exhibit B, § V.) The FAA should squarely address these cumulative noise, EJ, and socioeconomic impacts in the EIS.

Likewise, the DEIS should provide a more thorough assessment of cumulative construction effects. For example, Table 3.16-1 (DEIS, pp. 3-103 to 3-104) shows that "utilities construction," "airside security fence construction," and "airside service road construction" would likely occur simultaneously with that of the Proposed Action. These construction activities, which will all occur on the same site during site operations, will likely lead to combined air quality, noise, and transportation effects, yet the DEIS does not address these combined effects. For a proper understanding of cumulative impacts, all construction equipment identified in Appendix E of the DEIS should be combined and assessed with existing airport operations. (See Exhibit B.) Moreover, as discussed in Section IV, below, if one or more of those improvements lacks independent utility from the Proposed Action, they must be analyzed as part of the Proposed Action.

The DEIS should also consider the operational cumulative impacts associated with the Proposed Action in combination with the widening of Interstate-5, the Empire Avenue Interchange Project, and the Avion Business Park. Although these projects are listed in the cumulative project list (Table 3.16-1), the DEIS does not address the cumulative operational transportation impacts associated with these projects. Notably, the

DEIS's Surface Traffic Analysis (DEIS Appendix K) acknowledges that these projects "may affect traffic patterns or intersections operating conditions in the vicinity of the Airport," yet these cumulative impacts are not addressed. (DEIS Appendix K, p. K-15.) As a result, the DEIS fails to take a hard look at the cumulative transportation effects.

The DEIS also under-analyzes, and inaccurately characterizes, cumulative construction-related air quality impacts. The DEIS includes the Avion Business Park as a current project in the General Study Area, and concludes that because it "would be completed prior to the start of construction of the Proposed Action...no cumulative construction-related air quality impacts would occur." (DEIS, pp. 4-106, 3-104.) However, according to its developer, Avion Business Park construction is anticipated to continue through 2021.[10] This means that its construction will overlap with construction of the Proposed Action, which is anticipated to begin in 2021. (DEIS, p. 4-7.) This overlap in construction makes at least one of the DEIS's cumulative impact conclusions inaccurate, and it must be addressed in the cumulative impact discussion.

Additionally, as commented in Section I, above, the DEIS should consider the cumulative effects of the Proposed Action together with the planned closure of the Santa Monica Airport.

The Ninth Circuit has repeatedly "held that cumulative impact analyses were insufficient when they 'discusse[d] only the direct effects of the project at issue … and merely 'contemplated' other projects but had 'no quantified assessment of their combined impacts.'" (*Bark v. United States Forest Servic*e (9th Cir. 2020) 958 F.3d 865, 872, quoting *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management* (9th Cir. 2004) 387 F.3d 989, 994.) Here, the existing analysis does not meet these standards because, as explained above, it does not consistently quantify the combined impacts of cumulative projects. (See DEIS, § 4.15, e.g., pp. 4-106 to 4-113.) It is not sufficient for the FAA to merely conclude that because the Project would not cause a direct impact on a particular resource that the cumulative impacts are thus not adverse. The FAA should revise and recirculate the DEIS to provide an adequate, quantitative assessment of the Project's potential cumulative effects.

[10] Overton Moore Properties, Avion Burbank (2020). Available at: https://avionburbank .com (as of Sept. 29, 2020), and attached at Exhibit L.

III. The DEIS fails to analyze all interconnected actions as a single course of action – resulting in improper segmentation.

NEPA requires that a "single course of action" be analyzed together as a complete project. (40 C.F.R. § 1502.4(a).) "In considering whether the effects of the proposed action are significant, agencies....[s]hould consider connected actions," which "should be discussed in the same impact statement." (40 C.F.R. §§ 1501.3(b).)1501.9(e)(1).) Actions are "connected" if they '[c]annot or will not proceed unless other actions are taken previously or simultaneously.'" (*Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1087.) (citing former 40 C.F.R. § 1508.25(a)(1)(ii) now reflected at 40 C.F.R. § 1501.9(e)(1)(ii)]. If the subsequent action meets this criterion and it has no "independent utility," e.g., it "'would have taken place with or without the other [project]," then it must be analyzed in the same environmental document. (*Northern Plains Resource Council*, *supra*, at pp. 1087–1088.)

Here, there are at least two other actions connected to the Proposed Action not analyzed in the DEIS. First, an airport services road is proposed for construction on Airport property in 2023, but it is listed as only a "reasonably foreseeable future project." (DEIS, p. 3-104 [Table 3.16-1].) However, this new service road would not be independently constructed without the Proposed Action. In fact, it is proposed as a necessity "to accommodate reconfigurations at the Airport. (*Ibid*.) The new service road, therefore, "will not proceed" without the Proposed Action. (40 C.F.R. § 1501.9(e)(1)(ii).) Moreover, there is no reason why this service road should be omitted from the Proposed Action and its environmental analysis.[11] The Proposed Action includes several other components that would not be fully constructed until up to 2026, such as the Aircraft Rescue and Firefighting station estimated for construction by 2025, and which are included in environmental analysis. (DEIS, p. 4-8 [Table 4.3-2]; see also e.g., *id.*, pp. 4-7, 4-16, 4-37.) Consistent with this approach, the DEIS must include the new service road as part of the Proposed Action, and analyze it accordingly throughout the document, to comply with NEPA.

[11] Table 4.3-2, Construction Schedule, includes a "Relocate[d] Perimeter Service Road" as a supposed Project component, slated for construction in 2025, although it is difficult to be certain because of the confused presentation of the Proposed Action (see Section II). (DEIS, p. 4-8.) It is reasonable to assume that this relocated road and the new service road are not the same given the differences in facts and characterization, *e.g.*, different construction schedules, different names, different locations in the document.

Next, there is a repair and extension of the Delta ramp, described by the FAA as the "Delta Ramp Rehabilitation and Expansion Project," for which the FAA recently issued an approval for NEPA categorical exclusion.[12] The Delta Ramp Rehabilitation and Expansion Project will improve approximately 260,000 sf of existing pavement and add approximately 87,000 sf of pavement on previously unpaved surfaces in order "to accommodate maintenance...operations" and "parking for different mixes of aircraft," specifically overnight parking.[13]

The Proposed Action involves construction of a new 8,000 sf maintenance building and expansion of existing facilities that will result in new maintenance vehicles and new and different aircraft onsite. (DEIS, pp. 1-27, 4-8.) These new aircraft and maintenance vehicles will require storage and parking that can only be accommodated by the newly expanded and reconfigured Delta Ramp. Essentially, without the Delta Ramp Rehabilitation and Expansion Project, the Proposed Action will lack the storage capacity necessary to accommodate its total expansion of Airport services. Conversely, without the Proposed Action, the Delta Ramp Rehabilitation and Expansion Project may not be necessary. More information is required to understand exactly how and to what extent these projects rely on one another because the issue is not addressed in the DEIS, but, these actions are reasonably connected and should be environmentally evaluated together.[14]

The FAA should revise and recirculate the DEIS to include this new service road and Delta Ramp Rehabilitation and Expansion Project as part of the Proposed Action, as mandated by NEPA.

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[12] FAA, Bob Hope Airport Delta Ramp Rehabilitation Project, Categorical Exclusion Approval (Feb. 18, 2020). Attached at Exhibit M.

[13] *Id.*, DEIS Appendix A. Documented Catex (June 2, 2017), pp. A-1, A-18. Attached at Exhibit N.

[14] More evidence of their connectivity can be seen in their respective revisions to the Airport Layout Plan ("ALP"). The Delta Ramp Rehabilitation and Expansion Project will require a revision to the ALP because it will force the relocation of the Airport Operation Area in order "to facilitate the [87,000-sf] expansion of the D[elta] ramp." (Exhibit N, p. A-2.) The Proposed Action also requires a revision to, and approval of, the ALP (DEIS, p. 1-29.)

IV. The FAA may not foreclose consideration of reasonable alternatives merely because the Airport Authority has approved the Proposed Action; NEPA prohibits the FAA from predetermining the outcome of its environmental review.

NEPA operates "as a means of safeguarding against environmental harms." (*Davis v. Mineta* (10th Cir. 2002) 302 F.3d 1104, 1114, abrogated on other grounds by *Dine Citizens Against Ruining Our Environment v. Jewell* (10th Cir. 2016) 839 F.3d 1276.) An EIS is an "action forcing" document that requires agencies to take a "hard look" at the environmental consequences of their actions. (*Metcalf v. Daley* (9th Cir. 2000) 214 F.3d 1135, 1141 ("*Metcalf*").) The proper time for an agency to complete its NEPA review is *before* the agency commits to the project design so that the analysis "can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made." (*Id*. at p. 1142; see also 40 C.F.R. § 1502.5.) To that end, the NEPA regulations provide that an agency must not take any action on a project that would limit the choice of reasonable alternatives. (40 C.F.R. § 1506.1(a)(2).) When a federal agency is considering an application from a non-federal entity, and is aware that the applicant has or is about to take action that would limit the choice of reasonable alternatives, the federal agency must promptly notify the applicant and take appropriate actions to ensure that NEPA's objectives and procedures are fully achieved. (*Id*., § 1506.1(b).)

Here, following Measure B's passage in 2016, through which voters allowed the Airport Authority to move forward with the "adjacent property" alternative, the Airport Authority has continued to move forward with considerations for a new terminal.[15] The Airport Authority's actions moving forward with new terminal plans seems to have limited the choice of reasonable alternatives to be evaluated in the DEIS, as evidenced by

[15] Among other things, in November 2019, the Airport Authority Commission voted 9-0 to award a Professional Service Agreement to AECOM Technical Services, Inc. for program management services associated with the Project. The agreement has a seven-year duration and has a contract limit of $45,000,000. In addition, the Airport Authority Commission has authorized four initial task orders, including: (1) project management office staffing ($2,896,618), (2) preparation of a program definition manual ($1,675,978), preparation of a program charter and program management manual ($475,161), and preparation of a progressive design builder procurement document ($334,854). (See https://elevatebur.com/news/significant-milestone-reached-as-airport-authority-awards-program-management-services-contract-for-the-replacement-passenger-terminal-project/ (as of September 25, 2020). Attached hereto at Exhibit O.)

the DEIS evaluating only two alternatives—the Proposed Action and the No Action Alternative.

According to the DEIS, one reason the FAA rejected the many alternatives from further analysis is that those alternatives were not consistent with the version of the Project approved by voters as part of Measure B. (See DEIS, p. 2-19 [explaining the FAA's screening process].) The FAA, however, should not limit its discussion of alternatives to only those that have previously been approved by the Airport Authority and through Measure B. (See *Sierra Club v. U.S.* (N.D. Cal. 1998) 23 F.Supp.2d 1132, 1145–1146 [agency "not permitted to dismiss alternatives merely on the grounds that they may have been inconsistent with the [agency's management plan"].) Rather, the FAA must "[e]valuate reasonable alternatives," even if those alternatives have not been previously endorsed by voters. (See 40 C.F.R. § 1502.14(a).) "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." (*Citizens for a Better Henderson v. Hodel* (9th Cir. 1985), 768 F.2d 1051, 1057.)

By limiting the choice of alternatives to only the Proposed Action and the No Action Alternative, the DEIS fails to take a hard look at a reasonable range of alternatives. Regardless of the Airport Authority's approval and the results of Measure B, the FAA must consider whether there are other alternatives that could feasibly meet the Proposed Actions purpose and need, but lead to fewer and less severe construction-related and operational direct, indirect, and cumulative impacts on the environment and community. (See *Muckleshoot Indian Tribe v. U.S. Forest Serv*. (9th Cir. 1999), 177 F.3d 800, 812 [Forest Service "fail[ed] to consider a range of appropriate alternatives" by only analyzing two very similar action alternatives and the no action alternative].) For instance, as noted above, the FAA should fully consider an airfield reconfiguration alternative that would also include upgrades to the existing terminal to allow compliance with applicable building standards and safety requirements.

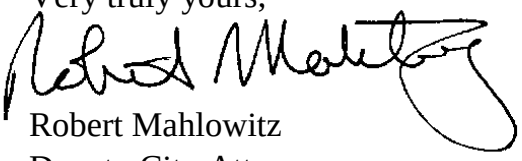
As indicated, the FAA must also ensure that the Airport Authority does not take additional actions that could foreclose on the FAA's ability to analyze (and approve) alternatives superior to the Proposed Action. (See *Metcalf, supra*, 214 F.3d 1141–1144; 40 C.F.R. § 1506.1(b).) The FAA's NEPA process may not be a rubber-stamp to the decision already made by the Airport Authority. Instead, the FAA should require the Airport Authority to stop moving forward with the Proposed Action until the FAA has completed its NEPA review and adopted a record of decision.

Thank you for the opportunity to comment on the DEIS. In view of the numerous significant issues described above, the FAA's unconditional approval of the Project on

this record would violate NEPA. The City expects the FAA will reconsider its unsupported assumption that the Project would not lead to increases in passenger demands. The City also recommend that the FAA fix the other errors identified above in a revised, recirculated DEIS.

Please let us know if you would like to schedule a meeting with City staff to discuss the issues raised in this comment letter. Please also include the City on all future notices for the Project.

Very truly yours,



Robert Mahlowitz
Deputy City Attorney

RM:ev

Enclosures:

Thumb Drive containing PDF copy of letter and exhibits

Exhibits A to O

Exhibit A.	Comment letter from LADOT
Exhibit B.	Technical Letter from Environmental Compliance Solutions
Exhibit C.	Airport Authority, Industry Day Presentation (excerpts)
Exhibit D.	EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (June 2016) (excerpts)
Exhibit E.	EPA, Memorandum, Subject: Promoting the Use of Health Impact Assessment to Address Human Health in Reviews Conducted Pursuant to [NEPA] and Section 309 of the Clean Air Act (Nov. 10, 2015)
Exhibit F.	EPA, Health and Environmental Effects of Particulate Matter (PM) (Apr. 13, 2020)
Exhibit G.	Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for EJ Methodologies in NEPA Reviews (Mar. 2016) (excerpts)

Exhibit H.	EPA, EJSCREEN: Environmental Justice Screening and Mapping Tool (Aug. 2, 2018)
Exhibit I.	FAA, 1050.1F Desk Reference (v2) (Feb. 2020) (excerpts)
Exhibit J.	EPA, EJSCREEN, Screenshots of Use (Oct. 2020)
Exhibit K.	LA Times, "Cost of replacement airport terminal estimated to soar over $1 billion" (Nov. 6, 2018)
Exhibit L.	Overton Moore Properties, Avion Burbank (2020)
Exhibit M.	FAA, Bob Hope Airport Delta Ramp Rehabilitation Project, Categorical Exclusion Approval (Feb. 18, 2020)
Exhibit N.	FAA, Bob Hope Airport Delta Ramp Rehabilitation Project, Appendix A. Documented Catex (June 2, 2017)
Exhibit O.	Airport Authority, Significant milestone reached as Airport Authority awards Program Management Services contract for the Replacement passenger terminal project (Nov. 4, 2019)

EXHIBIT A

Comment letter from LA DOT

CITY OF LOS ANGELES

CALIFORNIA

Seleta J. Reynolds
GENERAL MANAGER

ERIC GARCETTI
MAYOR

DEPARTMENT OF TRANSPORTATION
100 South Main Street, 10th Floor
Los Angeles, California 90012
(213) 972-8470
FAX (213) 972-8410

October 22, 2020

Ms. Edvige B. Mbakoup
U.S. Department of Transportation – Federal Aviation Administration
777 S. Aviation Boulevard, Suite 150
El Segundo, California 90245

Subject: **Comments of the Draft Environmental Impact Statement (DEIS) for the proposed Replacement Passenger Terminal Project at the Bob Hope "Hollywood Burbank" Airport**

Dear Ms. Mbakoup,

The City of Los Angeles Department of Transportation (LADOT) appreciates the opportunity to review the Draft Environmental Impact Statement (DEIS), August 2020, for the proposed replacement passenger terminal project at the Hollywood Burbank Airport. The proposed project includes the replacement of an existing 14-gate passenger terminal building located in the southeast quadrant of the airport with a 14-gate replacement passenger terminal building in the northeast quadrant of the airport, along with the extension of two taxiways, a new airplane hangar, a new public parking garage, a new passenger terminal access road, a new central utility plant, a new vehicle storage and staging area, and other replacement components. The existing passenger terminal building would be demolished to accommodate appropriate Federal Aviation Administration (FAA) standards related to runway separation. Based on our review, we offer the following comments:

- Pursuant to Senate Bill (SB) 743 and the recent changes to Section 15064.3 of the State's California Environmental Quality Act (CEQA) Guidelines, the City of Los Angeles adopted vehicle miles traveled (VMT) as the criteria to determine transportation impacts under CEQA. LADOT recommends that the scope of the transportation analysis be expanded to include a VMT analysis for the proposed project. This analysis is required, for example, if any future discretionary approvals are required from LADOT, Caltrans or other responsible or trustee agencies for roadway or intersection improvements necessary for implementation of the project. The EIR prepared and certified by the Burbank-Glendale-Pasadena Airport Authority also omitted an analysis of VMT as part of its EIR.

  Since the project is considered a unique traffic generator, it is recommended that the transportation analysis include: 1) "VMT per employee" analysis to reflect any increases in the number of employees resulting from the project; 2) "VMT per passenger" analysis to reflect any changes in the travel patterns of airport passengers resulting from the project; and 3) an "induced VMT" analysis to address any local changes to VMT resulting from the roadway

network changes proposed by the project. Such an analysis is consistent with those required of other unique traffic-generating projects. LADOT staff is available to offer specific guidance on how to conduct these analyses.

- The project's transportation analysis should provide for regular trip monitoring and reporting to verify the assumptions of the analysis and, if existing traffic levels are exceeded, the project should implement any necessary mitigations or operational improvements to offset these increases. Such measures should consider, but not be limited to, intersection improvements to optimize efficiency and minimize queues, traffic signal optimization enhancements, Transportation Demand Management plan for airport employees, enhanced transit connections for passengers to reduce vehicle trips, shuttles from the adjacent Metrolink station and the airport, etc.

- Any passenger increases at the airport may result in additional vehicle trips on the adjacent road network, including on streets located within the City of Los Angeles. Should the analysis be revisited, we encourage you to work with LADOT staff to identify streets and intersections within the City of Los Angeles that should be evaluated to determine if the project may result in any operational impacts. Intersections (especially those that are signalized) along Clybourn Avenue, San Fernando Road, Saticoy Street, Sherman Way, Strathern Street, Vineland Avenue, Vanowen Street, and Victory Boulevard should be considered for evaluation since these are all high-volume arterials that provide direct connections to the airport's access points.

- The project's construction duration of approximately six years will require a construction traffic management plan and will require the use of streets and intersections within the City of Los Angeles. This would include arterials such as Sherman Way, Victory Boulevard, San Fernando Road, Vineland Avenue, Clybourn Avenue, and Vanowen Street. The City of Los Angeles should be included in the review of any future haul routes, hours of operations, and traffic management planning related to the construction of this project.

- Special attention should be given to Vineland Avenue, Sherman Way, and Victory Boulevard. These roadways, which facilitate access to the airport, include segments that have been flagged as Vision Zero Priority Corridors because they experience a high percentage (compared to other City arterials) of traffic collisions resulting in fatalities or serious injuries. The City of Los Angeles is actively working to reduce traffic collisions along these priority corridors by implementing transportation safety countermeasures aimed at reducing conflicts and speeds, and enhancing the environment for the most vulnerable users of the transportation systems (pedestrians and bicyclists). The project should be mindful of this effort, ensure that project-related traffic does not exacerbate the problem, and consider contributing funds to implement safety enhancements.

- On page 4-11, the DEIS cites the collection of trip generation and trip length information data via manual data collection and survey efforts conducted in 2012. Since the collection of this information eight years ago, agencies now have access to big data platforms that provide ground transportation information from cell phones and GPS devices. This information includes

traffic volumes, travel speeds, origin-destination pairs (which is a proxy for trip lengths and VMT), route choices, etc. LADOT recommends that such a big data platform be used to either validate the 2012 data or update the trip generation and trip length information used for the analysis. Without validation, LADOT does not consider traffic data from eight years ago appropriate to use in current environmental review.

- The DEIS does not mention the California High Speed Rail Authority's (CAHSRA) plans to connect the Hollywood Burbank Airport to the future high speed rail network. The public circulation period of the DEIR/DEIS for the Burbank to Los Angeles segment of the CAHSRA project ended on August 31, 2020. Alternatives analyses have also been completed for the Palmdale to Burbank segment so concept and alignment plans are available illustrating how the CAHSRA project would be integrated with the Hollywood Burbank Airport. It is unclear why the DEIS neglected to mention this important infrastructure project and how it may impact the airport.

The LADOT staff that reviewed the project's DEIS have also participated in the review of transportation impact analyses for other passenger airport projects including at Los Angeles International Airport (LAX) and Van Nuys Airport. Based on our experience working with other airports, LADOT encourages the project to consider implementing a Transportation Demand Management (TDM) Program that includes an annual trip monitoring element to determine if the airport operates as presented in the DEIS. Such a monitoring program offers the stakeholders affected by airport activity with a transparent program aimed to address any traffic increases beyond those analyzed in the DEIS.

LADOT is available to meet and discuss how a TDM Program can be formulated for the airport. If you have any questions regarding these comments, please contact Jesus Serrano by e-mail at jesus.serrano@lacity.org.

Sincerely,

Tomas Carranza, PE
Principal Transportation Engineer

c: Doug Mensman, Mayor Eric Garcetti's Office
Sahag Yedalian, Los Angeles Council District 2
Jay Kim, Assistant General Manager, LADOT Office of Mobility Management

Attachment A – Background of LADOT Review Team

1. Tomas Carranza holds a Professional Engineering License as a Traffic Engineer in the State of California. Tomas currently serves as a Principal Transportation Engineer and Bureau Chief overseeing LADOT's Transportation Planning and Development Review functions. Tomas, with 29 years' experience as a transportation engineer, was formerly the lead engineer assigned to the LAX Work Plan. This role included the lead reviewer of the LAX Master Plan traffic impact study, the off-airport mitigation program, and all environmental documents related to LAX projects. Tomas continues to serve as an advisor to LAWA providing guidance on the scope of transportation analyses related to planned infrastructure and modernization enhancements at and around LAX.

2. Jesus Serrano holds a Professional Engineering License as a Traffic Engineer in the State of California. Jesus currently serves as a Senior Transportation Engineer and Division Manager overseeing LADOT's San Fernando Valley Planning and Environmental Review Office. Jesus, with over 29 years of experience as a transportation engineer, leads an office of transportation and civil engineers that review transportation impact studies and environmental impact reports for land use and infrastructure proposals within the San Fernando Valley area.

3. Eddie Guerrero holds a Professional Engineering License as a Traffic Engineer in the State of California. Eddie currently serves as a Senior Transportation Engineer and Division Manager overseeing both LADOT's Metro and West Los Angeles Planning and Environmental Review Offices. Eddie, with 26 years' experience as a transportation and civil engineer, leads an office of transportation and civil engineers that review transportation impact studies and environmental impact reports for land use and infrastructure proposals throughout all of the City of Los Angeles except for the San Fernando Valley area. Eddie's team includes staff dedicated to the LAX Work Program which includes ensuring compliance with the LAX Master Plan MMRP and annual trip generation monitoring report. Eddie is also the LADOT liaison to the Los Angeles World Airports agency, which runs and operates LAX and Van Nuys Airport.

4. Vicente Cordero holds a Professional Engineering License as a Traffic Engineer in the State of California. Vicente, with 19 years of experience as a transportation engineer, currently serves as a Transportation Engineer and oversees the LADOT's San Fernando Valley development review functions. This role includes leading a team of engineers that review all transportation impact studies for proposed land use and infrastructure projects in the San Fernando Valley area. Given his experience, Vicente's role is to supervise staff, offer guidance, and to lead on challenging or unique land use proposals, such as past projects related to the Van Nuys Airport.

EXHIBIT B

EIS Technical Letter

Environmental Compliance Solutions, Inc.
171 Pier Avenue, Suite 337
Santa Monica, CA 90405

October 19, 2020

Ms. Edvige B. Mbakoup
U.S. Department of Transportation
Federal Aviation Administration
Western-Pacific Region
777 S. Aviation Boulevard, Suite 150
El Segundo, California 90245

Subject: **Comments on the Bob Hope "Hollywood Burbank" Proposed Replacement Terminal Project Draft Environmental Impact Statement (EIS)**

Dear Ms. Mbakoup,

Environmental Compliance Solutions, Inc. (ECS) appreciates the opportunity to review and comment on the aforementioned Draft Environmental Impact Statement (DEIS).

ECS was established in 1995. We specialize in preparing air quality analyses, air dispersion modeling, health risk assessments and greenhouse gas inventories for California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents (including for airport projects). We have also provided third-party technical review for airport and other complex industrial CEQA/NEPA documents. Our focus is on potential air quality impacts. Attached to this letter are the professional qualifications for myself and my associates who assisted on this review.

I. General Observations on DEIS Inadequacies

Appendix E, Air Quality, of the DEIS omits important information and presents confusing data. There is no explanation as to how operational criteria pollutant, greenhouse gas and hazardous air pollutant (HAP) emission calculations were derived. (Appendices E-1 through E- 4). No backup documentation, equipment assumptions, inputs, emission factors or methodology is included; thereby rendering meaningful third-party review virtually impossible. As a result, the document fails to adequately disclose to the public and decision-makers potential impacts associated with air pollution exposure.
For example, Appendix E-4 is entitled, *HAP Emissions Calculations*. However, there are no HAP emission calculations included. HAPs are simply listed by daily and annual emissions with no explanation as to how the emissions were calculated or which sources result in which emission types. (Appendix E-4). Other toxic emissions expected to be associated with this type of project (including those associated with diesel exhaust) are not included at all. (Appendix E -

4). This appendix simply lists *Maximum Annual Construction HAP Pollutant Emissions Summary* in a table. No documentation is provided as to the source of each toxic compound, calculation methods, emission factors, equipment specification, which year emissions are expected to occur, and/or validation. However, this information must be included because without it, no specific meaningful comments or third-party technical analyses can be provided on this DEIS. Verification of the conclusion that no significant air quality or human health impacts would occur cannot be completed with the limited information provided in the document.

Appendix E-4 goes on to include a table of HAPS without a header that is cut off on the right-hand side—it can only be identified here by the years it seems to reference (e.g., 2018, 2024, 2029, etc.). A column entitled, "HAPs" is listed without explanation as to what the table means, where the numbers came from, and/or which "HAPs" are being referred to. Calculation inputs are neither defined nor identified. In the absence of back up documentation showing the math and raw data input necessary to document these numbers, no specific meaningful comments or third-party technical analyses can be provided on this DEIS.

Section 3: *NEPA Air Quality Protocol* of Appendix E-1 is written in the future tense (e.g., "Year 2018 *will* be used"...; "The air quality analysis...*will* address..."). (Appendix E-1, p. 21). It appears that this section refers to additional air quality analysis that is forthcoming and/or not included in this EIS, yet there is no indication when or how this future analysis will be conducted. Section 3.5 entitled Air Dispersion Modeling states, "If required for this project, air dispersion modeling will be used to predict pollutant concentrations for construction sources as well as operational sources for the 2018 existing condition, 2024, and 2029 Proposed Action and No Action conditions, as well as for any other action alternative carried forward for detailed consideration in the EIS." (Appendix E-1, p. 30)." It is unclear when it will be determined whether or not modeling will be required, but this modeling should be conducted because it would be necessary to demonstrate potential project-related exceedances of applicable National Ambient Air Quality Standards (NAAQS). Emission calculations (and all associated inputs) and modeling should be included in a revised DEIS, which should be recirculated for public review and comment.

II. Construction-Related Emission Impacts

Remediation Emissions Not Included

Equipment and resulting emissions associated with remediation activities are not included in the document. This is a significant oversight as that task would be expected to involve the removal of significant volumes of contaminated soil. The DEIS indicates that there may be hexavalent chromium and/or other toxic materials in the contaminated soil that will be unearthed as part of the project. (DEIS, p. 4-52). In addition to the hexavalent chromium specifically mentioned in the DEIS, soil underneath and around an airport would in all probability contain other federally-regulated metals, including, but not limited to: arsenic, beryllium, cadmium, and lead.

Overestimation of Mitigation Measures

Construction-related emission estimates include mitigation credit of an unrealistic and unsubstantiated 85% reduction in volatile organic compounds (VOCs), a nearly 94% reduction

in nitrogen oxide (NOx), and a more than 96% reduction in diesel exhaust for several construction phases. (DEIS, Appendix E-2 – Tables entitled "Demolition – NEQ – South Coast Air Basin, Annual, Summer and Winter"). It is unclear what measure or measures would result in such significant emission reductions. The CalEEMod model appears to have been altered to over-ride the "built in" California off-road diesel engine emission rates with those of all brand new Tier IV Final off-road construction engines. It is unclear if these engines even exist for all types of equipment or whether their exclusive use, if possible, would result in such significant emission reductions.

These assumptions are not included, verified, or explained in the document. This false premise results in a significant under reporting of actual criteria pollutant and toxic emissions.

For example, pages 15 and 16 of Appendix E-1 indicates that the use of Best Available Control Technology (BACT) is promised for off-road engines, trucks and generators, but it is unclear what is meant by this. BACT generally refers to control equipment for stationary equipment, not mobile equipment.

Further, the use of "clean burning diesel" in generators is promised to be used. (Appendix E-1, p. 16). However, it is unclear what this term means and the DEIS offers no definition. No estimation of potential emission reductions associated with this measure is correlated with the significant emission reduction estimates.

Architectural Coating Usage Inconsistencies

Page 28 of Appendix E-1 in the DEIS states, that "VOC emissions will not be estimated for building interior or exterior walls and surfaces that arrive at the Airport in a pre-coated state or that do not require architectural coating." Appendix E-2 goes on to indicates that less than one pound per day of VOCs from painting is assumed to occur as part of building construction (DEIS, Appendix E-2 – Tables entitled "Demolition – NEQ – South Coast Air Basin, Annual, Summer and Winter"). It is illogical and/or seems impossible that construction of a brand new airport terminal building, aircraft apron, parking structures, cargo buildings, GSE and passenger terminal maintenance buildings, and central utility plant, etc. would paint such a small portion of interior or exterior walls that the painting VOCs would result in less than one pound per day.

In fact, the EIR for this project stated that architectural coating and consumer product (aerosol paints, etc.) usage would result in VOC emissions of more than **92 pounds per day**. (EIR, Appendix F – Air Quality Technical Report, Table entitled, Burbank AP Operations (NEQ), South Coast Air Basin, Annual, Table 6.2 – Area by SubCategory Mitigated 16.8710 tons per year of VOCs this category). This would result in annual emissions in excess of the Federal Conformity Analysis requirement standard of 10 tons per year of VOCs. Section 176(c) of the Federal Clean Air Act requires federal agencies to ensure that their actions confirm to the appropriate State Implementation Plan (SIPs) for non-attainment air districts (such as the South Coast Air Basin). (40. U.S.C. § 7506). As outlined in Table 3.4-1 of this DEIS, the de minimus thresholds are 10 tons per year for both NOx and VOCs. The use of paint and consumer products would also occur while other overlapping, VOC-emitting tasks would occur. **Therefore, this DEIS should be revised and recirculated with accurate emission estimates and a General Conformity Determination.** (See 40 C.F.R. § 93.153).

III. Human Health Impacts

The DEIS concludes that there are no "significant impacts that would disproportionally affect children's health or safety," including those related to air quality because the DEIS found that "there would be no significant air quality impacts." (DEIS, p. 4-86). Yet, the document fails to provide adequate data to support that conclusion. As an initial matter, human health impacts to **all** communities (residents, off-site workers, children, the elderly, etc.), not just to children. **An HRA that addresses the below issues and applies to all affected communities should be prepared and included in a revised and recirculated EIS that is made available for public comment and review.**

Required Elements of an HRA

At a minimum, the document should be revised and recirculated to include an HRA completed in accordance with EPA-required and approved air dispersion modeling and health risk assessment procedures. [EPA's: Risk Assessment for Toxic Air Pollution: A Citizen's Guide, March 1991; EPA document #450/3-90-024] In general, HRAs involve four elements, discussed in detail below:

1) Emissions Estimations of Hazardous Air Pollutants;
2) Exposure Assessments;
3) Dose-response Assessments; and
4) Potential Health Risk Quantification.

Emissions Estimations of Hazardous Air Pollutants

Emission estimates involve identifying and quantifying emissions of potential regulated toxic substances (i.e., HAPs) from each source. HAPs are identified as either carcinogenic or possibly associated with short-term or long-term non-cancer health impacts. As explained above, this DEIS fails to explain or "show work" as to how any of the HAP emissions which are mentioned were quantified and it fails to include mention of numerous other HAPs which would be associated with diesel and gasoline combustion.

Exposure Assessments

Exposure assessment includes air dispersion modeling, identification of emission exposure routes and estimation of exposure levels. The modeling estimates ground level concentrations based on an emission rate of one gram per second. This rate is then multiplied by the worst case potential emission rate for each substance to obtain ground level concentrations. In addition to inhalation, potential pathways of exposure to offsite receptors include dermal exposure and ingestion.

Dose Response

Dose-response assessments describe the quantitative relationship between a human's exposure to a substance (the dose) and the incidence or occurrence of an adverse health impact (the response). All regulated carcinogenic chemicals are assigned cancer potency factors. A cancer potency factor represents the upper bound probability of developing cancer based on a continuous lifetime exposure.

According to the EPA, “sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. (https://www3.epa.gov/region1/eco/uep/sensitivereceptors.html)

The location of the nearest sensitive receptors to a project site is needed to assess toxic impacts on public health.

Exposure Pathways

A receptor can be hypothetically exposed to a substance through several different pathways. Typically, the primary environmental exposure pathway in an HRA is direct inhalation of gaseous and particulate air pollutants. However, there is the potential for exposure via non-inhalation pathways due to the deposition of particulate pollutants (DPM) in the environment.

Toxic Air Pollution

The document fails to address potential human health impacts associated with exposure to toxic air pollution. The DEIS does not include an HRA or any comparable analysis and provides no support for the health and safety conclusions made in Section 4.12.3. Appendix E-1 of the DEIS further states that no HRA would be performed to assess human health risks. (DEIS, Appendix E-1, p. 47). Absent this analysis, it would be impossible to conclude that there are no environmental impacts to nearby residents from toxic air pollution associated with the Project.

First, as stated above, soils in the project site contain hexavalent chromium and likely several other federally-regulated and toxic metals. The removal and remediation of these soils should be evaluated in an HRA before construction that would displace these soils begins.

Second, **more than 52,000 heavy duty diesel truck trips will be used to demolish and grade the area in the first phases of construction**. (DEIS, Appendix E-2). Given the densely populated areas immediately surrounding the airport footprint, anticipated routes for trucks carrying all potentially hazardous materials (including contaminated soil) should be disclosed as part of the air quality, transportation, and noise assessments. An HRA should be conducted which includes not only exhaust from construction-related diesel trucks, but the possibility of exposure to hauled contaminated soils.

The document repeatedly mentions construction as a “short-term” activity. (DEIS, pp. 4-77, 4-111). A 6+ year construction schedule (six days per week) is not short term, as indicated in the document. This prolonged construction should be factored into all analysis, especially as it relates to human health. Further, while the federal government may not consider diesel particulate matter exhaust (DPM) in total to be a carcinogen, nearly all of the 20+ individual exhaust constituents are regulated as HAPs by the Federal Clean Air Act. (42 U.S.C. § 7412(b)). As such, this document should include an HRA to analyze potential health impacts associated with exposure to all HAP airport sources including diesel exhaust from both construction activities as well as on-going airport operations (GSEs, emergency generators, truck deliveries, etc.). Diesel exhaust contains the following regulated compounds: benzene,

formaldehyde, PAH's, naphthalene, acetaldehyde, acrolein, 1,3-butadiene, chlorobenzene, propylene, xylene, ethyl benzene, arsenic, cadmium, chromium, lead, manganese, mercury, nickel and selenium. Most of these compounds are absent from the list of project-related HAPS included in the DEIS's Air Quality Appendix. (DEIS, Appendix E-1, p. 45).

The DEIS, to be as transparent as possible about potential health risks, should include an HRA that assesses all of these sources and associated risks.

Hazardous Air Pollutants

Any human health impact assessment should include estimations of all potential HAPs resulting from the proposed Project. Appendix E of the DEIS simply lists *Maximum Annual Construction HAP Pollutant Emissions Summary*, but does not offer documentation as to the source of each toxic compound, calculation methods, which year emissions are expected to occur, and/or validation. (DEIS, Appendix E-4).

Critically, no explanation is provided as to why a human health risk assessment was not conducted to determine potential cancer and chronic health effects associated with exposure to each of the HAP compounds or a combination thereof. The DEIS summarizes project emissions of the following regulated carcinogenic chemicals: 1,3-butadiene, 2,2,4-Trimethylpentane, acetaldehyde, acrolein, benzaldehyde, benzene, cyclohexane, formaldehyde, m-xylene, naphthalene, n-heptane, o-xylene, propionaldehyde, styrene, and toluene, but provides no explanation as to how these emission estimates were derived. (Ibid). Critically, as mentioned previously, numerous other regulated HAPs which would result from diesel and automobile combustion are omitted from the list without explanation.

In addition to annual and daily emissions, in order to quantify potential health risks from acutely hazardous compounds, emission breakdowns by hour are necessary.

Page 45 of Appendix E-1 of the DEIS lists possible HAPs associated with the project. However, the same list in Appendix E-4 indicates that there are **zero project-related emissions** associated with seven of the listed chemicals.

As mentioned previously, potential carcinogenic, chronic and acute health effects associated with ongoing exposure to, at least, 15 carcinogenic compounds should be quantified and included in an HRA.

Sensitive Receptors

The DEIS under-includes sensitive receptors in its analysis. The document's "General Study Area" lists only nine schools near the project site. The statement that, "there would be no significant air quality impacts resulting from the Proposed Action" is misleading and deceptive as it is based on the premise that disclosure of potential health impacts is not necessary in this document and also based on a too-small area of potential impact. (DEIS, p. 4-86). The "General Study Area" should be expanded to include sensitive receptors that are not just immediately adjacent to the airport boundary. A cursory Google Earth review shows a significant number of schools, hospitals, etc. within a two mile radius of the airport (see attached). All sensitive receptors (not only schools) should be included and disclosed in the document.

Construction-related emissions such as diesel construction trucks, soil hauling, and rock crushing operations would impact sensitive receptors more than two miles away as a result of their operation and also because those trucks would be routing through these affected neighborhoods. The estimated 1.7 million+ passenger vehicle trips would also drive through the surrounding areas. Further, aircraft exhaust would also be expected to affect a "General Study Area" considerably larger than the one indicated by the sensitive receptor map on page 35 of Appendix E-1.

HRAs in Other NEPA Documents/Environmental Justice

While the FAA contends that an HRA is not necessary for the Project, for all the reasons stated above, an HRA conducted in accordance with EPA standards should be completed and included in a revised and recirculated DEIS. (DEIS, Appendix E-1, p. 47). Without air dispersion modeling and an HRA encompassing both construction-related and operational emissions, no determination of potential impacts to surrounding communities can be made.

Further, Executive Order 12898 directs all federal agencies to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…." (https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf)

The document's conclusion that there are neither minority nor low-income neighborhoods near the Burbank Airport should be explained and all back-up Census data relied upon should be supplied (page 4-85). This Draft EIS' two-page discussion of Environmental Justice is woefully inadequate (pages 4-84-85).

IV. Noise Impacts

Noise impacts from living in close proximity to an airport can be significant and often include adverse health impacts. The Institution of Occupational Safety and Health (IOSH) has indicated that prolonged exposure to excessive noise levels can lead to tinnitus, hearing loss, effects on unborn fetuses, increased blood pressure, stress and higher incidences of human error. (IOSH, Noise, available at https://iosh.com/resources-and-research/our-resources/occupational-health-toolkit/noise/ accessed on October 12, 2020, attached here).None of these potential impacts are discussed in the DEIS, but they should be included.

DEIS Table 4.11-1, Typical Construction Noise Levels, lists some, but not all, types of construction equipment. (DEIS, p. 4-78). Rather, Table 4.11- includes only a refined sample of equipment. Importantly missing from the table, among other things, is a vibratory impact hammer (i.e., jack hammer). Jack hammers are typically used to remove concreate and asphalt from such things as parking lots; which is a main component of project construction and will be conducted over extended periods of time. The typical jackhammer has a decibel (dBA) rating of approximately 130 while a jet plane has a decibel rating of approximately 120 dBA. (American Speech-Language-Hearing Association, Loud Noise Dangers, available at http://www.asha.org/public/hearing/Loud-Noise-Dangers/ accessed on October 12, 2020, attached here). The use of jack hammers during construction appears to be excluded from the DEIS's noise analysis, but it must be included for proper analysis.

Furthermore, all construction equipment identified throughout the Air Quality Appendix (Appendix E) should be combined and assessed with existing airport operations. Further explanation regarding how the community noise exposure level (CNEL) in the project area remains at 65 dBA and does not increase as a result of the Project needs to be included. It is unlikely, given the scope and length of construction work and the future increase in operations, that no increase in dBA can be measured from the Project. The DEIS should more comprehensively address noise for accuracy and to better comport with industry standard analysis.

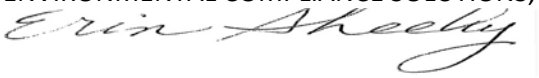
V. Summary

The overall failure of the DEIS to explain how calculations were completed and what input information, emission factors, and assumptions were utilized, does not allow for an accurate third-party review of the document. More importantly, it is vague and misleading with respect to potential human health impacts associated with construction-and operational emissions of criteria pollutants and hazardous air pollutants. The omission of an HRA results in a failure to fully disclose potential health impacts to neighbors and nearby communities. This is inconsistent with the requirements and public disclosure intent of NEPA.

A revised document should be recirculated for public review and comment which includes, at least, all back-up calculations used to complete both the necessary general conformity determinations and human health risk assessments.

Thank you in advance for your consideration of these comments.

ENVIRONMENTAL COMPLIANCE SOLUTIONS, INC.



Erin M. Sheehy, LEED AP
Principal
626-318-9567

Review Team Professional Qualifications

ENVIRONMENTAL COMPLIANCE SOLUTIONS, INC.

ERIN M. SHEEHY, LEED AP

Experience Summary

Ms. Sheehy's has more than 32 years' worth of experience with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation for complex industrial projects including marine oil terminals and oil fields. Her extensive air quality background includes managing hundreds of emission inventories, air dispersion modeling studies, health risk assessments and air permitting projects.

As an air quality specialist at the South Coast Air Quality Management District (SCAQMD), Ms. Sheehy was responsible for the preparation of over 30 CEQA documents which analyzed rules and regulations (as projects) and their impacts on the various regulated entities. In addition, she reviewed and commented on Lead Agency documents submitted for which SCAQMD was a responsible or commenting agency.

She founded Environmental Compliance Solutions, Inc. in May 1995.

Credentials

Smith College, B.A. Economics and Environmental Studies, 1988
Dartmouth College, Twelve College Exchange Program, 1986-1987
University of California Riverside, Certificate in Hazardous Materials Management,1990
University of California, Los Angeles - Anderson School of Business Administration, Entrepreneurial Studies, 1999.

Representative Experience

Key CEQA/NEPA Projects

Assisted with preparation of CEQA/NEPA document for the modernization of Los Angeles International Airport, on behalf of Los Angeles World Airports (LAWA). Projects included: evaluation of air quality impacts from construction, evaluation of potential mitigation measures and their associated costs and response to public comments. Assisted with the following LAWA CEQA/NEPA documents:

- FEIR/FEIS for the LAWA Master Plan Modernization Project;
- Mitigation Monitoring and Reporting Program (MMRP) LAWA Master Plan;
- LAWA Community Benefits Agreement – Mitigation Measure Analysis;
- FEIR/FEIS for Specific Plan Amendment Study and Health Risk Assessment;
- EIR for LAWA's South Airfield Improvement Project; and
- EIR for LAWA's Crossfield Taxiway Project (CFTP)

Specifically, Ms. Sheehy managed an extensive prioritization of emission reduction strategies while preparing air quality and environmental justice portions of the Environmental Impact Report and EIS for the Modernization of Los Angeles International Airport. ECS completed all construction-related air quality analyses for the EIR and EIS and Supplemental EIR prepared for Los Angeles World Airport's LAX project. The project included hundreds of pages of spreadsheet calculations broken out by each day of a 15-year construction buildout.

Off-road engine factors along with SCAQMD CEQA Handbook data was used to complete the analyses. These calculations include numerous combinations of on-road (ie. truck and bus) calculations and emissions from off-road engines (ie. generators and construction equipment). The project also included extensive evaluation of proposed emission reduction technologies including, but not limited to: new engines, emulsified fuels, low-sulfur diesel fuel and after combustion technologies such as diesel oxidation catalysts and PM filter traps. ECS reviewed and ranked over 100 mitigation measures as part of this task. Measures were evaluated on a cost-effectiveness basis; with cost-effectiveness expressed on a cost per ton of diesel PM10 and NOx reduced.

ECS provided third party review of a CEQA document and Health Impact Assessment for an 8,000 barrel per day oil field proposed to be located in Hermosa Beach, California. Reviewed, confirmed and corrected air quality calculations, modeling results and health risk assessment results associated with the production and storage of crude oil, produced water and natural gas. An extensive comment letter was prepared and submitted on behalf of the project applicant.

San Diego International Airport Site Mitigation – CEQA/NEPA Documentation **-** ECS provided cost estimates for various air quality mitigation measures. Measures include diesel reduction technologies such as: switching to LNG and CNG fueled trucks and vehicles; use of alternative fueled generators and off-peak delivery trips. ECS reviewed and ranked over 40 mitigation measures as part of this task. Measures were researched and ranked based on costs.

Managed air quality emission calculations, air dispersion modeling, and health risk assessments (primarily for diesel exhaust) for the following Port of Los Angeles CEQA/NEPA documents:

Matson Berth 206 – 209 Container Terminal Reuse Project;
American President Lines (APL) Terminal Project;
Al Larson Boat Shop; and
Canners Steam Plant Demolition.

Ms. Sheehy completed numerous compliance projects on behalf of Plains All American at both their petroleum terminal locations (Martinez and Richmond, California) and various California pipelines. Projects have included, but are not limited to: on-site compliance assistance, completion of customized air quality compliance checklists and audit protocols, auditing various locations, asbestos abatement projects, and CEQA/NEPA evaluation of proposed projects.

ECS was the prime contractor in charge preparing a CEQA document (DEIR) and associated air permits for an ethanol pipeline and petroleum terminal project. As part of this project, ECS calculated criteria pollutant and greenhouse gas emissions from the current ethanol distribution facilities (ships to the Port of Los Angeles and trucks to the Inland Empire). These emissions were then compared to criteria pollutant and greenhouse gas emissions from a proposed better alternative that involved using one unit train to deliver the ethanol directly from the Mid West to the existing gasoline blending terminals located in the Inland Empire.

CEQA Document for Al Larson's Boat Shop Improvements - This project's goal was to improve the safety and efficiency of this marine ship building and repair facility. As a subcontractor to CDM Smith, we evaluated construction activities including: soil moving, excavators, cranes, tugboat exhaust, painting and sandblasting. ECS' role was to calculate all construction-related and operational emissions for this CEQA document. Air quality emission impacts were calculated for both criteria and greenhouse gas emission estimates from these port operations.

For the Phillips 66 Los Angeles Terminal, Ms. Sheehy managed the successful completion of several CEQA documents and SCAQMD air permit applications for terminal expansions at LAT. Expansions included additional ethanol storage tanks, a new pipeline connection and increased throughput at the loading racks.

ECS completed emission calculation review and CEQA mitigation review for a newly proposed marine terminal to be located in the Port of Long Beach. ECS prepared presentations, project overview, CEQA process timelines and speeches summarizing the air quality permitting and CEQA processes in Southern California.

Air Quality Projects

Ms. Sheehy obtained air quality permits from Maricopa County Environmental Services Division for additional petroleum and ethanol tanks to be added to Kinder Morgan's Arizona tank farm.

Ms. Sheehy was project manager responsible for conducting a marine vapor recovery study for this petroleum industry trade association. Emission factors were developed for the loading and unloading of various product stocks to demonstrate compliance with SCAQMD Rule 1142 - *Marine Tank Vessel Operations*. Rule 1142 was implemented as part of the SCAQMD's Air Quality Management Plan (AQMP) which was aimed at reducing emissions of criteria pollutants including volatile organic compounds.

Since 2000, Ms. Sheehy has completed several months' worth of on-site oil production field work throughout California. She was retained as a third-party air quality compliance auditing expert. Audits included compliance review of all applicable federal, state and local environmental regulations. Specific air quality requirements such as: Title V Operating Permit conditions, CEMS requirements, SCR ammonia slip limitations, Cal ARP requirements for ammonia storage and Emission Reduction Credit (ERC) purchase records were reviewed.

Ms. Sheehy has prepared customized Title V compliance databases for manufacturing facilities with more than 4,000 air quality permit requirements.

Ms. Sheehy has managed air quality compliance audits at hundreds of industrial facilities. Audits included potential findings with respect to federal, state and local air quality regulations.

Air Toxics and Health Risk Assessments

Ms. Sheehy managed numerous Phillips 66 terminal expansion projects for over a decade. Specifically, in Colton, California she managed several tank farm and terminal operational expansions. Projects included calculating emissions and completing air dispersion modeling and a health risk assessment resulting from an increased loading rate for various petroleum products including gasoline, ethanol and diesel.

ECS successfully permitted a 48-MW natural gas fired turbine in the Port of Long Beach, on behalf of THUMS Long Beach Company. Permitting was done in compliance with SCAQMD Regulation XIII and Regulation XIV. This project included: completing all emission calculations, air dispersion modeling, a health risk assessment, and emission reduction credit analysis. The plant consists of a GE LM6000 Sprint model turbine equipped with CO catalyst and Selective Catalytic Reduction (SCR) unit utilizing aqueous ammonia.

Ms. Sheehy managed air quality calculations and a health risk assessment related to crude oil and produced water tanks and associated natural gas production.

Ms. Sheehy has assisted ConocoPhillips refineries by summarizing all applicable air quality regulations as they apply to their mobile equipment. Regulations of both the California Air Resources Board and the South Coast Air Quality Management District were put into a matrix. Equipment that is regulated includes, for example: forklifts, cranes, construction equipment, emergency generators, and on-road trucks.

ECS prepared a report entitled: *Greenhouse Gas Emissions Assessment from Oil and Gas Exploration in California.* The report included a life cycle analysis to compare the CO2 emissions from extraction and delivery of Southern California heavy crude oil production to a Los Angeles Refinery versus extraction, marine shipping and delivery of Alaskan or Middle East light crude oil to the same Los Angeles refinery. CO2 emissions for extraction of Los Angeles crude were based on an oil production lease's certified California Climate Action Registry emissions.

Presentations

The California Environmental Quality Act as Applied to Air Quality Regulations. Presented to the California Air Pollution Control Officers Association (CAPCOA) annual meeting.

Clean Air Act Overview and Strategies presented at Executive Enterprises Environmental Law Seminar in Sacramento, San Francisco, and San Diego, California.

Understanding Title V Operating Permit Requirements (8-hour workshop) presented at HazMat West in Long Beach, California.

Guest Lecturer at University of California at Los Angeles' (UCLA) Hazardous Material Management course.

TARA TISOPULOS

Experience Summary

Ms. Tisopulos has over 29 years of experience in air quality analyses (CEQA/NEPA documentation), environmental compliance, and sustainability reporting. Ms. Tisopulos served as an air quality specialist in the CEQA division at SCAQMD for over 10 years. Responsibilities included analysis for the EIR for the Air Quality Management Plan which included greenhouse gas control measures. She prepared numerous CEQA documents on various SCAQMD regulatory actions.

Ms. Tisopulos was also the reviewer of dozens of Lead Agency CEQA/NEPA documents for which the SCAQMD was the Responsible or Commenting Agency.

Since joining ECS, Ms. Tisopulos has authored numerous CEQA/NEPA documents including several on behalf of the Port of Los Angeles. She has also assisted with numerous Los Angeles World Airports (LAWA) and SCAQMD CEQA/NEPA documents.

Ms. Tisopulos has been serving as an in-house CEQA/NEPA project manager at the Port of Los Angeles since 2014. Duties include preparation of CEQA/NEPA documentation for Port projects.

Credentials

B.A., English and Journalism, University of Southern California, 1991.
M.A., Mass Communications, California State University – Fullerton, 1995.

Key Projects

CEQA/NEPA Documentation

As a CEQA Project Manager, she prepared and successfully certified the Negative Declaration for SA Recycling ‘s Crane Replacement and Electrification Project. The Los Angeles Harbor Department (Port of Los Angeles) was the Lead Agency.

Other POLA CEQA/NEPA projects managed include, but are not limited to:

- Everport Container Terminal EIR/EIS;
- American President Lines Container Terminal (APL);
- Avalon and Freis Mitigated Negative Declaration;

- International Longshore Warehouse Union (ILWU) Expansion Negative Declaration;
- Avalon Freight Services Relocation Mitigated Negative Declaration;
- Los Angeles Harbor Grain Relocation Negative Declaration; and
- AltaSea's Research Center Addendum.

Prepared emission calculations and CEQA mitigation analysis for a proposed VOPAK Terminal within the Port of Long Beach.

Wrote sections of Port of Los Angeles CEQA/NEPA documentation for American President Lines terminal expansion. Summarized key air quality regulations from EPA and CARB affecting port operations.

Authored numerous CEQA documents while an air quality specialist at the South Coast Air Quality Management District.

Assisted with preparation of CEQA/NEPA document for modernization of Los Angeles International Airport, on behalf of LAWA. Projects included: evaluation of air quality impacts from construction, evaluation of potential mitigation measures and their associated costs and response to public comments. Specific LAWA CEQA/NEPA documents include:

- FEIR/FEIS for the LAWA Master Plan Modernization Project;
- Mitigation Monitoring and Reporting Program (MMRP) LAWA Master Plan;
- LAWA Community Benefits Agreement – Mitigation Measure Analysis;
- FEIR/FEIS for Specific Plan Amendment Study and Health Risk Assessment;
- EIR for LAWA's South Airfield Improvement Project; and
- EIR for LAWA's Crossfield Taxiway Project (CFTP)

Ms. Tisopulos served as Project Manager and successfully completed an extensive prioritization of emission reduction strategies and sustainability measures which were used to document the while preparing air quality and environmental justice portions of the Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) for the Modernization of Los Angeles International Airport. ECS completed all construction-related air quality analyses for the EIR and EIS and Supplemental EIR prepared for Los Angeles World Airport's LAX project. The project included hundreds of pages of spreadsheet calculations broken out by each day of a 15-year construction buildout. Off-road engine factors along with SCAQMD CEQA Handbook data was used to complete the analyses.

Air Quality Projects

Project Manager for Sustainability/Green Energy Study for Los Angeles County Metropolitan Transportation Agency's (Metro's) proposed High Desert Corridor (HDC). The HDC is a proposed multipurpose transportation link between State Route (SR)-14 in Los Angeles County and SR-18 in San Bernardino County. The report aimed at determining which of the potential HDC infrastructure projects were most likely going to get funded through carbon market mechanisms; and how can the sale of carbon credits (e.g., Low Carbon Fuel Standard credits) be used to attract Public /Private partnerships and similar structure investors. Sustainable projects researched included: solar highways, methane digesters, microturbines, and wind energy.

Project Manager for Port of Los Angeles Sustainability Goals Plan. Project included analysis and research of 150 sustainability requirements. Measures include requirements for project planning, design and construction. The measures will be required of future construction contractors.

Ms. Tisopulos assisted Orange County Transportation Authority (OCTA) from 2013-1018 with the contract for On-Going Air Quality Planning and Monitoring. This project involved attending all SCAG Transportation Conformity Working Group (TCWG) meetings as well attending SCAQMD Air Quality Management Plan (AQMP) meetings, Governing Board meetings, legislative committee meetings, CARB Rulemaking Hearings, CARB Board Meetings and other relevant agency meetings whose policies are of critical interest to OCTA.

Ms. Tisopulos prepared a matrix of air quality control measures and proposed environmental regulations including those to reduce hazardous air pollutants (HAPs). Specific additional project assignments included preparing emission calculations for all criteria pollutants and greenhouse gas emissions from a fleet of diesel buses vs. CNG vs. electric buses and the associated cost-effectiveness of each scenario. ECS created an interactive spreadsheet for OCTA staff which allows the user to plug in actual bus data to determine return on investment projections.

Laurence Reider, P.E.

Experience Summary

Laurence Reider is a registered Chemical Engineer in California. He has over 35 years of experience in emission estimation, air quality permitting, air dispersion modeling, health risk assessments, air quality engineering and California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation. He is recognized for his expertise in air toxics, dispersion modeling and health risk assessments.

In addition to his air quality skills, Mr. Reider has designed remedial programs and achieved site closure for soil and groundwater contaminated sites, including petroleum hydrocarbon, halogenated solvents, heavy metals and lead. Mr. Reider has conducted risk assessments and achieved risk-based closure at several sites.

Credentials

- MBA, National University
- MS, Chemical Engineering, Polytechnic Institute of NY
- BA, Natural Science, University of Pennsylvania

Key Projects

Air Toxics and Health Risk Assessments

Conducted an air quality impact analysis (AQIA) and prepared a health risk assessment (HRA) for a new 44 MW simple-cycle turbine in Long Beach, California to provide onsite electricity for natural gas and petroleum field well pumping. The AQIA and HRA demonstrated that the operation was in compliance with South Coast Air District Rules 1303 and 1401. Modeled impacts from criteria pollutants (NOx, PM10, etc.), ammonia slip, and air toxics found at three candidate site locations.

Project Manager for preparing Air Toxics Emission Inventory Reports (ATEIR) for five Applied Magnetics Corporation (AMC) facilities.

Managed and prepared AB 2588 air toxic emission inventory plans, reports and subsequent updates for Witco's Golden Bear Refinery and Mt. Poso Tank Farm. Managed field activities associated with source testing a fuel oil-fired boiler, sampling tank hydrocarbon liquids, and collecting wastewater and tank head space vapor samples. Worked with California air agencies and the Department of Toxic Substances Control (DTSC) to develop an appropriate sampling and analysis technique to measure 1,3-butadiene in the exhaust stream.

Performed air dispersion modeling and AB 2588 health risk assessments for facilities throughout California, including a hazardous liquid handling facility, Portland Cement and asphaltic concrete manufacturing plants, a minerals mining facility, a cattle ranch, and an aerospace parts chemical milling facility. Assessed impacts from vehicular traffic. Used complex models to simulate atmospheric dispersion of emissions. Calculated health effects based on the protocol required for refined risk assessments and generated isopleth maps to illustrate the zones of impact and maximally exposed receptors for cancer, acute, and chronic health effects.

Lead Design Engineer of the final soil vapor extraction system for the Phoenix-Goodyear Airport Federal EPA Superfund Site in Arizona. Prepared detailed vapor extraction system process design, bid specification package, economic analysis, and air permit application for the remediation of chlorinated solvents for an area of over 30 acres and consisting of 3,000,000 million cubic yards of soil.

Conducted a detailed process design review of a large hydrocarbon product recovery and thermal oxidation vapor extraction remedial system for Texaco’s Bakersfield, California refinery. This system was operated at 4,000 scfm and utilized two 20,000 pound regenerative carbon beds.

Managed on-site cleanup activities for a former Chevron crude oil tank farm facility in La Habra, California. Petroleum stained soil being excavated and natural clays in the soil appeared similar.

Successfully completed all emission calculations (criteria pollutants and ammonia) and permit applications for a food waste-to-energy project at Waste Management’s El Sobrante Landfill in Corona, California. This process involves a series of Reclaimable Anaerobic Composter (RAC) underground pods sealed with a geomembrane. Anaerobic digestion of, primarily, food waste and green waste occurs. A series of biofilter layers control fugitive methane losses. Methane is collected via a series of underground pipes and will be either: flared, used to fuel gas turbines or, ultimately, used to fuel refuse hauling trucks.

CEQA/NEPA Documentation

Worked with the design team to develop air emission control strategies for wastewater treatment operations at the Metropolitan Biosolids Center (MBC) for the City of San Diego. This $200 million project involved the design of sludge thickening, anaerobic digestion, dewatering, and lime stabilization facilities. Conducted background odor monitoring, odor modeling and performed a health risk assessment for the proposed facility. Completed responses to environmental interrogatories during the NEPA EIS public comment period.

Prepared the air quality section of a Programmatic EIR for issues associated with interim relief and reconstruction efforts following the World Trade Center (WTC) terrorist attacks.

Assisted with emission calculations as part of a CEQA evaluation for potential changes at the Toland Landfill in Ventura, California.

Developed data for projected traffic increases due to NASA's proposed expansion of the Wallops Island rocket launch facility. Used EPA's Mobile 5 model to calculate vehicle emissions. Modeled carbon monoxide, nitrogen oxides, and hydrocarbon impacts at receptors using the CALINE 3 model.

Prepared an environmental assessment (EA) under NEPA for a simple cycle 7.1 MW natural gas-fired cogeneration plant at the Marine Corps Air Ground Combat Center in Twentynine Palms, CA.

Prepared a Negative Declaration under the California Environmental Quality Act (CEQA) for the U.S. Forest Service's Fox Field Air Firefighting Base.

Program Manager. Prepared an environmental assessment (EA) under NEPA for a simple cycle 7.1 MW natural gas-fired cogeneration plant at the Marine Corps Air Ground Combat Center in Twentynine Palms, CA.

Air Quality Projects

Project Manager for the $5 million U.S. Navy contract with the Navy's Southwest Division to provide air quality consulting services for Navy and Marine Corps facilities in the Southwestern United States. Utilized new registration rules for portable and tactical military equipment (AB 531) in lieu of New Source Review (NSR) permitting. Projects under this contract included three asbestos surveys and management plans, development of a PM10 monitoring program, and a health risk assessment.

Technical specialist for air quality issues associated with interim relief and reconstruction efforts for the World Trade Center (WTC) disaster. On behalf of the Federal Emergency Management Administration (FEMA), prepared a "Record of Extension" document to enable FEMA to proceed with emergency recovery efforts without addressing General Conformity provisions of the Clean Air Act. Identified and documented statutory and categorical exemptions for actions necessary to restore services to lower Manhattan. Prepared the air quality analysis for a programmatic environmental document that was used for planning reconstruction efforts in lower Manhattan through 2008.

Supported City of San Diego Metropolitan Wastewater Department staff with the identification and mitigation of odor problems resulting in complaints from nearby residential areas. Conducted air monitoring for hydrogen sulfide, ammonia and organic compounds. Performed dispersion modeling to assess the frequency and duration of odor episodes. Evaluated the results of studies involving addition of potassium permanganate to the filter press influent, more frequent turning of stockpiled sludge, and the addition of odor inhibitors and odor maskants to the stockpiles.

Project Manager for three air compliance contracts for the Marine Corps Air Ground Combat Center (MCAGCC) in Twentynine Palms, California. Conducted a facility survey and prepared an emissions inventory of over 300 structures and 2,000 sources. Included

were criteria, Title III, Ozone Depleting Substances (ODS) and AB 2588 substances. Based on the findings, prepared an exemption to Title V under Mojave Desert Air Quality Management District (MDAQMD) Rule 222.

Project Manager for the Encina Wastewater Authority (EWA) Title V project. Developed the Title V compliance strategy, updated permits in accordance with the strategy, and submitted a Title V application for EWA. Also assisted with engineering studies and odor control projects, as needed.

Project Manager for the Point Loma Wastewater Treatment Plant Title V project. Developed the Title V compliance strategy, updated permits in accordance with the strategy and submitted a Title V application for Point Loma. With the knowledge and support of the client, promoted a very capable staff engineer to Project Manager, where she successfully completed the project and gained project management experience.

Mr. Reider completed numerous air quality permit applications for landfill equipment including, but not limited to landfill gas collection and destruction equipment (flares), diesel generators and other mobile, portable engines. Applications included emission calculations of fugitive emissions as well as air dispersion modeling and health risk assessments. These reports included emission calculations of all criteria pollutants and hazardous air pollutants (HAPs) resulting from the equipment. Source test data was used to determine emissions from flares used to control landfill gas emissions.

Coordinated environmental compliance and design engineering efforts to develop air emission control strategies for wastewater treatment operations at the Metropolitan Biosolids Center (MBC) for the City of San Diego.

Prepared air permit applications for three similar 2 megawatt (MW) natural gas-fuel fired cogeneration facilities for Dean Foods' facilities designed and constructed by Energy and Power Solutions (EPS). Each is equipped with selective catalytic reduction with urea injection for NOx control and an oxidation catalyst for VOC control.
Prepared applications and obtained Prevention of Significant Deterioration (PSD) permits for coal preparation plants (crushing, conveying and slurrying) at the coal mines and for coal slurry dewatering facilities at power plants.

Developed the Title V compliance strategy, updated permits in accordance with the strategy, and submitted a Title V application for EWA.

Conducted an air compliance audit for the new owners of a 20 year old foam manufacturing facility in Ontario, California. Identified ten sources potentially requiring air permits.

Prepared an air quality impact analysis, health risk assessment and offsite consequence analysis for a 49-megawatt natural gas-fuel fired power plant located in San Diego, California.

Completed a Title V operating permit compliance program which enabled the Riverwood International Corporation (RIC) printing facility in Bakersfield, California to avoid the need for a Title V permit.

Sensitive Receptors Near the Burbank Airport

Burbank Airport

Sensitive Receptors

Legend

Sensitive Receptor

Sun Valley High School
Community Christian College
Sol de Valle Christian School
Fernangelas Elem School
Village Christian School
La Tuna Canyon Rd
210
Robert H Lewis High School
Byrd Middle School
Francis Poly Sr. High
Sun Valley
Sun Valley
Sunland Blvd
Roscoe Blvd
Ventura Canyon Ave
Arminta St Elem School
Arminta St Children's Ctr
Glenwood Elem School
Roscoe Elem School
Our Lady of Holy Rosary School
Little Korenstein Elem School
Corazon de la Famalia
Woodbury University
Camellia Ave Elem School
Ambiance Home Health
Sun Valley Middle School
Jardin De Ninos School
Sherman Way
George Washington Elem School
Jefferson Elem School
Bellingham Primary School
Superior Auto Institute
Little Stars Daycare
Kids Castle
Almost Home Child Care
Celerity Palmarti Charter School
Roy Romer Middle School
Providencia School Extended
W Empire Ave
N Victory Pl
Blue Sky Home Health Care
Fair Ave Elem Schoo
Burbank Fire Training Ctr
Kiss of Life
John Muir Middle School
West Coast University
Dubnoff Ctr for Child Development
Monterey High School
University of Redlands (Burbank)
Victory Elem School
ABC School House
Burbank Edu Care Preschool
Delano Care Home
San Fernando Valley Professional School
Kaplan College
almont Academy of N Hollywood
Rainbow School
Burbank Temporary Aid Ctr
Laurel Hall Early Childhood Ctr
Options for Youth
Greenwood Preschool
La Casitas Assisted Living
Burbank Burbank
Fulton Ave
Maurice Sendik Elem School
Burbank Adult School
Thomas Edison Elem School
Anderson Medical Career College
Kinderchicks Preschool
Walt Disney Elem School
W Kenneth Rd
East Valley High School
Burbank Blvd
Kedren Head Start
John Burroughs High School
W Glenoaks Blvd
Chandler Blvd
N Hollywood High School
Lankershim Elem School
Roosevelt Elem School
Magnolia Blvd
Oakwood Secondary School
W Alameda Ave
Western Ave
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References Cited

Risk Assessment for Toxic Air Pollutants: A Citizen's Guide

Originally published as
EPA 450/3-90-024
March 1991

INTRODUCTION

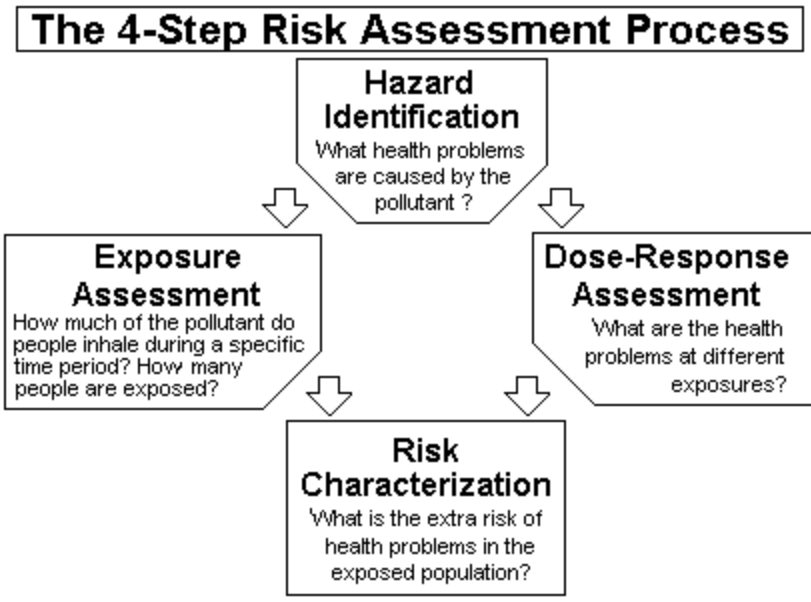
What are Toxic Air Pollutants?

Toxic air pollutants are poisonous substances in the air that come from natural sources (for example, radon gas coming up from the ground) or from manmade sources (for example, chemical compounds given off by factory smokestacks) and can harm the environment or your health. Inhaling (or breathing) toxic air pollutants can increase your chances of experiencing health problems. For example, inhaling the benzene fumes that are given off when you pump gas into your car can increase your chances of experiencing health effects that have been associated with exposure to benzene, such as leukemia.

What are Health Risks?

Health risks, put simply, are a measure of the chance that you will experience health problems. Exposure to toxic air pollutants can increase your health risks. For example, if you live near a factory that releases cancer-causing chemicals and inhale contaminated air, your risk of getting cancer can increase. Breathing air toxics could also increase your risk of noncancer effects such as emphysema or reproductive disorders.

What is Risk Assessment?



Risk assessment is one tool used in risk management. It is the process that scientists and government officials use to estimate the increased risk of health problems in people who are exposed to different amounts of toxic substances.

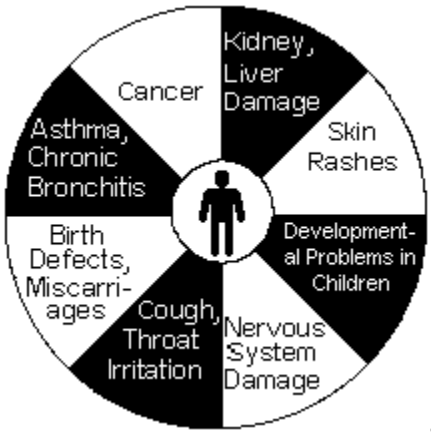
A risk assessment for a toxic air pollutant combines results of studies on the health effects of various animal and human exposures to the pollutant with results of studies that estimate the level of people's exposures at different distances from the source of the pollutant.

While the estimates provided by these risk assessments are far from perfect, they do help scientists evaluate the risks associated with emissions of toxic air pollutants. Using risk estimates and other factors, the government can set regulatory standards to reduce people's exposures to toxic air pollutants and reduce the risk of experiencing health problems.

HAZARD IDENTIFICATION
or, What Health Problems Are Caused by the Toxic Air Pollutant?

Health Problems of Concern

The toxic air pollutants of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects.



Some health problems occur very soon after a person inhales a toxic air pollutant. These immediate effects may be minor, such as watery eyes. Or they may be serious, such as life-threatening lung damage.

Other health problems may not appear until many months or years after a person's first exposure to the toxic air pollutant. Cancer is one example of a delayed health problem.

Weight of Evidence for Health Problems of Concern

In a hazard identification, scientists evaluate all available information about the effects of a toxic air pollutant to estimate the likelihood that a chemical will cause a certain effect in humans. The better the evidence, the more certain scientists can be that a toxic air pollutant causes specific health problems. The amount, type, and quality of evidence are all important.

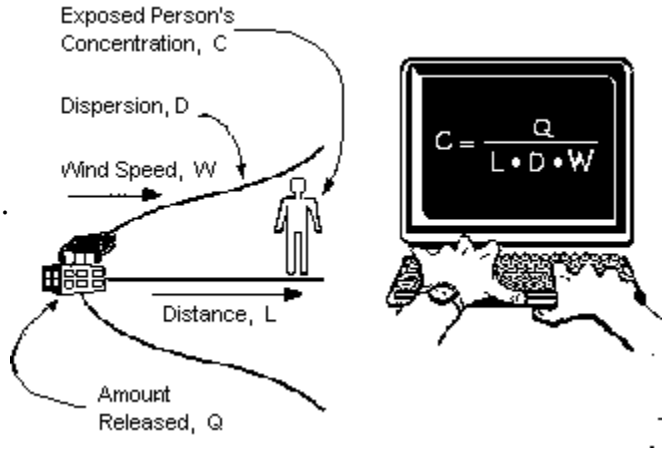
The best type of evidence comes from human studies. This evidence may be in the form of case reports, such as physicians' reports of an unusual number of cases of a specific illness. Other more formal studies can be done that compare the number of cases of a particular illness in groups of people with different levels of exposures (for example, cases of leukemia in rubber manufacturing workers).

Because human information is very limited for most toxic air pollutants, scientists often conduct studies on laboratory animals, such as rats. Animal studies are performed under controlled laboratory conditions. Scientists can study a variety of health effects by exposing animals to pollutants at varied concentrations and for varied time periods.

When relying on animal studies only, scientists need to be satisfied that health effects in humans are likely to be the same as those in the animals tested. Scientists try to use animal species with body functions that are similar to humans.

EXPOSURE ASSESSMENT
or, How Much of a Pollutant Do People Inhale During a Specific Time Period?

An exposure assessment estimates how much of a pollutant people inhale during a specific time period, as well as how many people are exposed.



There are many sources of toxic air pollutants. For example, a factory smokestack or thousands of automobiles crossing a busy intersection each day could be the source of a pollutant of concern. So the first step in an exposure assessment is to decide which sources are giving off the pollutant of concern.

Once the identity and location of the source(s) are known, the next step is to determine the amounts of the toxic air pollutant released in a specific time period and how it moves away from the source(s).

Engineers use either monitors or computer models to estimate the amount of pollutant released from the source and the amount of pollutant at different distances from the source. Monitors are used to sample the air and measure how much of the pollutant is present.

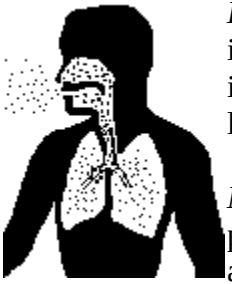
Computer models use mathematical equations that represent the processes that occur when a facility releases a pollutant and also the movement of pollutants through the air. Factors such as distance from the source to exposed persons, wind speed and direction, and smokestack height (for factories) affect these estimates.

The number of people exposed at different distances from the site of release can be estimated with computer models that use information from the census and from maps. Some models can even estimate exposures for the different places people are each day -- including indoor, automobile, outdoor, and workplace exposures.

The final step in an exposure assessment is to estimate the amounts each person inhales. To do this, scientists combine estimates of breathing rates and lifespan of an average person with estimates of the amount of pollutant in that person's air.

DOSE-RESPONSE ASSESSMENT
or, What Are the Health Problems at Different Exposures?

How Toxic Air Pollutants Move Through the Body



Entering the Body. [picture at left] Toxic air pollutants get into the body mainly through breathing. They can also be ingested (for example, children eating soil contaminated with lead) or absorbed through the skin.

Movement and Changes in the Body. [picture at right] Once a pollutant enters the body it can stay in the lungs (like asbestos), be exhaled, or move into the blood from the lungs (like the oxygen we breathe) or from the digestive system or skin. In the blood it is carried to all parts of the body. As it moves around the body, a pollutant can undergo chemical changes, especially as it passes through the liver, becoming less, or more, toxic.

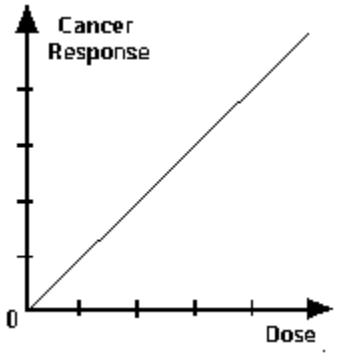
Fate. The pollutant can be exhaled, it can leave the body in urine, bowel movements, sweat, or breast milk, or it can be stored in hair, bone, or fat.

How Toxic Air Pollutants Change the Way the Body Works

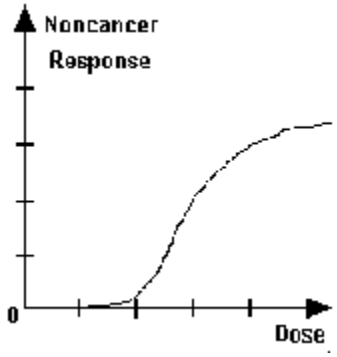
Toxic air pollutants can cause health problems by interfering with normal body functions. Most commonly they change chemical reactions within individual cells, the building blocks of living things. These changes can kill cells, impair cell function, or re-direct cell activity. The results can be damaged organs, birth defects when the cells of an unborn child are damaged, or cancer that develops when cells begin to grow at an uncontrolled rate.

Dose-Response Relationships

The dose-response relationship for a specific pollutant describes the association between exposure and the observed response (health effect). In other words, it estimates how different levels of exposure to a pollutant change the likelihood and severity of health effects. Just as in the hazard identification, scientists use results of animal and human studies to establish dose-response relationships.



Dose-response relationship for cancer. [graph to left] In the absence of clear evidence to the contrary, EPA assumes that there are no exposures that have "zero risk" -- even a very low exposure to a cancer-causing pollutant can increase the risk of cancer (albeit a small amount). EPA also assumes that the relationship between dose and response is a straight line -- for each unit of increase in exposure (dose), there is an increase in cancer response.



Dose-response relationship for noncancer effects. [graph to right above] A dose may exist below the minimum health effect level for which no adverse effects occur. EPA typically assumes that at low doses the body's natural protective mechanisms repair any damage caused by the pollutant, so there is no ill effect at low doses. However, for some substances noncancer effects may occur at low doses. The dose-response relationship (the response occurring with increasing dose) varies with pollutant, individual sensitivity, and type of health effect.

RISK CHARACTERIZATION
or, What Is the Extra Risk to Health?

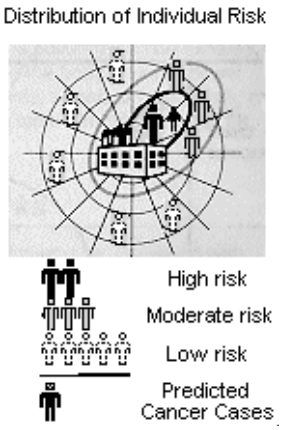
Risk information is presented in different ways to illustrate how individuals or populations may be affected. Some of the most common risk measures are described here.

Maximum Individual Lifetime Cancer Risks

Combining the results of the exposure assessment and the dose-response assessment gives an estimate of the increased lifetime risk of cancer for an individual exposed to the maximum predicted long-term concentration.

Distribution of Individual Risks

Many people may be exposed to less than the maximum level. Depending on the amount of exposure, an individual's risk of cancer will vary. The distribution of individual risk is usually expressed as the number of people estimated to be at various levels of risk.



Population Cancer Risks

Distributions of individual risk are used to calculate population risk. The population cancer risk is usually expressed as the expected increased incidence of cancer (that is, the number of new cases each year) for all people exposed to the pollutant. For example, the estimated population cancer risk may be the number of new cancer cases per year expected among residents within 30 miles of a certain large source.

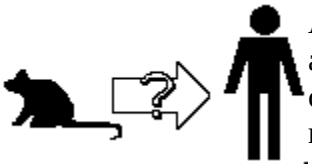
Noncancer Risks

Health reference levels refer to exposure levels that will not cause significant risks of non-cancer health effects. Long-term exposure to levels below these levels are assumed to produce no ill effects.

Health reference levels are an example of one index that government agencies use in characterizing non-cancer health risks. These levels are generally developed from exposure levels that do not produce ill effects in experimental animals. These exposure levels are adjusted to account for animal-human differences (such as breathing rate) and for underlying uncertainties (such as the difference in sensitivity between healthy adults and more sensitive people like children and the elderly).

Risk analysts then compare the health reference levels with the exposure estimates to determine how many people are exposed to concentrations higher than the health reference level. Some of these people might experience ill effects.

Uncertainty in Risk Estimates



Although scientists can estimate risks caused by toxic air pollutants in animals experimentally or in humans who have unusual exposures, converting these estimates to those expected in people under a wide range of conditions is difficult, and can be misleading.

By their nature, risk estimates cannot be completely accurate. The main problem is that scientists don't have enough information on actual exposure and on how toxic air pollutants harm human cells. The exposure assessment often relies on computer models when the amount of pollutant getting from the source(s) to people can't be easily measured. Dose-response relationships often rely on assumptions about the effects of pollutants on cells for converting results of animal experiments at high doses to human exposures at low doses.

When information is missing or uncertain, risk analysts generally make assumptions that tend to prevent them from under estimating the potential risk -- that is, these assumptions provide a margin of safety in the protection of human health.

SUMMING IT ALL UP

- Public health agencies concerned with air quality perform risk assessments to determine the increased risk of illness from a specific human exposure to a toxic air pollutant.
- Risk assessment is a four-step process: (1) hazard identification, (2) exposure assessment, (3) dose-response assessment, and (4) risk characterization.
- Hazard identification describes the illnesses caused by a toxic air pollutant and the amount of evidence for those illnesses.
- The size of the increased health risks depends on the exposure level and duration, as well as the number of people exposed. These are estimated as part of the exposure assessment.
- The dose-response assessment estimates the dose-response relationship, which mathematically shows the change in the likelihood of health effects with changes in the levels of exposure to a toxic air pollutant.
- The risk characterization uses the above assessments to describe the type and size of any increased risk expected as a result of exposure to the air pollutant. It also includes a discussion of the uncertainties associated with the risk estimates.

FOR MORE INFORMATION

Chemical Exposures: Effects on Health. Fact Sheet CC.
Write to: Dr. Maria Paviova; U.S. EPA; 26 Federal Plaza, Rm. 737; New York, NY 10278.

Elements of Toxicology and Risk Assessment.
Write to: Environ Corporation; 1000 Potomac St., NW; Washington, DC, 20007.

The Risk Assessment Manual: A Guide to Understanding and Using Health and Environmental Assessments, by B. Brockband, J.Cohrsson, and V.T. Covello. Published by the Council on Environmental Quality,
NTIS No. PB89-137772KNK.
Write to: National Technical Information Service; 5285 Port Royal Rd.; Springfield, VA 22161; $17.50 charge.

Toxicology for the Citizen, by Alice E. Marczewski and Michael Kamrin.
Write to: Center for Environmental Toxicology; Michigan State University; C231 Holden Hall; East Lansing, MI 48824; $1.00 charge.

Air Pollution. Fact Sheet LL.
Write to: Dr. Maria Paviova; U.S. EPA; 26 Federal Plaza, Rm. 737; New York, NY 10278.

The Process of Risk Assessment and Risk Management. FactSheet BB.
Write to: Dr. Maria Paviova; U.S. EPA; 26 Federal Plaza, Rm. 737; New York, NY 10278; Free.

Glossary of Terms Related to Health Exposure and Risk Assessment.
EPA Air RISC. Call (919)541-0888.

Other Health Risk Publications

Air Pollution and Health Risk.

Evaluating Exposures to Toxic Air Pollutants: A Citizen's Guide.

Area Navigation

- TTN Home

- ATW Home
- Rules & Implementation
- National-Scale Air Toxics Assessment
- Risk Studies
- Education & Outreach
- About Air Toxics
- Pollutants & Sources
- State, Local, Tribal Resources
- Publications
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The Seal of the United States Environmental Protection Agency

Last updated on 2/23/2016

https://www3.epa.gov/airtoxics/3_90_024.html

APPENDIXF
AIR QUALITY TECHNICAL REPORT

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Burbank Airport Terminal Replacement Draft EIR
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F.12-6-b. AERMOD Results

F.12-6-c. Cancer Risk Calculations: Residents

Appendix F.1
Construction Emissions: California Emissions Estimator Model (CalEEMod) Inputs (All Options)

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Appendix F.1 Construction Emissions: California Emissions Estimator Model (CalEEMod) Inputs (All Options)

F.1-1 Project Information

Loud Noise Dangers

Loud noise can cause permanent hearing loss. There are ways to protect your hearing. Audiologists can help.

On this page:

- About Noise-Induced Hearing Loss
- Dangerous and Safe Noise Levels
- Signs That Noise Is Too Loud
- Noise and Hearing Loss
- Noise and Your Health
- Protecting Your Hearing

About Noise-Induced Hearing Loss

Noise-Induced Hearing Loss, or NIHL, happens when you listen to loud sounds. These sounds can last a long time, like listening to a concert, or they can be short, like from gunfire. Three factors put you at risk for NIHL:

- How loud the noise is
- How close you are to the noise
- How long you hear the noise

Sound-level meters measure noise levels. We record noise levels in decibels, or dBA. The higher the noise level, the louder the noise. You can listen to sounds at 70 dBA or lower for as long as you want. Sounds at 85 dBA can lead to hearing loss if you listen to them for more than 8 hours at a time.

Sounds over 85 dBa can damage your hearing faster. The safe list
levels over 85 dBA. For example, you can listen to sounds at 85 d
it is safe to listen to those same sounds for 4 hours. And if the sou
down to 2 hours.

The World Health Organization and International Telecommunica
Standard on Safe Listening Devices and Systems [PDF], recomme
smartphones and personal audio players with information that exp
weekly exposure to volume levels no higher than 80 dB is recomm
warnings and tracking information; cues for taking safe listening
volume limiters expressly for parents to use. The recommendatior

on external product packaging and advertising, as well as on manufacturers' websites.

Citations

- World Health Organization, WHO-ITU global standard for safe listening devices and systems, 2019. Retrieved from https://www.who.int/deafness/make-listening-safe/standard-for-safe-listening/en/.
- U.S. Environmental Protection Agency, Office of Noise Abatement and Control. (1974, March). *Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety* Retrieved from https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF [PDF].

Impulse Noise

A single loud blast or explosion that lasts for less than 1 second can cause permanent hearing loss right away. This noise, called impulse noise or impact noise, may come from gunfire or fireworks. We measure impulse noise in dB peak pressure, or dBP. Impulse noise greater than 140 dBP will hurt your hearing right away.

Dangerous and Safe Noise Levels

The noise chart below lists average decibel levels for everyday sounds around you.

Painful impulse noise—Not safe for any period of time

150 dBP = fireworks at 3 feet, firecracker, shotgun

140 dBP = firearms

Painful steady noise—Not safe for any period of time

130 dBA = jackhammer

120 dBA = jet plane takeoff, siren, pneumatic drill

Extremely loud—Dangerous to hearing; wear earplugs or earmuffs

112 dBA = maximum output of some MP3 players, rock concert, chainsaw

106 dBA = gas leaf blower, snow blower

100 dBA = tractor, listening with earphones

94 dBA = hair dryer, kitchen blender, food processor

Very loud—Dangerous to hearing; wear earplugs or earmuffs

91 dBA = subway, passing motorcycle, gas mower

Moderate—Safe listening for any time period

70 dBA = group conversation, vacuum cleaner, alarm clock

60 dBA = typical conversation, dishwasher, clothes dryer

50 dBA = moderate rainfall

40 dBA = quiet room

Faint—Safe listening for any time period

30 dBA = whisper, quiet library

The noise chart was developed using the following two websites:

- Noise Navigator
- Dangerous Decibels

Signs That Noise Is Too Loud

You probably don't always carry a sound level meter with you. So how can you know if noises are too loud? Here are some signs:

- You must raise your voice to be heard.
- You can't hear or understand someone 3 feet away from you.
- Speech around you sounds muffled or dull after you leave the noisy area.
- You have pain or ringing in your ears after you hear the noise, called tinnitus. It can last for a few minutes or a few days.

Noise and Hearing Loss

How do loud noises hurt your hearing? It may help to first understand how you hear:

- Sound goes into your ear as sound waves. The louder the sound, the bigger the sound wave.
- The outer ear, which is what you see on the side of your head, collects the sound wave. The sound wave travels down the ear canal toward your eardrum. This makes your eardrum vibrate.
- The sound vibration makes the three middle ear bones move. The movement makes the sound vibrations bigger.
- The last of the three middle ear bones moves the sound vibrations into the inner ear, or cochlea. The cochlea is filled with fluid and has tiny hair cells along the inside. The vibrations make the fluid in the inner ear move. The fluid makes the hair cells move, too. The hair cells change the vibrations into electrical signals that travel to your brain through your hearing nerve.
- Only healthy hair cells can send electrical signals to your brain. We recognize sounds in our brains and use that information to figure out how to respond.

You may lose some of your hearing if the hair cells get damaged. How does this happen?

- Hair cells are sensitive to big movements. If sounds are loud, they move the fluid in the inner ear more, and that can damage the hair cells.
- Hair cells that are damaged by loud sounds do not send signals to the brain as well as they should. The first hair cells that are hurt are those that send high-pitched sounds to the brain. This can make sounds like /t/ in "tin", /f/ in "sin", or /k/ in "kin" harder to hear.
- Short, loud noises—like a firecracker or an explosion—can damage hair cells. Listening to loud sounds for a long time, like when you are at a rock concert, also damages hair cells.

Ringing in your ears, or tinnitus, is an early sign of noise-induced hearing loss. There is no way to fix damaged hair cells. Hearing aids or other devices can help you hear better, but your hearing will not come back on its own.

Noise and Your Health

Loud noise does not just hurt your hearing. It can cause other problems that you may not think of as being noise related.

Noise can make you more tired and cranky. Loud noise can cause other health problems, like:

- high blood pressure
- faster heart rate

- upset stomach
- problems sleeping, even after the noise stops
- problems with how babies develop before birth

Noise can make it harder to pay attention. You may be less safe at work because you may not hear warning signals or equipment problems. Noise can also cause you to get less work done.

Noisy classrooms can make it harder for children to learn. To learn more about noise in schools, read the Classroom Acoustics page.

It is harder to understand what others say when it is noisy. You may need to concentrate more and use more energy to hear. And the person speaking needs to talk louder or yell. This can make conversations hard. You may give up trying to talk or listen.

So, you can see that noise does more than cause hearing loss. It can impact your health, work, learning, and social life. It is important to cut down on the noise in your life for all of these reasons.

Protecting Your Hearing

Knowing how noise impacts you is the key to protecting your hearing. You've taken that first step by reading this information.

The next step is to avoid loud noise whenever possible. Remember, if you have to shout to be heard, it is too loud. You should get away from the noise or find a way to protect your ears.

Here are some things you can do:

1. **Wear hearing protection.** Cotton in the ears will not work. You can buy things that protect your hearing, like earplugs or earmuffs, at the store or online.
    - **Earplugs** go **into** your ear so that they totally block the canal. They come in different shapes and sizes. An audiologist can make some just for your ears. Earplugs can cut noise down by 15 to 30 decibels.
    - **Earmuffs** fit completely **over** both ears. They must fit tightly to block sound from going into your ears. Like earplugs, earmuffs can reduce noise by 15 to 30 dB, depending on how they are made and how they fit.
    - **Earplugs and earmuffs** can be used together to cut noise down even more. You should use both when noise levels are above 105 dB for 8 hours or more. You should also use both if you might hear impulse sounds that are more than 140 dBP.

2. **Do not listen to loud sounds for too long.** Move away from the loud sound if you don't have hearing protection. Give your ears a break. Plug your ears with your fingers as emergency vehicles pass on the road.

3. **Lower the volume.** Keep personal listening devices set to no more than half volume. The World Health Organization recommends a total of 40 hours of weekly exposure to volume levels no higher than 80 dB for adults and 75 dB for children on personal listening devices. Don't be afraid to ask others to turn down the volume of their devices if you can hear them. Ask the movie theater manager to turn down the sound if the movie is too loud.

4. **Be a good consumer.** Look for noise ratings on appliances, sporting equipment, power tools, and hair dryers. Buy quieter products. This is especially important when buying toys for children.

5. **Be a local advocate.** Some movie theaters, health clubs, dance clubs, bars, and amusement centers are very noisy. Speak to managers about the loud noise and how it may hurt hearing. Ask that they turn the volume down.

Don't be fooled by thinking your ears are "tough" or that you can "tune it out"! Noise-induced hearing loss is usually slow and painless. But, it is permanent. The hair cells and hearing nerve cannot be fixed. If loud sounds don't bother you, you may already have some hearing damage.

You can avoid noise-induced hearing. Protect your hearing for life.

More information on this topic can be found in our Audiology Information Series [PDF].

To find an audiologist near you, visit ProFind.

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About Us

The American Speech-Language-Hearing Association (ASHA) is the national professional, scientific, and credentialing

association for 211,000 members and affiliates who are audiologists; speech-language pathologists; speech, language, and hearing scientists; audiology and speech-language pathology support personnel; and students.

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Monday–Friday

E-mail the Action Center
Members: 800-498-2071
Non-Member: 800-638-8255
Read More

Federal Register
Vol. 59, No. 32
Wednesday, February 16, 1994

Presidential Documents

Title 3—

The President

Executive Order 12898 of February 11, 1994

Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1–1. *Implementation.*

1–101. *Agency Responsibilities.* To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

1–102. *Creation of an Interagency Working Group on Environmental Justice.* (a) Within 3 months of the date of this order, the Administrator of the Environmental Protection Agency (''Administrator'') or the Administrator's designee shall convene an interagency Federal Working Group on Environmental Justice (''Working Group''). The Working Group shall comprise the heads of the following executive agencies and offices, or their designees: (a) Department of Defense; (b) Department of Health and Human Services; (c) Department of Housing and Urban Development; (d) Department of Labor; (e) Department of Agriculture; (f) Department of Transportation; (g) Department of Justice; (h) Department of the Interior; (i) Department of Commerce; (j) Department of Energy; (k) Environmental Protection Agency; (l) Office of Management and Budget; (m) Office of Science and Technology Policy; (n) Office of the Deputy Assistant to the President for Environmental Policy; (o) Office of the Assistant to the President for Domestic Policy; (p) National Economic Council; (q) Council of Economic Advisers; and (r) such other Government officials as the President may designate. The Working Group shall report to the President through the Deputy Assistant to the President for Environmental Policy and the Assistant to the President for Domestic Policy.

(b) The Working Group shall: (1) provide guidance to Federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(2) coordinate with, provide guidance to, and serve as a clearinghouse for, each Federal agency as it develops an environmental justice strategy as required by section 1–103 of this order, in order to ensure that the administration, interpretation and enforcement of programs, activities and policies are undertaken in a consistent manner;

(3) assist in coordinating research by, and stimulating cooperation among, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Housing and Urban Development, and other agencies conducting research or other activities in accordance with section 3–3 of this order;

(4) assist in coordinating data collection, required by this order;

(5) examine existing data and studies on environmental justice;

(6) hold public meetings as required in section 5–502(d) of this order; and

(7) develop interagency model projects on environmental justice that evidence cooperation among Federal agencies.

1–103. *Development of Agency Strategies.* (a) Except as provided in section 6–605 of this order, each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)–(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable for undertaking identified revisions and consideration of economic and social implications of the revisions.

(b) Within 4 months of the date of this order, each Federal agency shall identify an internal administrative process for developing its environmental justice strategy, and shall inform the Working Group of the process.

(c) Within 6 months of the date of this order, each Federal agency shall provide the Working Group with an outline of its proposed environmental justice strategy.

(d) Within 10 months of the date of this order, each Federal agency shall provide the Working Group with its proposed environmental justice strategy.

(e) Within 12 months of the date of this order, each Federal agency shall finalize its environmental justice strategy and provide a copy and written description of its strategy to the Working Group. During the 12 month period from the date of this order, each Federal agency, as part of its environmental justice strategy, shall identify several specific projects that can be promptly undertaken to address particular concerns identified during the development of the proposed environmental justice strategy, and a schedule for implementing those projects.

(f) Within 24 months of the date of this order, each Federal agency shall report to the Working Group on its progress in implementing its agency-wide environmental justice strategy.

(g) Federal agencies shall provide additional periodic reports to the Working Group as requested by the Working Group.

1–104. *Reports to the President.* Within 14 months of the date of this order, the Working Group shall submit to the President, through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy, a report that describes the implementation of this order, and includes the final environmental justice strategies described in section 1–103(e) of this order.

Sec. 2–2. *Federal Agency Responsibilities for Federal Programs.* Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

Sec. 3–3. *Research, Data Collection, and Analysis.*

3–301. *Human Health and Environmental Research and Analysis.* (a) Environmental human health research, whenever practicable and appropriate, shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to substantial environmental hazards.

(b) Environmental human health analyses, whenever practicable and appropriate, shall identify multiple and cumulative exposures.

(c) Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order.

3–302. *Human Health and Environmental Data Collection and Analysis.* To the extent permitted by existing law, including the Privacy Act, as amended (5 U.S.C. section 552a): (a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(b) In connection with the development and implementation of agency strategies in section 1–103 of this order, each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public, unless prohibited by law; and

(c) Each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding Federal facilities that are: (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001–11050 as mandated in Executive Order No. 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding populations. Such information shall be made available to the public, unless prohibited by law.

(d) In carrying out the responsibilities in this section, each Federal agency, whenever practicable and appropriate, shall share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments.

Sec. 4–4. *Subsistence Consumption of Fish and Wildlife.*

4–401. *Consumption Patterns.* In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

4–402. *Guidance.* Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or

wildlife. Agencies shall consider such guidance in developing their policies and rules.

Sec. 5–5. *Public Participation and Access to Information.* (a) The public may submit recommendations to Federal agencies relating to the incorporation of environmental justice principles into Federal agency programs or policies. Each Federal agency shall convey such recommendations to the Working Group.

(b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations.

(c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

(d) The Working Group shall hold public meetings, as appropriate, for the purpose of fact-finding, receiving public comments, and conducting inquiries concerning environmental justice. The Working Group shall prepare for public review a summary of the comments and recommendations discussed at the public meetings.

Sec. 6–6. *General Provisions.*

6–601. *Responsibility for Agency Implementation.* The head of each Federal agency shall be responsible for ensuring compliance with this order. Each Federal agency shall conduct internal reviews and take such other steps as may be necessary to monitor compliance with this order.

6–602. *Executive Order No. 12250.* This Executive order is intended to supplement but not supersede Executive Order No. 12250, which requires consistent and effective implementation of various laws prohibiting discriminatory practices in programs receiving Federal financial assistance. Nothing herein shall limit the effect or mandate of Executive Order No. 12250.

6–603. *Executive Order No. 12875.* This Executive order is not intended to limit the effect or mandate of Executive Order No. 12875.

6–604. *Scope.* For purposes of this order, Federal agency means any agency on the Working Group, and such other agencies as may be designated by the President, that conducts any Federal program or activity that substantially affects human health or the environment. Independent agencies are requested to comply with the provisions of this order.

6–605. *Petitions for Exemptions.* The head of a Federal agency may petition the President for an exemption from the requirements of this order on the grounds that all or some of the petitioning agency's programs or activities should not be subject to the requirements of this order.

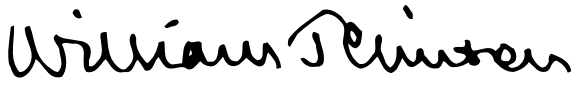
6–606. *Native American Programs.* Each Federal agency responsibility set forth under this order shall apply equally to Native American programs. In addition, the Department of the Interior, in coordination with the Working Group, and, after consultation with tribal leaders, shall coordinate steps to be taken pursuant to this order that address Federally-recognized Indian Tribes.

6–607. *Costs.* Unless otherwise provided by law, Federal agencies shall assume the financial costs of complying with this order.

6–608. *General.* Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.

6–609. *Judicial Review.* This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person. This order shall not be construed to create any right to judicial review involving the compliance or noncompliance

of the United States, its agencies, its officers, or any other person with this order.



THE WHITE HOUSE,
February 11, 1994.

[FR Citation 59 FR 7629]

Noise

Related pages

Stress
Musculoskeletal disorders
Occupational cancer
Inhalation disorders
Skin disorders
Noise
Advice for managers
Advice for employees

Noise-induced hearing loss is the most common preventable occupational health condition in the world.

Noise is defined as 'unwanted sounds', while sound is a term used for sensation that the brain receives when pressure variations in the air are detected by the ear. What is sound to one person can very well be noise to somebody else, but anyone who is exposed to noise is potentially at risk. The higher the level of noise, and the longer individuals are exposed to it, the more risk they have of suffering harm from it. Millions of workers worldwide are exposed to noise levels that put their hearing at risk. Excessive noise is an occupational hazard with many adverse effects, not only to the workers involved with noisy operations but also to those around them. Its effects can lead to temporary or permanent hearing damage and can impair workers' efficiency. Individuals suffering from poor hearing, whether it is due to their age or illness, can have their problems made worse by exposure to higher levels of noise at work. It can also lead to accidents due to limited speech communication, misunderstanding oral instructions and masking the sounds of approaching danger or warnings.

Main sources of noise at work

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) IMPLEMENTING INSTRUCTIONS FOR AIRPORT ACTIONS

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT
669 County Square Drive, Ventura CA 93003 805/ 645-1401 FAX 805/ 645-1444 www.vcapcd.org

AB 2588 COMBUSTION EMISSION FACTORS

Emission factors for combustion of natural gas and diesel fuel were developed for use in AB 2588 emission inventory reports in 1990 and updated in 1991, 1992 and 1995. These factors have been updated again based on new data available from the USEPA (1) (10).

These emission factors are to be used where source testing or fuel analysis are not required by the AB 2588 Criteria and Guidelines Regulations, Appendix D. The factors are divided into external combustion sources (boilers, heaters, flares) and internal combustion sources (engines, turbines). Natural gas combustion factors are further divided into a number of sub-categories, based on equipment size and type.

If better source specific data such as manufacturer's data, source tests, or fuel analysis is available, it should be used rather than these emission factors.

Natural Gas Combustion Factors

Natural gas combustion factors were developed for listed substances identified by the California Air Resources Board (CARB) as significant components of natural gas combustion emissions (2) and for some federal HAPs.

In the past, the VCAPCD has included emission factors for natural gas fired internal combustion equipment in this document. In 2000, the USEPA published air toxics emission factors for natural gas fired turbines and engines. For natural gas fired internal combustion equipment, the emission factors from the USEPA publication AP-42 (1) should be used.

For natural gas fired turbines, emission factors from Table 3.1-3 of AP-42, dated April 2000 should be used. For natural gas fired internal combustion engines, emission factors from Tables 3.2-1, 3.2-2, and 3.2-3 of AP-42, dated August 2000, as applicable, should be used.

Natural Gas Fired External Combustion Equipment

	<10 MMBTUh	10-100 MMBTUh	>100 MMBTUh	flare
Pollutant	Emissions (lb/MMcf)			
benzene	0.0080	0.0058	0.0017	0.159
formaldehyde	0.0170	0.0123	0.0036	1.169
PAH's (including naphthalene)	0.0004	0.0004	0.0004	0.014
naphthalene	0.0003	0.0003	0.0003	0.011
acetaldehyde	0.0043	0.0031	0.0009	0.043
acrolein	0.0027	0.0027	0.0008	0.010
propylene	0.7310	0.5300	0.01553	2.440
toluene	0.0366	0.0265	0.0078	0.058
xylenes	0.0272	0.0197	0.0058	0.029
ethyl benzene	0.0095	0.0069	0.0020	1.444
hexane	0.0063	0.0046	0.0013	0.029

External combustion equipment includes boilers, heaters, and steam generators.

Derivation of Factors

The emission factors for boilers, heaters, and steam generators were based on the results of source tests performed mostly on units rated at between 10 and 100 million BTU per hour. The following test data was used: benzene (3) (6) (16) (19); formaldehyde (3) (6) (19); PAH, naphthalene, toluene, xylenes, ethyl benzene (16) (19); acetaldehyde, acrolein, and propylene (19); and hexane (20).

The test results listed above were used directly to determine the emission factors for boilers, heaters, and steam generators with heat input ratings of 10-100 MMBTU/hr. For units <10 MMBTU/hr and >100 MMBTU/hr, were calculated by scaling the factors for 10-100 MMBTU/hr equipment by the ratios of their TOC emission factors (7).

For flares, the factors were developed by applying the CARB species profiles (8) to the USEPA TOC emission factor for flares (1). The internal combustion species profile was used as CARB stated that they had very little confidence in the external combustion profile, and they use only the internal combustion profile (9). Information on acrolein was not contained in the species profile used. It was therefore assumed that the ratio of acrolein to formaldehyde is the same for flares as for turbines. The PAH emission factor is from EPA (10)

Diesel Combustion Factors

Diesel (#1, #2 fuel oil) combustion factors were developed for listed substances identified by the CARB as significant components of diesel fuel combustion emissions (2) and for federal HAPs for which data was available.

Diesel Combustion Factors

	external combustion	internal combustion
Pollutant	Emissions (lb/1000 gal)	
benzene	0.0044	0.1863
formaldehyde	0.3506	1.7261
PAH's (including naphthalene)	0.0498	0.0559
naphthalene	0.0053	0.0197
acetaldehyde	0.3506	0.7833
acrolein	0.3506	0.0339
1,3-butadiene	0.0148	0.2174
chlorobenzene	0.0002	0.0002
dioxins	ND	ND
furans	ND	ND
propylene	0.0100	0.4670
hexane	0.0035	0.0269
toluene	0.0044	0.1054
xylenes	0.0016	0.0424
ethyl benzene	0.0002	0.0109
hydrogen chloride	0.1863	0.1863
arsenic	0.0016	0.0016
beryllium	ND	ND
cadmium	0.0015	0.0015
total chromium	0.0006	0.0006
hexavalent chromium	0.0001	0.0001
copper	0.0041	0.0041
lead	0.0083	0.0083
manganese	0.0031	0.0031
mercury	0.0020	0.0020
nickel	0.0039	0.0039
selenium	0.0022	0.0022
zinc	0.0224	0.0224

ND - not detected

Derivation of Factors

For external combustion equipment, formaldehyde, PAH, and naphthalene emission factors for were developed using source test data (17). Based on information from CARB it was assumed that acetaldehyde and acrolein emissions would be the same as formaldehyde (14). Emission factors for toluene, xylenes, propylene, ethyl benzene, and hexane were based on USEPA emission factors for total organic compounds and CARB species profile (8) for substances identified by CARB as significant.

For internal combustion engines, emission factors for formaldehyde, PAH's, naphthalene, and metals were based on source testing (4), (5), (6), (18). Benzene, acetaldehyde, acrolein, toluene and xylenes emission factors were based on sources (4), (5), and (18). Propylene factors were based on source tests (4) and (5). 1,3-butadiene was based on (4). Ethyl benzene and hexane emission factors were based on (18).

For all oil combustion equipment, emission factors for chlorobenzene, hydrogen chloride, and metals were based on stack testing and fuel analyses (4), (5), (6), (12), (13), (18). It was assumed that 99.9% of the chlorine contained in the fuel was converted to hydrogen chloride (15), with the remainder converted to chlorobenzene. 5% of the chromium in the fuel samples was assumed to be emitted as hexavalent chromium (15).

Dioxins (PCDD's), furans (PCDF's), and beryllium were identified as potentially significant components of diesel combustion exhaust (2). However, the only test results for diesel combustion found (11) reported "not detected" for dioxins and furans. Beryllium has not been detected in any of the diesel fuel analyses reviewed (4), (5), (6), (12), (13), (18). For emission inventory reporting purposes, facilities should report these compounds on for PRO using an emission estimation code of "99" and writing "ND" for the emissions.

References

(1) USEPA, Compilation of Air Pollutant Emission Factors, Volume I, Fifth Edition, AP-42, January 1995, and Supplement F, 2000

(2) Gary Agid, California Air Resources Board, Letter to Air Pollution Control District, September 12, 1989

(3) CARNOT, Emission Inventory Testing at Southern California Edison Company Long Beach Auxiliary Boiler, May 1990

(4) CARNOT, Emissions of Air Toxic Species: Test Conducted Under AB 2588 for the Western States Petroleum Association, May 1990

(5) South Coast Environmental, Compliance Report: Hydraulic Dredge "Ollie Riedel", Report Number T1238C, March 8, 1991

(6) ENSR Consulting and Engineering, Western States Petroleum Association, Pooled Source Report: Oil and Gas Production Combustion Sources, Fresno and Ventura Counties, California, Document Number 7230-007-700, January 1991

(7) Ventura County Air Pollution Control District, Emission Factors and Calculation Procedures, July 1985

(8) State of California Air Resources Board, Identification of Volatile Organic Compound Species Profiles, August 1991, as updated November 29, 2000, profiles 504 and 719

(9) Paul Allen, California Air Resources Board, Telephone conversation, February 1, 1990

(10) United States Environmental Protection Agency, Locating and Estimating Air Emissions From Sources of Polycyclic Organic Matter, EPA-454/R-98-014, July 1998

(11) United States Environmental Protection Agency, Toxic Air Pollutant Emission Factors-A Compilation for Selected Air Toxic Compounds and Sources, EPA-450/2-88-006a, October 1988

(12) BTC Environmental, Inc., Ventura Port District Dredge: Air Toxics Emissions Retesting, January 29, 1991

(13) Shell Western E & P, Emission Inventory Report for Ventura Avenue Field, June 11, 1990

(14) Muriel Strand, California Air Resources Board, Telephone conversation, February 6, 1990

(15) State of California Air Resources Board, Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588, August 1989

(16) Shell Western E&P, Emission Measurements for Speciated PAH's and BTXE Compounds on a Gas fired Turbine and Steam Generator, June 24-27, 1991

(17) Marine Corps Base Camp Pendleton, California: Draft Final Air Toxics Emissions Inventory Report, May 1, 1991

(18) Entropy Environmentalists, Inc., Pooled Source Testing of a Rig Diesel-Fired Internal Combustion Engine, conducted for Western States Petroleum Association, July 29-31, 1992

(19) Radian Corporation, Source Test Report for the Texaco Heater Treater, the Mobil Steam Generator, and the SWEPI Gas Turbine in the San Joaquin Valley Unified Air Pollution Control District, September 1992

(20) AIRx Testing, Emissions Testing OLS Energu Natural Gas Fired Turbine, and Two Auxiliary Boilers, Job Number 22030, April 21, 1994

EXHIBIT C

Airport Authority, Industry Day Presentation (excerpts)

ELEVATE BUR

GET READY FOR AN UPGRADE

Industry Day

Airport Information

- Medium Hub Airport
- All domestic
- 14 gates
- Approaching 6 MAP
- Common Use Terminal
- Residual cost agreement
- Air Carriers
  - Alaska, American, Delta, Jetblue, Southwest, Spirit, United

Why replace the current terminal?

- Runway separation does not meet current standards
- Seismically deficient
- Inconsistent capability between gates
- Complicated maneuvers required on airfield
- Aging terminal building
- Limited concessions and amenities
- Underserves users with disabilities

Concessions

Benefits

- Operations
  - Reduction in taxi times and runway crossings
  - **Simplified aircraft maneuvers**
  - **Consistency and capability at all gates**
  - Increased concessions revenue
  - Expanded holdroom size
  - Faster check-in
  - Centralized TSA checkpoint
  - Centralized bag check/screening

EXHIBIT D

EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (June 2016) (excerpts)

Technical Guidance for Assessing Environmental Justice in Regulatory Analysis

June 2016

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Section 5: Considering Environmental Justice when Planning a Human Health Risk Assessment

This section provides guidance to Agency analysts on integrating the consideration of potential EJ concerns into the planning phase of a human health risk assessment conducted to support a regulatory action. In particular, the *EJ Technical Guidance* recommends that, to the extent possible, evaluation of potential EJ concerns be integrated into an HHRA rather than conducted as an add-on or separate analysis of differences in risks across population groups of concern. Integration ensures that an analyst can effectively consider differential health risks for minority populations, low-income populations, or indigenous peoples. This recommendation is consistent with the EPA's *Framework for Human Health Risk Assessment to Inform Decision Making*, referred to in this document as the *HHRA Framework* (U.S. EPA, 2014c), which identifies EJ as one of several overarching considerations for which "early consideration and discussion … can enhance the utility of the risk assessment." The *HHRA Framework* also notes "... the potential for inclusion of analyses involving these topics is an important consideration in the planning stage for an assessment."

5.1 Introduction

An analyst planning an HHRA in support of a regulatory action should seek information early in the process that is relevant to the three analytic questions outlined in Section 3.1 (and repeated here):

- Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern in the baseline?
- Are there potential EJ concerns associated with environmental stressors affected by the regulatory action for population groups of concern for the regulatory option(s) under consideration?
- For the regulatory option(s) under consideration, are potential EJ concerns created or mitigated compared to the baseline?

These questions help an analyst evaluate whether a potential EJ concern already exists and whether, for each of the regulatory options under consideration, a potential EJ concern is likely to be created or mitigated by the affected stressors. The role of an analyst is to plan and conduct an HHRA that presents results – and the appropriate context for those results – in a transparent manner so that the decision maker can incorporate consideration of differential risks across population groups into risk management decisions.

Human health risk assessment is a complex and iterative process, and the science and practices that support it continue to evolve. This technical guidance is therefore designed to allow analysts to incorporate new information into the risk assessment process as it becomes available through research and method development efforts, or as needs for information evolve. Likewise, analysis of potential EJ concerns in HHRA should evolve to incorporate improved risk assessment methodologies and guidance. The EPA has developed and continues to develop methods and guidance on key risk assessment topics such as cumulative risk assessment, dose-response assessment, and exposure assessment. These documents, as well as tools and approaches generated by EPA offices and regions, will, over time, help to improve analyses of potential EJ concerns. The EPA is also involved in ongoing research activities designed to advance risk assessment. Some of these efforts are specifically focused on better understanding the impact of susceptibility and variability on dose-response. Another focus is how various risk factors beyond chemical

exposures (e.g., poor nutrition, stress, access to health care, and lower socioeconomic status) may be utilized in HHRA to improve the scientific basis for estimating risks at the community level. It is expected that this *EJ Technical Guidance* will be updated to incorporate new analytical tools, as appropriate.

The remainder of this section is organized into two parts. Section 5.2 provides an overview of key concepts in HHRA. Section 5.3 describes how potential EJ concerns can be considered in the planning stage of an HHRA. Additional information on this topic can be found in Appendix B, which provides examples of ways to incorporate potential EJ concerns into the planning stages of exposure and dose-response assessments.

5.2 Overview of Key Concepts

This section briefly discusses key concepts relevant to considering potential EJ concerns in an HHRA. For more information on these concepts generally, see the EPA's *Framework for HHRA Framework* (U.S. EPA, 2014c). In addition, the EPA has published guidance on all steps of the HHRA process; links to some of these documents can be found in Appendix A. The Agency's Risk Assessment website provides basic information about environmental risk assessments and offers a set of links to key EPA tools, guidance, and guidelines.[26] Links to sites of particular relevance to EJ are included throughout this chapter.

5.2.1 Human Health Risk Assessment to Inform Decision-Making

The EPA's *HHRA Framework* (U.S. EPA, 2014c) highlights the roles of initial planning and scoping, as well as problem formulation in designing a risk assessment to serve a specific and documented purpose (Figure 5.1).

In accordance with longstanding Agency policy and congruent with EJ principles, the *HHRA Framework* emphasizes the importance of scientific peer review as well as public, stakeholder, and community involvement throughout the process. EJ can be considered at any point in the HHRA process, but the planning and scoping and problem formulation phases set the foundation of the HHRA.

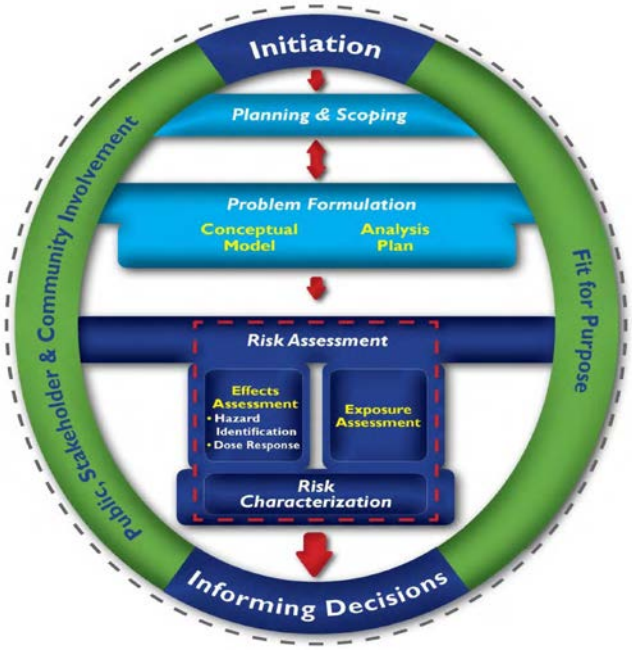


Figure 5.1: Framework for Human Health Risk Assessment to Inform Decision-Making

Adapted from: U.S. EPA (2014c)

[26] See the EPA's Risk Assessment website: www.epa.gov/risk.

The classic risk assessment process itself (Figure 5.2) includes a series of four steps: effects assessment (including hazard identification and dose-response assessment), exposure assessment, and risk characterization. The HHRA process is not strictly linear and sequential; steps are often performed together in an integrative fashion. Risk characterization, in particular, incorporates information from all of the other steps and provides the basis for communicating the results to decision makers and the public.

Adapted from: U.S. EPA (2014c)

Figure 5.2: Steps in Human Health Risk Assessment

The basic analytic process of an HHRA can be employed to characterize the nature, probability, and magnitude of current or future risks of adverse human health effects related to exposure to environmental stressors (e.g., chemical, physical, or biological agents) for population groups of concern. An HHRA can include both quantitative and qualitative expressions of risk (NRC, 1983; U.S. EPA, 2014c), and can incorporate different types of assessments depending on the nature of the regulatory decision that the assessment is intended to inform. For example, a prioritization exercise for regulatory consideration may use only a screening assessment with very conservative default values. In contrast, a national regulatory action may require a rigorous assessment of several types of potential health effects and exposure scenarios to support an in-depth examination of benefits.

5.2.2 Fit-for-Purpose

Fit-for-purpose refers to the step in the risk assessment framework that ensures that risk assessments and associated products are suitable and useful for their intended purpose(s), particularly for informing choices among risk management options (U.S. EPA, 2014c). Accordingly, throughout the process of planning and performing HHRAs, it is important to evaluate whether the assessment is effectively addressing the information needs of decision makers. The NRC (2009) recommends that the EPA maximizes the utility of risk assessment by assuring that risk assessments are tailored to the problems and decisions at hand. The EPA considers the utility of risk assessment (the extent to which it is fit for purpose) as a continuous assessment throughout the HHRA process, rather than as a separate step during or after a risk assessment is completed.

Consistent with E.O. 12898 and other EPA policies regarding EJ, one part of the fit-for-purpose planning discussion should be to ensure that the analysis will provide useful information on how policy options might affect distribution of risks across population groups of concern. Addressing the fit-for-purpose question early and throughout the HHRA process ensures that the risk assessment adequately addresses the purpose for which it is intended; in the context of EJ, this typically includes information for decision makers on the distribution of risk across specific population groups. The risk assessment methods used to consider potential

EJ concerns will vary with the environmental problem being addressed, and the scope of the HHRA will be affected by statutory mandates and limitations in data, methods, time, and resources; a robust fit-for-purpose process ensures that these limitations do not limit the usefulness of the analysis.

To ensure that an HHRA sufficiently identifies and characterizes potentially differential risks, it is recommended that an analyst do the following for the specific policy context under consideration:

1. Identify those types of individuals or population groups that potentially could experience higher risks relative to the average or comparable individuals in the general population as a result of the policy change;

2. Clearly state the reasons why an identified population group (or life stage within a population group) may potentially experience higher risk than the average person;

3. Estimate and characterize the potential for differences in risk for affected groups; and

4. Present the results to decision makers in a complete and transparent manner.

5.2.3 Multiple Exposures and Cumulative Effects

Multi-stressor or cumulative risk assessment (CRA) is an approach that the EPA considers for characterizing how risks may disproportionately affect one group relative to another and is an area of much scientific interest. The EPA defines CRA as the evaluation of the combined risks from aggregate exposure to multiple agents or stressors (both chemical and non-chemical) (U.S. EPA, 2003b). The NRC (2009) defines CRA as "evaluating an array of stressors (chemical and non-chemical) to characterize – quantitatively to the extent possible – human health and ecologic effects, taking into account factors such as vulnerability and background exposures." Because of data and methodology limitations, current applications of CRA focus largely on chemical mixtures and/or single chemicals from multiple sources. However, the framework described in the EPA's *Framework for Cumulative Risk Assessment* (U.S. EPA, 2003b) is broadly applicable in evaluating the range of both chemical and non-chemical stressors relevant to potential EJ concerns. Text Box 5.1 summarizes the EPA's guidance to date on CRA.[27]

An effects-based approach may be useful to analysts in examining the potential impacts of exposures relevant to potential EJ concerns. This approach may involve the use of epidemiological data to focus first on health outcomes of concern (i.e., those types of diseases or conditions with a higher prevalence within or across populations). Epidemiology studies may not isolate the individual effects of different stressors that may affect a population at the same time (co-occurring). However, when available, these studies may help an analyst to characterize the cumulative impacts of multiple stressors (Levy, 2008). Epidemiological studies may also employ stratification to identify effect modification, which can provide insight on the risk of an adverse outcome from co-exposure to another chemical or due to an additional physical, environmental, social, or biological stressor that may be necessary to consider when evaluating potential EJ concerns.

[27] While this broader definition of *cumulative risk* considers multiple agents or stressors (both chemical and non-chemical), it is important to acknowledge that the Food Quality Protection Act also requires the EPA to evaluate aggregate risks of one chemical from multiple sources and/or cumulative exposures to multiple chemicals with similar mechanisms of toxicity (U.S. EPA, 2002a).

Text Box 5.1: Guidance on Cumulative Risk Assessment

Guidance on Cumulative Risk Assessment, Part 1: Planning and Scoping (U.S. EPA, 1997a)
http://www.epa.gov/risk/guidance-cumulative-risk-assessment-part-1-planning-and-scoping

General Principles for Performing Aggregate Exposure and Risk Assessment (U.S. EPA, 2001)
http://www.epa.gov/sites/production/files/2015-07/documents/aggregate.pdf

Guidance on Cumulative Risk Assessment of Pesticide Chemicals that have a Common Mechanism of Toxicity (U.S. EPA, 2002a)
http://www.epa.gov/sites/production/files/2015-07/documents/guidance_on_common_mechanism.pdf

Framework for Cumulative Risk Assessment (U.S. EPA, 2003b)
http://www.epa.gov/risk/framework-cumulative-risk-assessment

Concepts, Methods, and Data Sources for Cumulative Health Risk Assessment of Multiple Chemicals, Exposures and Effects: A Resource Document (U.S. EPA, 2007b)
http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=190187

5.2.4 Potential Challenges of Applying HHRA in an EJ Context

The EPA's Science Advisory Board (SAB) has consistently said that it is appropriate for the EPA to use the risk assessment model as the primary means to quantify adverse health impact from chemicals in the environment (e.g., SAB, 2002, 2006, 2010, 2011). This recommendation was echoed by the panel that reviewed this *EJ Technical Guidance* (SAB, 2015). HHRA may be required by common practice or statute.[28] It should also be noted that some of the EPA's enabling statutes require that data used in assessments underlying a regulatory action be peer-reviewed and publicly available.

Use of an HHRA in evaluating potential EJ concerns raises some important considerations, which are described below.

5.2.4.1 HHRA can be difficult to understand

HHRA, particularly quantitative hazard and exposure assessment, is a highly technical discipline. Some authors (e.g., Corburn, 2002) have noted that community stakeholders, even when offered the opportunity to participate in risk management decisions, are at a disadvantage in the policy discourse: "To prepare, no less critique, these assessments takes a sophisticated understanding of complex issues of animal and human toxicology, physiology, epidemiology, mathematical models, exposure measurements, and statistical probabilities" (Corburn, 2002). Some authors feel that the complexity of HHRA can lead to a lack of transparency and accountability (SAB, 2015). Moreover, the HHRA is framed in terms of the risk of some adverse outcome. EJ advocates or analysts may often be more interested in broader concepts of health, beyond the absence of a particular adverse effect (Austin and Schill, 1994).

[28] See U.S. EPA (2011b), NRC (2009), and Institute of Medicine (2013) for a description of some statutory requirements and influences on differences among risk assessment practices in support of regulatory action).

5.2.4.2 Technical limitations and data gaps can affect HHRA

Established methods are not available for modeling the effects of many non-chemical stressors that are important to an analysis of potential EJ concerns. Such stressors (e.g., nutritional deficits, stress) may interact with chemical stressors to exacerbate or mitigate health outcomes; the ability to model such interactions is still in the nascent stages of development.

Similarly, HHRA may be limited by a lack of data relevant to potential EJ concerns. For example, data on the quantitative role played by non-chemical stressors may be limited. In addition, the results of studies of certain populations may not be generalizable to some populations with potential EJ concerns, such as when the research is conducted on healthy, white, male adults (Corburn, 2002; Payne-Sturges, 2011).[29] The limited utility of national data for informing health disparities and the limitations of extrapolating community-level data from national surveys have also been noted (Nweke et al., 2011). The NRC (2009) recognizes that "[d]ecisions regarding risks and risk changes expected under various risk-management options are informed by the availability of risk assessments." In the same report, the NRC (2009) notes that "[t]he goal of achieving accurate, highly quantitative estimates of risk, however, is hampered by limitations in scientific understanding and the availability of relevant data, which can be overcome only by the advance of relevant research." Section 7 of this document provides a discussion of EPA research priorities for improving the analysis of potential EJ concerns.

5.2.4.3 It can be difficult to incorporate cumulative impacts of multiple, dissimilar stressors into HHRA

Many communities with potential EJ concerns are likely to be exposed to multiple stressors through multiple pathways. HHRA has most often been conducted on a chemical-by-chemical basis using single exposure-to-effect pathways. Assessments have also evaluated the risk associated with exposure to multiple chemicals that act by similar mechanisms. The feasibility of broadening the scope of HHRA is limited by lack of data (e.g., information on background exposure or health status) and a dearth of sufficiently complex, validated models. In addition, incorporating non-chemical stressors is often hampered by lack of data. While the SAB (2015) continues to recommend use of HHRA, it encourages the EPA to develop further guidance for quantitative and/or qualitative evaluation of cumulative impacts. See Text Box: 5.1 for information on EPA's guidance documents on cumulative risk assessment.

5.2.4.4 HHRA typically lacks effective public involvement

HHRA has been criticized by some for often having limited consideration of public perceptions of risk (Corburn, 2002). HHRA methods typically do not consider public attitudes toward risk. HHRA does not encompass (or at least does not quantify) factors such as fairness, distribution of risk, voluntariness, responsibility, control, trust, reversibility, and identifiable victims (Corburn, 2002), though these may be identified in the course of risk management discussions. Payne-Sturges (2011) notes that "when affected citizens actively participate in the process to better understand science and inform policy responses, better decisions emerge as a result."

[29] In the absence of scientific data to fully characterize the range of responses to chemical exposures, the EPA employs default assumptions, such as uncertainty factors used in non-cancer risk assessments, to account for human variability. As noted by the SAB (2015), however, "…the use of uncertainty factors in developing dose-response assessments for an individual level chemical might address the general population as a whole, but does not specifically address differential or disproportionate vulnerability of an environmental justice community."

5.2.5 Health Impact Assessment

Health impact assessment (HIA) is a tool that provides a way of examining the relationship between social factors and health. HIA promotes a broad definition of health, using both qualitative data and quantitative information, typically considering a broader spectrum of health determinants than are included in a traditional HHRA. HIA has been described as "a systematic process that uses an array of data sources and analytic methods, and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects" (NRC, 2011).

The definition of health used by HIA reaches beyond the absence of disease or infirmity to consider complete physical, social, and mental health. HIA provides recommendations to address disproportionate health effects, mitigate potential adverse health effects, and bolster potential beneficial health effects of the proposed decision. Health determinants such as the quality of housing, access to services, and social cohesion, as well as exposure to contaminants, may be examined in an HIA to identify the disproportionate human health and/or environmental effects of a proposed decision and its alternatives on minority populations, low-income populations, and indigenous peoples, as well as vulnerable populations such as children and the elderly (NRC, 2011).

The HIA process typically emphasizes meaningful public engagement that focuses on empowering vulnerable and affected populations to participate in decisions that have the potential to affect their lives.[30] Effective input from the public can do the following:

- Provide local knowledge of health and existing conditions;
- Identify areas of concern and issues of interest that might not be readily apparent to those outside the community;
- Offer contextual/cultural perceptions and experiences; and
- Assist in identifying and refining the HIA scope and recommendations.

The EPA has developed several case studies to explore ways in which HIA can be used to engage the public and to incorporate potential EJ concerns and public health considerations into local environmental decision-making processes. One EPA-led HIA focused on environmental conditions in an elementary school and community center in a low-income, immigrant community in Springfield, Massachusetts and analyzed how proposed renovations could influence health and wellness of facility users, especially among vulnerable populations. Another EPA-led HIA assessed how a proposed green street project in the Proctor Creek community in Atlanta, Georgia, could potentially affect public health. Both of these HIAs included extensive public participation throughout the process; utilized best-available qualitative and quantitative data; examined health determinants in the environmental, social, and economic sectors to evaluate cumulative human health effects; and analyzed and provided recommendations to address any disproportionate health impacts on vulnerable groups. Two additional EPA-led HIA case studies include an examination of the potential health impacts of proposed code changes for onsite sewage disposal systems in Suffolk County, New York, and an evaluation of a separate effort in Atlanta's Proctor Creek focused on the expansion of green infrastructure in the watershed. More detailed descriptions of the case studies can be found at the EPA's Health Impact Assessments website, which can be accessed at http://www2.epa.gov/healthresearch/health-impact-assessments.

[30] Equity is one of the core values of HIA, the others being democracy, sustainability, ethical use of evidence, and comprehensiveness of approach. The role of HIA in promoting equity, however, goes well beyond examining existing health inequities and considering the distribution of potential health impacts across affected populations (i.e., identifying disproportionate impacts of a decision).

The EPA has not attempted to apply HIA in support of national regulatory actions, which generally use HHRA, but HIA could potentially serve as a complement to HHRA in the national context in certain circumstances (e.g., hot spots) for evaluation of the cumulative impacts and potential EJ concerns.

5.3 Considering Potential EJ Concerns when Planning a Human Health Risk Assessment

To implement E.O. 12898 and the EPA's EJ policies, it is important that HHRAs conducted in support of regulatory actions explicitly consider health risks that may disproportionately accrue within minority populations, low-income populations, or indigenous peoples, as these demographic attributes may reflect underlying vulnerability and susceptibility to environmental stressors. Also, the burden of health problems and potentially disproportionate environmental exposures associated with race/ethnicity and income may overlap with other susceptibility factors such as life stage, genetic predisposition, or pre-existing health conditions (see Section 4 for further discussion). For example, the burden of environmental exposures and resulting health problems is often borne disproportionately by children from low-income communities and minority communities (Israel et al., 2005).

The planning and scoping and problem formulation phases are key elements of the *HHRA Framework* (see Figure 5.1 above). In the planning and scoping phase, analysts define the process for conducting the risk assessment and establish its analytic scope. The problem formulation step focuses on the specific hypotheses and technical approach of the HHRA; important outcomes of this step are a conceptual model and an analysis plan for the assessment (U.S. EPA, 2014c). As discussed below, the consideration of EJ in each part of the risk assessment planning process is important to ensuring an effective assessment.

5.3.1 Planning and Scoping

Consistent with EPA guidance (U.S. EPA, 2014c), the key aspects of planning and scoping of an HHRA are the following:

- Context, Purpose, and Scope of the Risk Assessment (Section 5.3.1.1);
- Overarching Considerations (Section 5.3.1.2);
- Responsibilities, Resources, and Timeline (Section 5.3.1.3);
- Planning Scientific Peer Review or Other Review Steps (Section 5.3.1.4); and
- Public, Stakeholder and Community Involvement (Section 5.3.1.5).

Each step of planning and scoping for an HHRA is discussed briefly here with an emphasis on where potential EJ concerns may enter the discussion. Risk assessors and other analysts should consult EPA guidance documents on risk assessment for more information (see Appendix A; U.S. EPA, 2014c; U.S. EPA, 1997a).

5.3.1.1 Context, Purpose, and Scope of the Risk Assessment

Context. EPA risk assessments occur in specific policy contexts that inform the scope, purpose, and risk management objectives. Many EPA risk assessments are done to inform specific decisions that guide the development of regulatory actions. In other cases, such as a response to a newly identified environmental concern, careful consideration of the purpose and associated objectives, including decisions being informed, is essential to the development of a risk assessment that provides the information needed. Planning for the risk assessment should clearly identify the decision that will be supported by the analysis and specify the boundaries for the assessment, detailing what will not be addressed in the risk assessment.

To frame the context for an analysis, an analyst should identify any complementary requirements between the triggering statutory authority and E.O. 12898 that focus on identifying and addressing potentially disproportionate risks. In addition to the specific policy context, other contexts may help frame an evaluation of potential EJ concerns within an HHRA. For example, background exposure to chemicals from multiple sources, or an enhanced background risk for a relevant adverse health outcome due to other factors, are important contexts for assessing disproportionate risk. Communities with potential EJ concerns also may experience disproportionate risks due to higher susceptibility (e.g., due to life stage or pre-existing health conditions) or other factors influencing exposures (e.g., behavioral patterns or proximity to sources of exposure).[31]

Purpose. The planning and scoping phase includes explicit consideration of the nature of the question (or hypothesis) that the assessment seeks to address, with the goal of developing or clarifying the broad dimensions and elements of the assessment. Specifically, this step defines the assessment and management objectives and purpose. In complex situations, clear articulation of the overall purpose or end use of an assessment may involve extensive interaction among the assessment team and the range of stakeholders to establish a common understanding. In addition, in this step analysts may develop a high-level review of data needs and limitations to ensure that the results will adequately inform decision makers (NRC, 2009).

The particular purpose for which an assessment will be used and its scale (e.g., regional or national) often will have significant implications for the scope, level of detail, and approach of an assessment. Key considerations at this stage include:

- What decision is to be informed by the risk assessment, when is the decision anticipated, and what are the risk management options?
- What legal or statutory requirements affect risk management options and the level or type of analysis? (U.S. EPA, 2014c)

To ensure that an HHRA generates useful information, risk managers and analysts should develop concise statements of risk management and analytical objectives that incorporate potential EJ concerns. As risk managers and analysts develop these objectives, it is important to frame them so they generate responses to the main EJ analytic questions from Section 3.1 (See Text Box 5.2 for an example). Related analytical objectives for evaluating potential EJ concerns within an HHRA should identify anticipated outputs of the assessment. Analytical objectives should concisely identify the evidence to be collected; the direction and structure of the planned evaluation for potential EJ concerns; the analytical methods to be employed (e.g., between socioeconomic group comparisons); the type of data required; and the scope of the analysis (e.g., national versus local scale).

[31] As an example, primary NAAQS are required to protect public health, including the health of sensitive (or at-risk) groups, with an adequate margin of safety. Where low-income or minority groups are among the at-risk populations (e.g., particulate matter in 2013 review), the Administrator's decision will be based on providing protection for these and other at-risk populations and life stages. In other cases, the NAAQS will be established to provide protection to the at-risk populations and would also be expected to provide protection to other populations (including low-income and minority populations not included within the at-risk groups). Where low-income and minority populations are identified as at-risk and where the data are available, they may be a focus of an accompanying HHRA.

Text Box 5.2: Incorporating Potential EJ Concerns for the Definition of Solid Waste Rule; Examples of Risk Management and Analytic Objectives

Regulatory Context: The Resource Conservation and Recovery Act (RCRA) gives the EPA authority to regulate hazardous wastes. Hazardous wastes may (1) cause, or significantly increase, mortality or serious irreversible or incapacitating reversible illness, or (2) pose a substantial present or potential hazard to human health or the environment when improperly managed. Hazardous wastes are a subset of solid wastes; materials that are not solid wastes are not subject to regulation as hazardous wastes. Thus, the definition of "solid waste" plays a key role in defining the scope of the EPA's authority under RCRA.

The EPA has historically interpreted "solid waste" to include certain materials that are destined for recycling (U.S. EPA, 1980). Under the 2008 RCRA Hazardous Waste Definition of Solid Waste (DSW) rule, the EPA sought to clarify how the definition of solid waste applies to hazardous secondary material recycling in a way that both encourages recycling and is protective of human health and the environment (U.S. EPA, 2008a). Based on concerns raised by environmental and community groups about the 2008 DSW rule, the EPA conducted a reassessment, resulting in significant revisions that were finalized in the 2015 DSW final rule (U.S. EPA, 2011g, 2015b).

Risk Management Objective for Potential EJ Concerns: Review the 2008 DSW rule to evaluate the potential for increased risk to human health and the environment from discarded hazardous secondary materials intended for recycling. Incorporate the results of that review into regulatory revisions to the 2008 DSW rule.

Translating Risk Management Objective to Questions: (1) What hazards could pose risks to human health and the environment from recycling of hazardous secondary materials, including accidental releases of hazardous secondary materials resulting in differential risks to minority populations, low-income populations, or indigenous peoples?, and (2) What is the likelihood of such hazards occurring under the requirements of the 2008 DSW rule compared to pre-2008 DSW hazardous waste regulations?

Analytical Objectives for Potential EJ Concerns: (1) Evaluate whether the populations potentially affected by the 2008 DSW rule have different socioeconomic characteristics (i.e., minority populations, low-income populations, or indigenous peoples) than the general population; (2) Evaluate whether other factors that affect the potential for differential risk to minority and/or low-income communities are present under the 2008 DSW rule.

Translating Analytical Objectives to Questions: (1) Do communities surrounding facilities potentially affected by the 2008 DSW rule have a higher percentage of minority populations, low-income populations, or indigenous peoples relative to the comparison population (i.e., national or state population)? (2) Are the communities potentially affected by the 2008 DSW rule also affected by other potential sources of pollution (e.g., industrial facilities, landfills, transportation-related air emissions, lead-based paint, leaking underground storage tanks, pesticides, incompatible land uses)? (3) Are there other factors that may contribute to higher susceptibility (e.g., life stages, nursing mothers) among minority and/or low-income populations? (4) Does the 2008 DSW rule reduce the ability for potentially impacted communities to participate in the decision-making process?

Scope. Scoping is an important step in the planning process for a risk assessment. It refers to establishing the boundaries of the assessment (e.g., what population groups, health effects, chemicals, and exposure pathways will be included in the assessment). Analysts should integrate applicable scoping questions into the planning stages of a risk assessment that supports a regulatory action. Stakeholder involvement may be particularly informative as part of the scoping exercise (U.S. EPA, 2014c).

At this step, most EPA assessment projects focus on identifying and considering information available in these areas:

- Sources of contaminants;
- Stressors, associated effects, susceptible populations, and life stages;
- Exposure routes and pathways;
- Stakeholder concerns; and
- Any spatial or temporal aspects of exposure.

Examples of questions that can aid in scoping for potential EJ concerns are (see also Text Box 5.3):

- **Which population groups, as defined by attributes such as geographic location, ethnicity or race, gender, or baseline health status, should be part of the assessment?** While an evaluation of potential EJ concerns focuses on minority populations, low-income populations, and indigenous peoples, in some instances diversity within these population groups due to the presence of effect-modifying factors (i.e., factors that alter an individual's reaction to exposure such as pre-existing disease conditions or life stage) may mean that some types of individuals are at greater risk for experiencing adverse effects. In identifying target population groups for the assessment of differential risks, an analyst should consider the extent to which effect-modifying factors may explain demographically-defined differences. If an analyst decides to assess population groups defined by effect-modifying factors, the rationale for this decision and the associated methods should be transparently documented.
- **What health endpoints are to be addressed by the assessment?** Defining health endpoints clearly in the planning phase of the HHRA focuses the risk assessment and increases the transparency of the process. When selecting health endpoints, an analyst should consider whether specific health endpoints may be significant in population groups of concern. In making this selection, it is important to evaluate whether health endpoints for a given exposure differ across population groups. This type of information is most often found in epidemiology and toxicology studies, such as those focused on the modifying effects of social context on environmental risk. It may not be possible to identify all health endpoints upfront. Some information found in toxicity assessments may only define the potential for an adverse health outcome for specific stressors.
- **What exposure routes and pathways are relevant, do specific exposure pathways potentially lead to specific effects, and what exposure scenarios should be modeled?** In establishing the scope of the evaluation for potential EJ concerns, an analyst should evaluate whether population groups of concern may have different exposure routes, pathways, or contact scenarios from the general population. Scoping for an exposure assessment should include timing of exposure, both historical and current. Unique exposure pathways based on life stages and other relevant categories may also be considered. Different pathways of exposure (e.g., inhalation, dermal, ingestion) may produce different effects with varying levels of severity.

Text Box 5.3: Example of Scoping Questions for Integrating EJ Considerations into Exposure and Dose-Response Assessments

For consideration of potential EJ concerns in exposure assessment, the following scoping questions may be useful:

- Based on the use and release patterns of the environmental stressor of concern, are there population groups that might be more highly exposed?
- Are exposure variabilities predominantly a spatial phenomenon (e.g., due to contaminant hot spots)? Is proximity to source a reasonable proxy for estimating exposure to stressors of concern?
- Can exposure variability be estimated using ambient contaminant concentrations, either measured or modeled? Are data available or can data be modeled at a reasonable spatial scale appropriate for available demographic data?
- Are bio-monitoring data available for the population groups of concern, including those with potentially elevated exposure?
- Do the physical and/or chemical properties of the stressor indicate a potential for long range transport (e.g., volatile, persistent), especially stressors that may also bioaccumulate?
- Are there population groups that may experience greater exposure to stressors because of their unique food consumption patterns, behaviors, or use of certain consumer products?

For explicit consideration of EJ in dose-response assessment based on available epidemiological data, risk assessors should consider scoping questions such as:

- What demographic and population groups are most relevant from a risk perspective for the stressor in question?
- Do population-specific dose-response functions exist for particular minority populations, low-income populations, or indigenous peoples?
- Are the spatial and temporal scales of the studies supplying the dose-response function comparable to the spatial and temporal scales of the assessment of potential EJ concerns, from both an exposure and an outcome perspective?

Depending on the nature of the assessment, it can be helpful to consult with representatives from affected population groups and other stakeholders when identifying exposure routes, pathways, and other information for constructing exposure scenarios for an HHRA.[32] Community and stakeholder knowledge may provide information not known to an analyst or undocumented in the literature (e.g., unusual pathways or unique behavior patterns that may alter exposure to an environmental stressor and may affect estimates of intake or pathways to be examined from a pollution source to the exposed population). The EPA has developed extensive guidance on community and stakeholder involvement for this purpose (U.S. EPA, 2003c).

At the completion of the scoping step, analysts will have a set of boundaries for the HHRA that can be incorporated into problem formulation (see Section 5.3.2) to produce a detailed plan for the assessment.

[32] The Paperwork Reduction Act requires that an Information Collection Request be submitted for collecting information (e.g., surveys) from more than nine people (44 U.S.C. 3501).

5.3.1.2 Overarching Considerations

The *HHRA Framework* discusses EJ, children's environmental health protection, and cumulative risk assessment as overarching considerations in planning and scoping (U.S. EPA, 2014c). Additional overarching considerations or themes may be identified in the future or in the context of a particular national regulatory process (e.g., single chemical assessment of lead or mercury).

5.3.1.3 Responsibilities, Resources, and Timeline

The HHRA planning phase includes allocation of responsibilities for members of the assessment team and clarifying how the assessment team will interact with decision makers and stakeholders. This phase also includes describing or establishing the available and required resources, including staffing, budget, and time needed for the assessment.

Consideration of potential EJ concerns is cross-disciplinary in nature due to its cultural, economic, and demographic elements. Early identification of skill sets needed for the assessment enables managers to identify the most appropriate analytical team at the outset of the planning process. Areas of expertise that may be pertinent to consideration of potential EJ concerns include social epidemiologists and experts on cumulative risk.

5.3.1.4 Opportunities for a Scientific Peer Review or Other Review Steps

The need for and timing of scientific peer review or other reviews are considerations in planning and scoping activities (U.S. EPA, 2014c).[33] Peer review is a documented process conducted to ensure that activities are technically supportable, competently performed, properly documented, and consistent with established quality criteria (U.S. EPA, 2014c). When an HHRA that incorporates potential EJ concerns is subject to scientific peer review, the key expertise needed may include community representatives with technical expertise and public health scientists with community and EJ experience. Peer review usually involves a one-time or limited number of interactions by the independent peer reviewers with the authors of the work product. An assessment also may benefit from other types of input (such as peer involvement and public comment) that differ from peer review. Planning and scoping for the assessment includes discussion of whether and what types of reviews will be included in light of the context and constraints for the assessment, including schedule and resources (U.S. EPA, 2014c).

5.3.1.5 Public, Stakeholder and Community Involvement

Stakeholder involvement is integral to both the HHRA process and the broader consideration of potential EJ concerns. As previously mentioned, engaging stakeholders in the HHRA process may help analysts identify stressor sources, highlight adverse health effects, and address risk perception issues. To foster meaningful participation of members of communities that are the focus of the HHRA process, it may be important to recognize and address conditions that could reduce or hinder a community's ability to participate in the regulatory action development process. These could include time and resource constraints, lack of trust, lack of information, language barriers, and difficulty in accessing and understanding complex scientific, technical, and legal resources. See Section 2.3 and the *EJ Process Guidance* (U.S. EPA, 2015a) for more details on meaningful involvement. Also see chapter 3 of the *HHRA Framework* (U.S. EPA, 2014c) for a discussion of how to involve the public, stakeholders, and the broader community in the risk assessment process.

A key element of successful public involvement is effective risk communication. The EPA's *Seven Cardinal Rules of Risk Communication* begins with a basic tenet that people and communities have a right to participate in decisions that affect their lives. This document notes the goal of risk communication is to produce an informed public that is involved, interested, reasonable, thoughtful, solution-oriented, and

[33] Guidelines for the peer review process are available in the EPA's *Peer Review Handbook*: http://www.epa.gov/osa/peer-review-handbook-4th-edition-2015.

collaborative (U.S. EPA, 1988). Effective risk communication can assist in and is essential to identifying and addressing potential EJ concerns and can ensure that relevant information is accessible to affected communities and population groups of concern who may not be familiar with the data and analyses used by the EPA to evaluate public health risks.

The Presidential/Congressional Commission on Risk Assessment and Risk Management suggests using the following questions to identify potential stakeholders:[34]

- Who might be affected by the risk management decision?
- Who has information and expertise that might be helpful?
- Who has been involved in similar risk situations before?
- Who has expressed interest in being involved in similar decisions before?
- Who might reasonably or unreasonably feel they should be included?

Analysts and risk managers can consult the *Framework Implementing EPA's Public Involvement Policy* (U.S. EPA, 2003c) for general guidance for scoping a public involvement process.[35] When EPA actions or decisions may affect tribes, the EPA has instituted a tribal consultation policy that provides clear guidance for when, how, and on what issues consultations with tribal governments should occur (U.S. EPA, 2011h). To ensure that stakeholders participate meaningfully in the HHRA, the approach for soliciting information should be specific, involve interactive dialogue that is designed to elicit specific responses, and include accommodations for population groups with limited English proficiency. Elements of such a dialogue could include specific questions about the types of data or models that are needed for analysis of potential EJ concerns.

5.3.2 Problem Formulation

Problem formulation is the part of the assessment that articulates the purpose for the assessment, defines the problem, and establishes a plan for analyzing and characterizing risk (U.S. EPA, 1998b). Problem formulation draws from the regulatory, decision-making, and policy contexts to inform the technical approach of the HHRA and to systemically identify the major factors to be considered in the risk assessment. An effective problem formulation also defines clearly the dimensions of the risk assessment, including the basis of – or necessity for – the risk assessment (U.S. EPA, 2014c).

In considering EJ, problem formulation focuses on identifying whether minority populations, low-income populations, or indigenous peoples may experience differential risks relative to the general population or other appropriate comparison group (see Section 6.5.2). Specifically, this involves: 1) clarifying the source and characteristics of the stressors that are relevant to potential disproportionate risks, 2) identifying factors that may influence exposures that contribute to those risks, and 3) characterizing susceptibilities or vulnerabilities of the populations with potential EJ concerns that may exacerbate differences in exposure or risk. Key products of problem formulation are the assessment endpoints, a conceptual model, and an analysis plan. Since planning and scoping is an interactive, nonlinear process, substantial re-evaluation is an anticipated step in the development of all problem formulation products.

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[34] See the EPA's Presidential Commission on Risk Assessment and Risk Management website: http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=55006&CFID=55036505&CFTOKEN=43224210.

[35] Broad information related to communicating during the risk assessment process can be found at http://www.epa.gov/risk/risk-communication. The EPA's efforts to engage communities in regulatory actions is summarized at http://www.epa.gov/open/expanding-public-awareness-and-involvement-development-rules-and-regulations. The EPA also provides specific recommendations regarding outreach to tribes on its Environmental Protection in Indian County: Consultation and Coordination with Tribes website: http://www.epa.gov/tribal/forms/consultation-and-coordination-tribes.

The sections below describe the two important outcomes of problem formulation – the conceptual model and the analysis plan – in the context of considering potential EJ concerns.

5.3.2.1 Conceptual Model

For considering potential EJ concerns, the conceptual model addresses the following:

- How and to what degree identified risk factors contribute to differences in exposure and/or risk;
- The strength and direction of relationships between these factors and exposure and/or risk;
- Identification of data needs by characterizing relationships as low, medium, and high uncertainty; and
- Scope of the assessment as to potential EJ concerns given current scientific understanding.

A conceptual model includes both a written description and a visual representation of the stressor(s), the exposed population(s), actual or predicted relationships between population groups of concern and the regulated stressor to which they may be exposed, and the endpoint(s) that will be addressed in the risk assessment as well as the relationships among them (U.S. EPA, 2014c). The specific challenges of integrating consideration of potential EJ concerns into the risk assessment can be addressed in the conceptual model, and the analysis may use Figure 5.1 as a guide in describing potential sources of drivers of potential EJ concern. U.S. EPA (2014c) provides descriptions of, resources on, and examples of conceptual models.

Below in Text Box 5.4, examples of EJ-related questions are presented that may be raised during problem formulation in the context of proximity to sources of pollution. For additional sample problem formulation questions, see U.S. EPA (2002b).

5.3.2.2 Characterizing the Stressor and its Sources

The properties of the stressor, its sources, and their relationships to differential risks are important inputs to the HHRA. In considering information on the characteristics of stressors and sources, analysts can incorporate information specific to consideration of potential EJ concerns (e.g., the likelihood that the source of the stressor is located in areas where minority populations, low-income populations, or indigenous peoples live relative to areas where other population groups live). Where relevant and appropriate, analysts can also identify the distribution of any additional sources of the stressor that are not the focus of the regulatory action, because these sources may contribute to differential risks. For example, a stressor may be present in environmental media due to background concentrations (e.g., resulting from historical or past industrial activity, or naturally occurring) in areas with minority populations, low-income populations, or indigenous peoples.

5.3.2.3 Identifying Differences in Exposures that May Lead to Differential Risks

Differential exposures can be an important indicator of differential risks. Differences in exposures across population groups may arise from many causes, including those described earlier, such as proximity to pollution sources, employment in certain occupations, or exposures to multiple sources of a specific stressor (Brender et al., 2011; Burger and Gochfeld, 2011). For example, if other sources tend to be co-located with the source in question, it may contribute to important differences in patterns of exposure to the stressor. Even in situations where a regulated source of the stressor is not located in geographic areas primarily consisting of minority populations, low-income populations, or indigenous peoples, other sources of the stressor may contribute to differential exposures and, ultimately, to differential risks.

Text Box 5.4: Examples of EJ-Related Questions to Consider During Problem Formulation

Characteristics Related to Proximity to a Stressor or Source

- What are the sources of the stressor?
- Is the source located in geographic areas with greater minority populations, low-income populations, or indigenous peoples?
- Are other sources of the stressor more prevalent in geographic areas with greater minority populations, low-income populations, or indigenous peoples?
- Are there historical releases or uses of the stressor in such areas?
- Is the concentration of the stressor in the relevant ambient media higher in geographic areas with greater minority populations, low-income populations, or indigenous peoples?
- Does each stressor have multiple sources that should be evaluated?

Differential Exposures to a Stressor

- Do minority populations, low-income populations, or indigenous peoples have higher body burdens of the contaminant?
- Are these population groups more likely to experience current or historically higher exposures to the stressor from sources other than the one under consideration?
- Are there particular life stages within these population groups that may be more at risk to higher exposure to the stressor?
- Are there products/consumer goods that contain the stressor?
- Are these products/consumer goods used at noticeably higher rates among minority populations, low-income populations, or indigenous peoples?
- Are there cultural practices that are unique to these population groups versus the general population?
- What is the frequency of occurrence of the cultural practice and its duration?
- What is the frequency of occurrence of an atypical activity and its duration?
- Is proximity to the emitting source an important factor in the assessment?
- What geographic scale is important to highlight different exposures between demographic groups for the pollutant in question (e.g., U.S. Census tract, block, block group, neighborhood, tax parcel, ZIP Code, or county)?

Population Characteristics

- What are the rates of the adverse health outcome of concern among minority populations, low-income populations, or indigenous peoples?
- Are the rates of the adverse health outcome of concern higher among these population groups?
- What factors or conditions are known to modify the effect of the regulated contaminant?
- How are these modifying factors or conditions distributed across demographic groups?
- Do minority populations, low-income populations, or indigenous peoples have a higher prevalence of modifying effects or conditions?
- Are there more members of these population groups employed in specific professions known to have higher risks of the adverse health outcome?

Patterns of exposure can be location-specific or population group-specific, depending on the scale of the assessment and the types of data available. Analysts considering the potential for differences in exposure can investigate issues such as relevant cultural practices, consumer products use, group differences in body burdens of the contaminant, and co-exposures to multiple stressors that may affect the body's ability to detoxify a particular contaminant (e.g., factors that may influence metabolism). Social patterns related to exposure could also be evaluated across other characteristics of population groups of concern, such as life stage or gender, or within multiple social strata (e.g., low-income minority) to yield unique and important perspectives on population groups most at risk. For example, exposure patterns for blood lead show that non-Hispanic black children between the ages of one and six who live below the Census-defined poverty level have the highest median blood lead concentration in the United States (U.S. EPA, 2013a).

There are many sources of exposure data. Some exposures can be evaluated using bio-monitoring data on chemical hazards, for example the National Health and Nutrition Examination Survey (NHANES). NHANES is designed to collect data on the health and nutritional status of the U.S. population. The NHANES is designed to be a representative sample of the civilian, non-institutionalized population in the United States, based on age, gender, and race/ethnicity (Centers for Disease Control and Prevention (CDC), 2009). Due to its sample design, NHANES cannot be used to provide exposure data for small geographic units or co-located individuals (U.S. EPA, 2003d). Nevertheless, it is an important information resource for identifying differences in exposure.[36] For more detailed information on using bio-monitoring data to evaluate exposure differences, see the exposure assessment examples in Appendix B.

> *"Populations who face environmental inequities may be identified in national exposure databases but may not be located in discrete spatial communities. Such databases might identify [population groups] who face a disproportionate adverse health outcome, but unless they live in a community that is spatially identified, it is difficult to address common exposures using conventional risk assessment approaches … Broad-scale surveys, site-specific surveys, and national databases are beneficial, and can be used to identify environmental inequities among [groups] that are not spatially related" (Burger and Gochfeld, 2011).*

For some stressors that are dispersed locally in ambient media (e.g., air toxics), proximity to the source is sometimes used as a surrogate in considering the potential for differences in exposure.[37] Section 6.4.3 discusses use of proximity methods for evaluating potential EJ concerns.

In some cases, a screening analysis using measured or estimated concentrations of a stressor in ambient media that are correlated with race/ethnicity or income can identify differential exposures. For example, analysts may have information from ambient air quality monitors or estimated ambient air concentration data averaged over a period of time. However, monitoring data may not always be adequate to

[36] Some limitations of data available through NHANES can be addressed by location-specific surveys such as the New York City Health and Nutrition Examination Survey (NYCHANES) and other site- and population specific surveys that may be conducted for reasons other than EJ considerations. Some limitations to the availability of primary site- and population-specific surveys are cost and the amount of time required for to conduct these surveys.

[37] Methods for estimating exposure using the concept of proximity are well developed and are extensively reviewed in Chakraborty et al. (2011). There are multiple other factors that influence exposures differences for air toxics, including local meteorology and chemical characteristics of the chemical of interest (U.S. EPA, 2004 Chapters 8 and 11).

evaluate differences in exposure for small geographic units (e.g., census tracts). See Appendix B for an example of estimating exposure using ambient concentration data.

States, tribes, and local governments may have relevant monitoring data. Case studies or other qualitative approaches may also offer some insight into potential impacts when data are not available for all areas affected by the regulatory action.

In the problem formulation step, it is important to articulate clearly how population groups of concern may be exposed to a stressor. Atypical or unique exposure pathways are often important in assessing potential EJ concerns.[38] New pathways can be identified during or after planning as new data become available. For example, biomonitoring data acquired during scoping and problem formulation may suggest the presence of unexpected differences, resulting in a focused inquiry.

Alternatively, analysts may seek new information about certain exposure pathways to ensure a comprehensive evaluation of the range of exposures in the population groups of concern. Conceptual frameworks of the type discussed in Section 4 may be useful for identifying and collecting data on these exposure pathways. Examples of questions that are helpful for extracting information about unique exposure pathways also are presented above in Text Box 5.4.[39]

5.3.2.4 Population Characteristics

Population characteristics refer to those attributes shared by individuals within a population group that influence the likelihood of exposure to the stressor and the risk of an adverse health outcome from this exposure. These characteristics range from those with direct effects, such as pre-existing disease conditions, chronic disease, age, medication status, and immune status, to those with more indirect influences, such as a lack of access to resources (e.g., health care), negative social conditions, age of housing as a function of race/ethnicity and income, a specific type of occupation, income status, access to transportation, and poor educational status.

Understanding population characteristics is an important step toward identifying factors that may affect an individual's resilience (i.e., the ability to withstand or recover from exposure to a stressor). Such information also highlights how these characteristics are distributed in the population groups of interest from an EJ perspective. Appendix B provides examples of integrating these characteristics into a dose-response assessment.

Information on population characteristics that may modify exposure or toxicity can be identified in the literature, including epidemiological and toxicological studies of effect-modifying factors. For example, if the evidence supports the conclusion that population groups with lower educational status have higher risk, this information could be used in the assessment to characterize the potential for differential risks among population groups of interest. Sample questions to guide collection of information on population characteristics are presented above in Text Box 5.4.

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[38] Examples of such exposure pathways include exposure to heavy metals from the use of non-traditional medicines (Ernst and Thompson Coon, 2001; Ernst, 2002a, b), exposure to mercury from high consumption rates of fish (Anderson and Rice, 1993; Peterson et al., 1994), exposure to pesticides tracked into homes by family members from their places of work (Simcox et al., 1995), and exposure to inorganic mercury from the use of contaminated cosmetic products for body maintenance purposes (McKelvey et al., 2011).

[39] The *Exposure Factors Handbook* also has exposure factors data stratified by race/ethnicity (U.S. EPA, 2011e).

5.3.2.5 Analysis Plan

The analysis plan is the final stage of problem formulation. It describes intentions for the assessment developed during the planning and scoping process, and it provides details on technical aspects of the risk assessment. The analysis plan may include these components: (a) the assessment design and rationale for selecting specific pathways to include in the risk assessment; (b) a description of the data, information, methods, and models to be used in the analyses (including uncertainty analyses), as well as intended outputs (e.g., risk metrics); (c) quality assurance and quality control measures; and (d) the associated data gaps and limitations. In some cases the analysis plan will specify a phased or tiered risk assessment approach to facilitate management needs; it may describe scientific review (such as external peer review); and it may specify public stakeholder and community involvement (U.S. EPA, 2014c).

5.3.2.6 Identify Data, Models, Tools and Other Technical Resources

As with any other assessment, a central challenge for an analyst in the HHRA planning process is identifying the data, tools, and models that are already available or that need to be generated to complete an EJ assessment. Data selection should be based on the context, risk management and analytic objectives, and scope of the analysis. (Appendix B provides sample questions to help identify data and model needs when planning for exposure assessment and dose-response assessment.)

Data Identification. As previously mentioned, a key planning element for identifying data relevant to EJ analyses is consultation with stakeholders, including communities that may have access to data useful for improving the characterization of exposure and risk. Other data that can be used to evaluate potential EJ concerns within an HHRA include exposure data, epidemiological data, toxicity (including susceptibility) data, and fate and transport data. Relevant data can be location-specific or population group-specific, or, ideally, both. Relevant data may also include ambient concentration data (e.g., from air monitoring stations and water quality measures), or public health data such as disease incidence.

Exposure data may include intake data such as consumption or contact rates, routes of exposure, behavior data for estimating contact rates, concurrent exposures to other stressors that are of toxicological relevance, biomonitoring data, or emissions data. Extensive discussion about use of exposure data in the EJ context is available in the peer-reviewed literature. Burger and Gochfeld (2011), for example, discuss the types of unique exposure pathways that may occur in population groups of concern, and suggest that the first step in improving risk methodology is to recognize and account for unique exposure sources (e.g., tattoos and sweat baths, culturally significant toys, mercury used in religious practices) and the corresponding exposure pathways. If a chemical bioaccumulates, for example in fish, it would pose greater risks to populations who eat more local fish for subsistence or cultural reasons (see Fitzgerald et al. (2005) for another example).

Health risk data could include incidence data specific to populations with potential EJ concerns, historical population-specific disease or illness rates, and toxicological data, such as that found in the EPA's Integrated Risk Information System database.

Model and Tool Identification. Risk assessment employs a range of models and tools to estimate ambient concentrations of stressors, exposure, amounts of stressors likely to reach the target organ (e.g., effective dose), risks for a specific health endpoint, locational vulnerability to health impacts, and other key factors.

A challenge for incorporating potential EJ concerns into an HHRA can be ensuring that input parameters for models are representative of population groups of concern. Traditional defaults used for inputs in HHRAs may not adequately reflect the demographic characteristics of these population groups. Within the research community and among state and local agencies, several new tools and models reflect recent methodological advances for addressing potential EJ concerns. The EPA also has developed improved models and tools with a specific focus on EJ, such as Environmental Benefits Mapping and Analysis Program (BenMAP). BenMAP is designed to provide the type of input that is particularly useful in a regulatory

analysis and can be adjusted to highlight particular population groups. More recently, the Agency released EJSCREEN, a census tract-level mapping tool that organizes demographic and environmental data that could prove useful to HHRA planning for evaluating potential EJ concerns.[40] Text Box 5.5 identifies several recent tools that can be used to support EJ planning within an HHRA.

Identifying Data Quality and Data Gaps. Assessing potential EJ concerns may be aided by rapidly developing data and tools; thus, it is important that the HHRA planning process include a clear discussion of data available to characterize key uncertainties, data quality, and lack of data that may affect methodology development and/or results.

In some cases, lack of data may prompt a decision to limit the scope of an analysis of potential EJ concerns within an HHRA. It is recommended that such decisions be clearly documented. Documentation is particularly important in an EJ context because stakeholders often provide comments about how to proceed when there is a lack of data. In some instances, clear documentation of lack of data may lead to changes in the design of the regulatory action to facilitate better monitoring in EJ communities.[41]

To promote further the quality of data used in planning risk assessments, risk analysts should review the EPA's Information Quality Guidelines (IQG) and Data Quality Objectives (DQO) (U.S. EPA, 2012a). IQGs and DQOs help increase the integrity, objectivity, and quality of data when analyzing potential EJ concerns.[42]

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[40] EJSCREEN is available at: www.epa.gov/ejscreen.

[41] For example, comments from stakeholders during the NOx NAAQS rulemaking process resulted in siting additional monitors "in susceptible and vulnerable communities" (U.S. EPA, 2010d). Likewise, outreach to vulnerable communities living near refineries during the risk and technology review for petroleum refineries resulted in discussion, and ultimately incorporation, of fence line monitoring of benzene emissions, into the final rule in part in order to provide communities with access to data on what is being released into their neighborhoods (U.S. EPA, 2015c).

[42] For more information on IQGs and DQOs , visit the EPA's Information Quality Guidelines website (http://www.epa.gov/quality/epa-information-quality-guidelines) and the EPA's *Guidance on Systematic Planning Using the Data Quality Objectives Process* report (http://www.epa.gov/sites/production/files/documents/guidance_systematic_planning_dqo_process.pdf).

Text Box 5.5: Examples of Models, Tools, and Technical Resources for Evaluating Potential EJ Concerns within a Human Health Risk Assessment

Data Resources

- Geospatial Platform http://www.geoplatform.gov
- U.S. Census American Fact Finder http://factfinder2.census.gov/
- EPA Report on the Environment http://www.epa.gov/roe/
- EnviroAtlas http://enviroatlas.epa.gov
- Eco-Health Relationship Browser http://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth_RelationshipBrowser/introduction.html
- America's Children and the Environment Report, Third Edition http://www.epa.gov/ace/
- CDC Tracking Program-Funded State and Local Health and Environmental Tracking http://ephtracking.cdc.gov/showStateTracking.action
- CDC Environmental Public Health Indicators http://ephtracking.cdc.gov/showIndicatorsData.action
- National Air Toxics Assessment (EPA Office of Air and Radiation (OAR)) http://www.epa.gov/national-air-toxics-assessment
- The EPA's Air Quality System http://www.epa.gov/aqs
- The EPA's Integrated Risk Information System Database http://www.epa.gov/IRIS/
- National Library of Medicine, Toxicology and Environmental Health Information Program https://www.nlm.nih.gov/pubs/factsheets/tehipfs.html
- State or county public health and environmental databases
- County Health Ranking and Roadmaps http://www.countyhealthrankings.org/
- Superfund site information http://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm
- RCRAInfo http://www.epa.gov/enviro/facts/rcrainfo/search.html
- State databases for state-regulated facilities
- Water Data and Tools http://www.epa.gov/waterdata
- Advisories and Technical Resources for Fish and Shellfish Consumption http://www.epa.gov/fish-tech
- Find Information about Your Beach http://www.epa.gov/beaches/find-information-about-your-beach
- NOAA Harmful Algal Bloom Operational Forecast System http://tidesandcurrents.noaa.gov/hab
- Water Quality Portal http://www.waterqualitydata.us/

Guidance and References

- EPA Risk Assessment Portal http://epa.gov/risk/
- EPA Community Action for a Renewed Environment http://www.epa.gov/care/
- Air Toxics Risk Assessment Reference Library http://www.epa.gov/fera/risk-assessment-and-modeling-air-toxics-risk-assessment-reference-library
- Recent state legislation on a broad range of environmental issues http://www.ncsl.org/issues-research/energyhome/energy-environment-legislation-tracking-database.aspx
- Recent state legislation on environmental justice http://gov.uchastings.edu/public-law/docs/ejreport-fourthedition1.pdf
- California Environmental Protection Agency Cumulative Impacts Assessment Methodology http://oehha.ca.gov/ej/cipa123110.html
- CDC Health Disparities and Inequalities Report: http://www.cdc.gov/minorityhealth/CHDIReport.html

Models and Tools

- Office of Pesticide Programs Models http://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/models-pesticide-risk-assessment
- BenMAP (OAR) http://www.epa.gov/benmap
- Community-Focused Exposure and Risk Screening Tool (C-FERST) http://www.epa.gov/healthresearch/community-focused-exposure-and-risk-screening-tool-c-ferst
- EJSCREEN http://www2.epa.gov/ejscreen
- Community Cumulative Assessment Tool (under development by Office of Research and Development) http://www.epa.gov/sites/production/files/2015-09/documents/shc_2015_ccat_poster.pdf
- Office of Research and Development Methods, Models, Tools, Databases http://www.epa.gov/research/methods-models-tools-and-databases

EXHIBIT E

EPA, Memorandum, Subject: Promoting the Use of Health Impact Assessment to Address Human Health in Reviews Conducted Pursuant to [NEPA] and Section 309 of the Clean Air Act (Nov. 10, 2015)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 10 2015

MEMORANDUM

SUBJECT: Promoting the Use of Health Impact Assessment to Address Human Health in Reviews Conducted Pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act

FROM: Susan E. Bromm
Director
Office Enforcement and Compliance Assurance (OECA)
Office of Federal Activities (OFA)

Michael Slimak
Director
Office of Research and Development (ORD)
Sustainable and Healthy Communities (SHC) Research Program

TO: Regional NEPA Directors
Regional 309 Environmental Review Coordinators

Health Impact Assessment (HIA) is a decision support tool that provides a means of factoring evidence-based health considerations into the decision-making process. HIA has been described as "a systematic process that uses an array of data sources and analytic methods, and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects."[1] HIA promotes a broad definition of health, beyond the mere absence of disease or infirmity, and provides evidence-based recommendations to address disproportionate health effects, mitigate potential adverse health effects, and bolster potential beneficial health effects of the proposed decision.

The practice of HIA has been seen as a way to not only enhance human health considerations in the NEPA process, but also ensure considerations of environmental justice (EJ) and children's health (as called for in Executive Orders 12898 and 13045, respectively) due to its ability to:

- Provide the lead agencies and other stakeholders with information on the potential health effects of a proposed action and its alternatives, through the broad consideration of impacts to health and health determinants and deliberative engagement of community members and other stakeholders throughout the HIA process;

[1] National Research Council. (2011). Im*proving Health in the United States: The Role of Health Impact Assessment*. Washington, D.C.: The National Academies Press.

- Identify disproportionate human health and/or environmental effects, including high and adverse impacts, of a proposed action and its alternatives on minority and tribal populations, low-income populations, and vulnerable populations, such as children and the elderly, and develop recommendations to address those effects; and
- Develop recommendations to promote the health benefits of a proposed action and its alternatives and/or mitigate against potential negative health impacts before the action is implemented.

OFA and SHC will be working together to consider the use of HIA in the NEPA process as part of EPA's NEPA/Section 309 reviews. More specifically, we are working to:

- Develop screening and scoping tools for use by Regional NEPA/Section 309 reviewers to identify proposals that could benefit from an HIA or HIA elements, based on the proposal's potential for significant impacts on human health.
- Develop web-based training to educate Regional NEPA/Section 309 reviewers on HIA, the HIA process, and the role HIA may play in the NEPA process.
- Partner with a federal agency (or agencies) to conduct a pilot project integrating HIA into an environmental impact statement and/or assessment, using general HIA best practices identified in EPA's systematic review of health impact assessments in the U.S.[2] and lessons learned from the HIA field of practice for integrating HIA into environmental impact assessment.

We welcome your input on these efforts, and we will be forming a workgroup to ensure Regional participation. For questions, please contact Julie Roemele, NEPA Compliance Division, at 202-564-5632 (roemele.julie@epa.gov) or Florence Fulk, ORD, at 513-569-7379 (fulk.florence@epa.gov).

cc: Florence Fulk, Office of Research and Development
Julie Roemele, Office of Federal Activities

[2] Rhodus, J., F. Fulk, Brad Autrey, S. O'Shea, and A. Roth. (2013). *A Review of Health Impact Assessments in the U.S.: Current State-of-Science, Best Practices, and Areas for Improvement*. EPA/600/R-13/354. Washington, DC: U.S. Environmental Protection Agency.

EXHIBIT F

EPA, Health and Environmental Effects of Particulate Matter (PM) (Apr. 13, 2020)

An official website of the United States government.

EPA United States Environmental Protection Agency

Health and Environmental Effects of Particulate Matter (PM)

Health Effects

The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into your lungs, and some may even get into your bloodstream.

Exposure to such particles can affect both your lungs and your heart. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- premature death in people with heart or lung disease
- nonfatal heart attacks
- irregular heartbeat
- aggravated asthma
- decreased lung function
- increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

People with heart or lung diseases, children, and older adults are the most likely to be affected by particle pollution exposure.

- AirNow can help you monitor air quality near you, and protect yourself and your family from elevated PM levels.

Environmental Effects

Visibility impairment

Fine particles ($PM_{2.5}$) are the main cause of reduced visibility (haze) in parts of the United States, including many of our treasured national parks and wilderness areas. Learn more about visibility and haze

Environmental damage

Particles can be carried over long distances by wind and then settle on ground or water. Depending on their chemical composition, the effects of this settling may include:

- making lakes and streams acidic
- changing the nutrient balance in coastal waters and large river basins
- depleting the nutrients in soil
- damaging sensitive forests and farm crops
- affecting the diversity of ecosystems
- contributing to acid rain effects.

Materials damage

PM can stain and damage stone and other materials, including culturally important objects such as statues and monuments. Some of these effects are related to acid rain effects on materials.

Further Reading

Particle Pollution and Your Health (PDF) (2 pp, 320 K, About PDF): Learn who is at risk from exposure to particle pollution, what health effects you may experience as a result of particle exposure, and simple measures you can take to reduce your risk.

How Smoke From Fires Can Affect Your Health: It is important to limit your exposure to smoke -- especially if you may be susceptible.

EPA research on airborne particulate matter: EPA supports research that provides the critical science on PM and other air pollutants to develop and implement Clean Air Act regulations that protect the quality of the air we breathe.

LAST UPDATED ON APRIL 13, 2020

EXHIBIT G

Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for EJ Methodologies in NEPA Reviews (Mar. 2016) (excerpts)

Promising Practices for EJ Methodologies in NEPA Reviews

Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee

Working together towards collaborative and innovative solutions

MARCH 2016

A NEPA Committee and EJ IWG Document

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Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.

Federal agencies should ensure recipients of federal financial assistance engaged in the NEPA process comply with Title VI in addition to fulfilling the requirements of NEPA. A separate Title VI analysis may be necessary. For guidance on Title VI compliance, consult with your Agency's Office of Civil Rights or the Civil Rights Division of the Department of Justice.

III. DEFINING THE AFFECTED ENVIRONMENT

Guiding Principles

Agencies can be informed by consideration of the following guiding principles:

1. Consistent with applicable requirements (e.g., 40 CFR §1502.15), as agencies describe the environment of the area(s) to be affected or created by the alternatives under consideration, they can benefit from an understanding of community and population characteristics, location, conditions and other relevant information. One of the important functions of defining the affected environment is to help agencies determine the outer boundaries (i.e., footprint) of each potentially impacted resource topic analyzed in the NEPA document. These boundaries help define the affected area within which potentially impacted minority populations and low-income populations will be considered during the NEPA review. The geographic extent of the affected environment may vary for each resource topic analyzed in the NEPA document.

2. Data (including input from minority populations, low-income populations, and other interested individuals, communities, and organizations) on ecological, aesthetic, historic, cultural, economic, social, or health conditions of minority populations and low-income populations within the affected environment can provide agencies with useful insight into how the community's conditions, characteristics, and/or location can influence the extent of the affected environment. (See also section 2.1, p.14)

3. After considering unique conditions (e.g., ecological, aesthetic, historic, cultural, economic, social, or health) of the potentially affected minority populations and low-income populations, Agencies may wish to consider that the extent of the affected environment maybe larger (or smaller) and differently shaped than the boundaries would have been drawn without the existence of those conditions. The affected environment may also not be contiguous. (See also section 5, p.23)

4. When determining whether a potentially affected minority population or low-income population influences the extent of the affected environment, agencies can be informed by considering the proposed action's: 1) exposure pathways (routes by which the minority or low-income population may come into contact with chemical, biological, physical, or radiological effects); 2) ecological, aesthetic, historic, cultural, economic, social, or health consequences to the community; and 3) distribution of adverse and_beneficial impacts from the proposed action. (See also section 5, p.23)

5. Agencies may wish to create a map to delineate the affected environment. A visual depiction of the affected environment may be beneficial to an agency's decision-making process, meaningful engagement efforts, and to the community's understanding of the proposed federal action. (See also section 2, p.14)

Specific Steps

As appropriate, agencies can consider the following actions:

1. In order to provide a useful comparative context for the consideration of impacts to minority populations and low-income populations, when developing the baseline characterization of the affected environment agencies can be informed by considering for each resource topic in the NEPA document: 1) exposure pathways; 2) direct, indirect and cumulative ecological, aesthetic, historic, cultural, economic, social, or health impacts; and 3) distribution of any potential beneficial or adverse impacts. Agencies may also be informed by consideration of multiple exposures. (See also section 7.1:11, p. 34)

2. Agencies may wish to consider collecting data and information relevant to the three community considerations in Step One (exposure pathways, related impacts, and beneficial impacts distribution) for minority populations and low-income populations within the boundaries of the baseline characterization. Include data related to reasonably foreseeable direct, indirect, and cumulative adverse and beneficial impacts from the proposed federal action on the community. Agencies may also be informed by consideration of multiple exposures. (See also section 8.1:11, p. 42)

3. Agencies may wish to consider data and information from a variety of sources, including, but not limited to: 1) community residents and other interested individuals and organizations; 2) data sets from federal, state, local and tribal governments; 3) peer-reviewed and other scientific literature; and 4) articles in industry and professional journals, popular press, websites, etc.

4. Agencies may wish to consider identifying and describing any unique conditions of the potentially affected minority populations and low-income populations that may be affected by the proposed action, based on data and information collected in Specific Step Two above. Unique conditions may include, but are not limited to: 1) human health vulnerabilities (e.g., heightened disease susceptibility, health disparities); 2) socioeconomic vulnerabilities (e.g., reliance on a particular resource that may be affected by the proposed action, disruptions to community mobility and access as a result of infrastructure development); and 3) cultural vulnerabilities (e.g., traditional cultural properties and ceremonies, fish

consumption practices).

5. Agencies may wish to consider the need to revise the initial baseline characterization (see section 3.2:1) of the affected environment, including revisions to the outer boundaries and pockets of minority populations and low-income populations (as appropriate) using information obtained from specific steps Two through Four. Be mindful that data may suggest the outer boundaries of the affected environment and/or pockets of minority populations and low-income populations may require adjustment.

6. Consider documenting agencies' characterizations of the affected environment in plain language that is easily understood by the general public and the potentially affected minority populations and low-income populations.

7. Consider providing written explanation in the records for agencies' chosen methods and data used to characterize the affected environment (See, e.g., 40 CFR §1502.24)

EXHIBIT H

EPA, EJSCREEN: Environmental Justice Screening and Mapping Tool (Aug. 2, 2018)

An official website of the United States government.

EPA United States Environmental Protection Agency

Launch the EJSCREEN Tool

Explore EPA's environmental justice screening and mapping tool

In order to better meet the Agency's responsibilities related to the protection of public health and the environment, EPA has developed a new environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports.

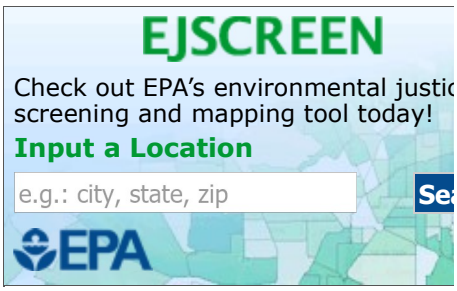
What is EJSCREEN?

What is EJSCREEN?
- How was It Developed?
- How Does EPA Use It?
- Purposes and Uses

Learn to Use EJSCREEN

Learn to Use EJSCREEN

Launch the Tool

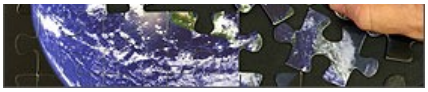


Launch the EJSCREEN Tool

Understanding Results

Technical Information

Additional Resources



- Understanding EJSCREEN Results
  - EJ Indexes
  - Environmental Indicators
  - Demographic Indicators
  - How to Interpret a Standard Report
- Technical Information
  - Limitations and Caveats
  - Download EJSCREEN Data
- EJSCREEN Resources
  - Frequent Questions about EJSCREEN
  - Glossary of EJSCREEN Terms
  - Other EPA Mapping Tools
  - EJSCREEN Videos

LAST UPDATED ON AUGUST 2, 2018

EXHIBIT I

FAA, 1050.1F Desk Reference (v2) (Feb. 2020) (excerpts)

1050.1F Desk Reference

Federal Aviation Administration
Office of Environment and Energy

Version 2 (February 2020)

12. Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

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This chapter covers socioeconomics (Section 12.1), environmental justice (Section 12.2), and children's environmental health and safety risks (Section 12.3).

12.1. Socioeconomics

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature, or a combination of the two. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s).

Section 1508.14 of the Council on Environmental Quality (CEQ) Regulations states that "economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment". Therefore, the requirement to prepare socioeconomic analysis in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is project specific and is dependent upon the existence of a relationship between natural or physical environmental effects and socioeconomic effects.

12.1.1. Regulatory Setting

Exhibit 12-1 lists the primary statute related to socioeconomic impacts for the Federal Aviation Administration's (FAA) National Environmental Policy Act (NEPA) reviews. See Appendix B.9 for more detailed information about these requirements.

Exhibit 12-1. Statute Related to Socioeconomic Impacts

Statute	Location in U.S. Code	Implementing Regulation(s)	Oversight Agency[a]	Summary
Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970	42 U.S.C. § 61 et seq.	49 CFR part 24	FHWA	This Act contains provisions that must be followed if acquisition of real property or displacement of people would occur as a result of implementing the selected alternative.

[a] CFR = Code of Federal Regulations; FHWA = Federal Highway Administration; U.S.C. = United States Code.

12.1.1.1. Consultations, Permits, and Other Approvals

Uniform Relocation Assistance and Real Property Acquisition Policies Act

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for federal projects and projects involving federal funding. Additionally, the FAA, to the fullest extent possible and when applicable, observes all state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing, or implementing the proposed action or alternative(s). (This requirement does not cover local zoning laws, set-back ordinances, and building codes because the federal government is exempt from them).

12.1.2. Affected Environment

For socioeconomics, the study area may be larger than the study area for other impact categories, as a proposed action could have an effect on the social fabric of the surrounding community. The environmental review should consider the impacts of the alternatives on the following broad indicators: economic activity, employment, income, population, housing, public services, and social conditions. The responsible FAA official should consult with local transportation, housing

and economic development, relocation and social agency officials, and community groups regarding the social impacts of the proposed action and alternative(s).

The baseline conditions should include the size of local population centers, the distance from a project site to these areas, and the nature of the local economies. U.S. Census Bureau, state, and local government data are often used to describe baseline socioeconomic characteristics. Other data sources include the following: U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, state economic development agencies, local government agencies, chamber of commerce records, and private organizations that operate as data brokers. Private institutions may also post relevant data on websites or publish them in readily available formats.

The following indicators may be relevant when characterizing the baseline socioeconomic conditions within the affected environment.

12.1.2.1. Economic Activity and Income

Understanding the incomes of individuals located in the study area will allow for a comparison between the current condition and projected impacts associated with the alternatives. The U.S. Bureau of Economic Analysis website at: http://www.bea.gov/ provides regional and national information about gross domestic product and personal income. The American Community Survey (ACS) at: https://www.census.gov/programs-surveys/acs/ also includes information about income. In addition, information about state and local taxes can be found on the U.S. Census Bureau's Census of Governments website at: https://www.census.gov/govs/ or on local government websites. Each state's income, sales, and property tax rates will vary.

12.1.2.2. Employment

The U.S. Bureau of Labor Statistics website at: http://www.bls.gov/ provides information on the labor force and various labor force characteristics including the current number of employed and unemployed persons within an area, consumer price indexes, productivity, and demographic characteristics of the labor force. This website can be used to collect information about the people working in the study area and their spending habits.

12.1.2.3. Population and Housing

The U.S. Census Bureau website at: http://www.census.gov/ provides the results of the Decennial Censuses and American Community Survey, which include housing and population information. Census data may be particularly useful because the data are summarized at different geographic levels in descending order of size, including: national, state, county, census tracts, block group, and block. Because of the need to protect the privacy of individuals living within blocks, income data are available only as small as the block group level. The various sizes of Census data available allow the most appropriate data to be selected for the specific study area. As ACS data is often more current than decennial census data, consider which data set is likely to provide more relevant data based on the population of the study area and the amount of time that has elapsed since the last decennial census. Further, ACS data at the block group level is available within the Aviation Environmental Design Tool (AEDT).

Useful tools for downloading Census data include the American FactFinder (http://factfinder.census.gov/) and DataFerrett (http://dataferrett.census.gov/).

12.1.2.4. Public Services and Social Conditions

Depending on the location and scope of the alternatives, consult state, local, or county government resources to determine the public services and social conditions potentially impacted by a project. Detailed information regarding a community's educational institutions, medical services, and emergency response services is typically available from federal, state, or county/municipal sources.

12.1.3. Environmental Consequences

A proposed action and alternatives may involve the potential for socioeconomic impacts on surrounding communities, such as shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity. An example of a direct socioeconomic impact is the change in job availability caused when a new construction project is proposed in an area. The construction project may result in an increase in available jobs; however, these jobs may be temporary in nature and would cease to exist when construction is completed.

The specific types of socioeconomic impacts that may result from an alternative depend on the nature of the proposed action and alternatives. Exhibit 12-2 provides examples of the types of socioeconomic impacts that may be considered for the proposed action and alternatives. Whether or not the various potential impact areas should be discussed will depend on what the action is and whether the potential socioeconomic impacts are interrelated with or inseparable from a physical or natural environmental effect. When the analysis indicates substantial induced or secondary impacts attributable to the proposal, a detailed analysis of such impacts should be included in the document. As pertinent and to the extent known or reasonably foreseeable, such factors as impacts on regional growth and development patterns, and spin-off jobs created should be described.

Exhibit 12-2. Socioeconomic Impacts that May be Considered

Potential Impact Area	What to Analyze
Economic Activity	Consider the effects of the proposed action and alternatives on the reduction of or increase in economic activity in the study area. As pertinent and to the extent known or reasonably foreseeable, describe such factors as impacts on regional growth and development patterns.
Employment	Determine the impacts of the proposed action and alternatives on employment in the study area. Analyze indicators such as current unemployment rates, commuter patterns, and the existing labor force. Consider these factors in conjunction with implementation of the proposed action and alternatives.
Income	Analyze current information on per capita income, median household income, and rates of poverty for individuals in the study area and consider how the proposed action and alternatives would change the existing conditions.
Population	Determine the impacts of the proposed action and alternatives on current population and projected population growth rates in the study area. Consider the impact of a project on the potential for people to migrate to or leave the area.
Housing	Consider the effects of the proposed action and alternatives on the availability of housing, both temporary and permanent, in the study area. Research the available housing units and determine if a project would cause an increase or decrease in the demand for housing.
Public Services	Determine the effects of the proposed action and alternatives on the availability of public services to those in the study area. Consider factors such as changes in water usage, traffic patterns, transportation availability, or medical, rescue, education, or utility services as a result of a project.
Social Conditions	Analyze the social conditionsin the study area. Consider how the proposed action and alternatives would impact factors such as community cohesion and religious institutions or otherwise result in disruption or division of the local community.

Consider whether the proposed action and alternatives would result in relocation of local businesses, public services, or housing units. In cases where relocation is involved, the NEPA documentation should provide:

- estimates of the numbers and characteristics of individuals and families to be displaced;
- the impact on the neighborhood and housing to which relocation is likely to take place; and
- an indication of the ability of that neighborhood to provide adequate relocation housing for the families to be displaced.

The NEPA document should also include a description of special relocation advisory services to be provided, if any, for the elderly, handicapped, or illiterate regarding interpretation of benefits or other assistance available.

If an insufficient supply of generally available relocation housing is indicated, the document should reflect a thorough analysis of efforts made to remedy the problem. This includes, if necessary, a provision for housing of last resort as authorized by Section 206(a) of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. If business relocation would

cause appreciable economic hardship on the community, if significant changes in employment would result directly from the action, or if community disruption is considered substantial, the NEPA document should include a detailed explanation of the impacts and the reasons why significant impacts cannot be avoided.

12.1.3.1. Significance Determination

The FAA has not established a significance threshold for socioeconomics in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for socioeconomics (see Exhibit 4-1 of FAA Order 1050.1F). The determination that significant impacts exist in the socioeconomic impact category is normally dependent on whether the potential socioeconomic impact(s) are interrelated with or inseparable from a physical or natural environmental effect. Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

Factors to consider that may be applicable to socioeconomic resources, if they are interrelated with natural or physical environmental impacts (see 40 CFR § 1508.14), include, but are not limited to, situations in which the action would have the potential to:

- induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- disrupt or divide the physical arrangement of an established community;
- cause extensive relocation when sufficient replacement housing is unavailable;
- cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- produce a substantial change in the community tax base.

12.1.4. Mitigation

Examples of potential measures to mitigate socioeconomic impacts that may be appropriate for the proposed action and alternatives include the following:

- compensating for or reducing any detrimental impacts the proposed action or alternative(s) may have caused to the economic health of the study area. This could include providing relocation assistance to local business owners in accordance with the Uniform Relocation Act; and
- providing a financial payment and/or relocation assistance to renters and people who are displaced from their homes as required by the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

12.2. Environmental Justice

According to the U.S. Environmental Protection Agency (EPA), Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA defines f*air treatment* to mean that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies. EPA defines *meaningful involvement* as:

- Potentially affected populations have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
- the public's contribution can influence the regulatory agency's decision;
- the concerns of all participants will be considered in the decision making process; and
- the rule-writers and decision makers seek out and facilitate the involvement of those potentially affected.

12.2.1. Regulatory Setting

Exhibit 12-3 lists the primary statutes, Executive Orders, and other guidance related to environmental justice impacts. See Appendix B.9 for more detail on these requirements.

Exhibit 12-3. Statutes, Executive Orders, and Other Guidance Related to Environmental Justice

Statute or Executive Order	Location in U.S. Code or *Federal Register*	Implementing Regulation(s)	Oversight Agency[a]	Summary[a]
Title VI of the Civil Rights Act of 1964, as amended	42 U.S.C. §§ 2000d-2000d-7	28 CFR § 42.401	DOJ	Title VI of the Civil Right Act of 1964 states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title VI explicitly prohibits any discrimination in federally funded programs and projects, including those sponsored by the FAA.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	59 *Federal Register* 7629, (February 11, 1994)	Not applicable	EPA	Requires federal agencies to incorporate environmental justice into their programs, policies and activities.

Statute or Executive Order	Location in U.S. Code or *Federal Register*	Implementing Regulation(s)	Oversight Agency[a]	Summary[a]
CEQ Guidance: "Environmental Justice: Guidance Under the National Environmental Policy Act" (December 10, 1997)	Not applicable	Not applicable	CEQ	Outlines how environmental justice could be considered in NEPA documents. Provides widely used definitions of minority, low-income, and other environmental justice concepts.
Memorandum of Understanding on Environmental Justice and Executive Order 12898 (August 4, 2011)	Not applicable	Not applicable	Not applicable	The participating federal agencies (which includes the FAA) agree to declare the continued importance of identifying and addressing environmental justice considerations in their programs, policies, and activities as provided in Executive Order 12898.
U.S. Department of Transportation Environmental Justice Strategy [1]	Not applicable	Not applicable	DOT	Describes the framework for comprehensively incorporating environmental justice into all of DOT's programs, policies and activities.
DOT Order 5610.2(a), Environmental Justice in Minority and Low-Income Populations	77 *Federal Register* 27534, (May 10, 2012)	Not applicable	DOT	Establishes principles for integrating environmental justice into current policies and practices.
Promising Practices for EJ Methodologies in NEPA Reviews, Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee (March 2016)	Not applicable	Not applicable	Federal Interagency Working Group on Environmental Justice & NEPA Committee	Compilation of methodologies gleaned from current federal agency practices concerning the interface of environmental justice considerations through the NEPA processes.

[a] CEQ = Council on Environmental Quality; CFR = Code of Federal Regulations; DOJ = U.S. Department of Justice; DOT = U.S. Department of Transportation; EPA = U.S. Environmental Protection Agency; FAA = Federal Aviation Administration; MOU = Memorandum of Understanding; NEPA = National Environmental Policy Act; U.S.C. = United States Code.

12.2.1.1. Consultations, Permits, and Other Approvals

Executive Order 12898 and DOT Order 5610.2(a)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, signed by the President on February 11, 1994 directs federal agencies to identify and address disproportionately high and adverse effects of federal

[1] https://www.transportation.gov/policy/transportation-policy/environmental-justice-strategy.

projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

When the FAA determines that a project has significant impacts in any environmental impact category, the potential for disproportionately high and adverse effects on minority or low-income populations must be examined pursuant to DOT Order 5610.2(a). Even in the absence of a significant impact in an environmental impact category, further inquiry into the potential for disproportionately high and adverse effects on minority or low-income populations may be warranted based upon the demographics of the study area and the nature of environmental impacts associated with the proposed project. If there are disproportionately high and adverse effects on minority or low-income populations, DOT Order 5610.2(a) requires that certain procedures be followed for analyzing the proposed action's potential impacts, offsetting benefits, potential alternatives, and substantial need. The FAA reflects its adherence to the requirements of DOT Order 5610.2(a) in its NEPA document.

Title VI of the Civil Rights Act

Under Title VI, the FAA is required to ensure that no person, on the ground of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. The Title VI requirements apply to all Federally-funded projects and activities and govern actions both by the federal government and the recipients of federal financial assistance. Title VI applies not only to adverse human health or environmental effects of a federally funded project or activity but also to the provision of benefits under such a project or activity. However, Title VI does not address discrimination based on income in any program or activity receiving federal financial assistance.

FAA Order 1050.1F

Requirements for meaningful public involvement by minority and low-income populations are addressed in Paragraph 2-5.2.b of FAA Order 1050.1F. As stated in the Order, the FAA must provide for meaningful public involvement by minority and low-income populations. In accordance with DOT Order 5610.2(a), this public involvement must provide an opportunity for minority and low income populations to provide input on the analysis, including demographic analysis, which identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. The public involvement process can also provide an opportunity to gather information on patterns of subsistence consumption of fish or wildlife by the affected populations, and to provide information on the risks of such consumption when a proposed action or its alternatives substantially affect these risks.

12.2.2. Affected Environment

The combination of all study areas for the other relevant impact categories represents the potential impact area for environmental justice, because environmental justice impacts may be realized in conjunction with impacts to any other impact category.

The description of the affected environment for the NEPA document should identify the minority and low-income populations located within the identified study area. The environmental document should include demographic information about the affected populations and information about the populations that have an established use for the significantly affected resource, or to whom that resource is important (e.g., subsistence fishing).

Exhibit 12-4 presents the definitions from DOT Order 5610.2(a) that may be used to help identify potential environmental justice populations in the study area.

Exhibit 12-4. Definitions from DOT Order 5610.2(a) to Identify Status of Environmental Justice Populations

Term	Definition
Minority	A person who is: 1. Black: a person having origins in any of the black racial groups of Africa; 2. Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race; 3. Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent; 4. American Indian and Alaskan Native: a person having origins in any of the original people of North America, South America (including Central America) and who maintains cultural identification through tribal affiliation or community recognition; or 5. Native Hawaiian and Other Pacific Islander: people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
Minority Population	Any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity.
Low-Income	A person whose median household income is at or below the Department of Health and Human Services poverty guidelines.[a]
Low-Income Population	Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity.

Source: DOT Order 5610.2(a)

[a] These guidelines can be found on the U.S. Department of Health and Human Services website located at: http://www.hhs.gov/.

Per DOT Order 5610.2(a), low income population is determined by considering the percentage of individuals in the study are whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines, available at: http://aspe.hhs.gov/poverty/index.cfm. According to HHS, the best approximation for the number of people below the HHS poverty guidelines in a particular area would be the number of persons below the Census Bureau poverty thresholds in that area. (https://aspe.hhs.gov/frequently-asked-questions-related-poverty-guidelines-and-poverty#many).

The following methods may be used to help find information about potential environmental justice populations in the study area:

- AEDT: The Aviation Environmental Design Tool (AEDT) incorporates a methodology to identify potential environmental justice populations. The screening capability uses U.S. Census American Community Survey (ACS) data to graphically present census block groups with minority and/or low-income populations that exceed specified thresholds. Screening results should be supplemented with additional information and local knowledge to obtain a better understanding of the issues in a selected location. Refer to the guidance document *Guidance on Using the Aviation Environmental Design Tool*

(AEDT) to Screen for Potential Environmental Justice Populations on the AEDT website (www.aedt.faa.gov) for additional guidance on using AEDT to identify potential environmental justice populations.

- Census data: Demographic data can be accessed through the Census Bureau's American Community Survey website at: https://www.census.gov/programs-surveys/acs/, or through the most recent decennial census. Data, including minority and low-income population data, can be accessed for select census block groups and evaluated using Geographic Information Systems (GIS). Caution must be undertaken to avoid inadvertently counting an individual twice with regard to race categories. For example, people may choose to report more than one race to indicate their racial mixture, such as "American Indian" and "White".
- EJSCREEN, available at: http://www.epa.gov/ejscreen, is an environmental justice mapping and screening tool that provides a nationally consistent dataset and approach for combining environmental and demographic indicators. EJSCREEN provides demographic and environmental information and includes a method for combining environmental and demographic indicators into EJ indexes. Screening results should be supplemented with additional information and local knowledge to get a better understanding of the issues in a selected location. Note that EJSCREEN defines "low-income" as individuals living with incomes below 200 percent of the federal poverty level, which differs from the DOT definition used by the FAA. As a result, when using this tool, practitioners should ensure that they can convert the results so that they can be compared to the DOT definition.
- Transient or temporary workers or temporary workers may not be captured in the HHS data. Data on transient or temporary workers can be found through sources such a s the Department of Labor's National Agricultural Worker's Survey, and through data collected by town, city, and county governments in the vicinity of the proposed action and alternative(s).
    - U.S. Department of Labor's National Agricultural Worker's Survey, https://www.doleta.gov/naws/
    - U.S. Department of Housing and Urban Development Homeless Data Exchange, http://www.hudhdx.info/
- **Local sources** can provide additional information. These include, but are not limited to, state, county or city organizations such as Metropolitan Planning Organizations; social service agencies; economic development organizations; housing authorities, tribal governments and school districts. Places of worship, food banks, homeless shelters, medical clinics and universities may also be useful sources of local demographic and economic data. Local sources may be especially helpful to identify minority and low-income populations that use resources affected by the project and to whom the affected resources are important for subsistence or cultural reasons. Also, local data may include temporary minority and low-income residents such as migrant workers that are not captured in the U.S. Census Bureau data.

12.2.3. Environmental Consequences

An environmental justice analysis considers the potential of federal actions to cause disproportionately high and adverse effects on low-income or minority populations.

DOT Order 5610.2(a) provides the following definition for the types of adverse impacts that should be considered when assessing impacts to environmental justice populations:

> Adverse effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness, or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities.

12.2.3.1. Determining Disproportionately High and Adverse Effects

The NEPA document should clearly describe the methodology used to determine if there are adverse impacts that disproportionately affect environmental justice populations. This includes providing results of analysis to determine if a low income or minority population using a resource sustains more of the impact than any other population segment. This determination relies upon meaningful public involvement to ensure that the unique characteristics of a minority or low-income population are considered.

DOT Order 5610.2(a) provides the following definition for a "disproportionately high and adverse impact" that should be used when assessing impacts to environmental justice populations:

> ***Disproportionately high and adverse effect on minority and low-income populations*** means an adverse effect that:
>
> 1. Is predominately borne by a minority population and/or a low-income population; or
> 2. Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

DOT Order 5610.2(a) indicates that mitigation and enhancement measures, offsetting benefits, and the relevant number of similar existing system elements in non-minority and non-low-income areas, can be taken into consideration when determining if there are disproportionately high and adverse effects from a project.

12.2.3.2. Significance Determination

The FAA has not established a significance threshold for environmental justice in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and

intensity of potential environmental impacts for environmental justice (see Exhibit 4-1 of FAA Order 1050.1F). Please note that these factors are not intended to be a threshold. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

Note that not all "adverse impacts" within the meaning of DOT Order 5610.2(a) will meet or exceed a significance threshold in another environmental impact category. Some adverse impacts may not be significant impacts in another environmental impact category as defined by Exhibit 4-1 in FAA Order 1050.1F, yet they may be a significant impact when examined in the context of their effects on minority or low-income populations. As a result, the responsible FAA official must undertake a case-by-case analysis of an action's unique facts. The responsible FAA official does this to determine if impacts not otherwise rising to a level of significance for NEPA purposes nonetheless represent disproportionately high and adverse effects, and/or a significant impact for environmental justice purposes. Examples of impacts that may not be significant impacts in another environmental impact category, but may be considered significant impacts when examined in the context of environmental justice include:

- Water resource impacts and/or biological resource impacts that are not considered significant standing alone, but may be significant when considered in the context of subsistence fishing or game consumption by environmental justice communities.
- Special cultural traditions associated with traditional cultural sites of Indian tribes may increase sensitivity to aircraft overflights. In such locations, overflights may introduce noise or visual intrusions that represent disproportionately high and adverse effects and significant impacts to an environmental justice population.

12.2.4. Mitigation

Any potential adverse impacts that affect minority or low-income populations should be identified early in the planning process so action can be taken to prevent them. Environmental justice impacts may be avoided or minimized through communicating early and consistently with the public and allowing ample time for public coordination. In addition to including public outreach efforts as part of the NEPA process, it may also be beneficial to include the public in identifying possible mitigation measures. In *"Environmental Justice: Guidance Under the National Environmental Policy Act,"* CEQ emphasizes the community's role in mitigation efforts, stating that efforts should reflect the needs of affected low-income populations, minority populations, or Indian tribes.

In cases where the FAA finds a significant impact, but determines that mitigation would reduce that impact below the applicable significance threshold, the environmental document should

describe how mitigation would reduce the impact to less than significant levels and verify that a project would not result in disproportionately high and adverse effects on low-income and minority populations.

12.3. Children's Environmental Health and Safety Risks

Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* 62 *Federal Register* 19885, (April 21, 1997), federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The FAA is encouraged to identify and assess environmental health risks and safety risks that the agency has reason to believe could disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to.

The Task Force on Environmental Health Risks and Safety Risks to Children, created by Executive Order 13045, identified four priority areas of impacts to children for immediate attention:

- Asthma;
- unintentional injuries;
- developmental disorders (including lead poisoning); and
- cancer.

For more information on the Task Force on Environmental Risks and Safety Risks to Children, see EPA's website for Children's Health Protection at: http://www2.epa.gov/children.

Impacts to children are considered separately in NEPA reviews because children may experience a different intensity of impact as compared to an adult exposed to the same event. For example, children's internal organs are still developing and they are therefore unable to process exposure to toxic substances in the same way that an adult can. Children are also more likely to exhibit behaviors that put them at a greater risk for exposure to hazards. Children under age 5 are more susceptible than adults to environmental hazards due to the fact they are more heavily exposed to toxins in proportion to their body weight. Children under age 5 breathe more air, drink more water, and eat more food per unit of body weight than adults do, so they may experience higher rates of exposure to toxins, pollutants, and pathogens.

12.3.1. Regulatory Setting

Exhibit 12-5 lists the Executive Order related to children's environmental health and safety risks. See Appendix B.9 for more detail on Children's Environmental Health and Safety Risks.

Exhibit 12-5. Executive Order Related to Children's Environmental Health and Safety Risks

Executive Order	Location in *Federal Register*	Implementing Regulation(s)	Oversight Agency	Summary
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks	62 *Federal Register* 19885, (April 23, 1997)	Not applicable	Not applicable	This Executive Order directs federal agencies to analyze their policies, programs, activities, and standards for any environmental health or safety risks that may disproportionately affect children. Included in these categories are risks to health or safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, water, recreational waters, soil, or products they might use or be exposed to.

12.3.1.1. Consultations, Permits, and Other Approvals

There are no formal required federal consultation processes, permits, or other approvals related to children's environmental health and safety risks.

12.3.2. Affected Environment

The affected environment for potential impacts for children's environmental health and safety is related to the affected environment for other impact categories (i.e., air quality, noise, etc.). Therefore, the study area for children's environmental health and safety should include the study areas identified for other impact categories that have the potential to impact children's environmental health and safety.

To identify how many children live in the area and how old they are, the Census Bureau collects data on children that can be accessed through their Fact Finder at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

In addition to determining the number and age of children in the study area, it may be beneficial to determine the number of schools, daycares, parks, and children's health clinics in the study area. Local websites and reports can be helpful in identifying these resources. Detailed information regarding a community's educational institutions, medical services, and emergency response services is typically available from federal, state, or county/municipal sources.

The FAA should consider whether the proposed action or alternative(s) would create new or exacerbate existing adverse impacts to children in any of the priority areas identified by the Task Force.

12.3.3. Environmental Consequences

Similar to environmental justice, impacts to children's health and safety in the context of other impact categories should be considered.

12.3.3.1. Significance Determination

The FAA has not established a significance threshold pertaining to impacts to children's environmental health and safety in FAA Order 1050.1F; however, the FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for children's environmental health and safety (see Exhibit 4-1 of FAA Order 1050.1F). Please note that this factor is not intended to be a threshold. The existence of this factor does not necessarily establish a significant impact; rather, the FAA must evaluate this factor in light of context and intensity to determine if there are significant impacts.

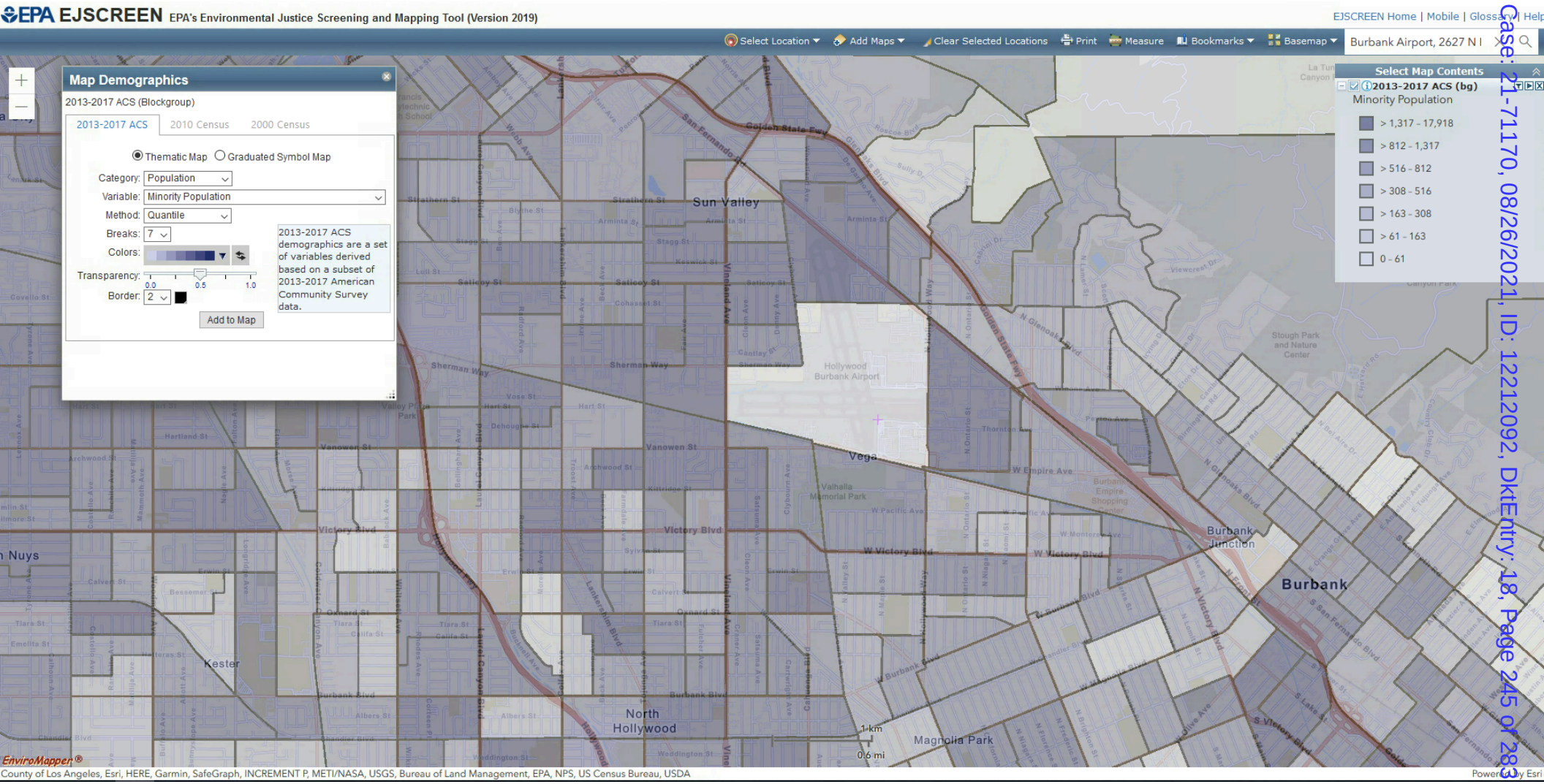
The factor to consider that may be applicable to children's environmental health and safety includes, but is not limited to, situations in which the proposed action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

12.3.4. Mitigation

The mitigation measures appropriate to minimize or eliminate potential adverse impacts could be the same as the mitigation measures identified for other impact categories with the potential to impact children's environmental health and safety (i.e., air, water, etc.), although in some situations unique mitigation measures specific to children may be identified.

EXHIBIT J

EPA, EJSCREEN, Screenshots of Use (Oct. 2020)



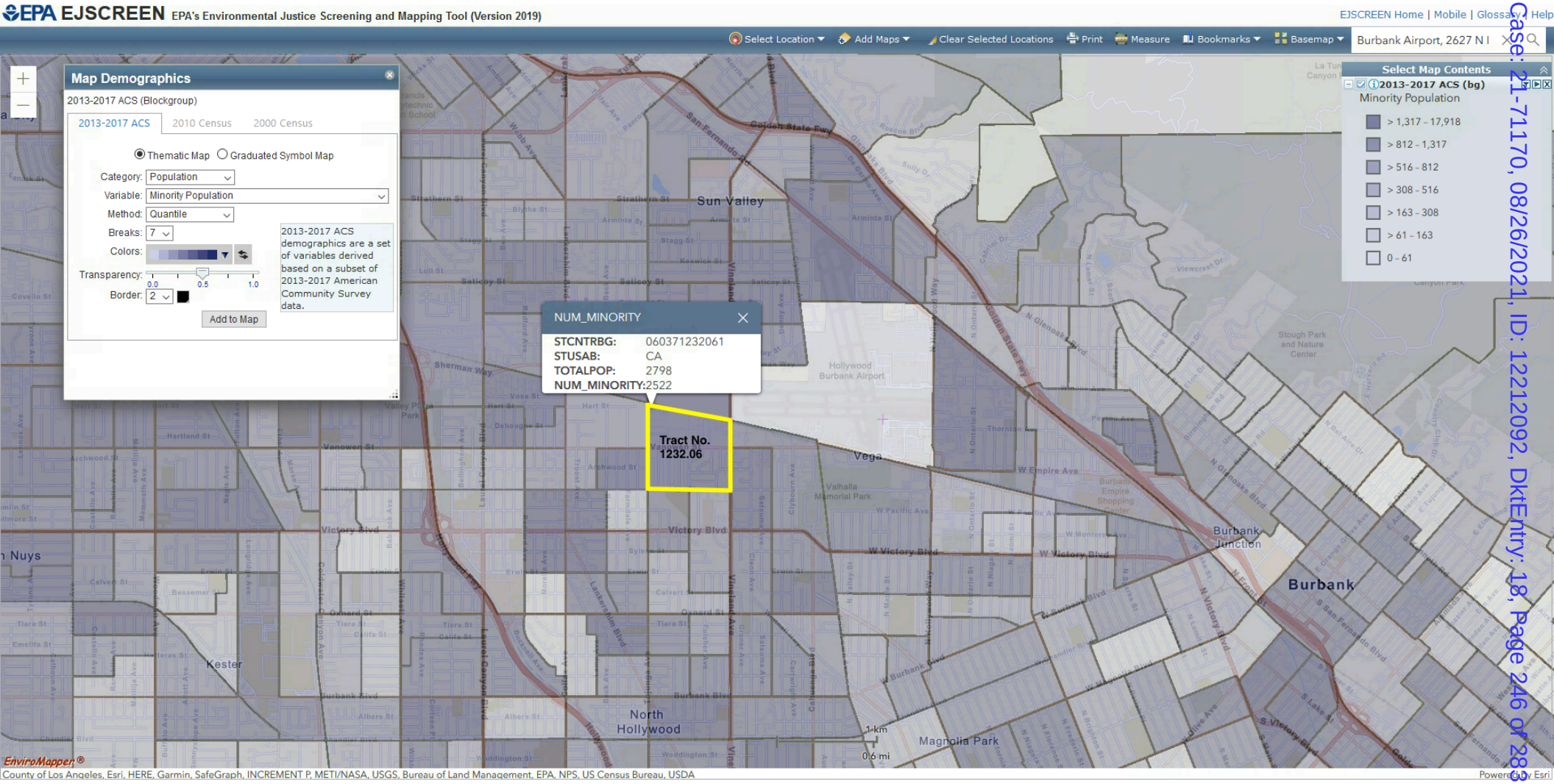


EXHIBIT K

LA Times, “Cost of replacement airport terminal estimated to soar over $1 billion” (Nov. 6, 2018)

NEWS

Cost of replacement airport terminal estimated to soar over $1 billion

Although a 355,000-square-foot, 14-gate replacement terminal is feasible on an area known as the B-6 site at Hollywood Burbank Airport, the overall project is estimated to cost more than $1 billion, according to officials. (File Photo)

By ANTHONY CLARK CARPIO

NOV. 6, 2018 | 7:50 PM

The Burbank-Glendale-Pasadena Airport Authority took a s[illegible] the estimated costs of the replacement terminal project, coming in over $1 billion, which was higher than initially anticipated.

An official from BuroHappold Engineering presented a report during an authority meeting on Monday regarding the feasibility of a 14-gate, 355,000-square-foot terminal on an area known as the B-6 site.

Although it was determined that constructing the terminal in the northeast quadrant of the airfield — which was formerly where Lockheed Corp. had its Skunk Works operation — could be done, BuroHappold conservatively estimated the entire project will cost roughly $1.24 billion, said David Herd, the North America managing director of the consulting firm.

BuroHappold estimated construction costs, which include building the new terminal and demolishing the existing facility, at about $844 million alone. Originally, the the terminal was expected to cost about $400 million, though the demolition was not part of that estimate.

Herd added that soft costs — some of which include designing the terminal, inspections and permitting — came in at about $285 million. Being conservative about its estimates, the firm also factored in about $110 million as contingency.

Herd said although the report determined that a terminal can be built on the B-6 site, it was merely an exercise to see if it could be done.

The concept mocked up for the analysis was based on what was laid out in a development agreement an

which is projected to be completed in about two years.

The consultant noted that various parts of the project, some of which include the depth of the terminal, airport access, public parking structure and air-traffic control tower, will be addressed during the design phase, which is projected to occur during the third quarter of 2020, Herd said.

Airport officials also presented their own cost estimate for the project, in which the overall costs would be about $1 billion.

The airport estimated construction costs to be about $724 million, soft costs at about $210 million and the contingency to be about $70 million.

John Hatanaka, the airport's senior deputy executive director, told authority members their numbers are just as conservative as the recently released estimates.

However, he added that it's better to overestimate costs and work down rather than continuously add to the project's budget.

To fund the project, Hatanaka said the authority will be contributing $100 million from its airport development fund. The airport will also be using about $137 million from federal grants.

Hatanaka added that airport officials also plan to take out a bond with the U.S. Department of Transportation.

Zareh Sinanyan, the authority's president, said he was not completely shocked by the project's price tag, but he w

operations

"I hope this change is not going to have a material impact on project," he said.

anthonyclark.carpio@latimes.com

Twitter: @acocarpio

NEWS

Anthony Clark Carpio

Twitter

Anthony Clark Carpio was a reporter with the Burbank Leader. He joined the Times Community News staff on New Year's Eve 2012 and covers everything from the City Council to community events. He has a journalism degree from Cal State Northridge. Before reporting in Burbank, he was a reporter with the Huntington Beach Independent and a freelance reporter for the Pasadena Sun, the La Cañada Valley Sun and the Santa Clarita Signal.

EXHIBIT L

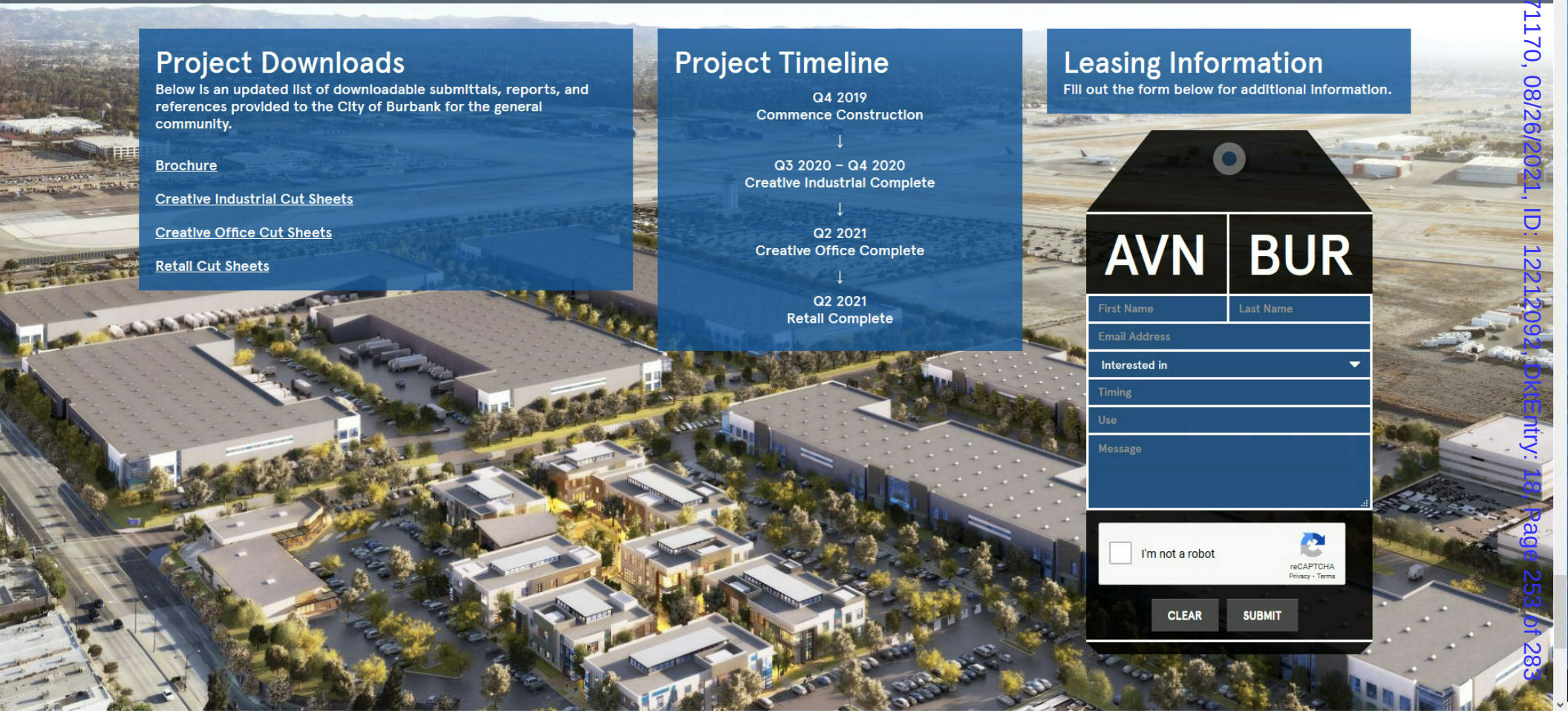
Overton Moore Properties, Avion Burbank (2020)

Avion Burbank

https://avionburbank.com

AVION BURBANK | VR TOUR | LOCATION | CONTACT | NEWS | DOWNLOADS | HISTORY | LIVE CAMERA

VIDEO | ABOUT THE PROJECT | THE PLAN | CREATIVE OFFICE | CREATIVE INDUSTRIAL | RETAIL | HOTEL | SUSTAINABILITY | DOWNLOADS



Project Downloads

Below is an updated list of downloadable submittals, reports, and references provided to the City of Burbank for the general community.

Brochure

Creative Industrial Cut Sheets

Creative Office Cut Sheets

Retail Cut Sheets

Project Timeline

Q4 2019
Commence Construction

↓

Q3 2020 – Q4 2020
Creative Industrial Complete

↓

Q2 2021
Creative Office Complete

↓

Q2 2021
Retail Complete

Leasing Information

Fill out the form below for additional information.

AVN | BUR

First Name | Last Name

Email Address

Interested in

Timing

Use

Message

I'm not a robot

reCAPTCHA
Privacy - Terms

CLEAR | SUBMIT

EXHIBIT M

FAA, Bob Hope Airport Delta Ramp Rehabilitation Project, Categorical Exclusion Approval (Feb. 18, 2020)

U.S Department
of Transportation
Federal Aviation Administration

Western-Pacific Region
Office of Airports
Los Angeles Airports District Office

777 S. Aviation Blvd., Suite 150
El Segundo, CA 90245

Tuesday, February 18, 2020

Mr. Frank Miller
Executive Director
Bob Hope Airport
2627 Hollywood Way
Burbank, CA 91505

Dear Mr. Frank Miller:

Bob Hope Airport
Delta Ramp Rehabilitation
Categorical Exclusion Approval

The Federal Aviation Administration (FAA) evaluated the proposed rehabilitation and expansion project at Bob Hope Airport in Burbank, CA. The proposed action would impact approximately 293,000 square feet of previously disturbed airport lands and would consist of:

- Rehabilitating 206,000 square feet of pavement on the existing ramp
- Expanding the ramp by 87,000 square feet into a previously disturbed compacted dirt area.

The FAA has determined that the proposed project is Categorically Excluded pursuant to FAA Order 1050.1F as it relates to the National Environmental Policy Act of 1969, as amended (NEPA). Therefore, no further federal environmental disclosure documentation for this project is necessary for NEPA purposes.

In the event that you do not begin the above identified projects within 3 years, of this Categorical Exclusion Approval, additional environmental review may be necessary (See Section 202(c)(3)(a) of FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*).

This letter notifies you that the proposed project has complied with NEPA only. This is not a notice of final project approval or funding availability.

Please feel free to call me if you have any questions regarding this matter. I can be reached by phone at (424) 405-7283 and by email at edvige.b.mbakoup@faa.gov.

Sincerely,

Edvige B. Mbakoup
Environmental Protection Specialist

EXHIBIT N

FAA, Bob Hope Airport Delta Ramp Rehabilitation Project,
Appendix A. Documented Catex (June 2, 2017)

APPENDIX A. DOCUMENTED CATEX

Airport sponsors may use this form for projects eligible for a categorical exclusion (CATEX) that have greater potential for extraordinary circumstances or that otherwise require additional documentation, as described in the Environmental Orders (FAA Order 1050.1F and FAA Order 5050.4B).

To request a CATEX determination from the FAA, the sponsor should review potentially affected environmental resources, review the requirements of the applicable special purpose laws, and **consult with the Airports District Office or Regional Airports Division Office staff** about the type of information needed. The form and supporting documentation should be completed in accordance with the provisions of FAA Order 5050.4B, paragraph 302b, and submitted to the appropriate FAA Airpor5ts District/Division Office. The CATEX cannot be approved until all information/documentation is received and all requirements have been fulfilled.

Name of Airport, LOC ID, and location:

Bob Hope Airport, BUR, Burbank, CA

Project Title:

Delta Ramp Rehabilitation and Expansion

Give a brief, but complete description of the proposed project, including all project components, justification, estimated start date, and duration of the project. Include connected actions necessary to implement the proposed project (including but not limited to moving NAVAIDs, change in flight procedures, haul routes, new material or expanded material sources, staging or disposal areas). Attach a sketch or plan of the proposed project. Photos can also be helpful.

Estimated Construction Date: August 2020 Estimated End Date: December 2020

The Delta Ramp Rehabilitation and Expansion will repair the condition of the Delta Ramp, which requires pavement rehabilitation to be undertaken within an approximately 206,000 SF area. The Project will also expand the Delta Ramp north toward Sherman Way, increasing the size of the Delta Ramp by approximately 87,000 SF. The Project will address the current Pavement Condition Index (PCI) of the Delta ramp, which is 61/100, below the critical index of 70, and will deliver added flexibility to this ramp, which is used for Remain Overnight (RON) aircraft parking.

A revision to our Airport Layout Plan (ALP) has been submitted in order to reflect a planned relocation of the Airport Operation Area (AOA) fence adjacent to the D Ramp. This section of the AOA fence will be relocated approximately 170 feet north of the current fence line, toward Sherman Way, to facilitate the expansion of the D Ramp. The expansion will increase the size of the Ramp by approximately 87,000 square feet, to a total of approximately 293,000 square feet.

Flight operations or procedures will not be changed during the construction, or as a result of, this resurfacing and expansion project. New material will consist of fill (local P209 crushed miscellaneous base). Expanded material will consist of asphalt (local or regional aggregates and binder).

Land disturbance size will be 6.73 acres, consisting of 4.73 acres of pavement rehabilitation and 2.0 acres of new pavement. The project will include 6" of milling with a 4" overlay of asphalt for the rehabilitatoin section. The expansion section will consist of an 8-inch, local P-209 crushed miscellaneous base, as well as a 4-inch asphalt overlay.

Equipment used for this project includes the following: cold mill grinder/mini grinder, skip loader, sweeper, vibratory roller, paving machine, front end loader, water truck, dump trucks, blade. The equipment will not exceed 12 feet in height.

Staging area location and storage: The location and storage of equipment will be within the unimproved area in a Staging Yard off Sherman Way (see map attached). Construction waste will be temporarily stored within this area and then sent off-site to an approved waste disposal facility or recycled. The contractor will take the necessary dust control measures prior to disposal.

The construction site will be accessed through Sherman Way adjacent to Atlantic Aviation; traffic will not be effected.

Restoration of area once construction is complete: Impervious for the entire existing ramp area is 70% and 100% post rehabilitation. The current disturbed area has a depth of 4 inches of asphalt.

Give a brief, but complete, description of the proposed project area. Include any unique or natural features within or surrounding airport property.

The project area is the Delta Ramp area, which is west of Atlantic Aviation and adjacent to Sherman Way. The entirety of the project is located on the premises of Bob Hope Airport, in the City of Burbank, California. All drainage areas flow South to the Burbank City storm drain system. Any storm drains adjacent to the project will be covered during construction, and Best Management Practices will be utilized to control erosion and sediment. There are no lakes, rivers or conservation areas adjacent the Airport.

Per consultation with the US Fish and Wildlife Service (USFWS)' Information for Planning and Consultation (IPAC) database, there are no critical habitats found at the proposed location.

Identify the appropriate CATEX paragraph(s) from Order 1050.1F (paragraph 5-6.1 through 5-6.6) or 5050.4B (Tables 6-1 and 6-2) that apply to the project. Describe if the project differs in any way from the specific language of the CATEX or examples given as described in the Order.

The Proposed Action is eligible for a Documented CatEx per FAA Order 1050.1F Environmental Impacts: Policies and Procedures, Section 5-6.4(e) Federal financial assistance, licensing or Airport Layout Plan (ALP) approval for the following actions, provided the action would not result in significant erosion or sedimentation, and will not result in a significant noise increase over noise sensitive areas or result in significant impacts on air quality.

- Construction, repair, reconstruction, resurfacing, extending, strengthening, or widening of a taxiway, apron, loading ramp, or runway safety area (RSA), including an RSA using Engineered Material Arresting System (EMAS).

- Reconstruction, resurfacing, extending, strengthening, or widening of an existing runway.

This CATEX includes marking, grooving, fillets and jet blast facilities associated with any of the above facilities. (ARP, AST)

The circumstances one must consider when documenting a CATEX are listed below along with each of the impact categories related to the circumstance. Use FAA Environmental Orders 1050.1F, 5050.4B, and the Desk Reference for Airports Actions, as well as other guidance documents to assist you in determining what information needs to be provided about these resource topics to address potential impacts. Keep in mind that both construction and operational impacts must be included. Indicate whether or not there would be any effects under the particular resource topic and, **if needed**, cite available references to support these conclusions. Additional analyses and inventories can be attached or cited as needed.

5-2.b(1) National Historic Preservation Act (NHPA) resources

	YES	NO
Are there historic/cultural resources listed (or eligible for listing) on the National Register of Historic Places located in the Area of Potential Effect? If yes, provide a record of the historic and/or cultural resources located therein and check with your local Airports Division/District Office to determine if a Section 106 finding is required. There are no historic/cultural resources listed on the National Register of Historic Places in the project area, the closest being the Burbank City Hall and US Post Ofice - Burbank Downtown Station, each approximately 3.5 miles away from the project site. The area of potential effect is limited to the existing D Ramp and the empty parcel that will be incorporated into the expansion of the ramp. This vacant parcel has no existing structure or otherwise historic feature present. As a previously disturbed parcel, any potential buried cultural resource would lie below the area of previous disturbance associated with the parcel's previous use as a ramp and hangar prior to the 1990s. The depth of disturbance related to the previous foundation and ramp elements, as well as from their demolition, would lie deeper than will be reached by any effort related to this ramp's expansion.	☐	☒
Does the project have the potential to cause effects? If yes, describe the nature and extent of the effects. The footprint of the project consists of 206,000 SF of paved areas and 87,000 SF of an empty dirt area.	☐	☒
Is the project area undisturbed? If not, provide information on the prior disturbance (including type and depth of disturbance, if available) This project includes 293,000 sf of disturbed area, comprised of 206,000 sf of paved area and a further 87,000 sf of an empty, compacted dirt area. The dirt area previously housed a combination of hangars and ramp space, occupied throughout most of the airport's history. These features were demolished, and the property was reverted to its current brownfield state between 1989-1994.	☐	☒
Will the project impact tribal land or land of interest to tribes? If yes, describe the nature and extent of the effects and provide information on the tribe affected. Consultation with their THPO or a tribal representative along with the SHPO may be required. **No, there is no tribal land or land of interest to tribes adjacent to the project area, the ground disturbance does not go beyond previous disturbed depth. Ground disturbance would consist of 4 inches of cut and replacement of 6 inches of asphalt for the rehabilitation section. The expansion section would include 8 inches of cut and fill (using local P209 crushed miscellaneous base), as well as 6 inches of asphalt.**	☐	☒

5-2.b(2) Department of Transportation Act Section 4(f) and 6(f) resources

	YES	NO
Are there any properties protected under Section 4(f) (as defined by FAA Order 1050.1F) in or near the project area? This includes publicly owned parks, recreation areas, and wildlife or waterfowl refuges of national, state or local significance or land from a historic site of national, state or local significance. The following properties are protected under Section 4(f) (as defined by FAA Order 1050.1F) within 2 miles of the project area: • Sun Valley Park – 1.2mi • Strathern Park – 1.0mi • Valley Plaza Park/Sports Complex – 2.0mi • Tiara Street Park – 1.8mi • Whitnall Highway Park – 1.5mi • Valley Park – 1.5mi • Larry L Maxam Memorial Park – 1.1mi • Randolph Foy Park – 1.5mi • Maple Street Playground • Gross Park – 1.6mi • Vickroy Park – 1.9mi • Robert E Lundigan Park – 1.5mi • Verdugo Mountain Park – 1.6mi • Brace Canyon Park – 2.1mi There are no identified wildlife or waterfowl refuges of national, state, or local significance, or land from a historic site of national, state, or local significance.	☒	☐
Will project construction or operation physically or constructively "use" any Section 4(f) resource? If yes, describe the nature and extent of the use and/or impacts, and why there are no prudent and feasible alternatives. See 5050.4B Desk Reference Chapter 7. No, there are NO properties under Section 4(f) anywhere on Bob Hope Airport Property.	☐	☒

	YES	NO
Will the project affect any recreational or park land purchased with Section 6(f) Land and Water Conservation Funds? If so, please explain, if there will be impacts to those properties. This project will not affect or impact any recreational or park land purchased with Section 6(f) Land and Water Conservation Funds.	☐	☒

5-2.b(3) Threatened or Endangered Species

	YES	NO
Are there any federal or state listed endangered, threatened, or candidate species or designated critical habitat in or near the project area? This includes species protected by individual statute, such as the Bald Eagle. Per consultation with the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPAC) database, the following threatened/endangered species are known, although the Airport is not identified as a critical habitat: 1) California Condor (Endangered) 2) Coastal California Gnatcatcher (Threatened) 3) Nevin's Barberry (Endangered) No California Department of Fish and Wildlife's State-listed species from the quad list relevant to the Airport are known to be found on or near the airport, based upon observation conducted for the Airport's most recent Wildlife Hazard Assessment, conducted in 2012.	☒	☐
Does the project affect or have the potential to affect, directly or indirectly, any federal or state-listed, threatened, endangered or candidate species, or designated habitat under the Endangered Species Act? If yes, Section 7 consultation between the FAA and the US Fish & Wildlife Service, National Marine Fisheries Service, and/or the appropriate state agency will be necessary. Provide a description of the impacts and how impacts will be avoided, minimized, or mitigated. Provide the Biological Assessment and Biological Opinion, if required. This project does not affect or have the potential to affect, directly or indirectly, any federal or state-listed, threatened, endangered or candidate species, or designated habitat under the Engagered Species Act. The endangred species identified in the Wildlife Hazard Assessment, are located in a five mile radious around the Airport and no nesting/foraging habitat is present at the Airport.	☐	☒

	YES	NO
Does the project have the potential to take birds protected by the Migratory Bird Treaty Act? Describe steps to avoid, minimize, or mitigate impacts (such as timing windows determined in consultation with the US Fish & Wildlife Service). The project area consists of a combination of paved area used for Remain Overnight parking, in addtion to a previously disturbed, vacant expansion parcel. This expansion parcel consists of compacted dirt and from the demolition of the previous structure and pavement that occupied the property. Vegetation has not been permitted to grow, and the parcel remains an unattractive habitat for nesting birds. This project does not have the potential to effect birds protected by the Migratory Bird Treaty Act.	☐	☒

5-2.b (4) Other Resources

Items to consider include:

a. Fish and Wildlife Coordination Act	YES	NO
Does the project area contain resources protected by the Fish and Wildlife Coordination Act? If yes, describe any impacts and steps taken to avoid, minimize, or mitigate impacts. The project area does not contain resources protected by the Fish and Wildlife Coordination Act. No streams or water bodies are present within the proposed project area.	☐	☒
b. Wetlands and Other Waters of the U.S.	**YES**	**NO**
Are there any wetlands or other waters of the U.S. in or near the project area? There are no wetlands or other waters of the U.S. in or near the project area. There are artificial lakes/reservoirs and "natural" watercourses that are now channelized and highly managed. Primary among the watercourses are the Los Angeles River to the south and its tributary, Tujunga Wash, to the west. The Burbank Western Channel, to the east is also tributary to the Los Angeles River. The Pacoima Wash to the west is tributary to Tujunga Wash. All of these drainages are channelized, with perennial flow maintained by urban runoff. None of these water are in or near the project area.	☐	☒
Has wetland delineation been completed within the proposed project area? If yes, please provide U.S. Army Corps of Engineers (USACE) correspondence and jurisdictional determination. If delineation was not completed, was a field check done to confirm the presence/absence of wetlands or other waters of the U.S.? If no to both, please explain what methods were used to determine the presence/absence of wetlands. Historical knowledge and a field delineation was conducted to determin the absence of wetlands or other waters of the U.S. Under Section 303(d) of the Clean Water Act, the closest 303d Listed and Impaired Waters of the USA is 5,094 square meters from the project area. https://databasin.org/maps/new#datasets=53f72f00668848f48e6ebfd7d99ad05b	☒	☐
If wetlands are present, will the project result in impacts, directly or indirectly (including tree clearing)? Describe any steps taken to avoid, minimize or mitigate the impact. There are no wetlands present in or near the project area, therefore, the project will not result in impacts, directly or indirectly.	☐	☒

Is a USACE Clean Water Act Section 404 permit required? If yes, does the project fall within the parameters of a general permit? If so, which general permit? This project does not include dredged or fill material discharge into waters of the United States, including wetland, therefore, it is not subject to USACE Clean Water Act Section 404 permit requirements.	☐	☒
c. Floodplains	**YES**	**NO**
Will the project be located in, encroach upon or otherwise impact a floodplain? If yes, describe impacts and any agency coordination or public review completed including coordination with the local floodplain administrator. Attach the FEMA map if applicable and any documentation. The project will be located in a minimal flood hazard area, located within Flood Zone X (unshaded), as shown in the attached current Federal Emergency Management Agency (FEMA) Map, Exhibit A.	☐	☒
d. Coastal Resources	**YES**	**NO**
Will the project occur in or impact a coastal zone as defined by the State's Coastal Zone Management Plan? If yes, discuss the project's consistency with the State's CZMP. Attach the consistency determination if applicable. The project will not occur in or impact a coastal zone, the closest Coastal Zone (Pacific Palisades) is 15.2 miles from the Airport.	☐	☒
Will the project occur in or impact the Coastal Barrier Resource System as defined by the US Fish and Wildlife Service? The Coastal Barrier Resources Act does not apply to the Pacific Coast.	☐	☒
e. National Marine Sanctuaries	**YES**	**NO**
Is a National Marine Sanctuary located in the project area? If yes, discuss the potential for the project to impact that resource. A National Marine Sanctuary is not located in or near the project area or the Airport. The nearest National Marine Sanctuary is Channel Islands National Marine Sanctuary (approximately 90 miles from the Airport).	☐	☒
f. Wilderness Areas	**YES**	**NO**
Is a Wilderness Area located in the project area? If yes, discuss the potential for the project to impact that resource.	☐	☒

There are no Wilderness Areas located in or near the project area. The closest Wilderness Area is the Los Angeles National Forest, located more that 5 miles from the Airport.		
g. Farmland	**YES**	**NO**
Is there prime, unique, state, or locally important farmland in/near the project area? Describe any significant impacts from the project. Per the United States Department of Agriculture, as well as the State of California Department of Conservation, the land found on and surrounding the airport is classified as Urban Land.	☐	☒
Does the project include the acquisition and conversion of farmland? If farmland will be converted, describe coordination with the US Natural Resources Conservation and attach the completed Form AD-1006. This project does not include the acquisition and conversion of farmland.	☐	☒
h. Energy Supply and Natural Resources	**YES**	**NO**
Will the project change energy requirements or use consumable natural resources either during construction or during operations? Temporary increase of recycled water use. Potable water will not be used on this project. Construction vehicles and equipment will consume petroleum products such as gasoline and diesel. Natural resources to be used will consist of aggregate (to be a part of both base and asphalt), binder oil, and water as needed for dust control during construction.	☒	☐
Will the project change aircraft/vehicle traffic patterns that could alter fuel usage either during construction or operations? The project will not affect aircraft or vehicle traffic patterns. The work will be conducted during the night shift after the last air carrier operation, not impacting traffic patterns for General Aviation. The Airport has a voluntary curfew for Air Carriers; they have agreed not to schedule flights between 10:00 p.m. and 7:00 a.m.	☐	☒
i. Wild and Scenic Rivers	**YES**	**NO**
Is there a river on the Nationwide Rivers Inventory, a designated river in the National System, or river under State jurisdiction (including study or eligible segments) near the project? The closest wild and scenic river is "Piru Creek" located 28 miles from the Airport. https://www.rivers.gov/rivers/piru.php	☐	☒

Will the project directly or indirectly affect the river or an area within ¼ mile of its ordinary high water mark? The project will not affect the river or an area within 1/4 mile of its ordinary high water mark.	☐	☒
j. Solid Waste Management	**YES**	**NO**
Does the project (either the construction activity or the completed, operational facility) have the potential to generate significant levels of solid waste? If so, discuss how these will be managed. 206,000 sf. of asphalt, at an existing 4-inch depth, will be milled and temporarily stored on-site. Millings will be disposed off-site to an approved recycling or city-owned facility accepting this type of waste. Solid waste will not adversely affect human health or the environment.	☐	☒

5-2.b(5) Disruption of an Established Community

	YES	NO
Will the project disrupt a community, planned development or be inconsistent with plans or goals of the community? The project is fully contained within Airport property and is inaccessible to the public, protected by security fencing. The project area has previously been and will continue to be intended for the use of airport purposes. The established community will continue to interact with the airport and its activities in the same manner as is currently done. As airport-owned property, there are no planned developments that would be in conflict with the project. The project maintains compatibility with the City of Burbank's General Plan 2035, which designates the parcel as "airport land use" and maintains that designation "to accommodate uses directly related to the airport and aircraft operation including landing fields, passenger and freight facilities, and facilities for fabricating, testing, and servicing aircraft," the latter of which reasonably encompasses storage between aircraft uses.	☐	☒
Are residents or businesses being relocated as part of the project? This project is located within Airport property and no residents or businesses will be affected.	☐	☒

5-2.b(6) Environmental Justice

	YES	NO
Are there minority and/or low-income populations in/near the project area? The EPA's Environmental Justice Screening and Map Tools shows minority and low income polulations near the project area. The following Census Tracts have minority and/or low-income populations which are located within the vicinity of the Airport: 06037123020, 06037123103, 06037311100	☒	☐
Will the project cause any disproportionately high and adverse impacts to minority and/or low-income populations? Attach census data if warranted. The proposed project is within airport propert boundaries and would not affect the minority and/or low-income populations located off airport property.	☐	☒

5-2.b(7) Surface Transportation

	YES	NO
Will the project cause a significant increase in surface traffic congestion or cause a degradation of level of service provided? This project is located within Airport fence line and will not cause an increase in surface traffic congestion or cause a degradation of level of service. The project will be conducted during the night shift.	☐	☒
Will the project require a permanent road relocation or closure? If yes, describe the nature and extent of the relocation or closure and indicate if coordination with the agency responsible for the road and emergency services has occurred. The proposed project is within airport property boundaries and would not affect the minority and/or low-income populations located off airport property.	☐	☒

5-2.b(8) Noise

	YES	NO
Will the project result in an increase in aircraft operations, nighttime operations, or change aircraft fleet mix? The project will be conducted during the night shift. The project will not result in an increase in aircraft operations, nightime operations, or changes in aircraft fleet mix.	☐	☒

	YES	NO
Will the project cause a change in airfield configuration, runway use, or flight patterns either during construction or after the project is implemented? The AOA fence will be relocated approximately 170 feet north of the current fence line. The expansion will increase the size of the Ramp by approximately 87,000 square feet, to a total of approximately 293,000 square feet.	☒	☐
Does the forecast exceed 90,000 annual propeller operations, 700 annual jet operations or 10 daily helicopter operations or a combination of the above? If yes, a noise analysis may be required if the project would result in a change in operations. The FAA's Terminal Area Forecast (TAF) indicates operations above those stated, however, the proposed project will not result in a change in operations.	☒	☐
Has a noise analysis been conducted, including but not limited to generated noise contours, a specific point analysis, area equivalent method analysis, or other screening method. If yes, provide that documentation. A noise analysis is not required for this project. Only temporay noise impacts will occur in association with the use of construction vehicles and equipment.	☐	☒
Could the project have a significant impact (DNL 1.5 dB or greater increase) on noise levels over noise sensitive areas within the 65+ DNL noise contour? The project will not have a significant impact on noise levels over noise sensitive areas within the 65+ DNL noise contour. The existing Delta Ramp falls outside the current 65+ DNL contour. Current contour maps are updated quarterly. No change in aircraft operations, nor the type of use the ramp will receive when rehabilitated and expanded (which is primarily overnight parking/storage for powered-down aircraft), is proposed under plus-project conditions.	☐	☒

5-2.b(9) Air Quality

	YES	NO
Is the project located in a Clean Air Act non-attainment or maintenance area? This project is located in the nonattainment - Los Angeles County. Criteria pollutants are: Lead (2008) - Los Angeles County-South Coast Air Basin, CA PM-2.5 (1997) - Los Angeles-South Coast Air Basin, CA - (Moderate) PM-2.5 (2006) - Los Angeles-South Coast Air Basin, CA - (Severe) PM-2.5 (2012) - Los Angeles-South Coast Air Basin, CA - (Moderate) 8-Hour Ozone (2015) - Los Angeles-South Coast Air Basin, CA - (Extreme)	☒	☐
If yes, is it listed as exempt, presumed to conform or will emissions (including construction emissions) from the project be below *de minimis* levels (provide the paragraph citation for the exemption or presumed to conform list below, if applicable) Is the project accounted for in the State Implementation Plan or specifically exempted? Attach documentation. The proposed project is listed on the Federal Presumed to conform Actions list under General Conformity, Federal Register (Volume 72, No. 145), dated July 30, 2007 [Item 3 - Non-Runway Pavement Work].	☒	☐
Does the project have the potential to increase landside or airside capacity, including an increase of surface vehicles? The project includes expansion of a ramp/apron area that serves as overnight aircraft parking, primarily for airline operations, with occasional use when military operations require use of the Airport. Currently, during periods of irregular operations, such as when maintenance issues occur or when large military support aircraft are present, available overnight parking to support a smooth opertaions program becomes constrained. The purpose of the ramp expansion is to allow flexibility so that scheduled operations are unimpacted by irregular or transient military operations. The Airport's capacity is ultimately governed by our 14-gate terminal, runway length, taxiway design group ratings, and our voluntary curfew. These factors, and the Airport's capacity, are not proposed for revision. Rather, the expanded ramp space will allow better service of existing scheduled operations when irregularities in the operations program occur.	☐	☒

	YES	NO
Could the project impact air quality or violate local, State, Tribal or Federal air quality standards under the Clean Air Act Amendments of 1990 either during construction or operations? This project will use equipment approved/permitted by the California Air Resources Board (CARB).	☐	☒

5-2.b (10) Water Quality

	YES	NO
Are there water resources within or near the project area? These include groundwater, surface water (lakes, rivers, etc.), sole source aquifers, and public water supply. If yes, provide a description of the resource, including the location (distance from project site, etc.). This project does not disturb any water resources, groundwater is approximately 200 feet below surface. There are no water bodies within the project area.	☒	☐
Will the project impact any of the identified water resources either during construction or operations? Describe any steps that will be taken to protect water resources during and after construction. The project will not impact any water sources during construction or operations. The Airport has a Storm Water Pollution Prevention Plan as part of the NPDES, Industrial General Stormwater Permit issued by the State Water Resources Control Board and Regional Water Quality Control to prevent ellicit discharges from industrial activities. This project will also file for an NPDES, Construction General Permit and submit a Storm Water Pollution Prevention Plan with the States Regional Water Boards.	☐	☒
Will the project increase the amount or rate of stormwater runoff either during construction or during operations? Describe any steps that will be taken to ensure it will not impact water quality. The project will not increase the amount or rate of stormwater runoff during construction or operations. The work will be done by sections during dry weather only. Best Management Practices will be utilized to control erosion and sediment runoff.	☐	☒
Does the project have the potential to violate federal, state, tribal or local water quality standards established under the Clean Water and Safe Drinking Water Acts? This project does not have the potential to violate federal, state, tribal, or local water quality standards, as established under the Clean Water and Safe Drinking Water Acts since the project will not impact water sources during construction or operations, and will not increase or the amount, rate, or direction of stormwater runoff.	☐	☒

	YES	NO
Are any water quality related permits required? If yes, list the appropriate permits. Yes, an NPDES permit for General Permit for Discharge from Construction Activities is required. A permit from the California State Water Resources Control Board, 2009-0009-DWQ Construction General Permit, will be required before construction.	☒	☐

5-2.b(11) Highly Controversial on Environmental Grounds

	YES	NO
Is the project highly controversial? The term "highly controversial" means a substantial dispute exists as to the size, nature, or effect of a proposed federal action. The effects of an action are considered highly controversial when reasonable disagreement exists over the project's risks of causing environmental harm. Mere opposition to a project is not sufficient to be considered highly controversial on environmental grounds. Opposition on environmental grounds by a federal, state, or local government agency or by a tribe or a substantial number of the persons affected by the action should be considered in determining whether or not reasonable disagreement exists regarding the effects of a proposed action. The intended use of the rehabilitated, expanded ramp is to facilitate greater flexibility in accommodating different operations mixes for overnight storage. Noise will not be significantly increased, nor will the noise contours change, due to: 1) Aircraft remaining overnight are powered down while stored. 2) The existing use of the Delta Ramp is similar in nature. 3) This project is not intended to increase the airport's capacity, only flexibility in parking arrangements. 4) No operational changes, particularly to landing and departing aircraft, will occur.	☐	☒

5-2.b(12) Inconsistent with Federal, State, Tribal or Local Law

	YES	NO
Will the project be inconsistent with plans, goals, policy, zoning, or local controls that have been adopted for the area in which the airport is located? The project, which falls fully within the City of Burbank, is consistent with the City of Burbank's General Plan 2035 and the policies contained therein, the City of Burbank's land use designations, and the City's zoning code, which designates the parcel as and "Airport Use." Further, the airport has adopted a Pavement Management System used for the identification and prioritization of airport pavement for scheduled rehabilitation to maintain a state of good repair. The rehabilitation section of the Delta Ramp is consistent with a "high" priority for rehabilitation, exhibiting a Pavement Condition Index (PCI) of 61. The minimum recommended PCI for airfield pavement sections ("critical PCI") is 70.	☐	☒

	YES	NO
Is the project incompatible with surrounding land uses? The project is surrounded by a combination of other designated "Airport Use" land uses, as well as Industrial uses in the neighboring City of Los Angeles. While the project is proximate to residential land uses, the use of the project area, relative to existing conditions, will remain consistent with the current use of the Delta Ramp, and thus maintains a similar degree of compatibility to what is currently exhibited.	☐	☒

5-2 .b (13) Light Emissions, Visual Effects, and Hazardous Materials

a. Light Emissions and Visual Effects	YES	NO
Will the proposed project produce light emission impacts? Work will be done during the nighttime hours and light will be required. Light towers will be set up away from the tower and residents in order to eliminate light impacts (annoyance) and construction effects. Upon project completion, light impacts will be similar to the present day.	☐	☒
Will there be visual or aesthetic impacts as a result of the proposed project and/or have there been concerns expressed about visual/aesthetic impacts? The 206,000 SF of the project will not affect the visual characteristics of the proposed area. The project is a mill and overlay on an existing asphalt ramp. The 87,000 SF of the project is soil which will be covered in asphalt as part of the Delta Ramp expansion.	☐	☒
b. Hazardous Materials	**YES**	**NO**
Does the project involve or affect hazardous materials? The project vehicles and equipment may contain petroleum-based fuels and lubricants that are classified as hazardous materials and asphalt is classified as a hazardous material. Best Management Practices will be utalized to reduce and prevent release of these materials.	☒	☐
Will construction take place in an area that contains or previously contained hazardous materials? Construction will take place to mill and fill existing asphalt pavement. The project area is not located in EPA's superfund database or EPA's site Specific National Cleanup Databases.	☐	☒

If the project involves land acquisition, is there a potential for this land to contain hazardous materials or contaminants? This project does not involve land acquisition.	☐	☒
Will the proposed project produce hazardous and/or solid waste either during construction or after? If yes, how will the additional waste be handled? Disposal of asphalt will be sent to an approved waste site facility.	☒	☐

5-2 .b (14) Public Involvement

	YES	NO
Was there any public notification or involvement? If yes, provide documentation. There was no public involvement or notification prior to this CatEx request. A CEQA NOE will be filed with the Los Angeles County Recorders Office at least 30 days before the project start date.	☐	☒

5-2 .b (15) Indirect/Secondary/Induced Impacts

	YES	NO
Will the project result in indirect/secondary/induced impacts? The expanded ramp will allow flexibility in overnight aircraft parking configurations, particularly to accommodate maintenance or military-related irregular operations, but will not increase the volume of activity at the airport itself.	☐	☒
When considered with other past, present, and reasonably foreseeable future projects, on or off airport property and regardless of funding source, would the proposed project result in a significant cumulative impact? No cumulative projects are proposed that are intended to alter flight operations or the capacity of the airport. Rather, cumulative projects will increase the safety and flexibility of Airport operations within these constraints. Thus, this project, which consists of rehabilitating a ramp currently used for identical purpose, plus an expansion to allow for flexibility in accommodating parking for different mixes of aircraft, carries no significant nexus with other proposed projects in terms of cumulative impacts.	☐	☒

Permits

List any permits required for the proposed project that have not been previously discussed. Provide details on the status of permits.

The only permit required for this project will be the NPDES General Construction Permit. The Airport will file for a Stormwater permit before the construction date.

Environmental Commitments

List all measures and commitments made to avoid, minimize, mitigate, and compensate for impacts on the environment, which are needed for this project to qualify for a CATEX.

The Airport will apply Best Management Practices which will be included in the Stormwater Pollution Prevention Plan in the General Construction Permit to avoid, reduce and mitigate environmental impacts from this project.

Preparer Information

Point of Contact: Maggie Martinez		
Address: 2627 N. Hollywood Way		
City: Burbank	**State:** CA	**Zip Code:** 91505
Phone: 818.729.2226	**Email Address:** mmartinez@bur.org	

Signature: _____ Date: 02/11/2020

Airport Sponsor Information and Certification (may not be delegated to consultant)

Provide contact information for the designated sponsor point of contact and any other individuals requiring notification of the FAA decision.

Point of Contact: Aaron Galinis		
Address: 2627 N. Hollywood Way		
City: Burbank	**State:** CA	**Zip Code:** 91505
Phone Number: 818.840.8840	**Email Address**: agalinis@bur.org	
Additional Name(s): Maggie Martinez	**Additional Email Address(es):** mmartinez@bur.org	

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s) and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.

Signature: _____ Date: 02/11/2020

FAA Decision

Having reviewed the above information, it is the FAA's decision that the proposed project (s) or development warrants environmental processing as indicated below.

Name of Airport, LOC ID, and location:

Project Title:

☐ No further NEPA review required. Project is categorically excluded per (cite applicable 1050.1.F CATEX that applies:)

☐..An Environmental Assessment (EA) is required.

☐..An Environmental Impact Statement (EIS) is required.

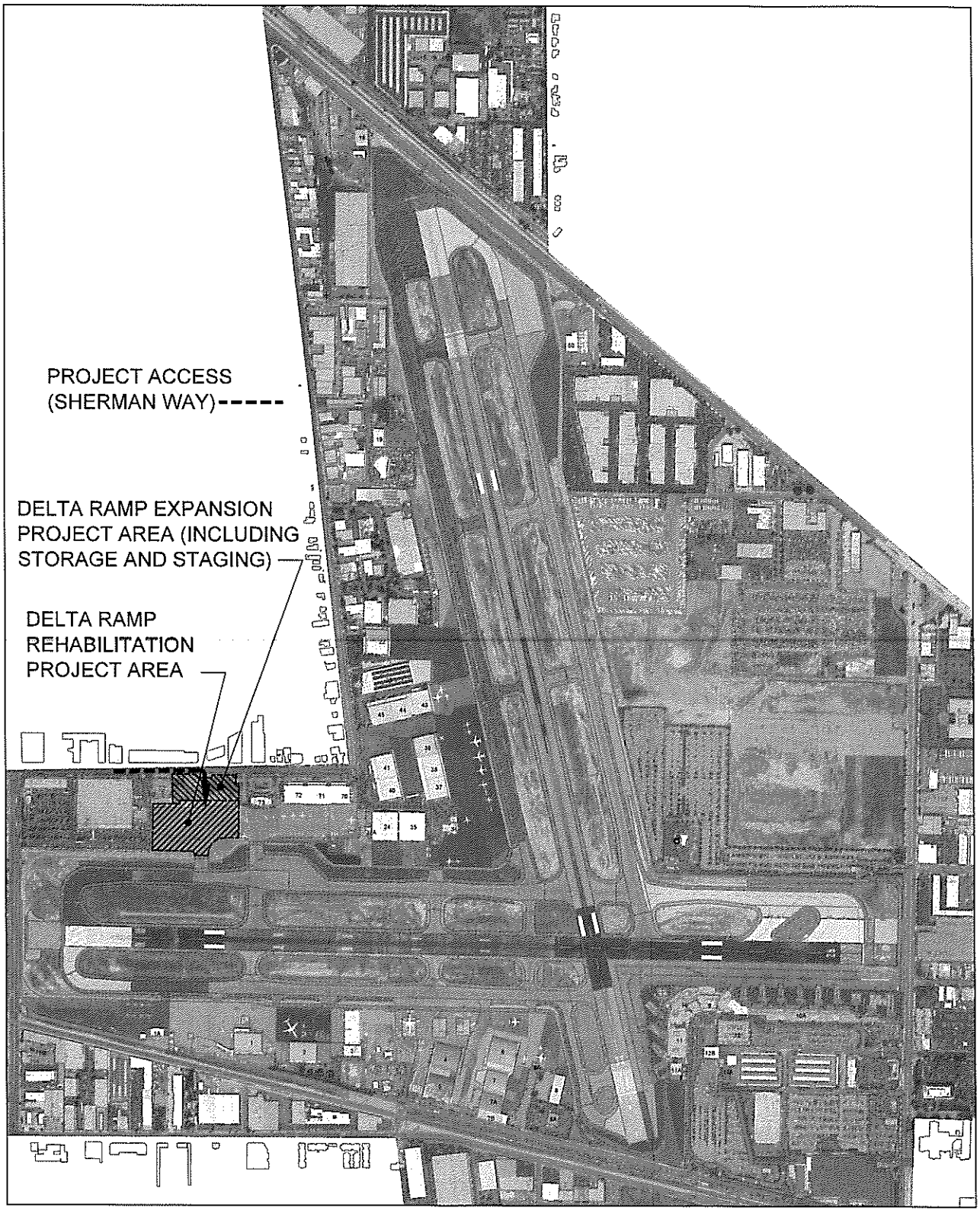
☐..The following additional documentation is necessary for FAA to perform a complete environmental evaluation of the proposed project.

Name: Title:

Responsible FAA Official

Signature: _____ Date:

S:\PROJECTS\Projects 2019\E19-13 VARIOUS AIRSIDE PAVING PROJECTS\SECTION A - DESIGN\100 CONTRACT FILES\102 BID DOCUMENTS\102.1 RFP\AIRSIDE REHABILITATION AREAS R1.dwg Dec 23,2019-11:01am



BURBANK-GLENDALE-PASADENA AIRPORT AUTHORITY

DELTA RAMP CATEX EXHIBT

NOTES TO USERS

is for use in administering the National Flood Insurance Program. It ecessarily identify all areas subject to flooding, particularly from local ources of small size. The **community map repository** should be for possible updated or additional flood hazard information.

more detailed information in areas where **Base Flood Elevations** or **floodways** have been determined, users are encouraged to consult Profiles and Floodway Data and/or Summary of Stillwater Elevations tained within the Flood Insurance Study (FIS) report that accompanies . Users should be aware that BFEs shown on the FIRM represent hole-foot elevations. These BFEs are intended for flood insurance poses only and should not be used as the sole source of flood information. Accordingly, flood elevation data presented in the FIS ould be utilized in conjunction with the FIRM for purposes of n and/or floodplain management.

Base Flood Elevations shown on this map apply only landward orth American Vertical Datum of 1988 (NAVD 88). Users of this uld be aware that coastal flood elevations are also provided in the of Stillwater Elevations table in the Flood Insurance Study report risdiction. Elevations shown in the Summary of Stillwater Elevations ld be used for construction and/or floodplain management purposes are higher than the elevations shown on this FIRM.

of the **floodways** were computed at cross sections and interpolated ross sections. The floodways were based on hydraulic considerations to requirements of the National Flood Insurance Program. Floodway other pertinent floodway data are provided in the Flood Insurance rt for this jurisdiction.

as not in Special Flood Hazard Areas may be protected by **flood** structures. Refer to Section 2.4 "Flood Protection Measures" of Insurance Study report for information on flood control structures isdiction.

ction used in the preparation of this map was Universal Transverse UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 Differences in datum, spheroid, projection or UTM zones used in tion of FIRMs for adjacent jurisdictions may result in slight positional in map features across jurisdiction boundaries. These differences ot the accuracy of this FIRM.

ations on this map are referred to the North American Vertical 1988. These flood elevations must be compared to structure and evations referenced to the same **vertical datum**. For information conversion between the National Geodetic Vertical Datum of 1929 North American Vertical Datum of 1988, visit the National Geodetic bsite at http://www.ngs.noaa.gov/ or contact the National Geodetic the following address:

ation Services
GS12
odetic Survey
9202
West Highway
g, MD 20910–3282

rrent elevation, description, and/or location information for **bench marks** this map, please contact the Information Services Branch of the Geodetic Survey at **(301) 713–3242**, or visit its website at ngs.noaa.gov/.

nformation shown on this FIRM was derived from U.S. Geological Survey aphoto Quadrangles produced at a scale of 1:12,000 from photography or later and from National Geospatial Intelligence Agency imagery produced 1:4,000 from photography dated 2003 or later.

flects more detailed and up-to-date **stream channel configurations** shown on the previous FIRM for this jurisdiction. The floodplains ays that were transferred from the previous FIRM may have been conform to these new stream channel configurations. As a Flood Profiles and Floodway Data tables in the *Flood Insurance rt (which contains authoritative hydraulic data)* may reflect stream tances that differ from what is shown on this map.

limits shown on this map are based on the best data available of publication. Because changes due to annexations or de-annexations occurred after this map was published, map users should contact community officials to verify current corporate limit locations.

r to the separately printed **Map Index** for an overview map of the wing the layout of map panels; community map repository addresses; ng of Communities table containing National Flood Insurance Program each community as well as a listing of the panels on which each is located.

FEMA Map Service Center at 1-800-358-9616 for information on roducts associated with this FIRM. Available products may include issued Letters of Map Change, *a Flood Insurance Study report*, al versions of this map. The FEMA Map Service Center may also be Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

questions about this map or questions concerning the National ance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) FEMA website at http://www.fema.gov/.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referred to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4376000mN — 1000-meter Universal Transverse Mercator grid values, zone 11
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, V zone (FIPSZONE 0405), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1328F

FIRM
FLOOD INSURANCE RATE MAP
LOS ANGELES COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 1328 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BURBANK, CITY OF	065018	1328	F
LOS ANGELES, CITY OF	060137	1328	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06037C1328F

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

EXHIBIT O

Airport Authority, Significant milestone reached as Airport Authority awards Program Management Services contract for the Replacement passenger terminal project (Nov. 4, 2019)

SIGNIFICANT MILESTONE REACHED AS AIRPORT AUTHORITY AWARDS PROGRAM MANAGEMENT SERVICES CONTRACT FOR THE REPLACEMENT PASSENGER TERMINAL PROJECT

November 4, 2019

The Burbank-Glendale-Pasadena Airport Authority Commission voted 9-0, to award a Professional Services Agreement (Agreement) to AECOM Technical Services, Inc., (AECOM) for program management services associated with the replacement passenger terminal project, now known as "***Elevate BUR.***"

The Agreement has a seven-year duration, is Task Order based, and has a contract limit of $45,000,000. Each Task Order, including the specific services to be provided, along with the compensation limit for such services, will be subject to Commission approval.

In addition, the Commission approved the authorization of four initial Task Orders in an amount not-to-exceed $5,381,611. The services and expenditure limits for these initial Task Orders are as follows:

- Task Order 1: Project Management Office Staffing, $2,896,618
- Task Order 2: Preparation of a Program Definition Manual, $1,674,978
- Task Order 3: Preparation of a Program Charter and Program Management Manual $475,161

- Task Order 4: Progressive Design Builder Procurement Documents Preparation and Selection Process Support $334,854

The competitive selection process for the Program Management Services was undertaken following Federal Aviation Administration guidelines. AECOM will begin to provide these services immediately.

News

Draft Environmental Impact Statement

The Draft Environmental Impact Statement (Draft EIS) was published in the federal register on Friday, August 21, 2020. The comment period for the Draft EIS starts on August 21, 2020 and ends on October 27, 2020. To see an electronic c...

Read more ▸

Significant milestone reached as Airport Authority awards Program Management Services contract for the Replacement passenger terminal project

The Burbank-Glendale-Pasadena Airport Authority Commission voted 9-0, to award a Professional Services Agreement (Agreement) to AECOM Technical Services, Inc., (AECOM) for progr...

Read more ▸

INDUSTRY DAY

October 30,2019

PRESENTATION

SIGN-IN SHEET

STAY INFORMED

Get progress reports about the replacement terminal and airport improvements.

EMAIL