County of Los Angeles
CHIEF ADMINISTRATIVE OFFICE
713 KENNETH HAHN HALL OF ADMINISTRATION • LOS ANGELES, CALIFORNIA 90012
(213) 974-1101
http://cao.co.la.ca.us

DAVID E. JANSSEN
Chief Administrative Officer

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October 28, 2003

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

FINAL REPORT ON THE SUPPLEMENTAL TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR PROPOSED MASTER PLAN IMPROVEMENTS AT LAX (ALL DISTRICTS AFFECTED) (3 VOTES)

IT IS RECOMMENDED THAT YOUR BOARD:

1. Approve the final report on the Supplement to the Draft Environmental Impact Statement/Environmental Impact Report (SDEIS/EIR) for the proposed Safety and Security Alternative (Alternative D) for the Proposed Master Plan Improvements at Los Angeles International Airport (LAX) submitted by A.C. Lazzaretto & Associates as the County's official comments.

2. Authorize the Chief Administrative Officer to transmit the final report to the Los Angeles World Airports (LAWA) and Federal Aviation Administration (FAA) as the Board's final comments on the SDEIS/EIR for Alternative D.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The purpose of this recommended action is to accept the attached final report as the County's official response to the SDEIS/EIR for Alternative D and present it to LAWA and FAA prior to the November 7, 2003 comment period deadline. Submission of the County's official response allows for the concerns and suggestions detailed in the final report to be addressed by LAWA and FAA. If the County's concerns and suggestions are not adequately addressed and/or incorporated into the Final EIS/EIR, the County retains the ability and opportunity to challenge the LAX Master Plan Improvements project based on those issues discussed in the final report.

Implementation of Strategic Plan Goals

These recommendations are consistent with the following Strategic Plan Goal:

Goal: **Organizational Effectiveness:** Ensure that service delivery systems are efficient, effective, and goal-oriented.

The County is seeking to ensure that any air service expansion plan is environmentally, economically, and socially beneficial to the residents of Los Angeles County.

FISCAL IMPACT/FINANCING

Not applicable.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

On July 10, 2001, your Board approved the final report on the Draft EIS/EIR for the Proposed Master Plan Improvements at LAX submitted by A.C. Lazzaretto & Associates as the County's official comments on the Draft EIS/EIR. Due to the events of September 11, 2001, newly elected Los Angeles Mayor James Hahn directed LAWA to develop a new alternative focused on safety and security. On January 21, 2003, your Board instructed this office to negotiate a delegated authority contract with A.C. Lazzaretto & Associates to conduct a review and analysis of the anticipated Supplement to the Draft EIS/EIR for the new alternative.

On July 9, 2003, the SDEIS/EIR for the Safety and Security Alternative to the Proposed Master Plan Improvements (Alternative D) was released and a public review and comment period commenced. On July 15, 2003, this office entered into agreement with A.C. Lazzaretto & Associates to conduct the requested review. The consultant assembled a team of environmental and security experts to review the documents for consistency and accuracy, with special attention to the major areas of noise, traffic, security, air quality, and environmental justice. On August 19, 2003, your Board approved preliminary comments regarding the SDEIS/EIR developed by the consultant and the Department of Public Works.

Consistent with their contract, the consultant is presenting the attached final report to your Board commenting on the SDEIS/EIR for Alternative D which incorporates comments by the Departments of Public Works, County Counsel, and Regional Planning, and the Chief Administrative Office. The consultant concludes there is an obvious and pressing need for improvements at LAX, mostly to ensure the safety and security of air travel. However, the consultant believes LAWA is proposing to implement a flawed project, and that the process is further compromised by an inadequate environmental review. Moreover, the problems with the SDEIS/EIR are so serious, pervasive, and universal that the only practical remedy is to start the process over again and prepare a truly comprehensive revised EIS/EIR. The following are key findings supporting the conclusion:

- Alternative D will not constrain growth at LAX.
- Alternative D will not adequately serve the security goals for which it was formulated.
- The security plan relies heavily on technologies, some of which have been discredited, and does not address serious security exposures.
- Use of a Supplement to the 2001 Draft EIS/EIR was improper under the guidelines of California Environmental Quality Act.
- Scoping outreach did not include input from Los Angeles County or the public at large regarding either Alternative C (the 2001 preferred project) or Alternative D (the 2003 preferred project) and thus fails to meet National Environmental Policy Act requirements.
- The baseline year used in the SDEIS/EIR is 7 years old and does not offer a reasonable yardstick against which to measure the impacts of Alternative D or any other project alternative, especially since the events of September 11 changed the baseline so fundamentally.
- The SDEIS/EIR contains numerous comments and statements that create an appearance of project advocacy.
- Alternative D shifts many impacts toward the more economically disadvantaged communities east and northeast of LAX, and appears to protect biological resources at the expense of residents in Lennox, Inglewood, and Manchester.
- The noise assessment contains significant discrepancies.
- The 2001 Draft EIS/EIR acknowledged that it omitted quantitative assessment of toxic air pollutant exposure due to lack of time; the 2003 document also omitted the assessment, but did not so note.
- Additional environmental documentation is lacking and LAWA decision makers will be unable to make an informed project determination until inadequacies in the SDEIS/EIR are remedied.

IMPACT ON CURRENT SERVICES

This action will not have a direct impact on current County services. County involvement is important to ensure that any improvements at LAX meet and enhance air service for the region at the same time protecting the quality of life of impacted communities and the County as a whole.

Respectfully submitted,

for DAVID E. JANSSEN
Chief Administrative Officer

DEJ:LS
MKZ:JR:nl

Attachment

c: County Counsel
Director of Planning
Director of Public Works
Director and Chief Medical Officer of Health Services
Honorable James K. Hahn, Mayor of the City of Los Angeles
Jim Ritchie, Los Angeles World Airports
David B. Kessler, Federal Aviation Administration

County of Los Angeles

Final Comments on the LAX Master Plan Supplement to the Draft EIS/EIR

Prepared By:

A.C. Lazzaretto & Associates
P.O. Box 3073
Burbank, CA 91504
Tel: (818) 569-4526
Fax: (818) 558-7088

Project Manager:
Andrew C. Lazzaretto

OCTOBER 2003

County of Los Angeles
Final Comments on the Supplement to the
Draft EIS/EIR for Proposed Master Plan Improvements at LAX

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ATTACHMENT I: Land Protection Partners, *Review of Biological Resources Analysis in LAX Master Plan Draft EIS/EIR,* August 2001.

1.0 BACKGROUND AND EXECUTIVE SUMMARY

1.1 BACKGROUND

During 2001, A.C. Lazzaretto & Associates was retained by the Los Angeles County Chief Administrative Office to review and comment on the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) prepared for Los Angeles World Airport's (LAWA) Proposed Los Angeles International Airport (LAX) Master Plan. The 2001 Draft EIS/EIR addressed three build alternatives, a no-build alternative, and the existing setting for the Los Angeles International Airport (LAX) Master Plan.

A.C. Lazzaretto & Associates assembled a team of environmental review experts to review the document for consistency and accuracy. Working in collaboration with County staff, a detailed comment letter was prepared and submitted to LAWA on 28 June 2001. Thereafter, in response to considerable public comment and the terrorist attacks that occurred on September 11, 2001, LAWA suspended work on the earlier EIS/EIR to develop a fourth alternative -- Alternative D, the Enhanced Safety and Security Plan. LAWA made a Supplement to the Draft EIS/EIR (SDEIS/EIR) available for public comment in July of 2003 to update information presented in the Draft EIS/EIR and to integrate Alternative D into the environmental review process. The Supplement offered no response to comments submitted on the 2001 DEIS/EIR.

Alternative D includes a number of airfield facility modifications. Although LAX would continue to operate with 4 runways, 2 of the existing runways would be moved, two would be lengthened, and all would be further separated from one another. New centralized passenger terminals would replace the existing parking structures. The existing Terminals 1 through 7 would be reconfigured, including a new north/south linear concourse at the Tom Bradley International Terminal, flanked on the west by a new satellite concourse. A new ground transportation center and intermodal transportation center to be built east of Aviation Blvd. would serve as the primary access for all passenger drop-off and pick-up and vehicle parking. Some cargo facilities would be modified, although overall square footage would be equivalent to the No Action/No Project Alternative.

Following publication of the SDEIS/EIR, the Los Angeles County Chief Administrative Office again retained A.C. Lazzaretto & Associates to review and comment on the revised document. A.C. Lazzaretto & Associates in turn assembled the team of environmental review experts that had reviewed the 2001 document, in order to assess the 2003 Supplement for consistency, accuracy, and changes since the original Draft EIS/EIR was prepared The information has been evaluated using the following criteria: reasonableness of input data and assumptions, appropriateness and accuracy of analyses and mitigation measures, and conformity with requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Results of the current review indicate that many of the concerns expressed in our earlier comment letter still remain, including one that was central to County comments on the earlier LAX Master Plan review: although LAWA indicates that its goal is to limit growth, improvements proposed as part of Alternative D would in reality serve to reinforce LAX as the preeminent airport of the southern California region, and may undermine attempts to strengthen the role of outlying airports. There are a number of points, in addition to this thematic concern, that merit further consideration and discussion before LAWA considers certification of the Supplement to the EIS/EIR and approval of the preferred alternative.

To facilitate LAWA's review and response, the County has revised and updated the comment letter originally submitted in June of 2001. The current comment letter incorporates all issues for which a response is sought from LAWA. As before, the review team has paid special attention to the major issues of noise, traffic, environmental justice, and air quality, and the team has again made every attempt to offer objective, constructive comments concerning the major elements of the Supplement to the DEIS/EIR.

1.2 EXECUTIVE SUMMARY

A.C. Lazzaretto & Associates has been retained by the Los Angeles County Chief Administrative Office to review and update comments on the 2001 Draft DEIS/EIR prepared for LAWA's Proposed LAX Master Plan, consistent with changes in the current 2003 Supplement to the Draft EIS/EIR. The 2001 Draft EIS/EIR addressed three build alternatives, a no-build alternative, and the existing setting for the Los Angeles International Airport (LAX) Master Plan. The 2003 Supplement incorporates a new Alternative D (the "enhanced safety and security plan") that LAWA has designated as the preferred project option. To address safety issues, the review team has been expanded to include participation by BoydForbes, Inc., a renowned airport safety consulting firm based in Denver.

The County has a special responsibility in this process, since it represents the unincorporated communities that are most directly impacted by LAX operations. It is for this reason that the County has taken a highly active stance during 2001 and 2003, and in both instances we have focused on issues of greatest concern to our constituents. During 2001, we submitted comments to LAWA in which we expressed a number of serious concerns. With publication of the 2003 Supplement we find that most of our earlier concerns remain unaddressed and new issues have been identified that are of even greater potential concern for Los Angeles County constituents. The County has twice sought to meet with LAWA's consulting team to discuss these issues, and on both occasions has been rebuffed. In so doing, LAWA has bypassed an opportunity for identification of joint solutions that could facilitate improvements at LAX while minimizing impacts on LAX's neighbors in Manchester, Lennox, Westchester and other adjoining communities.

Fundamentally, the County of Los Angeles believes that LAWA is proposing to implement a flawed project, and that LAWA has developed an inadequate environmental document to review the project. The following report covers a wide range of issues, many in considerable detail. While all of these issues are important, we would like to call special attention to the following key points:

- Contrary to statements made throughout the SDEIS/EIR, our review clearly shows that Alternative D will not constrain growth at LAX. LAWA has misrepresented this alternative, to the jeopardy of the environmental analysis.
- Alternative D will also not serve the security goals for which it was formulated. The Plan focuses on hardening security for the east-side entry to LAX but largely ignores the perimeter, maintenance/fuel farm, and cargo areas -- leaving the back door wide open.
- The separation concept is diminished in value by the expensive and vulnerable mass transit link proposed between the Central Terminal Area and remote landside ground facilities. It is further diminished by the lack of Flow Process Mapping data; the consequential risk of task overload and failure to achieve target reduction; and by the potential alienation of a public that may perceive screening requirements as excessive.

- The Security plan relies heavily on technologies, some of which have been discredited (e.g., facial recognition surveillance). Additionally, greater thought must be given to the risk of data saturation. Over-dependence on security technology may lead to higher risk of error and, ironically, diminished protection.
- There are a number of existing, unexplained security exposures at LAX, including several areas characterized by extreme weakness in access control, that should be remedied as soon as possible; it is recommended that LAWA take steps to close Pershing Drive to public traffic as soon as practicable.
- Use of a Supplement to the 2001 Draft EIS/EIR was improper under guidelines for CEQA. LAWA should have addressed Alternative D in a comprehensive revised draft EIS/EIR in which the full record of information was available for public review and agency decision-making.
- The Purpose & Need statement emphasizes LAX's role in meeting regional growth, investment return, and international trade, and claims that Alternative D will fill these objectives. Yet the EIS/EIR asserts that Alternative D has the same socioeconomic characteristics as No Action, but for construction jobs, and finds that No Action would fail to meet project purpose and need. Either Alternative D fails to meet the stated goals, or Alternative D has not been described in accordance with full disclosure requirements.
- The environmental assessment does not offer a reasonable range of Alternatives that would feasibly meet most objectives, but would avoid or lessen significant effects of the project, and thus the SDEIS/EIR fails to fulfill the "Rule of Reason."
- Scoping Outreach did not include input from Los Angeles County Government or the public at large regarding either Alternative C (the 2001 preferred project) or Alternative D (the 2003 preferred project) and thus fails to meet basic NEPA requirements.
- The SDEIS/EIR offers a baseline now 7 years old: conditions in 1996 do not represent the baseline of 2003. The events of 9/11 changed the baseline so fundamentally that LAWA withdrew its 2001 documents to formulate an entirely new preferred project. The 1996 baseline does not offer a reasonable yardstick against which to measure the impacts of Alternative D or any other project alternative (including No Action).
- Piecemeal efforts to remedy the outdated baseline have further obscured understanding. The frequent shifting from one baseline nomenclature and timeframe to another is, at best, confusing. At worst, it conceals the underlying impacts that this 2003 Supplemental Draft EIS/EIR is intended to illuminate.
- The most pressing problems at LAX are lack of adequate runway length on the north complex, the security threat of private autos near the terminals, and lack of international gates. Yet the Phase One construction plan addresses none of these for many years and instead concentrates on the airport fringes (the GTC and ITC) and on demolishing and rebuilding perfectly useable terminals to accommodate New Large Aircraft. This sequence does not match the environmental and congestion priorities evident at LAX.
- The SDEIS/EIR contains numerous comments and statements that create an appearance of project advocacy. Even the appearance of advocacy is inappropriate given the policy guidelines contained in CEQA and NEPA and it seriously undermines confidence in the objectivity of the Draft EIS/EIR and its commitment to full disclosure.
- The 2001 DEIS/EIR was found to lack even the most elementary NEPA requirements for Environmental Justice; many deficiencies remain in the 2003 SDEIS/EIR. In particular, Alternative D shifts many impacts toward the more economically disadvantaged communities east and northeast of LAX, and appears to protect biological resources at the expense of residents in Lennox, Inglewood & Manchester.

- The document fails to disclose issues and concerns raised in Environmental Justice (EJ) workshops, defers evaluation of critical environmental justice impacts (including Air Quality and Health Effects) due to lack of data, offers ill-defined mitigations, and offers a preferred project that protects butterflies at the expense of residents and schoolchildren.
- The noise assessment contains significant discrepancies in the number of dwelling units and population impacted between the baseline year and the data published by LAWA. Additionally, there is an unexplained discrepancy in the year 2000 noise contours shown in the 2001 and the 2003 documents.
- The 2001 EIS/EIR acknowledged that it omitted quantitative assessment of toxic air pollutant exposure due to lack of time; the 2003 document also omitted this assessment, but did not so note. Completion of such studies independent of the environmental review, as proposed, would preclude establishment of baseline conditions. LAWA decision-makers will be unable to make an informed project determination until this data is developed and disclosed. The noise modeling results were based on inadequate flight track data.
- Nitrogen oxides were determined to have significant impacts before and after mitigation, but would be reduced the least under the proposed mitigation measures. The proposed mitigation measures do not appear to successfully address nitrogen oxides.
- The 'ratioing' technique used to update the analyses of airport pollutant sources for Alternatives A, B and C, and No Action, makes it difficult to fairly compare the alternatives.
- LAWA Decision-Makers will not be adequately informed until the environmental documentation provides thorough review of the following alternatives:
  - Relocation of New Large Aircraft Facilities to Another Airport
  - Major Shift of Airport Facility Improvements from East (Human Habitat) to West (Butterfly Habitat)
  - Development of a Minimum Airport Improvement Plan incorporating only High Priority elements

The County looks forward to reviewing LAWA's responses, particularly with respect to the additional commitments requested throughout this comment letter. At the same time, the County believes that LAWA's interests would be best served through preparation of a *comprehensive revised Draft EIS/EIR* in which *the full record* of information is consolidated in a manner that facilitates public review and agency decision-making.

2.0 INTRODUCTION TO THE COMMENT LETTER AND REPORT ORGANIZATION

A.C. Lazzaretto & Associates has again been retained by the Los Angeles County Chief Administrative Office to review and comment on a Supplement to the Draft Environmental Impact Statement/Environmental Impact Report (SDEIS/EIR) prepared by Los Angeles World Airport (LAWA) to address the impacts of a proposed Master Plan for Los Angeles International Airport (LAX). The SDEIS/EIS was issued in response to considerable public comment on the Draft EIS/EIR and Master Plan presented during 2001 and in response to the terrorist attacks that occurred on September 11th of that year. The SDEIS/EIR introduces a new preferred alternative -- Alternative D, the Enhanced Safety and Security Plan. In reviewing the Supplement, we have again noted the high quality of writing, and the thoughtful organization and presentation of materials that is evident in many of the technical reports. We again conclude, however, that the documents are substantially compromised by significant errors, omissions, and biases. We submit that LAWA has used improper procedures -- under CEQA and NEPA -- to introduce the new

preferred Alternative D, and we conclude that LAWA has offered misleading statements concerning the potential for further growth at LAX.

The review team assembled by A.C. Lazzaretto & Associates includes all firms who contributed to the 2001 review, as well as a new firm – BoydForbes, Inc. – that was brought in to review the highly technical, and critically important issues pertaining to airport safety and security. Based in Colorado, BoydForbes, Inc. is one of a handful of firms that specialize in airport security and have the ability to critically review the environmental documentation pertaining to this topical issue. Team members who also participated in the earlier effort include Michael Brandman Associates, Bauer Environmental Services, Austin-Foust Associates, and Mestre Greve Associates. Each of these firms is a leader in the field of environmental review and key members have extensive experience working with the environmental review of airport projects.

In performing the task of reviewing the Draft EIS/EIR, the County has made every attempt to offer objective, constructive comments concerning the major elements of the Draft EIS/EIR. We have made note as appropriate where issues may involve diverse views among experts.

The following report is organized to facilitate LAWA's review and response to the issues raised. As such, the general flow of this review document follows the topic pattern of the Supplement to the DEIS/EIR; however, there are many sections that have been rearranged in order to emphasize a particular point or to clarify the issue at hand. This is particularly true in the following discussion (§3.0 below) which deals with general issues that are evident throughout the SDEIS/EIR document and are not specific to any single section.

This document focuses only on issues of concern to the County from a legal standpoint, and does not attempt to identify or discuss those sections in the SDEIS/EIR that appear to meet State or Federal guidelines. This is not to say that sections not mentioned in this document can be assumed adequate; rather, the sections are omitted from this document in order to focus on areas of greatest concern to the Los Angeles County Board of Supervisors.

3.0 GENERAL ISSUES

This section identifies issues that are evident throughout the entire Supplement to the DEIS/EIR document. Typically, the issues raised in this section deal with the backbone of the SDEIS/EIR and, therefore, the errors, omissions, and faulty conclusions identified herein are those that compromise the validity of the Supplement to the Draft EIS/EIR as a whole.

3.1 ALTERNATIVE "D" DOES NOT CONSTRAIN GROWTH AT LAX

3.1.1 Airside Gate Frontage Far Exceeds Stated Levels

The SDEIS/EIR claims that Alternative D would serve, in the year 2015, no more passengers than would be expected with current airport facilities (approximately 78 Million Annual Passengers [MAP]). Despite massive improvements to the capacity of the runways and terminals, the SDEIS/EIR also claims that passenger limits will be assured by limiting "airside gate frontage." These assertions do not hold up to scrutiny. In fact, Alternative D increases "airside gate frontage", increases the number of aircraft gates, and increases aircraft gate efficiency beyond the levels contained in the No Project Alternative. The Master Plan states that:

"Alternative D is described as constrained because...facilities would not be designed to accommodate the unconstrained aviation demand forecast profile. Specifically, the terminal frontage available in Alternative D to park aircraft side-by-side is less than the equivalent terminal frontage available in the No Action/No Project Alternative." (emphasis added)

Further, the Supplement to the EIS/EIR states:

"The net effect of these terminal changes would be a reduction in the total airside gate frontage available for aircraft gates and in the number of available aircraft gates to match the peak gate requirements identified in the Alternative D design day schedule."

Neither the Supplement to the Master Plan nor the Supplement to the Draft EIS/EIR provides any further explanation, data or calculations to substantiate those statements. On the contrary, as shown on the attached table, Aircraft Gate Comparison, various graphics in the Master Plan provide evidence directly contravening those statements.

Table 1
AIRCRAFT GATE COMPARISON
EXISTING, NO PROJECT & ALTERNATIVE "D"[1]

Terminal	1996 Existing			2015 No Project		Alternative D		
	Air Carrier Contact Gates	Commuter Parking	Frontage Length (ft.)	Air Carrier Contact Gates	Commuter Parking	Air Carrier Contact Gates	Commuter Parking	Frontage Length (ft.)
1	14	6	1,740	16	0	0	0	0
2	10	0	1,201	10	0	0	0	0
3	12	3	2,104	12	0	0	0	0
4	10	10	n/a	13	0	16	0	n/a
5	16	0	n/a	16	0	16	0	n/a
6	10	14	n/a	13	0	13	0	n/a
7	12	0	n/a	12	0	15	0	n/a
8	8	0	n/a	8	0	0	19	n/a
TBIT	12	0	2,111	12	0	19	0	3,184
Remote	0	0	0	19	33	0	0	0
New West	0	0	0	0	0	27	13	4,148
New North	0	0	0	0	0	15	0	3,416
TOTAL	**104**	**33**	**7,156**	**131**	**33**	**121**	**32**	**10,748**

The amount of *"airside gate frontage available for aircraft gates"* is easily calculated using scaled drawings contained in the Master Plan. As shown on the attached Table 1, Alternative D includes an increase of nearly 3,600 linear feet of terminal frontage: Terminals 1, 2 and 3 will be replaced by the New North Terminal; Tom Bradley International Terminal will be reconfigured; and a New West Terminal will be built. No changes will be made to Terminals 4 thru 8. The total *existing* frontage of the terminals being modified is thus 7,156 feet; following proposed modifications, the terminals will encompass 10,748 feet — an increase of 3,592 feet. To substantiate its claim concerning existing conditions, the Master Plan must be including the "remote gates" that are little

[1] '1996 Existing' data obtained from Master Plan Figure II-3.2; '2015 No Project' data obtained from Figure ES-1; 'Alternative D' data obtained from Figure 2.2-4.

more than apron area where aircraft are parked. These areas with their low efficiency are not a suitable comparison to actual aircraft gates with jetways linked to a terminal. To suggest differently is to ignore well-established planning factors for passenger processing.

The number of aircraft gates also increases with Alternative D. The Master Plan Supplement uses figures in its summary tables to indicate that the No Project Alternative has 163 gates and that Alternative D has 153 gates -- indicating a reduction. However, these figures do not correspond to other figures in the Master Plan. For example, Table ES-2 in the Master Plan Supplement indicates 115 contact gates[2] and 48 remote gates for an existing total of 163. However, Figure II-3.2 of the Existing Conditions Working Paper (Chapter 2 of the Draft Master Plan), provides a detailed accounting of all existing gates and aircraft parking spaces, and it shows quite clearly that there are only 104 contact air carrier gates at present. Additionally, it shows 33 parking places for commuter aircraft located adjacent to terminals 1, 3, 4 and 6 and accessed via stairways. Except for one passing reference to 36 Narrow Body Equivalent Gates with access to the Bradley Terminal, Chapter Two makes no mention of the 19 remote gates in the northwest corner.

In the No Project Alternative, some of the parking spaces used for commuter flights have been converted to parking spaces for air carriers, and those spaces are now counted among the air carrier gates in the No Project Alternative. Furthermore, the 19 remote aircraft parking spaces have become prominent in the SDEIS/EIR No Project Alternative, implying that there are now 131 "gates" for air carriers and 32 "gates" for commuters. In reality, there are no more true contact gates today than there were in 1997. It is only that some existing concrete apron space formerly used for maintenance and other uses is now being used on a regular basis to park scheduled aircraft. This practice requires that passengers are bussed to the terminals, in a manner that the Master Plan admits is costly and inefficient. In simpler terms, there are now 112 air carrier parking spaces adjacent to the terminals, 19 remote air carrier parking spaces in the northwest corner, and areas for parking approximately 32 commuter aircraft at two remote locations.

Aircraft gates for Alternative D are depicted very clearly on Figure 2.2-4 Gate Layout and Utilization in the Supplement to the Master Plan. This Figure shows 121 air carrier contact gates and 32 parking spaces for commuter aircraft and/or regional jets. Alternative D also includes the conversion of 8 existing air carrier contact gates in Terminal 8 to spaces to park 19 commuter turbo props/regional jets.

The evidence is quite clear that Alternative D provides 8 more air carrier contact gates than the No Project Alternative, and in a configuration that is more efficient.[3] Additionally, under Alternative D LAWA retains the flexibility to create remote gates on available apron space. As the historical evidence shows, LAWA has not prepared environmental documentation for similar operational modifications at LAX in past years. Furthermore, LAWA could easily retain the eight contact gates in Terminal 8, thereby boosting the total for Alternative D to 129 contact gates – 15% more than the existing LAX layout. Accordingly, under Alternative D LAWA has the potential to increase the number aircraft gates, increase airside terminal front footage, replace inefficient aircraft gates with more efficient ones and create additional remote gates.

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[2] A "contact gate" includes traditional numbered gates in the terminal and a jet way to a waiting aircraft.

[3] Linear configurations offer more flexibility than the current cul-de-sac design; the Construction Phasing Plan notes that the reconstruction of terminals 1,2, & 3 into a linear configuration will create a "continuous Group VI flightline."

3.1.2 Runway Design Capacity is Understated

The preferred alternative will also serve future growth through the proposed runway design: the runway configuration for Alternative D has the same or higher capacity as Alternative C -- 90 MAP. Alternative D, in the same manner as Alternative C, addresses existing runway constraints by lengthening both of the north complex runways and by increasing the separation distance between them. The fact that the new four runway system can handle more than 78 MAP is stated very clearly in the Master Plan addendum on page 3-4: *"Alternative C's projected annual passenger activity level served is limited by the capacity of the four-runway system and is forecast to be approximately 89.6 million (air passengers.)"* Given that Alternative D uses the same 4-runway configuration as Alternative C, and Alternative D extends RW 6L/24R an additional 1,000 feet farther than does Alternative C, it can be concluded that the capacity of the runways under Alternative D is the same or more than Alternative C -- approximately 90 MAP.

3.1.3 Passenger Levels will be Much Higher than Forecast for Alternative D

Alternative D will allow unconstrained growth through the year 2015. Unlike the most recent FAA forecasts, the "unconstrained forecast" of 98 MAP in the Master Plan has not been updated to reflect changes in the air industry that have occurred following the events of 9/11. The most recent FAA Terminal Area Forecasts for LAX indicate that service levels at LAX will not reach the year 2000 levels (64 MAP) until the year 2008 and that service levels in 2015 will be approximately 81.6 MAP. Using those figures, Alternative D provides little if any constraint on growth.

Alternative D understates the passengers per operation. Alternative D accommodates the new Super Jumbo A380 (referred to in the Master Plan as the New Large Aircraft by creating a separation of 1040 feet between the two northern runways and by demolishing terminals 1, 2 and 3 and reconstructing a "continuous Group VI flightline."[4] The arrival of the New Large Aircraft, with almost 600 seats, will increase the passenger handling capacity of the runways and airspace by increasing the number of passengers per aircraft operation. Nevertheless, the Master Plan forecasts that Alternative D will have a lower number of passengers per operation than Alternative C and in fact forecasts a lower number than currently exists. As indicated on Table 3.3-1 of the Master Plan Addendum, Alternative D is forecast to have only 121.06 passengers per air carrier operation, while Alternative C is forecast to have 124.95. The table fails to include the actual numbers for the years 1996 and 2000. However, information from the LAWA web site indicates that passengers per air carrier operation totaled 109.5 in 1996, 119.65 in 2000, 116.62 in 2001, 123.18 in 2002, and 125.4 thru July of 2003. The number of passengers per operation is expected to continue to increase as airlines increase the size of aircraft and increase their load factors (percentage of sold seats.) Furthermore, there is a large and unexplained increase in the number of commuter flights (from 109,000 in Alternative C to 183,000 in Alternative D). Commuter flights average only about 20 passengers per aircraft. If some of the capacity used for commuter operations was used instead for air carrier operations, the number of passengers would again increase. There is thus abundant evidence that the runway capacity proposed under Alternative D is much greater than 78 MAP.

[4] In contrast, the south runways will be separated only by 795 feet which is sufficient for aircraft such as the B747.

3.1.4 Terminal Space in Alterative D is Equivalent to Alternative C

Alternative D increases terminal space by 70%. The proposed increase in terminal space from 4 million square feet (msf) to 6.8 msf represents a considerable increase -- 70% higher than existing. The resulting capacity is only 8% less than Alternative C, again indicating an ability to handle many more than 78 MAP.

3.1.5 The No Project Alternative Cannot be used to Evaluate Alternative D.

Comparison with the No Project Alternative does not provide a reasonable basis to conclude there will be no additional growth. As discussed below in §3.4.2, the origins of the service levels used in the No Project Alternative are obscure and undocumented, thus casting some doubt upon their validity. If the No Project service levels are inflated, as we anticipate, then Alternative D would surely be promoting growth as the service levels increased from the current 55 MAP to 78 MAP.

3.2 IMPROPER USE OF A SUPPLEMENT TO THE DRAFT EIS/EIR

The CEQA Guidelines state that a Supplement to an EIR may be prepared if changes to a project are not considered major (§15162(a)). Where the changes necessitate major revision to a previous EIR, CEQA requires preparation of a Subsequent EIR. Both types of documents must receive the same notice and public review requirements as the original EIR. However, in a Subsequent EIR, *all information* must be presented, whereas in a Supplemental EIR only *new or revised information* need be presented. Discussion provided in Public Resources Code §21166 (and CEQA Guidelines §15162 and §15163) indicate that both types of review are intended for use in connection with *previously certified or approved* environmental documents. For documents that have not yet been certified, CEQA outlines a procedure for recirculation. Discussion provided with the CEQA Guidelines states specifically that, *"Circulating a subsequent EIR or supplement to an EIR is not "recirculation" as described under §15088.5."*

In the present case, there is no previously certified or approved document. Furthermore, review of the Supplement to the Draft EIS/EIR provides incontrovertible evidence that changes to the proposed project are major and affect the entire environmental assessment: LAWA has presented an *entirely new alternative* as the preferred project, and the alternative was *created to meet safety and security challenges that did not exist in 2001*. In effect, the entire framework for this project -- from the baseline conditions, to the project purpose and need, to the very project itself -- changed following September of 2001, and yet LAWA used a CEQA format intended for minor changes to a certified EIR.

Finally, the format used by LAWA serves to obfuscate rather than facilitate understanding of this complex project.[5] Every reasonable interpretation of CEQA would indicate that LAWA should have addressed the project through preparation of a comprehensive revised Draft EIS/EIR, in which

[5] At a minimum, the SDEIS/EIR Index (§7.7) could have provided the reader with a more listing of topical issues and where they can be found, along with a cross reference to text discussions in the 2001 and 2001 documents. Instead, the Index offers only a cursory guide to topical discussions (for example, the Index contains no references for "cumulative impacts") and provides no useful tools for locating or accessing analyses from the 2001 Draft EIS/EIR.

the *full record* of information was consolidated in an effort to facilitate public review and agency decision-making.

Public review and lead agency decision-making would also have been far better served by providing copies of the comment letters submitted during public review of the original EIS/EIR. During 2001, the County of Los Angeles devoted considerable time, public funds and staff effort to review and submit comments on the extensive Draft EIS/EIR and Master Plan documentation released by LAWA at that time. Surely a similar effort was spent by many other agencies, organizations and individuals, and it is probable that the collective comments contained a wide range of information that would have been relevant to the current review. Despite this fact, the Supplement to the Draft EIS/EIR makes no effort to present *or even summarize* the earlier comment letters. This approach creates a process that is confusing and cumbersome for reviewing agencies and organizations, and thwarts an opportunity to advance public participation. A response to the earlier comments would have served to advance public discourse, strengthen the opportunity for environmental protection, and facilitate an understanding of the Lead Agency's thinking on a wide range of key issues. We acknowledge that LAWA was under no obligation to respond or acknowledge the earlier comment letters. However, the failure to have done so belies a continuing pattern of disinterest in public views that was established in 2001.

3.3 INCONSISTENT PURPOSE & NEED STATEMENT

The apparent contradiction between SDEIS/EIR statements and actual intent is also evident in the discussion of project purpose and need. The SDEIS/EIR states, on page ES-1, that the purpose and need for the project have not changed:

> *"**The purpose and need for the LAX Master Plan has not changed since the publication of the Draft EIS/EIR**...In particular, the Master Plan project objectives are to:*
> - *Respond to **local and regional demand** for air transportation during the period 2000-2015, taking into consideration the amount, type, location, and timing of such demand.*
> - *Ensure that new investments in airport capacity are efficient and cost-effective, maximizing the return on **existing infrastructure capital**.*
> - *Sustain and advance the international trade component of the regional economy and the **international commercial gateway** role of the City of Los Angeles."*

In a number of text discussions, the SDEIS/EIR affirms that Alternative D responds to the stated purpose and need for this Master Plan, as shown in the excerpts below from pages 2-1 and 3-25:

> *"Alternative D, the "Enhanced Safety and Security" alternative, offers a well-planned and rational 'regional approach' alternative for improvement of LAX. Alternative D would respond to future demand for air transportation by encouraging, but not requiring, other airports in the Los Angeles area to increase capacity to make up for the limitations of LAX. It would allow airlines to accommodate the demand for international aviation at LAX to the greatest extent possible without otherwise increasing capacity of the airport generally. It would also maintain the return on existing capital investments at LAX. Thus, Alternative D would allow the Los Angeles region to realize some of the important economic benefits outlined in the Draft EIS/EIR, while at the same time enhancing security and safety at the airport and significantly reducing environmental impacts from airport operations to the surrounding communities."*

"Alternative D, as stated previously in § 3.1, Formulation and Refinement of Alternatives, of this document, is a direct response to the strongly expressed desire of many citizens, as indicated in comments received on the Draft EIS/EIR, for a regional approach to airport planning in Southern California that is more aggressive than demonstrated by the previously considered Master Plan build alternatives. The Mayor of Los Angeles, noting the need to fully examine a regional approach to satisfy air transportation demand, directed LAWA to develop a new Master Plan alternative for the improvement of LAX. Responding to the Mayor's direction, the new alternative is designed to:

- *Enhance safety and security at LAX for users and to protect the airport infrastructure*
- *Encourage the development and use of regional airports to serve local demand by constraining the facility capacity at LAX to approximately the same aviation activity levels identified in the No Action/No Project Alternative;*
- *Maintain LAX as the International Gateway to Southern California; and*
- *Mitigate the impacts of LAX's continued operation."*

At the same time, the SDEIS/EIR emphasizes that Alternative D is equivalent in many ways to the No Action /No Project Alternative. For example, SDEIS/EIR page ES-17 includes the following statement:

"Alternative D would encourage a long-term regional approach to serving air traffic demand in the Los Angeles basin by designing facilities at LAX to accommodate passenger and cargo activity levels equivalent to the No Action/No Project Alternative activity level, but would be designed to allow air carriers to emphasize international routes at LAX."

The Project Description (page 3-25) expands on this theme, including the statement below:

"LAWA determined that constraining the aircraft gate frontage at the terminals is a component of the airport system that is fully within its control. LAWA can constrain the development of this frontage and believes that this will, in turn, place an effective constraint on total passenger activity at LAX. LAWA can also control the amount of available cargo warehouse and processing space at LAX. By constraining the development of these cargo facilities, total cargo activity at LAX would be constrained."

Further, the SDEIS/EIR provides quantitative data to support these statements, as shown below with information excerpted from SDEIS/EIR Tables ES-1 and ES-2.

Table 2
COMPARISON OF NO PROJECT WITH ALTERNATIVES 'C' AND 'D'[6]

Facility	No Action/No Project Alternative	Previously-Preferred Alternative C	Currently Preferred Alternative D
Cargo-Annual Tons	3,120,000	4,172,000	3,120,000
Total # Nominal Gates	163	168	153
Million Air Passengers	78.7	89.6	78.9

[6] Note again that the 163 gates shown for the No Project alternative includes 52 remote parking spaces.

And yet the SDEIS/EIR claims that the No Action/No Project Alternative is seriously deficient. For example, discussion on page ES-7 states that the No Action/No Project Alternative *"would fall far short of meeting the projected demand for aviation services at LAX by accommodating approximately 78.7 million passengers (a shortfall of approximately 19.2 million) and 3.1million tons of cargo (a shortfall of approximately 1 million tons) in 2015."*

The SDEIS/EIR also portrays the No Action alternative as *de minimis* in the scope of its improvements, but allowing for increased passenger and cargo volumes, as shown in discussion from page 3-6:

> *"This* [No Project] *alternative includes only minor airport improvements approved as of the publication of the Draft EIS/EIR in January 2001 or that were in the planning stages at that time. The improvements include minor taxiway improvements, new cargo building space, construction of at least one off-airport parking structure, and reconstruction of an on-airport parking structure. Passenger and cargo volumes would continue to increase in response to projected demand, reaching activity levels in 2015 of approximately 78.7 MAP and 3.12 MAT, respectively."*

In essence, the Supplement to the DEIS/EIR offers the following unsupportable syllogism: Alternative D meets project goals, Alternative D is substantially the same as No Action, and No Action fails to meet project goals. As discussed more fully below (and in previous sections), we believe that this inconsistency arises from the fact that the EIS/EIR is misleading in its description of alternatives.

3.4 INADEQUATE ASSESSMENT OF ALTERNATIVES

3.4.1 Inadequate Definition and Evaluation of Project Alternatives

The SDEIS/EIR fails to comply with two cornerstone elements of CEQA – that an EIR must describe a reasonable range of Alternatives that would feasibly meet most objectives, but would avoid or lessen significant effects of the project,[7] and that preparation of an EIR should be guided by a good faith effort at full disclosure.

The Supplement to the Draft EIS/EIR carries forward the project goals that were previously established in the 2001 DEIS/EIR. These goals included: (a) to respond to local and regional demand for air transportation during the period 2000-2015; (b) to ensure that the investment in airport capacity maximizes the return on existing infrastructure capital; and (c) to advance the role of LAX as the international commercial gateway to the region. Alternative D is presented as an option that would fulfill key aspects of the project purpose and need.

The SDEIS/EIR also emphasizes, repeatedly, that Alternative D is substantially the same as the No Action Alternative in terms of meeting transportation demand -- as measured by number of gates, number of passengers, number of aircraft operations, and cargo tonnage. Yet the No Action Alternative as presented is clearly deficient in terms of meeting demand for aviation and cargo services.

[7] CEQA §15126.6(f) states, "Alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project."

If this inconsistency has a sound explanation, it is the job of the SDEIS/EIR to provide that explanation. Instead, the SDEIS/EIR is permeated with unexplained inconsistencies. Similar incongruities were apparent in the 2001 document. The 2001 Draft EIS/EIR presented Alternative C as the preferred action, yet concluded that Alternative C would have more significant unavoidable adverse effects than either of the other two build Alternatives (25 for C; 23 for A; 22 for B), and would fail to meet projected demand.

In this regard, both the Draft and the Supplement to the Draft EIS/EIR fall short of the requirement that environmental documents must provide a *clear definition of project goals* in association with the selected range of alternatives. As now presented, the data suggest either that Alternative D fails to meet essential aspects of the stated goals, or that Alternative D has not been described in accordance with full disclosure requirements.

3.4.2 Alternatives are Inconsistent with Baseline Data

On close review, the numbers provided in the Tables entitled "Summary of Activity, Comparison of Alternatives and Summary of Features, Comparison of Alternatives"[8] do not present a cohesive picture. When compared with data provided throughout the baseline and impact analyses, information contained in this summary statement appears to be fundamentally lacking in logical internal consistency. For example, in describing assumptions made for the No Project Alternative, the Socioeconomic Technical Report[9] indicates, "The schedule of operations would still show variations throughout the day but the peak period would be at or exceed the airfield's capacity. Congestion, delays and passenger inconvenience would be common all year, not just during peak holiday periods." However, the "Summary of Features, Comparison of Alternatives" contradicts these claims. The Summary indicates that the No Project Alternative would have: (a) fewer all-weather delays than Alternative C (13.2 vs.13.6); (b) fewer annual cancellations than Alternatives A and C (9,969 vs. 15,477 and 15,814); (c) more public parking stalls than Alternative B: and (d) the same number of all-weather peak operations and 3-hour average operations.

Similar inconsistencies occur with the addition of Alternative D. Most notably, the Design Day activity levels should approximate those for Alternative C given that the runway improvements are nearly identical. Further, public parking stalls and employee parking stalls are equal to or greater than other build alternatives, and rental car acreage is doubled over other alternatives. Passenger terminal square footage is 93% of Alternative C, but the passengers are 88%. This indicates faulty project design without consistent use of planning factors.

3.4.3 Alternative D may Exceed the Stated Growth Levels

The SDEIS/EIR states that Alternative D evolved from a decision on the part of LAWA and the City of Los Angeles to limit growth. Alternative D does limit growth below that of Alternative A and B. However, as discussed in § 3.1, this alternative would not limit LAX to 78.7 MAP as claimed. Considering the extensive improvements to the airfield, passenger terminals, roadways and other facilities, it is more reasonable to assume that Alternative D will achieve service levels equaling or exceeding those of Alternative C (90 MAP). Furthermore, many elements of Alternative D resemble the Phase I construction of other alternatives: in future years, land area in

[8] Pages ES-9 through ES-11.
[9] Section 5.1.1.

the western part of the airport can be used for additional terminal space, and available apron space can be readily converted to remote terminal space. These possibilities merit evaluation in the SDEIS/EIR.

The SDEIS/EIR makes certain assumptions that require further explanation or verification. Why for example do commuter flights increase from 109,000 in Alternative C to 183,000 in Alternative D? If commuters fail to materialize, will the excess capacity be used for air carrier aircraft? Similarly, as discussed earlier in regard to the No Project Alternative, air cargo growth may also not be constrained.

Many of the more capital-intensive improvements in Alternative D seem to contravene the intended purposes. For example, Alternative D would require that significant resources be devoted to separating runways and demolishing existing terminals to provide for the New Large Aircraft. In fact, many major airports in the USA have already taken a position that they will not underwrite these costs. Yet easing the way for the New Large Aircraft at LAX will surely enhance the concentration of air service at LAX to the detriment of the other regional airports. If provisions for the new 600-seat New Large Aircraft were instead placed at Ontario International Airport, it would provide a powerful incentive for the airlines to increase service there. It takes many connecting flights to fill a 600 seat aircraft; if LAX is designed to accommodate these aircraft, one outcome will be to strongly reinforce the ability of LAX to attract the bulk of the region's air service.

The stated security enhancement goals can be achieved without the expense and vulnerabilities of an Automated People Mover by building the three principal ground processing landside facilities in a strategic configuration closer to the Central Terminal Area.

3.4.4 Regional Alternatives would be Best Served by Relocating New Large Aircraft Inland

The Master Plan is at odds with itself in regards to constraining or expanding LAX. As set forth in the Draft Master Plan and SDEIS/EIR, serious economic consequences will befall the region if LAX is not expanded to accommodate the unconstrained demand, and then the Supplement presents a Preferred Alternative that purports to do just that. The recent growth spurts at Long Beach and John Wayne will soon peak out. LAX will continue to attract cargo and international flights because the carriers continue to resist using other regional airports, particularly those in the inland empire. The proposed expansion of LAX and particularly the provisions for the New Large Aircraft are simply another chapter in the long history of incremental growth. As soon as these improvements are completed in twenty years or so, there is every indication that there will be another round of master planning to continue that pattern. As stated above, this master plan claims to support a regional approach to air transportation, but does not incorporate the one feature that would most secure it – i.e., relocation of the New Large Aircraft improvements to Ontario or Palmdale International Airports.

3.4.5 Additional Alternatives to Evaluate

Under CEQA, the range of alternatives addressed in an EIR should be governed by the 'Rule of Reason' which states that an EIR need only address those alternatives necessary to provide decision makers with a reasoned choice. Under this Rule, the selection of alternatives is guided by feasibility, efficacy in reducing or avoiding impacts, and ability to foster public participation and informed decision-making. 'Feasibility' includes site suitability, economic viability, availability of

infrastructure, compatibility with relevant planning documents and jurisdictional controls, and proponent access in cases where the alternative involves another location. In considering alternate locations, the "key question" to be asked is whether any of the significant project impacts could be lessened or avoided by relocating the project to another site.

Relocation of New Large Aircraft Facilities to another Airport: The Rule of Reason applies to the LAX Master Plan SDEIS/EIR, and this document will not meet the standards of adequacy until it evaluates relocation of all or part of the project to another site. The County of Los Angeles requests that LAWA provide such analysis for the following alternative: relocation of facilities oriented to the New Larger Aircraft to Ontario International and/or Palmdale International, both of which *were designed to accommodate international travel, are underutilized, and are owned and operated by LAWA.* Such an alternative would almost certainly enable LAWA to reduce project impacts around LAX substantially, without concomitant impacts at the relocation sites.

Shift Airport Improvements from the East to the West: The County also requests that LAWA evaluate an alternative in which improvements are shifted away from human habitat on the north and east and into the butterfly habitat on the west. We understand why LAWA may have wished to avoid this assessment in light of the complex background and history surrounding the El Segundo Blue Butterfly Habitat Restoration Area and the Los Angeles/El Segundo Dunes. However, the path of omission forecloses an important opportunity for informed decision-making. In this case, *the proposed Master Plan improvements will cause new, significant and unavoidable adverse new impacts to thousands of human beings* (i.e. elevated noise levels, increased single-event exposures, increased school disruption, loss of industrial jobs and historical resources, elevated pollutant levels, etc.). Due to omission *decision makers will not know* whether it may have been possible to lessen or avoid these impacts by shifting the improvements westward and instead imposing the significant unavoidable adverse impacts on a population of 7,000-87,000 endangered El Segundo Blue Butterflies. *Decision makers will not know* how the mitigation costs for the human impacts would compare with the mitigation costs for relocating butterfly habitat. Due to omission, *decision-makers will be unable fulfill their statutory obligation* to weigh, balance and consider the trade-offs, costs and opportunities associated with environmental justice and resource protection. To avoid this outcome, the County of Los Angeles asks that LAWA provide the public and LAWA decision-maker with a full and complete assessment of this alternative.

Redesign and Reprioritize Proposed Airport Improvements: Finally, in furtherance of finding an environmentally superior alternative that fulfills the basic objectives of the project, the County asks that LAWA develop, consider and comment on a new Alternative that would solve the urgent needs LAX in a timely manner and also eliminates costly, time consuming and controversial items. The following elements should be addressed:

- Fast track the addition of international gates on the west side of Tom Bradley International Terminal.
- Fast track the lengthening of RW 6R/24L in its present position.
- Widen the north complex runways by moving RW6L/24R to the north as proposed in Alternative C.
- Eliminate the Ground Transportation Center and the Automated People Mover. Prohibit private vehicles on World Way in the Central Terminal Area, and provide security screening for a fleet of zero emission vans that would serve the many airport and privately owned garages around the airport. (Note that this trend is already evident.)

- Eliminate all provisions for the New Large Aircraft including the Design Category VI spacing of the north complex runways and provision of larger aircraft gates.
- Provide additional space in the Central Terminal Area as proposed in Alternative D.
- Close Pershing Drive to all public access.

3.4.6 Scoping Outreach did not Include Alternative D

LAWA made the 2003 SDEIS/EIR available for public comment in July of 2003 to update information presented in the 2001 Draft EIS/EIR and to integrate Alternative "D" into the environmental review process. Alternative D, the "Enhanced Safety and Security Plan," introduces numerous infrastructure and concept changes into the alternatives analysis including a reprioritization of project goals to emphasize safety. In turn, the shift in project objectives changes the manner in which alternatives must assessed in the environmental analysis. The objectives of the CEQA process include fostering interagency coordination early in the review of projects and encourage public participation in the planning process.[10] Similarly, the purpose of the scoping process required by NEPA is to identify and disclose all of the potential Alternatives under consideration by the lead agency. This provides the public with the greatest ability to understand project issues and thus contribute useful information, suggestions and comment for consideration by the lead agency decision-makers.[11]

In the present case, the scoping outreach and early consultation with Responsible and Trustee Agencies did not include Alternative D, which became the preferred project. This denies the public of the opportunity to comment, and it also raises questions as to the validity of the process by which "D" became the preferred Alternative -- between the 1996 circulation of the Notice of Preparation (NOP), and scoping outreach, and the circulation of the 2003 SDEIS/EIR. If the objectives and scope of the project changed sufficiently between initial outreach and circulation of the Supplement to the Draft to warrant incorporation of a preferred Alternative that was not even included in the original Draft EIS/EIR, then the NEPA scoping process should have started again. CEQA also requires, at minimum, circulation of a comprehensive Subsequent Draft EIR that includes full disclosure of the alternatives analysis and process used to select the preferred Alternative.[12]

3.5 INADEQUATE AND OUTDATED BASELINE SETTING

3.5.1 The 1996 Baseline is not Applicable to Existing Conditions in 2003

The Draft and Supplement to the Draft EIS/EIR both comply with the CEQA requirement that the baseline be defined by conditions extant at the time the Notice of Preparation was released. However, because the baseline was already five years old at the time of the 2001 Draft EIS/EIR release, and is now 7 years old for analyses contained in the Supplement, the review fails to comply with the intent of CEQA to facilitate an understanding of changes in the environment associated with the proposed project. Use of the five-year old baseline, coupled with the document's frequent assumption that mitigative actions addressing air quality, noise, traffic, water quality, and other topical issues will occur primarily (or only) through project-related activities, tends to consistently overstate the impacts of the No Project Alternative relative to other Alternatives. Although the

[10] CEQA Guidelines § 15002, § 15086, and § 1587
[11] NEPA Guidelines: 40 C.F.R. § 1508.25
[12] CEQA Guidelines §15162(a)

2003 SDEIS/EIR provides the "normally" accepted "baseline" of conditions extant at the time the NOP was released, CEQA Guidelines by implication allow the Lead Agency to use a baseline different than the NOP released date when "non-normal" circumstances occur.[13]

In the present case, several "non-normal" circumstances have occurred that necessitate an updated baseline. In particular, the NOP is now seven years old and conditions extant in 1996 do not represent existing conditions at the project site. More significantly, the extraordinary events of September 11, 2001 significantly altered baseline conditions – physical and social -- from what existed when the NOP was released. So fundamental were these changes that LAWA withdrew the then-pending Draft EIS/EIR and Master Plan, and proceeded to formulate an entirely new alternative, which it then identified as its preferred project. Clearly, the 1996 baseline material provides an inadequate yardstick against which to measure and understand the impacts of Alternative D or any other project alternative (especially including the No Action Alternative).

It is generally understood that air travel will not soon return to pre-9/11 conditions. After 9/11, LAX implemented new operational procedures that in turn changed (1) the location and distribution of passengers and visitors, (2) the length of time passengers are at the airport, (3) the number of passengers arriving, and (4) the number of aircraft taking off and landing.

For all of these reasons the 2003 Supplemental Draft EIS/EIR fails to comply with the intent and judicial interpretation of CEQA relative to the Baseline Analysis – i.e., to facilitate an understanding of changes in the environment associated with the proposed project and project Alternatives. Furthermore, use of this 7-year old baseline tends to consistently overstate the impacts of the No Project Alternative relative to other Alternatives. When coupled with the Draft EIS/EIRs frequent assumption that mitigative actions addressing air quality, noise, traffic, water quality, and other topical issues will occur primarily (or only) through project-related activities, the error is even more apparent. CEQA clearly intends that the baseline should reflect the existing level of actual development to the maximum extent possible; since the Draft EIS/EIR baseline is set at 58 MAP (vs. 67+ MAP at present – a 15%+ discrepancy), this intent is clearly unmet.

In order to achieve an adequate document, LAWA needs to provide an updated baseline for all topical sections where current data is available. Doing so will minimize the risk of an unfavorable ruling such as the situation encountered by Logan Airport in Boston. The United States Environmental Protection Agency rated the 1999 Logan Airport EIS as "Environmental Objection, Insufficient Information" for, among other concerns, the use of the outdated baseline year of 1993.

3.5.2 Baseline Terminology is Inconsistent and Confusing

The baseline data is also inconsistent. This problem extends not only to the many different years used as the "baseline", but also to incorrect identification of the base year for given data sets. For example, the 4th quarter 1996 database cited for the noise calibration does not match actual 4th quarter data according to published noise contours.

[13] CEQA Guidelines § 15125

Table 3
DIFFERENCES BETWEEN EIS/EIR NOISE IMPACT & LAWA 1996 QUARTERLY REPORT

	Dwellings Inside 65 CNEL	Population Inside 65 CNEL
LAWA 1996 4th Quarter Report	31,968	85,907
EIS/EIR Table 4.1-2 For 1996	16,900	49,000
Difference	**15,068**	**36,907**

The question therefore arises as to how LAWA actually defines the "Environmental Baseline." Is the Environmental Baseline the same as the "Adjusted Environmental Baseline?" Or the "Future Without Project Scenario" (i.e., cumulative without project)? Or the "No Action/No Project Alternative?" Or none of these? Although each of these scenarios may serve a useful purpose, such gains can be realized only when the scenarios are properly defined, adequately differentiated, and consistently employed – none of which is true for the LAX Master Plan SDEIS/EIR. Does the environmental baseline include the phase-out of older, noisier Stage 2 jets, as assumed with the build Alternatives? The forecast reduction in noise exposure for Alternatives A, C and D, as compared with the No Action/No Project Alternative,[14] appears to conflict with the numbers cited in the penultimate paragraph on page ES-21. It is not clear which of the congestion relief package features are scheduled for completion in Phase 1 and which will be deferred to Phase 2.

The Summary of Alternatives[15] notes, in discussing baseline conditions, that "physical conditions are represented as they existed in 1997 and in more current years when possible to provide the most up-to-date information available." It is not clear why "up-to-date" information is possible in some categories but not others. LAWA has had five years to update the information and is anticipating spending significant funds to implement the project; there is in truth no justifiable reason for denying the public and LAWA decision-makers access to current information.

LAWA must clearly define each of the baseline and future condition scenarios used in the 2003 Supplemental Draft EIS/EIR, with an explicit statement of the rationale for its use. Perhaps LAWA should delete one or more of these scenarios from discussion. Referenced scenarios include "environmental baseline," "environmental baseline (1996)," "environmental baseline (2000)," "adjusted environmental baseline," "environmental baseline (2015)," "non-LAX development having cumulative impact," "future without project scenario" (i.e., cumulative without project), and "No Action/No Project". Incredibly, the Glossary defines none of these terms. The analysis constantly shifts the baseline timeframe to manipulate the comparative assessment of project impacts -- using 1996 baseline data for traffic, air and aircraft noise, while using 2000 through 2002 for biology, earth, and water resources. The frequent shifting from one baseline nomenclature and timeframe to another is, at best, confusing. At worst, it conceals the underlying impacts that this 2003 Supplemental Draft EIS/EIR is intended to illuminate.

[14] First bar chart on Page ES-22 titled, "Population Exposed to Noise Above 65 CNEL in 2015."
[15] 2001 Draft EIS/EIR, Section 3.2.1, Pages 3-8 through 3-18.

3.5.3 Baseline Terms are Not Defined

There is no clear definition of the term "Unconstrained Forecast" anywhere in the Environmental Summary or in Sections 1, 2 or 3. The reader is left to guess what the term is intended to portray, where it fits into the long-range forecasts for LAX and other regional airports[16] and the estimates of rising aviation demand.[17]

This lack of definition and intent extends to the term "Adjusted Baseline." This condition has never existed, and will never exist (i.e., 1996/97 airport activity and physical facilities plus 2005 and 2015 land use activity and regional traffic). There is no basis in CEQA and/or NEPA for use of this term and it therefore requires either clarification or removal from the document in favor of more traditional and more clearly defined comparative data.

3.6 PROJECT PHASING DOES NOT REFLECT STATED PRIORITIES

The proposed project phasing illustrates the Master Plan's embrace of an environmentally inferior alternative. The most pressing problems on the airport are the lack of adequate runway length on the north complex, the security threat of private autos near the terminals, and the lack of international gates. Taxiing of loaded B747 aircraft to the south runway complex and the bussing of international passengers across the airfield creates air quality impacts, congestion, delay, and general lack of capacity. Yet the Phase 1 construction plan addresses none of these issues for many years and instead concentrates initially on the fringes of the airport preparing for the Ground Transportation Center and Intermodal Transportation Center, and on demolishing and rebuilding perfectly useable terminals in preparation for moving a runway to accommodate the New Large Aircraft. This sequence does not match the urgent environmental and congestion priorities evident on the airport.

3.7 APPEARANCE OF ADVOCACY

Both the Draft EIS/EIR and the Supplement to the Draft EIS/EIR contain numerous comments and conclusive statements that create an appearance of project advocacy. This is inappropriate given the policy guidelines contained in CEQA and NEPA. It undermines confidence in the objectivity of the analyses and casts doubt on the Lead Agency commitment to full disclosure. We are particularly concerned about technical assumptions that understate the growth potential and overstate the benefits of Alternative D, as paired with assumptions that overstate the adverse impacts of the No Project Alternative (please see §3.5.2 above for further elaboration of this concern).

3.8 INADEQUATE SCOPING OUTREACH

Both the 2001 Draft EIS/EIR and the 2003 Supplemental Draft EIS/EIR make frequent mention of the regional significance of LAX and of the Master Plan process. This emphasis on regional context is evident in discussions and analyses provided throughout the text, but more significantly is an integral part of the Purpose and Objectives statement. As stated, *"The purpose and objectives of the Master Plan are to provide...sufficient airport capacity for passengers and freight in the Los*

[16] 2001 Draft EIS/EIR, Table 1-13.
[17] 2001 Draft EIS/EIR, Depicted in the Exhibit on Page ES-3.

Angeles region to sustain and advance the economic growth and vitality of the Los Angeles region..."[18]

Nevertheless, the original scoping outreach effort did not include a single agency within the county governments of San Bernardino County, Orange County, Riverside County, or Ventura County.[19] Nor did the scoping outreach include any municipal agencies, airport officials, businesses, or services within any of these four counties, although many such entities would have an interest in the regional issues addressed and in the development and analysis of project Alternatives. This is a serious omission, particularly in light of the NEPA mandate to establish close nexus between project goals and project Alternatives. It may also explain why none of the project Alternatives incorporates even minimal regional elements.

Furthermore, the scoping process is intended to identify and disclose all of the potential Alternatives under consideration by the lead agency. This provides the public with the greatest ability for input and understanding into the potential project and offers an opportunity to comment. In fact, it is common for lead agencies to remove Alternatives from further consideration between the scoping process and the distribution of the Draft EIS/EIR. In this case, the scoping outreach did not include Alternative C (the 2001 preferred alternative) or Alternative D (the 2003 preferred alternative). As noted previously, this approach forecloses the opportunity for public comment and casts doubt on the adequacy of the process by which LAWA screened and selected the alternatives. In any case, the SDEIS/EIR fails to meet CEQA and NEPA standards because LAWA did not disclose the preferred Alternative D to the public prior to document release.

Furthermore, although LAWA presented the original 2001 draft master plan at a number of public meetings held specifically for minority citizens, it is unfortunate that the same level of outreach has not occurred for the Supplement to the Master Plan. The minority segment of the population will experience the greatest exposure to the effects of changes at LAX. In particular, the County's interest in this issue is again with the unincorporated Lennox community. LAWA should develop a more thorough outreach program for Alternative D that fully informs the citizens in this area of the complete range of options and how the proposed master plan would specifically affect them. LAWA should fully disclose the decision to extend runways to the east and avoid the endangered species habitat to the west along the beaches.

3.9 PROGRAM ASSESSMENT OF BASELINE, IMPACTS, MITIGATIONS

The analytic framework of the 2001 Draft EIS/EIR was described as one in which the document was meant to set the basis for "tiered" environmental review pursuant to both NEPA and CEQA.[20] The tiered concept assumes that subsequent environmental documents will be required to focus the analysis on site-specific, project-level issues, impacts, and mitigation measures. The 2003 Supplemental Draft EIS/EIR does describe many concepts in more detail, but continues to keep the analysis at a program level. The program-level analyses and vague mitigation commitments may not provide the Federal Aviation Administration (FAA) with an adequate basis on which to issue an "unconditional approval" of the airport layout plan (ALP). An unconditional approval assumes that

[18] 2001 Draft and 2003 Supplemental Draft EIS/EIR, Section 2.1, Page 2-1.
[19] Based on review of EIS Agency Scoping Coordination Letter Mailing List and other materials provided in Appx. A.
[20] Section 4, Pages 4-5 and 4-6.

LAWA has completed appropriate analyses for all development actions, and the circulated document does not fulfill this requirement.

3.10 GROWTH & CUMULATIVE IMPACTS MAY BE UNDERSTATED

The Supplement to the Draft EIS/EIR bases its analysis of growth inducement on projected cargo and passenger activity. It concludes that by 2015, Alternative D would yield a direct economic output of $63.7 billion and 350,500 jobs, plus an indirect economic output of $93.8 billion and 629,000 jobs through a multiplier effect of 1.5. The EIS/EIR assumes that all of the jobs would be within the 5-County SCAG region, 78% of the jobs would be within a 20-mile radius, and 40% within a 10-mile radius of LAX. Finally, it concludes that Alternative D would be similar in terms of job formation to the No Action/No Project Alternative, differing by an increase of about 1%. With respect to collateral development, the EIS/EIR finds Alternative D impacts equivalent to the No Project Alternative for LAX Northside[21], Westchester Southside and Belford, and less than the No Project Alternative for Continental City and Manchester South.

In taking this approach, the document ignores the cumulative synergistic effects that would result if LAX Northside is constructed in tandem with the LAX improvements, as proposed under Alternative D (but not Alternatives A, B or C). The increase in cargo will create corresponding increases in off-airport services and place extraordinary pressures on commercial and residential land uses in the immediate neighborhood. Apart from a discussion of the proposed cap on peak hour traffic from the LAX Northside project, the Growth-Inducing Impact Analysis (which is also the Cumulative Impact Analysis for Alternative D) does not address these more localized impacts at all, even though the history of LAX shows them to be potentially significant.

4.0 COMMENTS SPECIFIC TO THE SUPPLEMENT TO THE DRAFT EIS/EIR

4.1 AIRPORT SECURITY ASSESSMENT IS INCOMPLETE

4.1.1 Summary of Findings Concerning the Analysis of LAX Master Plan Security

As detailed at length in the discussion that follows, the security content of Alternative D documentation is inconsistent and contradictory, leaving important questions unanswered and an urgent need for definitive clarification of the true policy and planning direction. The security analysis has been treated in an aloof and disconnected manner, is preoccupied with the public approaches and the eastern half of the infrastructure; and fails to address total airport security vulnerabilities and risk management planning. These inconsistencies imply an absence of coordination in the planning process. Of greater concern is the possibility that the professed emphasis on security enhancement is not the true priority in terms of planning and phased implementation.

There is a strong case for the separate ground processing facilities and for dispersal of target populations by reducing density, controlling and limiting vehicular access and proximity. Access

[21]LAX Northside is approximately 330-acres of land located on the north side of LAX (bisected by Westchester Parkway) and owned by LAWA. Tentative Map #34836, approved for this site during the mid-1980s, would allow development of about 4.5 million square feet of office, hotel, restaurant, retail, research and airport-related land uses.

roadways merit greater emphasis on security design, demonstrating a clearer commitment to specific contingencies while anticipating traffic impacts.

The separation concept is diminished in value by the expensive and vulnerable mass transit link between the Central Terminal Area and remote landside ground facilities. It is further diminished by the lack of Flow Process Mapping data, the risk of task overload and failure to achieve target reduction, and by potential alienation if the public perceives screening requirements as excessive.

For reasons discussed in this report, we believe that the Automated People Mover is a weak link in the overall security plan. Security enhancement goals can be achieved without the Automated People Mover by moving the 3 main ground processing facilities closer to the Central Terminal Area. The western half of the airport should be drawn into the Plan with all subcomponents receiving 'substantial treatment' as required of federal regulators and stated early in the analysis. In the course of addressing the western end of the airport, *and as a matter of urgency,* LAWA should conduct a detailed assessment of the vulnerability to terrorist attack. LAWA should give serious consideration to the permanent closure of Pershing Drive as a public thoroughfare.

LAWA should provide an illustration that shows anticipated concentric ring security applications along with an explanation of the capabilities for surveillance of adjoining commercial and residential neighborhoods. Finally, the analysis should offer a quantitative projection of the demands on security and law enforcement personnel, and the intended ratio of manpower to technological devices.

4.1.2 Introduction to the Analysis of the LAX Master Plan Security Component

The LAX Master Plan Security Component addresses known and implied security issues, with a focus on Alternative D (the Enhanced Safety and Security Alternative), while also referencing the more limited discussions found in the Master Plan and SDEIS/EIR documents as a whole. The events of September 11, 2001 are commonly referenced in the Alternative D documentation, and security issues predictably appear in documentation released by the City of Los Angeles on July 9, 2003. However, it has been more difficult to obtain security plan elements for earlier plan options, namely Alternatives A, B and C, and also the No Project Alternative.

Fundamental to the integrity of the exercise is simulation of the process by which an ordinary member of the public would gain access to this public documentation. Although airport security is a relevant topical in the context of environmental review, it did not receive any attention in the pre-9/11 public deliberations for the 2001 LAX Master Plan. This is an extraordinary fact considering the status of LAX as a world-class destination and departure airport. The public documentation search process is therefore discussed here because the security content, its location within the Master Plan and the priority afforded to it, bears directly on the credibility of the stated title of Alternative D, 'The Enhanced Safety and Security Initiative' and therefore upon the worth of the security planning component.

The documentation is voluminous and consequently electronic key word searches were employed to locate security related sections in the earlier documentation, i.e. up to June of 2001. Key words used included 'security', 'threat' and 'terrorism;' Master Plan documentation published during 2003 was

also searched using electronic means. The major portions of the documentation subjected to analysis from the security perspective, after search and filtering are:

- The LAX Master Plan SDEIS/EIR: Chapter 3 Alternatives (Including Proposed Action).
- LAX Master Plan Addendum Draft dated June 2003.
- Appendix I to the LAX Master Plan Addendum Draft: Comparative Security Analysis of Alternative D and the No Action/No Project.

4.1.3 Review of the LAX Master Plan Supplement to the Draft EIS/EIR

Chapter 3, Alternatives: The Introduction notes that Council on Environmental Quality (CEQ) regulations for NEPA require federal regulators to *"Devote substantial treatment to each alternative considered in detail..."* The SDEIS/EIR offers an historical explanation of the Draft Master Plan and the context in which Alternative D was developed. An excerpt from page 3-1 illustrates some of the extraordinary circumstances applicable to long-term security planning:

> *"Alternative D is designed to protect airport users and critical airport infrastructure in response to the increased risk of terrorism aimed at aviation and commercial assets. The Plan is designed with the flexibility to incorporate evolving federal airport security requirements. Alternative D is also designed to enhance the on-airport presence of law enforcement and emergency response teams."*

The words 'flexibility' and 'evolving' effectively equate at the time of public deliberation to 'unknown'. The discussion of baseline conditions (Ch. 3.2) does not address security planning in terms of existing conditions, and, the discussion of airport security (Ch. 3.3.1) provides no explanation for the failure to address security planning in the pre-9/11 options. A vague attempt is made to reassure the reader that security plans are available for Alternatives A, B, and C should these be chosen (as opposed to Alternative D), yet the discussion is wholly inadequate. Noting that 'these alternatives would provide on-airport space for the Transportation Security Administration to conduct its mission,' the report goes on to state:

- *"At the time this supplement to the Draft EIS/EIR was published, the federal government's security requirements were continuing to evolve and LAWA officials were working with TSA to determine and accommodate its needs to the greatest extent possible,"* and
- *"...it is anticipated that an extensive array of security features and operational practices if/as required could be accommodated by any of the build alternatives."*

These statements suggest that the public disclosure of security plans is unnecessarily vague, and that security planning has been overly deferred to federal regulators.

The SDEIS/EIR summarizes conceptual points making up the new approach to airport security on page 3-27 under Alternative D: *"The end goal of this design concept is to achieve a new balance between the needs of both passenger security and passenger convenience."* Besides claiming public safety and security benefits in very sweeping terms, it also refers to the physical layout of Alternative D and mentions the Master Plan boundaries. But it does not provide any detail concerning the features of the security plan that will deliver these benefits.

The description of Alternative D Facilities (p. 3-43) repeats the message that *"Alternative D is designed to be flexible in accommodating new federal security requirements."* There follows brief mention of 'important security features' referring to elimination of private vehicles from the Central Terminal Area roadways and elimination of the public parking structures within the Central Terminal Area. This and subsequent statements are not so much 'security features' as 'security objectives' or 'security outcomes'. The difference is important, because it is the details that impart greater understanding and thereby enable the public to judge and offer comment. For example, when the text states that passengers and employees will access the Central Terminal Area via the Automated People Mover, there is no explanation of the methodologies that would be used to secure the safety of that journey. It is thus unclear that the APM would be safer than the Central Terminal Area public parking facility. The document also declares that *"The presence of law enforcement and emergency response teams would be enhanced with Alternative D."* Although it then goes on to speak of two new Aircraft Rescue and Fire Fighting facilities, a new police headquarters and Terminal police posts, again it resorts to generalized claims of the advantages without supportive detail. In fact, the planned police headquarter (at Westchester Parkway and Emerson Avenue), is located outside of the operating boundary of the airport.

In subsequent pages (3-47 to 3-56), the following topics are listed and discussed without reference to any specific security component: Terminal Facilities; Traffic/Parking/Circulation Facilities; Automated People Mover; Cargo Facilities; Ancillary Facilities; Land Acquisition and Relocation; Collateral Development; and Proposed Phasing. The text states that publicly available data show that airport facilities have to be upgraded to improve security. However, the Transportation Security Administration is not the only arbiter of security issues. Security is becoming an integrated component across all airport functions. Given the size of the LAX Master Plan project, it is reasonable to expect discussion of the security plan for each listed action, each function and each facility. Cargo and Phasing offer good illustrations of this need: Cargo security is currently the focus of attention by TSA and others. It is unarguable that cargo security processes will affect airport operations, logistics and facilities access over the next 2 years, but the Supplement does not appear to anticipate this. Moreover, the 3-part Phasing Plan does not even acknowledge advance security preparation for a protracted construction project during which exceptional and extraordinary vulnerabilities will apply to the airport and its environs. The new police headquarter is not listed in the phasing, nor is there any apparent recognition of the significant perimeter and core security demands. All of these elements should be addressed before project commencement.

Discussion of the Preferred Alternative (Ch. 3.5) and the CEQA Environmentally Superior Alternative (Ch. 3.6) does not elaborate on the security benefits from traffic and incident management. Security plan elements discussed in other parts of the Master Plan suggest that the security surveillance and detection system will extend well beyond the airport infrastructure into the wider public environs, but there is no detail to confirm this. We request that LAWA provide further discussion, in keeping with full public accountability, so that long-term impacts can be considered.

The role of the Transportation Security Administration is briefly discussed in Chapter 4 (p. 4-698). The remainder of this subsection describes post 9/11 security measures, including government-mandated deadlines on baggage screening that LAWA states it has met, together with current and long term plans for deployment of 'inline' screening systems. A statement in this discussion indicates that: *"...TSA is in the process of developing additional recommendations and requirements to increase security at the nation's airports"* but provides no details. We request

discussion of the additional TSA recommendations and requirements and how they may be applied to the LAX Master Plan.

4.1.4 Review of the LAX Master Plan Addendum Draft June 2003

The Executive Summary to the Draft Addendum speaks of Alternative D as 'a new design approach to securing airports for the future' (page i-1). It states that "*The alternative would incorporate, to the greatest extent possible,* [TSA] *recommendations as they are developed as well as the latest passenger and baggage screening technologies;*" and "*...would also enhance the on-airport presence of law enforcement, surveillance, security, and response teams.*" These statements merit further explanation as to how this would be accomplished, and with what impact. The following page (i-2) describes conceptual goals for deterrence and prevention of terrorist attacks. In shorter form the goals stated are:

1. Reduced concentrations of people in the public areas of the airport;
2. Relatively rapid movement of departing passengers and baggage through the necessary processes to the secure (sterile) parts of the airport; and
3. Reducing vehicular access to the Central Terminal Area and avoiding concentrations of people and vehicles in other ground processing areas.

On the same page, it is stated that, "*Alternative D would utilize an expanded LAWA-operated FlyAway Program throughout the region to disperse passenger processing. This service would include remote check-in of passengers and baggage, and provide direct access into the Central Terminal Area. Refer to Appendix I for a detailed assessment of the security and safety features of Alternative D.*" Although the foregoing suggests that an explanation will be forthcoming from Appendix I, our analysis has shown that Appendix I *does not present a detailed assessment* as promised, especially when compared with other parts of the documentation. Accordingly, some comment is due concerning the generalizations stated in the Executive Summary.

As noted above, the third goal is to permit only known, screened and controlled vehicles into the Central Terminal Area; this means that some vehicles will still have access. Expansion of the FlyAway program throughout the region would also offer access to the Central Terminal Area. These two factors may compromise the intent to prevent vehicle bombs imposing heavy casualties in and around the Central Terminal Area. Terrorists seeking weak links in the protective systems would have the opportunity to exploit both approaches, e.g. by hijacking, stealing or attaching bombs to vehicles that they know have privileged access. The County requests further review and comment on this issue.

Furthermore, a number of questions arise about the modes of permit, identification (vehicle and driver) and screening of so-called 'controlled vehicles.' Access and special egress road design, emergency diversion contingencies, fully equipped road vehicle inspection checkpoints, chokepoints, and barriers -- all away from the concentrations of people -- come into play here. An efficient system should impose structural constraints on all roadways, with special allowance for those passengers and foreign drivers who will make mistakes or misinterpret airport road signs. This need appears to have been underestimated (in contrast, Appendix I does enter into speculative possibilities on roadway security controls) and we ask for a reassessment of this issue.

It is extremely doubtful that regional expansion of the FlyAway service can satisfactorily and consistently secure a fully screened passenger and baggage load to justify a bus being brought close to the Central Terminal Area, especially given the threat of suicide attack. The description of the proposed passenger screening systems for those passing through the Ground Transportation Center, Intermodal Transportation Center and Rental Car facilities will be discussed later, as there are some contradictions to address. But it is necessary to point out here that a 'level one' screening will not be adequate for passengers at the FlyAway bus stations. The TSA 'level two' screening would be essential, but would have to be repeated in the Central Terminal Area because of the mixing of people from different modes of access at that location. It is unlikely that LAWA can consistently operate fully equipped remote resources (and sterile station-to-bus areas) to accomplish full screening prior to embarking on the FlyAway bus, and then keep that bus closed and secure for its entire journey. Such a system is prone to error and penetration. Moreover, the 'hassle factor' from lengthy duplication of screening operations would to some extent defeat the initial reason for using this service. We request further review of the screening operations, including assessment of the feasibility of operating the remote resource to complete screening in advance of the FlyAway bus.

Still on page i-2, the document briefly describes the Ground Transportation Center as the primary pick-up and drop off for LAX passengers. It states *"The facility would combine a controlled and monitored roadway access system with first level passenger security screening and profiling to further enhance the safety and security of all passengers using LAX."* The interested observer might wonder what this actually means. Parts of the Draft Addendum on this topic contradict other parts of the same document, creating confusion if not doubt about the ultimate intention for security risk management of the various facilities. LAWA has made an effort in the right direction, but the analysis below shows that the documentation for Alternative D must be significantly expanded before its title as the enhanced safety and security alternative can be justified.

Discussion of the Terminal/Passenger Processing Facilities for Alternative D (Ch. 2.2) includes a statement that, *"The Central Terminal Area reconfiguration would prohibit private and commercial vehicle access to the area, eliminating the threat of vehicular blast at the curb front, which exists today in the Central Terminal Area."* What vehicles would LAWA permit to enter the area? Would FlyAway buses and 'screened, controlled vehicles' be allowed, as mentioned in the Executive Summary?

Text on page 2-20 mentions a baggage tunnel that connects the new airport terminals with the Ground Transportation Center, and notes that this tunnel would allow passengers to check their baggage at the Ground Transportation Center, with arriving passengers using the system to re-check their baggage back to the Ground Transportation Center from the Central Terminal Area. This statement is somewhat confusing -- does this refer to Skycap check-in service only? What security process would LAWA use for departing passengers? Is the baggage tunnel available for use by departing passengers who will check in at the Central Terminal Area? If so, is there a plan to screen 100% of this baggage? Further, what are the implications for synchronizing transit of passengers and their baggage to the Central Terminal Area?

Ch. 2.2.5 describes an airside secure underground Automated People Mover linking the West Satellite Concourse with the reconfigured Central Terminal Area. Given that a geological fault exists in or close to the area, we request discussion concerning the resulting safety implications as well as contingency plans for emergencies including Automated People Mover breakdown.

The Ground Transportation Center: Discussion in Ch. 2.2.8 notes the theoretical role of the Ground Transportation Center in drawing concentrations of people away from the check-in queues by separating curbside pick up, drop off, and parking. Some of the statements in this discussion require further clarification:

> *"...limiting large congregations of passengers by moving ticketing, security screening, and baggage claim to the Central Terminal Area would improve passenger safety and security. Passengers would be subjected to a first level security screening process at the Ground Transportation Center. It is anticipated that the process would include a random checking of baggage and passengers using sniffing dogs, video surveillance systems, and other security devices. Second level screening would occur at the Central Terminal Area; however <u>the Ground Transportation Center would be designed to accommodate second level screening at any time.</u>"* (Underlined words relate to later comment in this review).

Eight major functions are proposed to be included in the Ground Transportation Center, including E-Kiosk check in, Skycap baggage check-in and first level 'passenger security screening.' We assume that the passenger screening would also apply to visitors and employees (not just passengers), but it is unclear what is meant by 'random checking.' The deployment of explosive detection canine units, given their limitations, suggests that far less than 100% of people and bags would be screened at the Ground Transportation Center. Please provide further clarification for this part of the plan.

Discussion of the baggage tunnel (p. 2-36) tends to reinforce the assumption that the baggage transit system between the Ground Transportation Center and the Central Terminal Area will not incorporate EDS screening or, if some check is applied, it will not be to the standard required for aircraft loading. The discussion leaves open the question as to whether passengers not using the Skycap service would be able to send baggage through the tunnel to the Central Terminal Area, but it does say '*Passengers that do not use Skycap baggage check-in may carry* [note, not 'must carry'] *baggage on the Automated People Mover*'. There are two important qualifying statements about the process: "*Bags carried by passengers on the Automated People Mover would need to be checked by the appropriate airline in the Central Terminal Area. No airline agents are initially anticipated to be located in the Ground Transportation Area.*" The foregoing suggests a confused and difficult process, particularly for passengers who do not use the Skycap service (potentially 60% of all LAX traffic).

There is also risk of a terrorist attack via baggage used to carry a device for detonation on the APM. The terrorist objective in this case would be 3-fold: (1) killing and maiming a maximum number of Automated People Mover passengers; (2) closing a critical part of the system down; and (3) terrorizing the public so that they will not use LAX. In logistical terms an APM journey that involves loading, mixing and unloading of passenger baggage would reduce the potential frequency of Automated People Mover arrivals and departures and the subsequent loop journey time. Please comment on this issue.

Intermodal Transportation Center (ITC): The description of random screening in the ITC section (page 2-45) is almost identical to that describing the processes at the Ground Transportation Center. Also mentioned is the intent to monitor all approaching vehicles using video surveillance systems. Please see the discussion of Appendix I for further comment on this subject.

Consolidated Rental Car Facility (RAC): This section does not address security issues, and so the review process defers to Appendix I for explanation.

Ground Access and Parking: Discussion in Chapter 2.3 emphasizes means to reduce terrorist target density and the County does not dispute the validity of this approach. However, the document lacks data to show that the projected dispersal pattern would justify the expense and disruption of reconfiguration. For example, if an improvised explosive device was detonated at the Ground Transportation Center, curbside, on or near the Automated People Mover, or at the reconfigured Central Terminal Area, what casualty rate would LAWA anticipate at, say, peak travel time? Are the projected measurements of time, distance, people dispersal, response capabilities and resources proportionate to the desired gain? Part of the improved protection evidently comes from proposed blast mitigation measures that combine structural design with open space, but we request more data on the flow of people and vehicles in order to evaluate the plan. For example, if the needed dispersal percentages are achieved by adding 3 outlying facilities, is it necessary to operate an automated train system for a distance of 1.5 miles away from the Central Terminal Area? Could LAWA achieve the same goals closer in, with resultant savings and safety mitigations on Automated People Mover operations? If LAWA holds that there is a logistical and dispersal advantage by having the Automated People Mover further out, thereby staggering the flow of people, we request that an explanation of the basis for this advantage.

In discussion of the Central Terminal (Ch. 2.3.2.1) the document says that *"access points to the Central Terminal Area road system would be controlled to enhance security in the areas immediately surrounding the airport's infrastructure."* It then mentions FlyAway buses and vehicles cleared to drive on the secure airside. This appears to open a security loophole. Would it not be better to provide FlyAway passengers with a dedicated lane or fast track, using the public entrance to the Central Terminal Area while having their baggage processed through the level two TSA screening checkpoint? It appears feasible to screen all FlyAway buses, passengers and baggage with a unit contracted or employed by LAWA with TSA approval. Sufficient user numbers within the FlyAway expansion plan would justify this investment. Moreover, this additional service feature, once given the security planning attention it requires, may offer a more cost effective use of reconfiguration, in addition to its target dispersal contribution. Please comment on this proposal.

Discussion of the Ground Transportation Center (p. 2-60) mentions use of video surveillance to monitor activity, and cites the ability to pre-screen vehicles before they approach the Ground Transportation Center as an integral part of security. Some very simple calculations show this to be an extremely optimistic expectation in terms of prevention. Current, developing and anticipated surveillance technology may offer improved detection and interception, but the distances covered by vehicles at various speeds (whether at normal or excessive traffic flow rates) significantly limit the ability of responding security or law enforcement officers to prevent a determined attack. A number of examples of the speed of attack execution exist, such as terrorist bombings of military installations overseas. A vehicle traveling a linear mile at 20 mph would cover the ground, if unhindered, in 3 minutes; at 40 mph, in 1.5 minutes. Some type of substantial physical obstacle, such as a hydraulic arrest barrier built into a choke point, should therefore be part of the roadway design. Such equipment does need some visibility for deterrent value; in a multi-lane setting, the barrier could be used to moderate traffic volume for other goals. We request that LAWA comment on roadway design from a security perspective, including the concept outlined above.

Security features for access to/from the Intermodal Transportation Center and the Rental Car Facility are not discussed in Chapters 2.3.2.3 and 2.3.2.4. We thus repeat our previous comments on controlled choke points, and request that LAWA provide discussion of security design. The reduction of people and vehicle density is but one layer in the defensive design that will allow the 'protection, detection, assessment, and response' concept to become reality. The fact that a target density at one location is reduced from say, 1000 to 100 people will not in itself deter an attacker. The possibility remains that a back up of people could be orchestrated to deliberately increase congestion, density and target volume. This possibility must be addressed at every airport ground processing facility in order to eliminate weakness in the overall security plan and avoid the need to later retrofit the roadways. The suggested control would also apply to design of exit roads, to prevent reverse flow access by an attacking vehicle. The intermodal and rental car facilities would probably not benefit from as much close-in law enforcement and security personnel coverage as the Ground Transportation Center and Central Terminal Area. This compounds the need for optimum security design features on roadways and building access. Please comment on these points.

Discussion of the Air Cargo Roadway (§2.3.2.5) offers no discussion about security planning, conveying the assumption that there are no security considerations. Is this a correct assumption? Similarly, there is no discussion of security planning for Off-Airport Public Road Access (§ 2.3.3), conveying the assumption that there are no security considerations. Is this a correct assumption?

In §2.3.6 it is noted that the proposed 12,400-stall employee garage (accessed via Pershing Drive) would *"be designed to help diffuse blast impacts from surrounding vehicles. It would be designed with a security-screening checkpoint for all employees using the garage."* Why does LAWA emphasize this point for the employee parking facility but not for public parking facilities at the Ground Transportation Center, the Intermodal Transportation Center, or the rental car facility?

Discussion of the Automated People Mover (§ 2.4 et seq.) touches briefly on security in a reference to video surveillance. We have indicated previously our concern about the vulnerability of the Automated People Mover, but would add that the expected security issues and management plans for the Automated People Mover deserve more public disclosure. Please provide an assessment of this risk and the steps proposed to address it.

In discussing Cargo Facilities, Chapter 2.5 acknowledges that new security requirements are being developed by the TSA and advises that *"LAWA would incorporate any new requirements into the cargo facilities as those standards are developed."* This section does not adequately address LAWA's own 'industry capability' -- i.e. using its own initiative to offer options. The future direction of air cargo security management may not be fully known from a regulatory perspective, but in terms of public safety we believe that it would be responsible for LAWA to pioneer its own air cargo security standard. Alternative D by virtue of its title claims to answer security concerns and to offer innovation in the process. Yet innovation is decidedly absent from the cargo aspect of the plan. The ultimate test may come from an attack on commercial aircraft via air cargo: adequate warnings exist in industry circles to justify a stronger effort in this regard. We request that the SDEIS/EIR provide more detailed discussion of air cargo security measures, and respond to the suggestion that LAWA pioneer its own standards.

Among the measures that could be considered for air cargo facilities is a plan that would allow airline operators to provide, at short notice, an integrated roadway and security system to screen and clear inbound vehicles, and a 'cold' or 'hot' operational facility for dual technology screening of

outbound cargo. In combination, these facilities could routinely earn additional airport revenue and facilitate business continuity during periods of high alert. Please comment on this suggestion.

Addendum Illustrations: The various plan drawings and artists impressions found in the Master Plan Alternative D documentation are helpful and informative. There are, however, several considerations for improving public articulation. Residents of the surrounding environs are a valuable part of airport protection. The eyes, ears and voices of local residents can provide superior protection of community assets. This holds true even when compared with trained law enforcement personnel who have access to advanced technologies. Citizens and local residents who perceive that they have a stake in the future of their airport, and who are consulted in the security planning aspects, are most likely to participate constructively. What efforts have been or will be taken by LAWA to provide public education sufficient to harness this resource?

4.1.5 Review of Appendix I: Comparative Security Analysis

The Master Plan Draft Addendum refers to Appendix I as "*a detailed assessment of the security and safety features of Alternative D.*" This statement, combined with the lack of detail in other Master Plan documents, creates high expectations as to the quality of its articulation. In practice, our review has found the experience to be disappointing. The discussion is inconsistent with other documentation and falls short of the detail that should be available for public scrutiny. We are in a new era of risk management. Traditional or conventional thinking will not successfully address future vulnerabilities unless there is a respectful treatment of the public debate. The physical and operational reach of the defensive concept will extend beyond the footprint of the airport infrastructure. In fact, the security component will have environmental effects that are unprecedented in American commercial airport planning, particularly in urban and suburban settings. The Master Plan Alternative D must offer detailed projection, measurement and quantification of these impacts.

Discussion of the Concept: The document states, on page I-2 of the Executive Summary, "*The first level (Level 1) entails screening of all persons and bags prior to entering the Central Terminal Area. Level 1 screening is focused on preventing attacks on the ground and ensuring a safe passenger environment. This level of screening will occur prior to entering the Automated People Mover system or FlyAway shuttle buses and focuses on weapons and explosive.*" This directly contradicts the 'random screening, sniffing dogs' explanation in the main Draft Addendum document; clarification is requested.

On page I-4 of the Appendix, under Methodology, reference is made to the Department of Homeland Security and General Accounting Office validation of "concentric rings of security" to bring protection, detection, assessment, and response" capability '*to the extended airport perimeter*'. The following statements from that Chapter appears to contradict the approach offered in the prior two documents:

> *'Anyone entering the airport property whether to visit or travel will undergo security inspections. There are at least two levels of personnel and baggage inspection that will take place. Level 1 inspection requires screening for explosives and weapons prior to transport by the Automated People Mover or FlyAway shuttle bus to the Central Terminal Area. Using current technology, Level 1 inspection would include screening of persons and bags similar to checks made upon entering federal buildings today. These checks should be*

designed to be as unobtrusive and not impede the flow of transportation to the Central Terminal Area and should take advantage of the emerging technology. Level 2 inspections will consist of current security screening criteria as mandated by TSA for departing passengers and baggage which is more intrusive and detailed than level 1'.

We offer the following observations on the above excerpt, and request that LAWA provide comment and clarification for each point:

- Level 1 inspection as described here does not match the 'random selection, sniffing dogs' explanation offered in the Draft Addendum.
- There is no mention of profiling people and baggage for selective screening.
- The stated similarity to 'checks made upon entering federal buildings today' is meaningless to people who have never seen or experienced the federal security screening process.
- At federal buildings 100% of those who enter are screened, but these systems rarely (if ever) encounter baggage in size and volume such as will be common to an airport.
- The statement above contradicts itself: the process for federal buildings is obtrusive and would impede flow if applied literally as a Level 1 screening protocol.
- The possibility of 2 levels of screening that are both obtrusive, even with Level 1 proving to be selective, implies a need to estimate consequential density effects that might in some circumstances defeat the desire to disperse people rapidly into the airport controlled areas.
- The reader is left wondering whether there is agreement and/or coordination between the planning entities on security policy and practice.

The same page refers to Figures 4-1 & 4-2 as illustrations of the concentric rings of security and deterrence strategy respectively. These very simplistic figures are of no value in helping the public to understand what the strategies mean for LAX, and no other drawings are included in Appendix I. Why is this not done, given the proliferation of site drawings and artists' impressions in the other parts of the Alternative D documentation? We ask that LAWA superimpose the concentric rings over the airport plan and explain the resulting figure. The following statement from the same page is offered for its relevance to further comment:

"PDAR facilitates the detection of possible malevolent acts prior to the hostile force coming within range of the target. By increasing the distance between critical areas and the point of detection, law enforcement officers and security personnel have additional time to assess the act as benign, dangerous, or overtly hostile, and respond appropriately."

We offer the following observations on the above excerpt, and request that LAWA provide comment and clarification for each point:

- Is it correct to assume from the statements about bomb threat dispersal that 'critical areas' include public areas where concentrations of people can be expected (e.g. the Ground Transportation and Intermodal Transportation Centers, the Central Terminal and perhaps to a lesser extent, the Rental Car Facility)?
- A rough calculation of available response times (using existing travel distances and transit times) indicates that Alternative D roadway configurations will not significantly increase response time 'prior to the hostile force coming within range of the target.' What does LAWA anticipate in terms of this issue?

- By inference, the 'protection, detection, assessment, and response' system would prove of value only if the outer concentric circles encompass more distant roadways and areas including commercial and residential areas, beyond the immediate airport environs. Is LAWA contemplating an expansion of the concentric circles to include these areas?
- Implementation of a multiple concentric ring system defies imagination in its practical application to LAX. The airport has an irregular property boundary that may be poorly suited to this system. There is no logical center point for the concentric rings, apart from the large Air Operations Area, and the critical areas at LAX are disparate and scattered. In this setting, what is the feasibility of developing the concept with a series of overlapping concentric rings?

Discussion in Ch. 5 (Threat) evaluates LAX as a target. This is a complex topic; we understand that evolving trends in terrorist tactics may unexpectedly shift some of the security emphasis and strategy over time. However, we believe that the threat may have been understated and ask for further discussion and comment on this issue.

The discussion of Potential Mitigations (pp. I-12, I-13) describes security measures that will be applied to MTA Green Line connections with the proposed Intermodal Transportation Center. The discussion refers to use of Closed Circuit Television surveillance and related intelligent devices (as yet unidentified), and specifically mentions facial recognition technology. Several security industry reports in 2002 and 2003 have discredited the so-called 'face in the crowd' facial recognition applications. Original hopes for this technology were overly optimistic, and recent experience has shown this application to be flawed. In a number of cases (for example, Ybor City, Tampa, FL) the systems have been withdrawn from use.[22] Further comment will be made later in regard to use of an array of technology and the finite value of detection data inflow.

The final paragraph discussing the MTA Green Line states that "*The Green Line connection enhancements in Alternative D provide for a better security solution because no unscreened people or luggage would be permitted to enter the Central Terminal Area.*" This suggests 100% screening of people and bags, yet there is no reference elsewhere in the Addendum or Supplement to confirm this. Please comment on whether 100% screening will be provided.

There is also no discussion of the planned accommodation for and type of screening equipment, other than a vague mention: *'The MTA Green Line connection facilitates the future employment of security technology allowing a level of initial screening to occur prior to entering the Intermodal Transportation Center or Central Terminal Area.'* What form of screening will actually take place there initially, and to what extent? What increase in screening activity is planned or accommodated in the contingencies for change?

Chapter 6.2 offers a more comprehensive description of the Intermodal Transportation Center. The Comparative Analysis acknowledges that the Intermodal Transportation Center is an integral part of the concentric rings of security and 'protection, detection, assessment, and response' concept. The concentric rings processes are described, with the final stage described thus: "*Prior to boarding the APM, all people and bags will be screened using appropriate technology to identify weapons and explosives.*" Two benefits are cited: one is that it would permit initial screening of passengers and

[22] Note that biometric facial identification systems, which are used to match individuals on a one-on-one basis, are a different form of this technology and continue to show successful results.

vehicles that without the reconfiguration would not occur; and the other is that it adds a measure of protection to passengers using the APM as they move to the Central Terminal Area. This appears to contradict other elements of the Master Plan documentation, raising questions about the consistency between security components. LAWA should define the word 'screening' and use the classification 'Level 1' more consistently. Otherwise this suggests the emergence of different security standards for access to the Automated People Mover and Central Terminal Area.

Pages I-16 and I-17 cover general security matters pertaining to the reconfigured roadways. Again we note that security technology is a valuable adjunct to trained security patrols but it is not a panacea; it is instead a management tool. Please articulate the contingency plan for interception and management of roadway incidents with minimal disruption to airport operations. This is particularly important at the policy setting stage, as large projects are notorious for paring back security expenditures and thereby compromising protection standards. Will LAWA policy identify agreed-upon security standards so that this does not occur?

In practice, the performance of Closed Circuit TV will depend on the ratio of trained personnel to monitoring devices. Although the stated benefits of roadway monitoring are attractive, the increased data will require monitoring, interpretation and action. How much thought has LAWA given to the risk of data saturation? Over-dependence on security technology may lead to higher risk of error and, ironically, diminished protection. Occupied space is projected under this plan to increase from 3.9 to 6.8 msf. In combination with increased separation distances, this increase will impose substantial new constraints and demands on emergency and enforcement response, and also upon patrol/deterrent services.

Mitchell Gray, in a University of British Columbia paper title *Urban Surveillance and Panopticism* (http://www.surveillance-and-society.org) explores many of the more complex issues associated with surveillance in the community. It is worthy reading for any elected official attempting to understand the implications and potential unintended consequences of surveillance systems. The basic message to be gained from Gray's treatise is contained in the following extract: *"It is rapidly becoming an urban instinct to grasp at security through surveillance and knowledge, but this, paradoxically, may add to urban insecurity in a fundamental way: by transforming society in unforeseen directions. There is a threshold point in urban surveillance beyond which quantitative change – the addition of devices used and areas watched – becomes qualitative change."* Please comment on how LAWA has addressed the potential for over-dependence on security technology at LAX as part of the proposed Master Plan improvements.

A review of the Ground Transportation Center in Appendix I (Ch. 6.4) restates the threat and target dispersal philosophy along with the 'protection, detection, assessment, and response' protocols. According to discussion on page I-19, passengers will go through a well-organized Level 1 screening point at the Ground Transportation Center before transport on the Automated People Mover to the Central Terminal Area. The Level 1 screening serves to insure the integrity of the Automated People Mover and common areas of the Central Terminal Area, and represents the first opportunity to check passengers and employees for concealed weapons and explosive devices. Yet again there is a clear contradiction with the main part of the Draft Addendum, reinforced by a listing of measures that makes reference to design and installation of passenger and baggage screening devices; please clarify. Additional comment and questions are provided below:

- Is it the planned intention to have two levels of screening, to include 100% of pedestrians accessing the APM and Central Terminal Area?
- How would 100% screening of Level 1 people and baggage affect the risk of congestion and increased people density at the Ground Transportation Center and other remote locations? Has LAWA analyzed this risk? If so, where are the results?
- What ergonomic design factors will optimize rapid movement of people and bags? Has LAWA considered the impact of Level 1 screening on the elderly, infirm, and people traveling with small children?
- Has any field market research been conducted to assess the tolerance for earlier arrivals to negotiate two levels of screening and transportation of baggage between those two levels?

Discussion of the Rental Car Facility (Appendix I Ch. 6.5) repeats the intention to screen all personnel from the Rental Car area to the Automated People Mover. However, the same discussion notes: '*should the current Central Terminal Area roadway need to be secured' inspection of an estimated 1 million shuttle bus trips annually would be time consuming and subject to human error even if state-of-the-art security inspection equipment was employed'*. If Alternative D removes vehicular traffic, and thereby mitigates vehicle bomb risk, then would not the passenger and baggage security factor shift to the Automated People Mover? The APM system could become an attractive and vulnerable target. We are therefore concerned about the potential need to police and manage a much larger area (including an occupied mix of separate facilities), that may from the outset require equal standards of screening at Levels 1 and 2. Please comment on this concern.

The Rental Car Facility mitigation measures offer a blend of logical and speculative measures, including the discredited facial recognition system. We again raise earlier comments about discredited systems, data saturation and over-dependence on technology. This is particularly pertinent since the assessment does not refer to an equivalent demand for the increased training and numbers of security operatives (ranging from technicians through guards to airport dedicated law enforcement personnel). Please comment on LAWA's plans with respect to the presence and role of security personnel at the Rental Car Facility.

We request that LAWA provide a security deployment projection for Alternative D, together with a security technology and equipment schedule. Please illustrate how 'protection, detection, assessment, and response' can be accomplished using only technology available today, and describe any credible security equipment advances that can be expected over the next 5 years that might justify an investment in this program. It may be unwise to count on as-yet undeveloped technologies, particularly since reliable and proven technology is with us today, sufficient for planning purposes. More problematic may be the use of human resources, including appropriate numbers, competence and strategic locations.

The comparative analysis in Chapter 6.6 indicates that the Automated People Mover will be a key component for dispersal of vehicular traffic from the Central Terminal Area roadway network. This may be true, but could LAWA accomplish the same dispersal by reducing the distance between the remote ground processing points and the Central Terminal Area? Please provide a vulnerability analysis to address this issue. Further comment and questions are provided below:

- Please provide additional discussion about screening for weapons and explosives at the inbound remote Automated People Mover station access points

- Please discuss the security logistics and practical challenges of handling heavy baggage, multiple bags, and elderly and disabled passengers and children when loading and unloading the Automated People Mover. It is extremely difficult to imagine how screening, loading and offloading of passengers and baggage could be accommodated at the Ground Transportation and Intermodal Transportation Centers and the Rental Car Facility, with sufficient frequency to achieve the level of service promised in the Plan -- especially with the reconfiguration objective of rapid dispersal of people.
- The Draft Addendum states (p.2-37) "*It is also assumed that luggage carts would be allowed on the Automated People Mover and highly utilized in the transfer of people and baggage.*" This chaotic image invites questions about safety factors and load capabilities, neither of which is discussed in the Appendix I security assessment. Please address this issue.
- Please provide an exhibit showing street-to-departure ergonomics, flow and density patterns, and screening equipment layout of the remote people mover access points. Although security screening equipment is implied, space utilization is at odds with this statement from page 2-37: *"it is anticipated that passenger assembly would be limited to the passenger platform."*
- The prevention of unscreened vehicular and bomb access to the Central Terminal Area could be offset by the APM: the train could actually carry the device to its target if Level 1 does not screen for explosives carried on the person (as in suicide attacks in Israel). Magnetometers do not detect explosives. Please address this potential security threat.
- The APM could be attacked via vehicles using Century Blvd. and 98th Street, and/or from commercial buildings and hotels overlooking the Automated People Mover guide way system. Please address this potential security threat.
- The primary vulnerability appears to come from the track distance and elevated nature of the Automated People Mover, and its target worth (i.e., elimination of a critical airport transit link, serious disruption to operations, high casualties, public terror and a prestigious but discredited security program). In effect, the Automated People Mover may serve to reintroduce the target potential that Alternative D was purportedly designed to reduce.
- If the Automated People Mover concept is to be pursued, we ask that LAWA consider the possibility of building a grade level (surface) operation, with blast diffusion techniques and materials applied to a protective wall and an armored one-way-transparent canopy for the length of the track
- Overall this part of the Plan is conceptual and idealistic. It lacks data that is essential to show how and when the processes interconnect and will be successfully negotiated while achieving safe dispersal objectives. If the main part of the Addendum (Page 2-35) is correct in its description of the intended screening activity (i.e., *"random checking of baggage and passengers using sniffing dogs, video surveillance systems and other security devices")* then the Automated People Mover will be vulnerable. Acceptance of that risk is a matter for public policy debate, but moving walkway bridges would obviate need for the Automated People Mover. We request comment and discussion on each of the points raised in this item.

Discussion of the Expanded FlyAway (Ch. 6.7.1) attempts to instill confidence in a speculative system to protect buses from becoming unwitting vehicles for terrorist attack. We have already expressed our doubts on this topic, including the considerable physical spread of the security requirement, the attendant cost, and serious questions as to the ability to control bus security within remote stations and in transit. The FlyAway bus operations would come inside the concentric circles, and it is unclear how the protection would be achieved. The technology to address these

concerns (such as under-vehicle inspections) is simplistic and conceptual. Please provide more detail concerning this system, with discussion of the attendant human resource requirements.

In the Chapter 8 Summary, Appendix I uses a subtitle 'Alternative D Advantages and Disadvantages.' It then lists five primary advantages followed immediately by three 'potential enhancements'. We request that LAWA provide more explanation of each, as we believe they merit greater priority. Note that the first suggests the provision of a Vehicle Inspection Center. We have already made reference to the need for this in roadway planning.

We believe that the Remote Delivery Facility will become a reality for many critical government facilities in the United States over the next 5 years, closely followed by other critical infrastructure sectors including commercial airports. It is already operating policy for a variety of private and public sector facilities in different parts of the world, and has seen an increase since the Anthrax mail attacks of late 2001. Accordingly, we ask that LAWA give serious consideration to an extension of this prospective facility to include an Identification and Authorization Processing Center, including some discussion in the response to this comment.

During this review we have established an unquantifiable but extensive (potentially massive) future demand for data input, retrieval, analysis, interpretation and sharing. The data will be diverse, covering audio & visual, electronic signaling, text, numerical, pictorial, computer code, identification systems, people, vehicles, transactions etc. etc. Our understanding of the transactional volume and complexities for a busy international airport shows that a dedicated Identification and Authorization Processing Center is justified to monitor the demand for access to different parts of the airport. This security-controlled service provides identification and clearance for individuals and vehicles, engaging electronic tagging, biometrics, and the administration of airport asset and airside vehicle tracking. Variables allow for individual issue of identification and access control media whether the subject is escorted or unescorted, permanent or temporary, urgent or routine. This facility should be off-airport, based on long established methods employed overseas. The processes will relate directly to the interests of law enforcement agencies and the security resource. This facility should be located close to the planned new police headquarters. Please comment on the possibility of incorporating these suggestions into the Master Plan.

The third enhancement described in Appendix I relates to the Automated People Mover, previously discussed in this review. There is, however, *a distinct and in fact total, absence of listed disadvantages relating to Alternative D security.* Our concerns are deepened by the fact that Appendix I lists 5 disadvantages of the No Action/No Project Alternative and then proceeds to mix conceded points with counter argument on 5 other points, thereby maintaining absolute opposition to the No Action/No Project Alternative. A similarly critical eye needs to be cast upon all alternatives. The current approach significantly weakens the value and integrity of the discussion as a comparative analysis, and echoes the concerns for bias and lack of full disclosure that we have stated elsewhere. We request that LAWA provide a full discussion of the disadvantages associated with the proposed security plans for each of the project Alternatives.

4.1.6 Other Security Considerations

In a project of this size, with a title of the Safety and Security Alternative, the County of Los Angeles would expect the LAX Master Plan Alternative D to embrace a total security concept. It is

therefore notable that the documentation does not elaborate on plans to secure areas that are known to have major security implications, such as cargo, maintenance hangars and facilities, fuel farm operations, and the perimeter fence lines. During an airport environs tour, the review team saw many security exposures at the west end of LAX and witnessed extreme weaknesses in access control allowing commercial delivery vehicles to enter facilities unchecked (in one instance by simple tailgating). This unauthorized access provided close quarter observation and potential access to parked wide body passenger aircraft in the vicinity. Please comment on this apparent lack of existing security at the west end, and any plans to remedy the situation.

We are aware that in a September 2002 press release, Mayor Hahn announced installation of more than 1,200 video cameras throughout the airport complex. We are unsure whether the word 'complex' refers to all LAWA managed airports, or just LAX; please clarify. We also request discussion of the current status of this project; is it correct that bids have been invited for installation of surveillance technology on the LAX perimeter? With respect to perimeter areas, we offer the following comments, along with a request that LAWA respond to each:

- The Alternative D Plan provides a substantial, expensive (albeit imperfect) protection system for the 'front door' to LAX. But it leaves the back door wide open.
- LAWA should give much more effort to security planning for the individual cargo area, the maintenance and fuel farm complex and roadways, and for the entire perimeter. Otherwise there is a danger that the environmental impact will not receive public scrutiny or will consume unacceptable time when that becomes urgent and essential.
- It is evident that LAX is vulnerable and that security improvements are relatively urgent. LAWA should prioritize the work so that the new security enhancements, when selected, come on stream as early as practicable. Special need exists for a thoughtful security risk management program during construction.
- Serious consideration should be given to the permanent closure of Pershing Drive to public access, and to introduction of a controlled, partially-automated access and egress system for vehicles with legitimate business in the maintenance, fuel farm and employee parking areas.
- In 1994 the Irish Republican Army fired four mortar bombs onto the runway at London Heathrow from a pick-up truck parked outside the perimeter fence. Two bombs hit the runway but failed to detonate. Two more recent attempts to attack aircraft with rocket-propelled grenade have occurred in Africa and at a military air base in the Middle East. The vulnerability arising from use of surface-to-air missiles is acute at the western end of the LAX airport environs. The location of the Segundo Blue Butterfly Habitat/Reserve, the topography and rough shrub cover, is almost perfect for the launch of shoulder-fired missiles and offers target range proximity to ascending and descending aircraft. As disturbing as it may be to be so candid, it is necessary to point out that a passenger, cargo and fuel laden wide-body passenger aircraft heading out for a long haul trans-Pacific flight could be attacked without sufficient time to implement successful counter measures. The suicidal nature of modern day terrorist attack reduces the notional response time even further. We recommend that an urgent and intensive review be undertaken to address this vulnerability and to proffer solutions that meet both public safety and environmental review requirements.
- Security and law enforcement personnel requirements merit discussion, as the number and need for specialized training would increase under Alternative D. For the sake of efficiency and public safety, this review should consider ways to reduce potential for jurisdictional and operational law enforcement conflict. It is our understanding that senior officers of the Los

Angeles Police Dept. in 1991 proposed a merger of policing entities for the airport, but without progress at that time. This may be a good opportunity to revisit that proposal.

4.2 THE ENVIRONMENTAL JUSTICE ASSESSMENT IS DEFICIENT

Presidential Executive Order 12898, issued in February 1994, requires all federal agencies to analyze environmental justice impacts when proposing public projects. The analysis is intended to determine whether minority and low-income communities are unfairly burdened by project impacts, with the goal of using mitigation measures to create a level playing field. In 1999, Senate Bill 115 was passed making environmental justice a requirement of CEQA as well (PRC §.72000-72001).

Despite the importance of this subject, the original Draft EIS/EIR was found to lack even the most elementary NEPA requirements for this topical issue. Review of the Supplement to the Draft EIS/EIR indicates that many of the same deficiencies in the analysis remain. The impacts associated with Environmental Justice demand a far more rigorous analysis than has been provided in the 2001 and 2003 environmental reviews. As discussed below, NEPA requires that information be included in the EIS if costs of obtaining the information are not exorbitant. Where such costs are exorbitant, NEPA requires that the EIS: (1) state that the information is complete or unavailable; (2) state the relevance of the information to the analysis; (3) summarize credible scientific information about the impacts; and/or (4) use other methods of assessing impacts that are generally accepted by the scientific community. CEQA also addresses the issue of analytic detail, requiring that an EIR provide information and analyses with a sufficient level of detail to permit informed decision-making and public participation. LAWA must apply these very basic NEPA and CEQA requirements to the SDEIS/EIR assessment of Environmental Justice.

We are also concerned about the method used to compare alternatives in the environmental justice analysis. In both the 2001 and the 2003 documents, the No Project Alternative incorporates future planned improvements that were not actually being built, and overstates the capacity of existing facilities. Consequently, the No Project Alternative appears to have far more environmental impacts than any of the proposed Build Alternatives.

Further, the 2003 Supplemental Draft EIS/EIR describes Alternative "D" as an option that would limit growth to 78 MAP. However, as described previously in § 3.1, Alternative D provides 153 fully functional, high capacity gates and does not remove concrete areas that can be used for aircraft parking. By parking aircraft, Alternative "D" can function as though it has over 200 gates. In overstating the capacity of the No Project Alternative and minimizing the capacity of the build alternatives, the impacts relating to air emissions, air toxics, noise, and traffic are all underestimated for the build alternatives. *Underestimating these impacts skews the environmental justice assessment.* This is particularly true for Alternative "D," which shifts many of the impacts toward the more economically disadvantaged communities east and northeast of LAX.

Finally, in designing runway extensions and facilities to the east under Alternative D, this plan appears to protect biological resources (especially the El Segundo Blue Butterfly) at the expense of residents in Lennox, Inglewood & Manchester. As part of the Environmental Justice assessment, a revision to the 2003 Supplemental Draft EIS/EIR needs to be made that compares the disproportionately high and adverse human health and environmental effects that will be incurred by

minority and/or low-income communities in order to protect a limited habitat area on the coast (see also our discussion under § 3.4.5). Our concerns are discussed further in the sections below.

4.2.1 Results of Scoping Outreach Must Be Discussed

Scoping is a public process, required by NEPA, that should be conducted as early as possible after a Lead Agency decides to prepare an EIS. The scoping process is designed to determine the scope of issues to be addressed in an EIS, and should be conducted as early as possible after a Lead Agency decides to prepare an EIS. It is intended to be an open process, incorporating the views of other agencies and the public regarding the scope of an EIS.

Environmental Justice issues are usually a major component of the scoping process, and the 2001 Draft EIS/EIR does list 126 outreach efforts with low-income and minority communities and Appendix S-D of the 2003 Supplemental Draft EIS/EIR includes copies of the material (in both Spanish and English) handed out during these outreach efforts. The 2003 SDEIS/EIR also lists four additional Environmental Justice Workshops conducted in 2001. However, neither the 2001 DEIS/EIR nor the 2003 SDEIS/EIR provides an indication of concerns or issues raised by those that were contacted, or details of what transpired during these meetings. The public is thus unable to assess whether or how LAWA may have used the information developed through these efforts. The County of Los Angeles hereby requests that the 2003 SDEIS/EIR be expanded to include specific descriptions of the efforts made to gather information from low-income and minority communities, with a table that identifies the specific concerns raised by each of these groups and discusses LAWA's steps to address those concerns.

4.2.2 The Level of Analytic Detail is Inadequate[23]

Many potential Environmental Justice impacts were not fully evaluated, reportedly because LAWA was unable to quantify the impacts. NEPA states that when information is incomplete or unavailable, the Lead Agency must obtain that information unless costs are exorbitant.[24] According to CEQA, the analysis must be specific enough to permit informed decision-making and public participation. The following subsections include some of the impact discussions considered inadequate.

In discussing Air Quality and Health Effects, the 2001 Draft EIS/EIR and the 2003 Supplement both state: "Due to the lack of available background data and limited information on the cumulative effect of multiple air pollutants, the effect of the Master Plan on cumulative health risks among minority and low-income population cannot be quantified or fully analyzed." NEPA regulations do not permit such a deferral of obligation. All available data must be included, consistent with the mandate of NEPA, and the report must document the efforts made to obtain needed data. Where data is found to be unavailable or limited, the report should identify the cost associated with developing original data and indicate why such cost was determined to be exorbitant in the context of overall project costs.

The 2001 Draft EIS/EIR further asserts, "*Due to the lack of available background data, the cumulative or synergistic health effects of [toxic air pollutants (TAP)] emissions associated with the*

[23] 2001 Draft EIS/EIR, Section 4.4.3.
[24] NEPA Guidelines ; 40 C.F.R. § 15022.22.

build Alternatives and other environmental hazards could not be quantitatively analyzed within the scope and timeframe of this Draft EIS/EIR." The 2003 SDEIS/EIR dropped this discussion and did not provide new information related to cumulative or synergistic health effects. The 2003 Supplemental Draft EIS/EIR could and should have made assumptions in order to determine such impacts. The County asks that LAWA develop and apply these assumptions to a quantitative analysis of the cumulative and synergistic health effects of TAP emissions associated with the build Alternatives and other hazards.

4.2.3 The Relocation Plan and Requirements are Unsubstantiated[25]

The 2001 Draft EIS/EIR stated that, *"Minority-owned businesses or businesses with a high proportion of minority employees or minority/low-income customers may face special challenges that need to be considered in developing a Business Relocation Plan"* but provided no explanation or definition of "special challenges." LAWA needs to clarify this term and indicate how these challenges would be considered in developing a business relocation plan.

The 2001 Draft EIS/EIR further stated that, *"Data is currently not available regarding the number of minority owned businesses or minority employees that might be affected by proposed acquisition."* In fact, the referenced data is generally available and can be obtained with reasonable effort. LAWA must obtain and analyze this data in the SDEIS/EIR.

The 2003 assessment of Alternative D relocation impacts includes this statement: *"While it is possible that certain of these businesses may be minority owned, they are mostly airport related uses or uses that serve the largely non-minority/non-low-income community of Westchester-Playa del Rey."* This statement is unsubstantiated by any facts presented in the 2001 Draft EIS/EIR or the 2003 SDEIS/EIR. Neither of these documents presents data showing how many businesses are minority owned or serve minority communities. The County requests that LAWA present such information in the SDEIS/EIR.

4.2.4 Noise Impact Mitigations Require Further Discussion

Both the 2001 and 2003 environmental documents assert that *"Certain areas affected by noise would still be faced with significant impacts due to constraints that apply most directly to minority and/or low-income communities. These include residential areas ineligible for mitigation due to inconsistent zoning or land use designations and substandard housing that may be infeasible to insulate."*[26] At the very least, the 2003 Supplemental Draft EIS/EIR needs to clearly delineate the location of these impacted areas. A more appropriate solution would be to identify and implement specific mitigation measures to reduce impacts on minority neighborhoods; the document did not contain any noise mitigation measures, as discussed in detail later in this report.

4.2.5 LAWA Must Develop a Build Alternative Based on Community Input

Scoping is intended to be an open process, incorporating the views of other agencies and the public regarding the scope and focus of the EIS. CEQ regulations require Federal Agencies to identify an environmentally preferable alternative in the record of decision.[27] When the agency has identified a

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[25] Discussion in this section is based on 2001 Draft EIS/EIR, §4.4.3 and SDEIS/EIR §4.4.3.
[26] 2001 Draft EIS/EIR, Section 4.4.3, Page 4-423; Supplemental Draft EIS/EIR, Section 4.4.3, Page 4-323.
[27] NEPA Guidelines: 40 C.F.R. § 1505.2(b)

disproportionately high and adverse human health or environmental effect on minority and/or low-income populations, as occurs in the 2001 and 2003 EIS/EIR documents, NEPA requires that the distribution as well as the magnitude of the disproportionate impacts should be a factor in determining the environmentally preferable alternative. This mandate is evidence in the following excerpt from the CEQ Environmental Justice Guidance document: [28]

> *"Agencies should encourage the members of the communities that may suffer a disproportionately high and adverse human health or environmental effect from a proposed agency action to help develop and comment on possible alternatives to the proposed agency actions as early as possible in the process."*

To conform to these requirements, LAWA and FHWA must develop an environmentally superior alternative based in part on input from members of minority and/or low-income communities that may suffer a disproportionately high and adverse human health or environmental effect. The 2001 Draft EIS/EIR and the 2003 Supplemental Draft EIS/EIR are void of any evidence indicating that comments or input offered by impacted members of minority or low-income communities were considered in developing an environmentally superior alternative. LAWA must revise the 2003 SDEIS/EIR to incorporate an environmentally superior alternative.

4.2.6 The Area of Analysis is Arbitrarily Limited

The Environmental Justice analysis of existing conditions and impacts focuses only on census tracts surrounding LAX. LAWA completed no regional analyses, although it was stated that the area of included the region as a whole. The analysis needs to be expanded to incorporate the region that is referenced in § 2 titled the Purpose and Need for the Proposed Action in both the 2001 Draft EIS/EIR and the 2003 Supplemental Draft EIS/EIR.

4.2.7 Environmental Justice Mitigation Measures are Vague and/or Deferred[29]

The 2003 Supplemental Draft EIS/EIR describes Environmental Justice mitigation in vague terms, deferring some of the mitigation to future studies. For example, aircraft noise mitigation measure MM-LU-1 (2003 SDEIS/EIR) states that LAWA will revise the Aircraft Noise Mitigation Program (ANMP) to include:

> *"Aspects that are particularly relevant to addressing the unique issues and conditions in minority and low-income areas include provision by LAWA of additional technical assistance to local jurisdictions to support more rapid and efficient mitigation, and the reduction and elimination of structural and building code compliance constraints to mitigation of substandard housing."*

Although the language suggests that LAWA has addressed this problem, the measure does not in fact commit LAWA to any definable actions that would reduce impacts. The 2003 SDEIS/EIR also describes future studies as mitigation. Of particular concern is mitigation measure MM-LU-3 calling for a study of the relationship between aircraft noise levels and the ability of children to learn:

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[28] Environmental Justice Guidance Under NEPA, Section 5, page 15.

[29] Discussion is based on review of 2003 Supplemental Draft EIS/EIR Section 4.2.8.

"This measure requires that LAWA conduct a comprehensive study to determine the relationship between learning and the disruptions caused by aircraft noise with the intent to set a threshold of significance for classroom disruption due to aircraft noise"

This description suggests that the children of disadvantaged communities may be subjected to harmful noise levels in order to define thresholds of significance. A more responsible and conservative approach is needed that does not have the potential to do additional harm.

While the 2003 Supplemental Draft EIS/EIR elaborates on mitigation concepts more fully than the 2001 document, in many cases the mitigations still do not commit LAWA to definable actions that meet the CEQA and NEPA requirement to avoid, minimize, rectify, reduce, or compensate for adverse project impacts. All identified adverse impacts need to be accompanied by specific and defined mitigation measures. LAWA must evaluate the efficacy of the proposed measures in reducing identified primary and secondary impacts. The EIS/EIR should clearly identify impacts for which no measures are proposed, and should provide an indication of their severity. LAWA should then offer the amended analysis for public review and comment as part of a revised (or entirely new) Draft EIS/EIR. Only by these means can the EIS/EIR achieve adequacy with respect to the analysis of Environmental Justice.

4.3 TRAFFIC ASSESSMENT

4.3.1 The LAX Interchange at Lennox Boulevard

If Alternative D is chosen for the LAX Master Plan, the County of Los Angeles recommends the LAX Interchange be constructed on the 405 Freeway at Lennox Boulevard. The LAX Interchange would provide direct access between the 405 Freeway and LAX and significantly reduce the traffic impact of LAX on the unincorporated Lennox community and surrounding area. The name "LAX Interchange" is recommended, rather than Lennox Interchange, is to avoid the impression that motorists on the 405 Freeway can exit the freeway and travel to Lennox. Additionally, some form of interchange at Lennox Boulevard is recommended regardless of the plan chosen for LAX. Traffic demand at LAX is expected to increase steadily to the 78.9 MAP, even under the no-build scenario. Therefore, intersection or interchange improvements will be needed to mitigate LAX's traffic impact on the Lennox community and nearby area.

County staff has met with Mr. Bruce McDaniel, Superintendent of the Lennox School District, and his staff to consider the School District's input about the LAX Interchange. In response to their concerns, County staff informed the School District that the EIR/EIS for the LAX Interchange would include a noise study of the proposed interchange ramps. County staff also informed Mr. McDaniel the study would consider Lennox School District's new pre-school recently constructed at the west end of 106th Street. Mr. McDaniel also expressed concern that the LAX Interchange may affect the visibility of signs to be installed on Lennox School District property adjacent to the LAX Interchange. Public Works referred the School District's concern about the signs to LAWA's representatives for their review and response.

4.3.2 Traffic Model Questions

A. C. Lazzaretto retained Mr. Terry Austin of Austin Foust and Associates to review the traffic model used in the LAX traffic study. Public Works staff coordinated its traffic review with Mr. Austin, and agrees with the questions and concerns raised by Mr. Austin in the discussion below.

Trip Generation: The trip generation table (Attachment A in Technical Report S2B) gives information by activity component but is hard to follow for the "Airport Miscellaneous" category. For example, what items represent the trip generation for the 12,400 space west employee parking structure and the 1,300 east employee parking structure? With respect to the employee trips, why are 54 percent assigned to the east parking structure with 1,300 spaces and only 46 percent to the 12,400-space west parking structure? (See Page 22 of the Supplemental On-Airport Surface Transportation Technical Report).

Trip Distribution: The trip distribution diagram (Figure B-1) is difficult to follow (while not labeled, it appears to be airport peak hour trips). Is there information that can more clearly show the trip distribution? The methodology discussion suggests that employee/other trips have a different trip distribution than air passenger trips. This would certainly be appropriate, but there does not appear to be any elaboration on this or any quantitative description.

General: There does not appear to be a reference for a description of the traffic model. There presumably is such a report which describes the model and provides a peak hour intersection level validation. Other questions that are also presumably addressed in that document pertain to the intersection forecasting process. For example, does the traffic model use post-processing for year 2015, and if so, is it 2000-2015 or some other interval? If there is no post-processing, then considerable reliance is being placed on the raw modeled data for 2015. This is particularly critical for peak hour intersection turn movement volumes.

4.4 NOISE ASSESSMENT

The County previously submitted to LAWA a lengthy set of comments on the noise analysis contained in the 2001 Draft EIR/EIS for the LAX Master Plan. The prior comments addressed noise impacts associated with the project Alternatives (A, B and C) under review at that time. The 2003 SDEIS/EIR expands on analyses contained in the original EIR/EIS to cover the new preferred project, Alternative D. The SDEIS/EIR also contains an analysis of single event noise impacts on sleep disturbance as well as an expanded analysis of noise impacts on schools. The sleep disturbance and school noise impacts analyses were prepared in response to CEQA litigation on the Oakland International Airport Master Plan commonly known as "Berkeley Jets." The SDEIR/EIS presents Year 2000 noise data for comparison in addition to the Base Year 1996 data.

The comments presented here are ones made specific to the analysis of Alternative D and the sleep and school analyses that are presented in the supplemental EIR/EIS. The comments submitted in 2001 concerning Alternatives A, B and C also apply to Alternative D. Accordingly, we have organized the following review to include all of the comments originally submitted in 2001, as well as the new comments appropriate to Alternative D as described in the SDEIS/EIR.

4.4.1 Restatement of Critical Review Submitted in 2001

It is important to note that the findings of the Draft EIS/EIR include a finding of significant noise impact that cannot be mitigated to a point of insignificance. The issues raised in our analysis do not change this finding of significance. The comments presented here address whether or not the Draft EIS/EIR adequately discloses the extent and magnitude of the impact and whether or not mitigation issues are addressed adequately.

Determination of Potentially Significant Impacts: CEQA requires that the Draft EIR identify all impacts that could arise to significant levels and must employ the proper "thresholds of significance" to make that identification. CEQA also requires that the document "challenge" and "update" thresholds that may not be current or protective of the public interest. This notion includes the idea of setting thresholds that will improve the quality of life of residents. As it relates to the impacts identified below, LAWA should seize this opportunity to push the SDEIS/EIR beyond mere minimum standards or code compliance, and assert a more conservative approach to identifying significant impacts. The following identified impacts relate to the use of minimum standards.

CEQA does not mandate, require or endorse a specific decibel standard or noise metric to determine if a project engenders a significant adverse environmental impact with respect to aircraft noise. However, a significant aircraft noise impact is said to have occurred if one or both of the following conditions exist:[30] (a) noise sensitive areas (such as residences, churches, and hospitals) are newly exposed to 65 CNEL or greater; and/or (b) noise sensitive uses in the 65 CNEL contour of a "build" alternative experience an increase of 1.5 CNEL or greater compared with the environmental baseline conditions.

The Airport Noise Compatibility Planning guideline[31] is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports. It establishes, for most land uses and noise sensitive uses, the standard of < 65 day-night average noise level (DNL or Ldn) as "acceptable," although it recognizes that local communities may choose to mitigate impacts below the Ldn of 65 dB.

The Federal Interagency Commission of Noise has identified 65 Ldn as the 24-hour day-night average sound level at which most people become highly annoyed by noise. However, FICON has acknowledged that people may and do become highly annoyed by noise levels well below 65 Ldn. Indeed, many commentators and acoustic researchers are seriously questioning the validity of the 65 dB Ldn criteria for planning purposes: research has shown that at this level about 15% of the population remains "highly annoyed" and that the standard is an average sound level, not a measurement of individual sound events that tend to affect people more than average levels.

The SDEIS/EIR should have employed these conservative criteria to allow a survey of a larger area and reveal the true pervasiveness of sound that was not identified in the Draft EIS/EIR. This would be important in the discussion of impacts and mitigation of noise to show that "average" threshold levels were not sufficient to show the chronic and long-term effects within the LAX flight path. It is likely that there will be exacerbated and disproportionate levels of impacts on unincorporated neighborhoods under the flight path approaches to LAX.

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[30] California Aircraft Noise Standards, Title 21 of the California Code of Regulations.
[31] Title 14 of the Code of Federal Regulations, Part 150.

Number of People Impacted by Noise: There is a significant discrepancy in the number of dwelling units and population impacted between the EIS/EIR baseline year impacts and data published by LAWA. Under California law, the airport must publish a quarterly report that describes the noise impact of the airport. This law has been in effect since the early 1970s and LAWA has published the Quarterly Reports as required. Appendix D of the EIS/EIR states that the base year noise impact is based on data published by LAWA in the 1996 Fourth Quarter Report.[32] Chapter 4, § 4.1.3.1.2 states that the EIS/EIR relies on the Fourth Quarter 1996 operational data but does adjust the EIS/EIR contours to reflect the noise monitoring data that are collected by the airport. The difference between the impacts as defined by the EIS/EIR and the impacts as identified by LAWA in its Quarterly Report is dramatic and significant. The following data compare the number of dwellings and population impacted as defined by LAWA in the 1996 Fourth Quarter Report and as defined in the EIS/EIR for baseline year 1996.

Table 4
Difference Between Draft EIS/EIR Noise Impact and LAWA 1996 Quarterly Report

	Dwellings Inside 65 CNEL	Population Inside 65 CNEL
LAWA 1996 Fourth Quarter Report	31,968	85,907
EIS/EIR Table 4.1-2 For 1996	16,900	49,000
Difference	**15,068**	**36,907**

The differences shown in Table 4 are not presented, reconciled, or explained in the SDEIS/EIR. The population and dwelling data shown in the LAWA 1996 Quarterly Report are not mentioned in the Supplement to the Draft EIS/EIR even though the Quarterly Report shows noise impacts nearly twice as large as those reported in the SDEIS/EIR. Section 4.1.3.1.2 and Appendix D § 2.2 discuss the LAWA Quarterly Reports and the fact that noise contours in the Quarterly Reports are adjusted to reflect noise monitoring data. Appendix D presents the difference between the noise monitoring results and the EIS/EIR noise model results in the terms of dB CNEL in Table 5. The average difference between the two is presented as an under-prediction in the model of approximately 1.1 dB. Examination of the data shows that the noise monitor sites east of the airport, primarily in Inglewood, consistently show noise levels nearly 3 dB greater than the EIS/EIR noise modeling predicts. While the differences are smaller in other communities, the bulk of the population impacted is in the area where monitors show that the noise model has under-predicted the impact.

LAWA operates a permanent noise monitoring system as required by the California Airport Noise Regulations that has been approved by the State of California Division of Aeronautics. LAWA has been monitoring noise on a continuous basis and submitting Quarterly Reports since the early 1970's and every Quarterly Report includes noise impact data based on noise contours that have been adjusted to match noise monitoring data. Nevertheless, the Draft EIS/EIR relies on a noise computer model output that has not been adjusted to reflect the noise monitoring data even though the noise monitoring data show a consistent 3 dB bias in the east approach corridor to LAX.

[32] Appendix D Section 2.1, Appendix D Section 2.2.

There is no doubt that there is a consistent bias in modeling data in the Inglewood approach corridor; the size of the difference in the Inglewood area compared to the system accuracy is significant. Appendix D, in the paragraph just below Table 6 makes the misleading and inaccurate statement that the SDEIS/EIR noise contours "were generally confirmed by the actual noise measurements." This statement is based on the overall average difference at all sites, and fails to recognize the bias in the Inglewood approach corridor. The Draft EIS/EIR contours under-predict the noise impact as measured by the number of dwellings and population within the 65 CNEL contour by an amount that makes it difficult to establish a credible disclosure statement to the general public.

The SDEIS/EIR does not attempt to examine the reason for the under-prediction of aircraft noise by this noise model. Instead, the SDEIS/EIR rationalizes the lack of contour adjustment by stating, "draft FAA Order 1050.E indicates that measurements should not be used to calibrate noise contours;"[33] the cause of the discrepancy is not identified. The difference may be due to errors in input data to the noise model, not a calibration issue. Failure to adequately account for flight track dispersion could cause the kind of discrepancies the data shows. The model has the capability to report noise levels by aircraft type at each location. Such data should be compared to measurement data for those aircraft and a rational and detailed explanation of the model/measurement differences should be made. At the least, the source of the difference would then be identified (i.e., input data errors, model database differences, or model algorithm shortcomings).

The FAA has a history of being reluctant to adjust noise contours based on measurement data. This policy was based on historical attempts to use short term monitoring data to make adjustments that are not statistically justified. Such a policy is justified, in particular when attempts are made to use a few hours of monitoring data as a basis for moving noise contours. In this case, however, LAWA operates noise-monitoring sites 24 hours a day, measuring every aircraft, and has been doing so for over 20 years. These data do warrant adjustment to the noise contours; either by correcting input errors or modifying model databases (such as noise curves and aircraft profiles). FAA does not prohibit these changes and, in fact, FAA provides a mechanism for user changes to the database. The "INM Users Guide,"[34] contains Appendix B, "FAA Profile Review Checklist." The first paragraph of that appendix contains the following statement,

> *"The Office of Environment and Energy (AEE) requires prior written approval for all user changes to the Integrated Noise Model (INM) standard profiles for FAR Part 150 studies. A similar requirement under National Environmental Policy Act (NEPA) will take effect pending FAA Order 1050.1E".*

Following that paragraph is a detailed list of information required for the FAA review of user made changes. It is not known if any attempt was made to seek FAA approval of changes needed to make the model better match measurement data. If there was no attempt, the decision should be explained. This last comment is especially appropriate if input errors have already been eliminated as a possible source of the difference.

Change in Number of People Impacted by Noise: The Draft EIS/EIR relies on the noise model to identify relative changes between baseline and future Alternative conditions. The Draft states, "*the*

[33] Appendix D, Page 17.
[34] For INM Version 6, dated September 1999.

modeled noise levels associated with environmental baseline conditions will have consistent relative relationships to future noise patterns prepared with the INM."[35] This statement, while possibly true for changes in noise level, is not accurate with respect to the area of noise impact, the number of dwelling units, and the population within the noise contours. The implication of the statement quoted above is that the increased number of people identified as impacted will be the same whether or not the noise contours are adjusted to reflect results of noise monitoring. This is not true and fails to reflect that area, dwelling units, and population are second order functions of the size of the contour. The change in the number of people residing inside the 65 CNEL contour will be much larger than reported in the Draft EIS/EIR. The percent change may remain nearly constant, but the absolute magnitude will be larger.

If LAWA does not adjust the Draft EIS/EIR contours to reflect monitoring data then the document should attempt to estimate the correct number of dwellings and people inside the contours by using an adjustment factor based on the differences identified for the baseline conditions. While this is far less satisfactory than adjusting the contours, the impacts identified would be a far better disclosure of the magnitude of the impact than is now included in the document.

Use of 1996 as Base Year: There is reason to question the validity of 1996 as the baseline year. Use of the 1996 baseline appears to underestimate the impact of the project (in addition to the contour adjustment issue identified above). To demonstrate this concern, the following table compares 1996, 1999, and Year 2000 noise impacts at LAX:

Table 5
LAWA 1996, 1999 and 2000 Quarterly Report Noise Impacts

	Dwellings Inside 65 CNEL	Population Inside 65 CNEL
1996 Fourth Quarter Report	31,968	85,907
1999 Fourth Quarter Report	26,422	78,026
2000 Fourth Quarter Report	27,312	80,211

The above data show that the use of the 1996 baseline, with its larger impact area, would result in underestimating impacts compared to using 1999 or 2000. The difference in the number of people impacted for the year 1996 and the year 2000 is potentially large enough to change the conclusions as to whether future year contours impact a larger or smaller number of people than baseline conditions. As a result, LAWA should update the noise study to a more current year.

Project Description/Operational Assumptions: The noise analysis is a comprehensive analysis that attempts to identify cumulative and single event noise impacts as well as detailed tables of time above specific thresholds. However, in addition to failing to adjust the contours to reflect noise monitoring data, there is substantial uncertainty associated with the future operational assumptions. The operational assumptions are in many cases counterintuitive and lack justification. This makes any analysis of the noise impacts speculative, and potentially under-predicts the impact. The following are examples of areas of concern and point to a need to do a "worst case" analysis in the

[35] Appendix D, Page 17.

event that these assumptions cannot be assured or justified. The following data were taken from the Executive Summary, Pages ES-9 and ES-10.

Passengers Per Departure: The baseline passengers per departure are 90.76 while Alternative C assumes 145.09. It is not explained how LAWA expects the project to result in a relocation of short haul operations to some other airport and an increase in average aircraft size. There is no component of Alternative C that results in a nearly 60% increase in passengers per departure. This increase is extraordinarily large given that no part of the project forces commuter or short haul aircraft to move or even includes a design feature that discourages these aircraft. In light of this, the Draft EIS/EIR should contemplate the noise impacts if this assumption proves to be false and commuter and short haul carriers do not move to some other airport. Further, the extent to which the passenger per departure increase is due to increased load factors needs to be addressed and a discussion of whether or not this increase in load factor (expressed as an increase in aircraft weight) was included in the INM input for the future case scenarios needs to be explored.

Cargo Activity/Cargo Building Space: The baseline cargo activity is 1.9 million tons of cargo using 1.9 million square feet of space. Alternative C activity is 4.1 million tons using 5 million square feet. The future ratio assumes that new cargo facilities are no more efficient than the old LAX facilities and fails to recognize that modern facilities may handle twice the amount of cargo per square foot. LAWA does not provide the basis for this assumption. The noise analysis should be based on the potential impact of far more cargo traffic than is currently estimated.

Maximum Airside Capacity: The Draft EIS/EIR nearly doubles the terminal space but assumes a very modest increase in passengers and operations. This is based on the assumption that future technology will not increase the capacity of existing runways. However, LAWA should also explore the opposite: what would result if improved technology results in increased airside capacity? Given the increase in terminal space, how much air traffic could those terminals handle? LAWA should disclose noise impacts for air traffic estimates based on maximum terminal capacity for the proposed project.

Peak Hour Operations/Delay: The All Weather Peak Hour Operations are identified as 150 for the baseline condition and 145 for Alternative C. The All Weather Average Delay is identified as 8.69 minutes while the Alternative C delay is identified as 13.59 minutes. This statement is counterintuitive and, at the very least, challenges the credibility of the aviation forecasts upon which the noise analyses are based. Please explain the basis for these findings.

Terminal Space/Number of Gates: Alternative C increases terminal space from 4 to 7.3 msf while gates increase from 165 to 172 (186 to 228 narrow body equivalents). The narrow body equivalent ratio increases from 21,500 sq. ft. per narrow body equivalent gate (baseline) to 32,000 square feet per gate, which is nearly a 50% increase. It appears that the project will have a larger gate capacity than is being reported and, if so, this needs to be accounted for in the noise analysis.

Regional Issues: The project is primarily a landside development project (terminals and roads) with no new runways. A major assumption in the document is that some other airport in the region will absorb the unmet aviation demand. The Draft EIS/EIR does not identify which airports will meet this demand or any mechanism to ensure that this assumption is valid. LAWA, as proprietor of multiple airports is lead agency for the EIR and the FAA is a lead agency for the EIS. Both agencies have the ability to commit to or fund airport projects outside of LAX. The document

needs to address the noise issues in the event that future airport capacity is not developed elsewhere in the region. The SDEIS/EIR should include an Alternative that meets aviation demand for the region – either through committing to a regional solution or anticipating additional runways in Alternative C – and discloses the noise impact of that Alternative.

Health Effects of Noise Technical Report: Technical Report 14b contains a general discussion of the effects of noise on people. In the last paragraph of §1 the report concludes with the statement, "It is, therefore, assumed that compliance with the compatibility criteria is sufficient to protect human health." The statement in itself is correct, but is misleading in its implication that LAX complies with the compatibility criteria. The report fails to make a most important conclusion related to health effects of noise: LAX does not comply with the compatibility criteria. Based on this factor, it can then be concluded that noise levels associated with aircraft operations at LAX have adverse health effects on people. This should be addressed in the Technical Report and the DEIS/EIR should identify the health effects associated with high noise levels including the fact that in 1996 over 85,000 people resided in areas that exceeded the compatibility criteria.

Mitigation of Noise Impacts: The proposed project includes no noise mitigation recommendations for the proposed project. It should be noted and clearly recognized that LAWA has for many years conducted an ongoing noise mitigation program and has periodically introduced new programs as appropriate. What is not clear is why the proposed project does not address any new noise mitigation programs. Several mitigations are discussed in detail in Appendix D but not recommended for adoption by LAWA. Appendix D includes the following measures that LAWA should consider for inclusion as recommended programs for the proposed project:

- Shorten the downwind leg approach to reduce the number of overflights to communities well east of the airport.[36]
- Eliminate early turns over El Segundo.
- Reevaluate the benefit of restricting outboard runways to arrivals only in terms of number of people and dwellings inside the 65 CNEL contour.

The analysis in Appendix D describes benefits and impacts in only general terms of change in noise level but not in area impacted. Further, the analysis appears to rely on questionable economic data to estimate mitigation costs. Specifically, the analysis assumes that the delay of 2-4 minutes associated with the measure would apply to all flights independent of time of day. It would be more logical to assume that the delay would be longer during peak periods and shorter during off peaks.

An important aspect of the existing LAX noise mitigation program is the preference for west flow departure operations. The project assumptions presented in Appendix D appear to assume some degradation in the amount of time that the airport is in west flow for departures. Figure 10 of Appendix D shows 5.71% of operations in east flow for the proposed project. Table 3 of Appendix D indicates that less than 1% of departures are to the east for baseline conditions. Figure 10 and Table 3 are in different formats, so the above comparison may not be fair; however, the SDEIS/EIR does not provide assurance that the project will not result in an increase in east flow departures.

A final mitigation that should be given consideration is expansion of the sound insulation program to homes within the 60 CNEL contour. Such a program may not qualify for traditional Federal

[36] Exhibit 29 of Appendix D.

funding but there may be an opportunity to use passenger facility charge (PFC) funding for such a program. Because community concerns about the impact of aircraft noise goes so far beyond the boundary of the 65 CNEL contour (particularly when the contour is not adjusted to match noise measurement data), consideration of expanding the program should be given a thorough evaluation in the Draft EIS/EIR. Figure 4.2-5 shows the 1992 65 CNEL contour upon which the insulation program is based. The Draft EIS/EIR should compare this contour with the project 60 CNEL contour and evaluate the cost of expanding the program to include the 60 CNEL contour.

Miscellaneous Noise Comments:

Data Sources and Assumptions: In §2.1, the third from last sentence, 2nd paragraph states, "this EIS/EIR will rely on the results of the Noise Management Bureau's system in the definition of environmental baseline noise levels (per the 4th Quarter 1996 Report)." This statement is categorically wrong and misleading. It implies that the report relies on the calibrated noise contours produced by LAWA. The report relies on uncalibrated noise contours generated by the noise model that are considerably smaller that the contours presented in the 4th Quarter 1996 Report.

Environmental Baseline vs. Quarterly Noise Report: Discussion in §2.2 attempts to downplay differences between the Quarterly Report contours and the baseline contours in the SDEIS/EIR. The first paragraph cites a Figure[37] that would help the reader understand that the Draft EIS/EIR baseline is considerably smaller than the Quarterly Report contours, but the figure is missing from the report. The statistical analysis of the noise measurement data and noise model results from Table 6 is completely inadequate and fails to identify the bias in the noise model to under-predict noise levels in the approach corridor over Inglewood. Please address this concern.

Impact on Schools: §3.3 of Technical Report 14b (Health Effects of Noise) has a footnote explaining the 1980 lawsuit settlement with the school district. The analysis appears to assume that because of this settlement there is no impact on schools. Please identify which schools have been insulated, which schools remain to be insulated, and how many more schools will need to be insulated as a result of the project.

Federal Standards: § 4.1.4.1.2 in the last sentence states that the "...FAA has adopted standards and guidance governing airport noise compatibility." The FAA has only published land use compatibility guidelines and has not adopted noise standards. It is up to the local authorities to adopt noise/land use compatibility standards.

Construction Noise: § 4.1.4.3.1 should reference the City of Los Angeles and the County of Los Angeles Noise Ordinances which contain noise limits and limits on the hours of activity. The County requests that LAWA identify noise limits in the ordinance as a threshold of significance, and provide analyses in accordance with that threshold.

Operations Data: In the discussion on noise patterns,[38] the first bullet point outlines an increase in heavy aircraft and a decrease in small aircraft. There is no explanation as to how Alternative C accomplishes this transition and there are no explicit features of Alternative C that would appear to

[37] Figure 2.3.
[38] Section 4.1.6.1.2.2, Alternative C, Aircraft Noise Pattern at 2015.

encourage it. If the assumption cannot be justified, the noise analysis should be revised to reflect the trend toward a fleet mix that does not rely on heavy aircraft for achieving the passenger demand.

Construction Scheduling: The City and County of Los Angeles have ordinances that limit the hours of construction activity. § 4.1.8.3, MM-N-9, should reference those ordinances and identify the hours that construction is permitted.

Location Impact Analysis: The last sentence of the last paragraph on Page 87 states that only CNEL and DNL have a regulatory function. This is a very limiting assumption and fails to recognize that for some types of impacts, these metrics may be inadequate. Specifically, FICON identifies these metrics as potentially inadequate for assessing noise impacts on sleep or noise impacts on the classroom environment. FICON recommends use of supplement metrics for analysis of these impacts; the County requests that LAWA use the metrics to analyze these impacts. While the document does present some Sound Exposure Level (SEL) contours and tables of time above data at specific points, the Draft EIS/EIR fails to use these data to assess sleep disturbance or school impacts.

No-Action/No Project Comparisons: The first sentence of § 5.1.3 identifies that 11 grid points will be exposed to increases of 1.5 dB. This comparison of the number of grid points is used throughout the analysis. This type of analysis fails to account for the land use that may occur at the grid points. In effect, the grid points, while regularly spaced, are located on random land uses. It would be more accurate to use INM to construct a different contour that shows all areas exposed to a change of 1.5 dB or more; the County requests that LAWA use this contour to quantify the land use impact. The INM has the ability to construct such a different contour.

Noise Mitigation: The first sentence of §7 identifies the need for mitigation of significant impacts. Since the project is shown to have a significant impact, the County requests that LAWA propose appropriate noise mitigation measures.

Alternative C Figures: Alternative C, Figure 11, does not use flight track dispersion in the noise model; however, LAWA has radar-tracking ability. Please provide a 24-hour period of actual radar tracks as an example of the extent of track dispersion over the affected areas.

Area Wide Flight Paths: Please supplement Alternative C, Figure 17 with one chart for existing conditions so the reader can identify differences. At a minimum, the text should describe how this chart changes paths relative to existing conditions.

Appendix D: Table 7 of Appendix D identifies the forecast year 2005 baseline as 2,107 operations per day and year 2015 as 2,124 operations per day.[39] The Quarterly Report for the 4th Quarter of the year 2000 shows that current operation levels are 2,280 operations per day (201,347 quarterly operations). Existing operations are already exceeding the 10 and 20-year projections for the No Action/No Project case. Please revise the noise analyses and comparisons to reflect realistic descriptions of future no project conditions.

Reduced Impact of Approach Overflights: Exhibit 29, Reduced Impact of Approach Overflights, shows (and the accompanying text contains) an analysis of this approach procedure and there

[39] Table 8.

appear to be community benefits to this procedure. Therefore, it is concerning as to why is it not included as a recommended mitigation measure.

4.4.2 New Comments on the Supplemental EIR/EIS for Alternative D

The following comments are provided based on an analysis of EIR/EIS § 4.1, "Noise," and Appendix S-C1, "Supplemental Aircraft Noise Technical Report:"

Noise Modeling: Section 2.1 implies that noise monitoring and flight track system data were used to generate noise contours, but should be revised to state that the noise analysis and noise contours were based entirely on a computer noise model. The noise data presented in the Supplemental EIR/EIS do not use any of the noise data collected by the airports noise monitoring system. The airports noise monitoring and flight track system was used only to obtain operations and runway utilization data. In fact, there is a significant conflict between the noise monitoring data published by the airport and the noise modeling done as part of the EIR/EIS.

Noise Contour Errors: § 2.1.7 The noise contours presented in the SDEIR/EIS for the year 2000 are smaller than the noise contours published by the LAWA in its Year 2000 Q4 report. No attempt is made in the SDEIS/EIR to examine the reason for the noise model under-predicting aircraft noise. The Supplemental EIS/EIR rationalizes the lack of contour adjustment by stating, "draft FAA Order 1050.E indicates that measurements should not be used to calibrate noise contours." However, no attempt is made to identify the cause of the discrepancy. The difference could be due to errors in input data to the noise model, not a calibration issue. Failure to adequately account for flight track dispersion could cause the kind of discrepancies the data shows. The model has the capability to report noise levels by aircraft type at each location. LAWA should compare the data to measurement data for those aircraft and offer a rational and detailed explanation of the model/measurement differences. At the least, the source of the difference would then be identified (i.e., input data errors, model database differences, or model algorithm shortcomings).

Noise Contours Require Adjustment: The FAA has a history of being reluctant to adjust noise contours based on measurement data. This policy was based on historical attempts to use short term monitoring data to make adjustments that are not statistically justified. Such a policy is justified, in particular when attempts are made to use a few hours of monitoring data to move noise contours; however, in this case LAWA operates noise monitoring sites 24 hours a day, measuring every aircraft and has been doing so for over 20 years. These data do justify adjusting the noise contours either by correcting input errors or modifying model databases, such as noise curves and aircraft profiles. FAA does not prohibit these changes. The FAA provides a mechanism for user changes to the database. The "INM Users Guide[40]," contains Appendix B, "FAA Profile Review Checklist." The first paragraph of that appendix contains the following statement, "The Office of Environment and Energy (AEE) requires prior written approval for all user changes to the Integrated Noise Model (INM) standard profiles for FAR Part 150 studies. A similar requirement under National Environmental Policy Act (NEPA) will take effect pending FAA Order 1050.1E." Following that paragraph is a detailed list of information required for the FAA review of user made changes. It is not known if any attempt was made to seek FAA approval of changes needed to make the model better match measurement data. If there was no attempt, LAWA should explain the decision–particularly if input errors have already been eliminated as a possible source of the difference.

[40] For INM Version 6, dated September 1999.

Mitigation Must Reflect Validated Contours: The Supplemental EIR/EIS should explicitly show the difference in noise contour location and the number of dwellings and population for the Year 2000 noise contours contained the Quarterly Report published by LAWA and the Year 2000 noise contours contained in the Supplemental EIR/EIS. The Supplemental EIR/EIS further rationalizes the use of the noise modeling information in spite of the differences to the measurement data by stating that future measured contours will be used to adjust mitigation area. If noise mitigation programs will be based on noise measurement validated noise contours, then the mitigation measures should include a specific commitment to use such validated contours.

Assumptions Concerning Future Noise Contours lack Validation: The supplemental EIR/EIS further states in § 2.1.7 of S-C1 that using the smaller computer generated contour will result in showing greater noise impacts. This latter statement is based on the erroneous assumption that the noise contours presented for future conditions are accurate and that the noise contours for 1996, 2000 and the future no project case are underestimated. On what basis does the Supplemental EIR/EIS conclude that the future noise contours are more correct than the existing noise contours when the same model and methodology are used for each?

Inadequate Number of Flight Tracks for Modeling: Footnote 3 of § 2.1.3 states that the 74 flight tracks were adequate to produce an adequate noise model input. What data did LAWA use to draw this conclusion? Why did LAWA not complete a sensitivity analysis to determine if the discrepancy between measured noise data and modeled result differences was due to inaccurate or insufficient number of flight tracks used in the INM model? In particular, why weren't additional flight tracks used to simulate track dispersion for aircraft approaches? In the absence of supporting data, footnote 3 is misleading and should be eliminated.

Table S11 is Mislabeled: The title of this table indicates it is a comparison of single event noise. It is in fact a table of runway utilization data during runway construction. Please revise the title to Table S11 accordingly.

Sleep Disturbance Data Require Clarification: In § 6.1.1, the threshold of significance for sleep disturbance is based on the 94 SEL contour which represents a 10% awakening rate for noise events that occur at least once every 10 days. The number of awakenings presented in the data tables is not the total number of people awakened but the number awakened within the 94 SEL contour. In fact, at lower noise levels there is still sleep disturbance, albeit at a lower rate. For example, the FICAN curve shows that for an interior noise level of 45 SEL (58 SEL exterior noise level with windows open) about 1% of the population will be awakened. The awakening rate of 1% is quite low, but when applied to a large population such as that located in a 58 SEL contour, would produce a large number of people awakened. The Supplemental EIR/EIS should make it clear that the sleep disturbance data presented are not total awakenings, but awakenings within a specific contour. The methodology used in the EIR/EIS allows the comparison of alternatives within a contour that can be practically estimated and appears to be a fair basis for comparison.

Sleep Disturbance Flight Tracks Must be Identified: Analysis of single event for sleep disturbance does not make it clear whether or not the analysis relied on the same flight tracks as used for developing the CNEL model. Did LAWA use the same flight tracks? If so, then the sleep analysis fails to account for flight track dispersion, and given that the significance threshold is based on an event that occurs at least once every 10 days, the results are misleading. If flight track dispersion is not included in the analysis then the County requests that LAWA describe the results

as comparing the number of awakenings within a specific SEL contour for aircraft flown on the nominal flight tracks and aircraft flight deviations that occur on other tracks would cause further awakenings.

Sound Insulation Eligibility: §6.1.3 adds an important criterion to the eligibility program for sound insulation. The sound insulation area is now based on ANMP CNEL contours and this section adds the SEL contour map. Is this a proposed formal policy that is clearly stated in the mitigation measures (including the requirement that the location of the 94 SEL contour be verified by measurements)? Has the cost of insulating the additional homes been included in the reported costs for the Master Plan improvements? If single event contours are underestimated relative to measured noise as is the case with the CNEL contours, how would this affect the study results? How many more homes and schools would be impacted if the SEL noise is underestimated by the same amount that the CNEL contours are underestimated (as measured by comparing baseline model results to baseline year measurement results)?

Lennox Preschool Mitigation Required: The Lennox School District operates a preschool at 10417 Felton. The site of this school is affected by both aircraft noise and roadway noise. The SDEIR/EIS addresses only aircraft noise at this site and does not address roadway noise. How does the combined noise from aircraft and motor vehicles affect impact this school? Further, how would roadway improvements in the vicinity of this site affect roadway noise levels and what would be the corresponding impact on the school? The SDEIR/EIS identifies a significant impact for Alternative B, but fails to address noise level changes that may result from roadway improvements that will occur with other alternatives. Similarly, in §6.2.3 the statements on school mitigation contain no commitment to mitigate identified impacts, only a commitment to study further. The County requests affirmative commitment from LAWA for the full mitigation of noise impacts at all affected schools in the project area.

Soundproofing Homes to Reduce Noise Impacts: LAWA has outlined a number of important noise attenuation goals in Mitigation Measures MM-LU-1, MM-LU-2, MM-LU-3 and MM-LU-4. However, it is not clear how or when or even if the goals would be achieved because many of the implementation components lack definition. We are particularly concerned about the following:

<u>MM-LU-1: Implement Revised Aircraft Noise Mitigation Program</u>.

- Under the measure calling for 'Accelerated rate of land use mitigation to eliminate noise impact areas in the most timely and efficient manner possible,' LAWA calls for "*Increased annual funding by LAWA for land use mitigation.*" Please specify an annual dollar amount for which LAWA is willing to make a commitment.
- Under the same measure, LAWA calls for *"Reevaluating requirement for granting of avigation easements with sound insulation mitigation."* Please specify the performance criteria that LAWA would use in this reevaluation. Under what conditions would LAWA waive the requirement for granting of avigation easements with sound insulation?
- Under the same measure, LAWA calls for *"Reduction or elimination, to the extent feasible, of structural and building code compliance constraints to mitigation of sub-standard housing."* Please define the criteria that would justify a reduction of code compliance constraints, and the criteria that would justify the elimination of code compliance constraints. Please also estimate the proportion of currently code-constrained units that would become eligible with application of these criteria, including a specific estimate for the community of Lennox.

MM-LU-2: Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program:

- Although this measure adds a large number of homes to the insulation program, none of the additional units is located on unincorporated land even though many impacted homes are in Los Angeles County jurisdiction: please explain why this mitigation omits County homes.
- MM-LU-2 includes the following commitment, "*actual adjustments to the ANMP contour would be based on periodic reevaluation of the 94 dBA SEL noise contour by LAWA.*" The statement implies, but does not actually state that measurements will be used to make the actual adjustments. Please incorporate the word 'measurements' into this commitment.

MM-LU-3: Conduct Study of the Relationship Between Aircraft Noise Levels and Ability of Children to Learn. This measure commits LAWA to a program to reevaluate the single event threshold for schools and using results to select *"an acceptable replacement threshold of significance for classroom disruption."* What group or groups will provide peer review of these studies and judge the acceptability of proposed significance thresholds?

MM-LU-4: Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. Please see the comment above concerning a key aspect of this mitigation measure calling for *"acceptance of results by peer review of industry experts."* Again, the measure does not indicate which agencies will be involved in the selection of the industry experts for the peer review. Please indicate whether and which of the affected cities, county, and school districts will have a role in selecting the experts for the peer review.

4.5 AIR QUALITY ASSESSMENT

4.5.1 Review of Ambient Air Quality Data used in the 2001 Draft EIS/EIR

Ambient air quality data were used for two purposes in the 2001 study. One purpose was to define baseline conditions and the other was to estimate background concentrations. Baseline conditions in this case were defined as the maximum air quality concentrations in the vicinity of the airport for existing conditions (an approximate 1996-98 timeframe). Background concentrations, on the other hand, were defined as the concentrations present in the absence of nearby sources. In other words, the concentrations due to multiple small sources and distant large sources were not directly accounted for in the air quality impact assessment. Estimates of background concentrations were used in the analysis to add to the concentration estimates generated by computer dispersion models for the airport and other nearby sources to arrive at estimates of total ambient concentrations.

Data from two air quality monitoring stations were used to characterize both baseline and background ambient air quality conditions. One station was located onsite and immediately to the east of the airport runways in the South Airfield Complex. LAWA operated this station for approximately 7.5 months, from August 1997 until March 1998, and measured carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and particulate matter (PM_{10}). The other station was located approximately 0.6 mile south of LAX. This station, located in Hawthorne and designated as Station No. 094, was operated by the South Coast Air Quality Management District (SCAQMD) and measured ozone (O_3), lead (Pb), sulfates, CO, NO_2, SO_2 and PM_{10}.

The 2001 Draft EIS/EIR did not provide any justification for the location of the onsite ambient air quality monitoring station or any information concerning the primary purpose of the station. Typically, a monitoring station will be located and operated to either measure background concentrations or maximum source impact. Given the location of the station with respect to the prevailing wind direction and the airport runways, the station appears to be situated near the likely maximum source impact area. Data from the station are used to describe "Environmental Baseline" conditions, which apparently refers to maximum source impact for existing conditions. In most cases, computer modeling would be used to identify the locations of maximum concentrations for baseline conditions, and then one or more monitoring stations would be positioned at these locations. If the onsite monitoring station was not positioned at the expected location of maximum concentration, then it is possible that concentrations higher than those reported at the station occurred in the area.

The 2001 DEIS/EIR did not discuss this, but maximum concentrations from the nearby SCAQMD station are comparable to the concentrations reported onsite by LAWA for the same timeframe. This suggests either that maximum concentrations do not vary significantly in the area or that both stations are similarly affected by nearby sources. The document shows that the maximum concentrations from the onsite monitoring station actually occurred when the station was upwind of the airport.[41] Thus, the maximum 1-hour CO concentration shown as the Environmental Baseline value in Table 4.6-11 was apparently due to other sources in the area and not the airport. This needs to be rectified.

LAWA needs to explain the basis for siting of the onsite ambient air quality monitoring station. If it was located at or near the expected location of maximum concentration (for all pollutants), please explain how this location was selected. It is also unclear whether data from the onsite monitoring station characterized true maximum baseline concentrations in the area or only the maximum concentrations at the monitoring site location. If the data did not characterize the maximum concentrations, please identify them. Finally, the Environmental Baseline concentrations shown in the 2001 DEIS/EIR Table 4.6-11 need to identify whether they represented maximum impacts from the airport emissions or if they are due to other sources in the area.

4.5.2 Review of Ambient Air Quality Data used in the 2003 Supplement to the Draft EIS/EIR

Additional baseline data is provided in the Supplement to the Draft EIS/EIR. Baseline data are taken to include background plus contributions from airport and non-airport sources. This additional baseline data includes measurements by the SCAQMD for the period 1998 through 2000 at a nearby monitoring station. Previously, baseline data were reported for 1996 through 1998 at the same SCAQMD station and also for on-site measurements collected during 1997-98. These data are presented together in Table S4-6.5, so presumably they are reasonably comparable.

Together, these two data sets comprise approximately five years of data. No discussion of the comparison of the two data sets is provided in the Supplement DEIS, but one obvious thing to look for is data trending. In comparing the data reported in Table S4.6-5, it appears that there has been little change or a slight increase in air pollution levels during the five-year period. Elsewhere in the Supplement to the DEIS/EIR future background concentrations of air pollutants are assumed to decrease substantially over time. Although it is possible that future area-wide emission reductions

[41] Technical Report 4, Attachment Y.

will be greater than achieved during this five-year period, the ambient monitoring data do not appear to support a significant reduction in background concentrations during the next several years. Most of the comments and questions offered previously regarding ambient air quality data are still relevant and applicable.

Suggested Questions / Comments for LAWA

- The trends in baseline ambient air quality data given in Table S4.6-5 do not support the substantial decrease in background concentrations that are assumed to occur in future years. Can LAWA explain this and can the forecast reductions in future background air pollution levels be relied upon?

4.5.3 Review of Emission Data used in the 2003 Supplement

Baseline emissions data are given in Tables S4.6-6 and S4.6-7 for 1996 and 2000 on-airport emissions sources, respectively. The 1996 data have been updated while the 2000 estimates are new in the Supplemental DEIS. It is worth noting that the estimates for 1996 given in the Supplemental DEIS are all higher than the values given in the DEIS, and in the case of VOC and sulfur dioxide, the increases are very substantial. Compared to the original estimates given in the DEIS, the estimated emissions of VOC and sulfur dioxide are more than two times higher. The revised emission estimates for future scenarios have also increased compared to the original estimates given in the DEIS. Again, this is particularly so for VOC and sulfur dioxide which are now two to three times higher than the previous estimates.

Suggested Questions / Comments for LAWA

- The estimated emissions for on-airport sources given in the SDEIS/EIR have changed substantially from the estimates given in 2001. Can the estimated emissions for on-airport sources given in the Supplemental DEIS be relied upon to be reasonably accurate?

4.5.4 Review of Meteorological Data used in the 2003 SDEIS/EIR

The Supplemental DEIS indicates that the revised analyses were performed using upper air data from a location near San Diego.

Suggested Questions / Comments for LAWA

- Is the upper air data from the San Diego Miramar Weather Service Contract Meteorological Observatory representative of the LAX area?
- Other comments offered previously concerning the use of 10-m onsite wind data for modeling off site impacts are still applicable.

4.5.5 Appropriateness of the Analysis Methodology

General Approach: As commented in the previous review, the Supplemental DEIS includes the results of computer modeling for future scenarios only. No analysis of the existing/baseline situation is provided, which could provide a benchmark of how well the models were performing.

Suggested Questions / Comments for LAWA

- Why did LAWA not model the existing/baseline situation and compare the results to existing ambient air quality monitoring data to get a benchmark of how well the models were performing?

Aircraft Operations: The comments and questions provided previously appear to remain applicable. Perhaps the most important of these is that it remains unclear how aircraft queuing was estimated, which is critical to the accuracy of the analysis. Also, it is not clear whether the reduced airport capacity during IFR conditions has been considered in the evaluation of worst-case air quality conditions.

The Supplement to the DEIS indicates that an updated version (Version 4.11) of the EDMS model has been used to evaluate Alternative D impacts. In so doing, the version used for the previous assessments (Version 3.2) was applied to Alternative D, and a ratio of the resulting estimated emissions for the two versions was computed for each air pollutant. These ratios were then used to estimate impacts for the other alternatives based on the results originally obtained with the older version of EDMS.

The EDMS model performs two major functions for airport sources. It estimates emissions and it calculates atmospheric dispersion. In updating the EDMS model, changes were made to both sections of the model. Hence, simply 'ratioing' the previous results based on the old and new emission estimates will not account for any changes in the dispersion algorithms. Thus, use of the developed ratios to update the previous results may not be appropriate.

Suggested Questions / Comments for LAWA

- How was aircraft queuing estimated? Is this critical to the air quality impact analysis?
- Did LAWA consider IFR conditions in evaluating air quality impacts and the effect this could have on reduced runway capacity and increased aircraft queuing?
- Did the 'ratioing' technique that was used to update the previous air quality impact analyses generated by EDMS account for all changes in the model or does it only account for changes in the emission algorithms?

Off-Airport Motor Vehicles: In the previous review, it was commented that use of wind data from a height of 10-m at the airport may not be representative of winds at off-airport intersections and that using only four receptors at each intersection may also result in underestimated maximum concentrations. These comments appear to remain applicable for the Supplemental DEIS.

4.5.6 Accuracy of the Analysis

The accuracy of the air quality analyses will depend to a large extent on the computer models used and the input data for the models. Presumably, the use of the updated EDMS model for the airport sources has resulted in improved accuracy for Alternative D compared to the previous analyses. Simple ratios were developed and applied to the previous analyses in an attempt to update the results for the other alternatives. If the ratios are based on the old and new emission estimates only, which appears to be the case, it is doubtful if the predicted concentrations for the other alternatives will be very accurate. This is because the new version of the model includes changes to both the emissions and the dispersion algorithms, and the 'ratioing' of predicted concentrations based on the emission ratios would account for changes to the emission components only. Some of the resulting concentration estimates for the other with-project alternatives given in Table S4.6-12 are considerably higher than those for Alternative D. It is conceivable that a complete assessment of these other alternatives with the new version of EDMS might yield different results.

As commented before, the accuracy of the predicted impacts from the airport sources will depend to a large extent on the aircraft queuing estimates and the estimated airport runway capacity, especially during IFR conditions. It is not clear from the analysis how these issues were addressed.

The unmitigated off-airport impacts for carbon monoxide given in Table S4.6-13 appear unreasonably low. Presumably, traffic approach volumes at many of these intersections are at least several hundred vehicles per hour and perhaps several thousand during peak hours. Yet, the predicted maximum concentrations are only marginally higher (and in some cases even equal to) the estimated background concentration. Assuming that the background concentration estimates are accurate, then maximum concentrations near congested roadway intersections could be expected to be substantially higher.

The accuracy of the predicted maximum concentrations at both on- and off-airport locations depends to some extent on the validity of the assumed substantial decrease in background concentrations of some air pollutants over the next several years. If the projected decrease in background concentrations turns out to be too optimistic, the projected maximum concentrations will likely be too low.

4.5.7 Gaps in the Analysis

The lack of an analysis of existing conditions using the same computer models and methodologies that were used to evaluate future scenarios continues to be a shortcoming. Without doing this, it is difficult to judge the accuracy of the predicted future conditions. Further, the 'ratioing' technique that was used to update the analyses of airport sources for Alternatives A, B and C and for the no-project case makes it difficult to fairly compare the alternatives.

4.5.8 Appropriateness and Adequacy of Mitigation Measures

Tables S4.6-6 and S4.6-7 provide emission estimates by source category for on-airport sources for the years 1996 (baseline) and 2000. Emission estimates are provided later in Table S4.6-9 for future years and project alternatives, but these estimates are not given by source category. Only the totals for the various air pollutants are shown. In Tables S4.6-14 and S4.6-16, it indicates that NOx and SO2 emissions from on-airport sources will be significant. In developing a mitigation plan to

address this, it would be very useful to know what the major sources of on-airport NOx and SO2 are so that mitigation measures could be focused where they will be the most effective. Tables S4.6-6 and S4.6-7 indicate that aircraft emit a substantial portion of the NOx and SO2 emissions for the baseline and year 2000 cases. Thus, it seems probable that this will be true for the future scenarios, too. Table S4.6-18 provides a long list of proposed mitigation measures, but none of these involve measures to reduce aircraft emissions.

4.6 LAND USE ASSESSMENT (Transportation)

Information within the 2003 Supplemental Draft EIS/EIR on each of the project build alternatives relating to consistency with the 2002 Regional Transportation Plan (RTP) and Regional Aviation Plan (RAP) are too vague to draw meaningful conclusions. Of the four build alternatives in the LAX Master Plan, only Alternative D has any discussion of consistency with the current RAP and this discussion is contradictory. As an example, the 2003 Supplemental Draft EIS/EIR in discussing compatibility with the SCAG Regional Comprehensive Plan and Guide states that: "*Under Alternative D additional job opportunities, infrastructure growth, and indirect housing demand would occur.*" However, in discussing compatibility with the SCAG RAP it states that: "*Under Alternative D, the LAX Master Plan would be consistent with the policy of the Regional Aviation Plan, which calls for no expansion of LAX.*"[42]

How is it possible that infrastructure growth would occur at LAX without expansion of LAX? The fact of the mater is that massive infrastructure expansion would occur under Alternative "D". The result of the infrastructure expansion provides 153 fully functional, high capacity gates and does not remove concrete areas that can be used for aircraft parking. By parking aircraft, Alternative "D" can function as though it has over 200 gates and the capacity of LAX is greatly expanded. As such, Alternative "D" is incompatible with the SCAG RAP.

Revisions to the LAX Master Plan EIS/EIR need to be made that discuss compatibility of the build alternatives to the SCAG RTP and RAP including a discussion of either how Alternative "D" can be made compatible to the current RAP, or explain why it is not feasible for Alternative "D" to be made compatible. Without these discussions, meaningful analysis of this issue is not possible.

4.6.1 Master Plan Commitments Lack Substance

The referenced Neighborhood Compatibility Program[43] is vague. The details and "teeth" of this commitment must be clarified in order to allow an assessment of its value. The Program should be linked to the Mitigation Monitoring Program, including identification of a formal role for neighborhood review in the formulation and monitoring of specific development plans at the airport/neighborhood interface.

4.6.2 Other Land Use Inconsistencies

Discussion on Page 4-189 of the 2001 Draft EIS/EIR asserts that Master Plan Commitments LI-1 and DA-2 will reduce land use impacts of the Ring Road on the apartments on Morley Road to less than significant levels; however, these measures are not described in the 2001 Draft EIS/EIR or

[42] 2003Supplemental Draft EIS/EIR, Section 4.2.6.5, page 4-169
[43] 2001 Draft EIS/EIR, Section 4.2..5, Page 4-116.

2003 Supplemental Draft EIS/EIR, but only referenced. In fact, throughout the 2001 Draft EIS/EIR text §§ 1 through 7, references are made to impacts and mitigation measures described in Appendix K, without any explanation or summary describing such impacts and mitigation measures. The 2003 Supplemental Draft EIS/EIR also provides no discussion of this issue. Since the LAX Expressway and State Route 1 (SR 1) improvements are integral features of the build Alternatives A through C, the 2003 Supplemental Draft EIS/EIR should be revised to incorporate this information in the body of the text.

The 2003 Supplemental Draft EIS/EIR presents additional analysis of single event noise levels as mandated by a recent court ruling by the California Court of Appeal (Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners, (2001) 91 Cal. App .4th 1344.). It is commendable that LAWA chose to include this evaluation so critically important in assessing impacts to land uses surrounding airports. Of particular concern are single event noise levels as they relate to school disruptions. However, inconsistencies again appear in this evaluation: Table S4.2-2 in the Land Use Section shows that 29 schools would be affected by single event noise levels, whereas Table S4.1-2 in the Noise Section shows that 50 schools would be affected by single event noise levels. These inconsistencies need to be reconciled.

4.6.3 The Land Use Assurance Letter should be Disclosed

The contents of the Land Use Assurance Letter[44] should be summarized in the text and the document should describe how conflicts would be avoided. This discussion emphasizes noise compatibility considerations and minimizes the combined effects of noise, safety, air quality, lighting, and aesthetics. After acknowledging that land use compatibility is a function of these types of combined effects, very little discussion of combined effects is included in the 2001 Draft EIS/EIR or the 2003 Supplemental Draft EIS/EIR. Please identify properties that are subject to such combined effects.

4.6.4 Key Mitigation Measures may Not be Implemented

Substantial reliance is placed on Mitigation Measure MM-LU-1 "Implement Revised Aircraft Noise Mitigation Program." This measure is broad in scope, and depends upon the cooperation and funding of agencies outside of LAWA. Consequently, there is no assurance that LAWA will be able to implement this measure in a timely manner. Moreover, LAWA does not have an outstanding track record, as a number of commitments to properties already included within the current boundaries of the ANMP have not been fulfilled. A discussion of unmet commitments from prior actions should be provided along with an evaluation of the impacts that would result if LAWA were unable to fulfill the new commitments described in the 2001 Draft EIS/EIR and 2003 Supplemental Draft EIS/EIR.

Mitigation Measures MM-LU-3 and MM-LU-4 dealing with single event noise levels disrupting school sessions are of particular concern. Mitigation Measure MM-LU-3 commits LAWA to conduct a study of the relationship between aircraft noise levels and the ability of children to learn that in essence allows single event noise levels to continue and monitors the effects of these impacts on schoolchildren in the affected classrooms. As stated earlier, this approach may harm the

[44] 2001 Draft EIS/EIR, Appendix E.

children. A more responsible and conservative approach is needed that does not have the potential to do additional harm. Mitigation Measure MM-LU-4 states that:

> *"Upon completion of the study required by Mitigation Measure MM-LU-3 and acceptance of its results by peer review of industry experts, any schools found to exceed a newly established threshold of significance for classroom disruption shall be incorporated into the ANMP administered by LAWA. Based on the Master Plan alternative that is ultimately approved and thresholds set forth in § 4.1, Noise, that address single overflight event noise and the ability of children to learn in the classroom, and subject to modification based on the study required by MM-LU-3 those schools listed . . . may be eligible for sound insulation."*

Although the mitigation reads as though it is addressing the problem, it does not commit LAWA to any definable actions that would reduce impacts other than a vague reference that schools may be eligible for sound insulation. LAWA must describe mitigation measures in enough detail to commit the lead agency to an action that reduces the impact. Further, mitigation measures must be defined in enough detail to analyze the potential environmental impacts that may result from the implementation of the mitigation measure.

4.7 SOCIOECONOMIC ASSESSMENT

4.7.1 Productivity Variables are based on Flawed Assumptions

The 2001 assessment of Employment and Socioeconomic Impacts (and therefore the Growth Inducement Analysis as well) was substantially flawed by assumptions made at the outset of the analysis concerning productivity gains. This conclusion is directed largely at the assumption made in 2001 that productivity gains would be the same for all of the build Alternatives. In fact, productivity rates are variable over time and highly sensitive to changes in the economy's overall rate of growth. These cycles are evident in statistics over the past 50 years, which show national annual productivity growth in the range of 2.8% from 1948-1973, compared with 1.2% during the economic slowdown of 1992-1995.[45] When Gross Domestic Product growth is decelerating, productivity slows. Given the repeated emphasis throughout the 2001 Draft and 2003 Supplement to the Draft EIS/EIR that failure to pursue the expansion project would have a negative ripple effect throughout the southern California economy, it would have been more logical to link the No Project Alternative with productivity gains lower than those associated with the build Alternatives. Similarly, to the extent that Alternative D resembles the No Project Alternative it too would be associated with productivity gains lower than those associated with the remaining build. Accordingly, the SDEIS/EIR should reassess Employment and Socioeconomic impacts for Alternative D and the No Project Alternative using a lower estimate of productivity gains.

4.7.2 Productivity Forecasts Require Further Justification

The Socioeconomic Technical Report (provided only in the 2001 Draft EIS/EIR) made note of the labor-intensive nature of many service industries, and identified the tendency toward stable or reduced productivity (and resulting job growth per unit of service) in hotels, restaurants, and numerous high-end personal, household and business services.[46] At the same time, assumptions in

[45] Alejandro Bodipo-Memba, "U.S. Productivity Surged During 1998, Hinting at Escape from 25-Year Slump," Wall Street Journal, February 10, 1999.
[46] Section 3.2.3.

the Draft and 2003 Supplement to the Draft regarding the No Project Alternative show passenger volumes increasing from 71.2 MAP in 2005 and 78.7 MAP in 2015 (about a 10% gain). The Technical Report noted that the services and tourism/entertainment sectors showed the most substantial employment gains between 1972-1992 and again between 1992-1997.[47] Finally, the Report allocated substantial passenger spending on these services, particularly for hotels and dining facilities, through the 2015 horizon.

In combination, these facts would point to positive employment gains in at least those sectors for which productivity is forecast to slow – eating and drinking establishments, hotels, and amusement and recreation facilities at a minimum. Nevertheless, and in apparent contradiction of its own assessment, the Socioeconomic Technical Report forecast losses in direct LAX-related employment for both sectors between 2005 and 2015 under the No Project Alternative. Eating and drinking establishments were forecast to sustain job losses on the order of 1,725 (a 4% drop); hotels were forecast to sustain job losses on the order of 3,467 (a 7.5% drop); and amusement/recreation facilities were forecast to sustain losses on the order of 4,514 (a 14.8% drop).

An explanation is needed to justify the Technical Report forecasts of job losses that conflict with the discussion of anticipated productivity trends for hotels, restaurants, and services. Job growth in the specified service sectors should be projected.

4.7.3 Definition of the No Project Alternative is Artificially Narrow

The artificially narrow definition of the No Project Analysis weakens the analyses contained in the Socioeconomic Technical Report. As discussed previously, the 2001 Draft EIS/EIR and the 2003 Supplement both assume that under the No Project Alternative there would be no new improvements at LAX beyond those now underway, planned, or programmed. Both CEQA and NEPA favor "worst case" assessment. In this light, it would be more reasonable and informative to anticipate that LAWA would pursue a wide range of additional improvements that would in turn boost direct and indirect employment and spending, with far different socioeconomic impacts than indicated in Technical Report estimates for the No Project Alternative. The analysis of Employment and Socioeconomic impacts should be revised to incorporate the expanded assessment of actions that may in the future be taken by LAWA in the event the project is not approved and the outcomes that could reasonably be expected to result from such actions should be addressed.

The 2003 discussion of socioeconomic effects associated with Alternative D repeats a form of the unsupportable syllogism described in § 3.3.2. In the current section, Alternative D is concluded to have beneficial socioeconomic effects, Alternative D is described as substantially the same as No Action, and No Action is found to have adverse socioeconomic effects. In fact, an increase in construction jobs is the only socioeconomic difference between No Project and Alternative D that is acknowledged in the Supplement to the Draft EIS. Again, we believe that the inconsistency is due to misrepresentation in the description of alternatives – particularly Alternative D and the No Project Alternative.

[47] Section 4.1.1.

4.7.4 Distribution of Passenger Spending Requires Explanation

In estimating the distribution of passenger spending, §3.4.3.1 of Technical Report 5 indicated that it was assumed that LAX would represent the sole source for international traffic, based on historical data for the years 1985-1994. Additionally, the Section noted that:

> *"As a working assumption, it was assumed that there was no connecting traffic at any of the other 4 major airports in the region...the single exception to this rule results from the fact that Ontario 'International' Airport did serve an estimated 50,000 international passengers during late 1993 and early 1994."*

It is unclear how the "working assumption" and exception were applied in estimating future contributions under the 2005 and 2015 scenarios. Did the analysis treat the 50,000 international passengers as a one-time event, or did it assume that Ontario would continue to serve 50,000 international passengers (per year) through 2015? In either case, the document should have explored the factors that allowed Ontario to successfully enter this competitive market, with the goal of assessing Ontario's ability to accept future unmet need in the region as a whole. This analysis would have been especially relevant to the socioeconomic analyses of the No Project Alternative, and may have resulted in far different conclusions. If the Socioeconomic Technical Report did base its 2005 and 2015 No Project Alternative scenarios on the assumption that Ontario would serve 0 or 50,000 international passengers (but no more), the analysis should be provide a more detailed assessment of the potential role of Ontario in meeting international travel demand.

In general, and although the Technical Report promised such an assessment, the Socioeconomic Technical Report did not make any substantive effort to determine the degree to which the No Project Alternative might result in a redistribution of air services and associated economic activity to other airports in the region. As it stands, the analysis shines a very bright light on variables influencing the LAX growth scenarios, but does little to apply its powerful tools on the potential future role of other facilities in the region. This approach shortchanges the No Project Alternative. It also shortchanges the newly-proposed and preferred Alternative D. As noted above, the only socioeconomic difference between 'No Project' and Alternative D, according to the SDEIS/EIR, is construction employment. If true, then Alternative D would also be similar to No Project in its potential to redistribute non-construction air services and economic activity to other airports in the region. LAWA should expand the Supplement to the Draft EIS/EIR to take a closer look at this issue, considering the amount and type of activity that could reasonably be expected to shift within region, and the direct and indirect economic effects that might result.

4.7.5 Distribution of Regional Spending Requires Explanation

§3.4.3.1 of the 2001 Draft EIS/EIR noted,[48]

> *"Parking costs are the only local impacts attributed to Resident passengers in the current analysis...[and to] the extent that such passengers spend money at restaurant and retail establishments during the time they spend in one of the region's airports, this analysis may, to a small degree, have underestimated the impacts of Resident passengers."*

[48] In Footnote 32.

The analysis also discounted resident expenditures on transportation to and from the airport:

> *"To the extent that such transportation is provided by a private taxicab, limousine or shuttle service will cause some additional impacts on the local economy. This does not apply to connecting and visitor passengers, for whom these impacts have been measured."*

On the surface, these assumptions would be expected to impact regional spending estimates in a neutral manner, because it is applied to all airports in the region. However, since the analysis: (1) assumed that facilities other than LAX will be essentially limited to resident passengers; (2) discounted the retail, restaurant and travel expenditures of these passengers; and (3) measured such expenditures for connecting and visitor passengers, the net effect is to disproportionately minimize the regional spending contributions of airports other than LAX. Once again, the assumptions would cast an artificially unfavorable light on the No Project Alternative (though not, apparently, on Alternative D, though it is presented as equivalent apart from construction impacts).

4.8 REGIONAL TRANSPORTATION

All of the alternatives, including the No Action Alternative, call for a 41% increase in passenger activity and a 60% increase in air cargo at LAX. Passenger volume would increase from 56 MAP to 79 MAP, and air cargo would increase from 1.95 million tons to 3.2 million tons in only 12 years. Those amounts are greater than 95% of all other national airports and are greater than all the other Los Angeles regional airports combined!

If indeed the LAX Master Plan aims to promote meaningful growth at other regional airports, then realistic growth control measures must be included. The inland airports have abundant capacity and are crying for air service, and the LAX Master Plan must include measures that lead to region wide cooperation to move air service to those areas. The City of Los Angeles has refused to participate in activities of the Southern California Regional Airport Authority, which has generated several proposals to promote such efforts. Without active measures to move air traffic to other airports, the Master Plan serves only to create another incremental step in the unabated growth of LAX. We understand that LAWA has recently hired a consultant to market Ontario International Airport,[49] and would request that LAWA outline the goals of that marketing plan.

4.9 BIOLOGICAL RESOURCES

4.9.1 Review of Baseline Conditions

The SDEIS/EIR identifies eight distinctive biotic communities without clearly distinguishing among the following: naturally occurring communities; man-influenced/modified natural communities; man-created biotic situations; or areas under complete development, which no longer have biotic value for sensitive plant and animal species. The acreages of biotic habitats were rates in terms of value for sensitive species, and compared with marginal habitats, non-native habitats, and areas that are developed and no longer supporting habitats. The review indicated that the airport is largely developed, with open areas that are highly disturbed and offers little or no viable

[49] Press Enterprise Newspaper, "Still awaiting takeoff," September 21, 2003.

habitat for sensitive plant and animal species. The Los Angeles/El Segundo Dunes and, to a lesser extent, the non-restructured dunes north of this area stand out as the only areas having high biological value that merits recognition and a conservation effort by LAWA. It is therefore recommended that the Master Plan include a "conservation element" dictating how the Los Angeles/El Segundo Dunes will be managed. This goes beyond the requirements to manage the Habitat Restoration Area for the El Segundo Blue Butterfly.

4.9.2 Review of Mitigation Measures

Several mitigation measures are listed in § 4.10.8 that would, if successful, reduce potential impacts to sensitive biological resources to a less than significant level. The selection of mitigation measures will depend on which Alternative is chosen. It is expected that a mitigation monitoring program (MMP) will be developed and implemented. However, we recommend that LAWA separate the biological mitigation measures from the larger MMP and create a Conservation Program that focuses on the Los Angeles/El Segundo Dunes and surrounding areas. This would enhance the biological program and provide LAWA with a stronger negotiating position with United States Fish and Wildlife Service on future projects.

Section 4.11.2 mentions that LAWA initiated a formal Section 7 consultation with USFWS on September 5, 2000. The remainder of § 4.11 discusses several mitigation measures that will be implemented to reduce impacts to listed species to below a significant level. It is not clear whether these mitigation measures are the basis for the formal Section 7 or if they have been included in the required Biological Assessment. Although completion of the Section 7 consultation process by the FAA is not required to be a part of the Draft EIS/EIR analysis, the level of analysis and detail presented in this Draft would suggest that it has been included.

Apparently, USFWS and LAWA have not come to terms on the level of mitigation required to mitigate impacts to the Riverside Fairy Shrimp and its habitat. There is a brief mention of this divide at the top of page 4-691. The FAA is rightly concerned that the creation/restoration of fairy shrimp habitat (vernal pools) will create significant safety issues for aircraft by attracting birds (bird air strike hazards). However, the final endangered species mitigation measures and/or conservation management strategies will depend on final resolution of this issue between USFWS and the FAA.

The Draft EIS/EIR does not give an indication whether the present mitigation measures will be satisfactory to USFWS, or whether these measures will allow the FAA to complete its obligations under the Endangered Species Act. If this is the case, it should be clearly stated. If it is not, the reader needs to know that the mitigation measures have not been approved by USFWS and could change significantly before the Section 7 consultation process is completed and a Biological Opinion is issued by the USFWS.

As discussed above under comments for § 4.10.5 Master Plan Commitment, all biological mitigation measures should be integrated into a Conservation Program for LAWA with focus on the Los Angeles/El Segundo Dunes and the Riverside Fairy Shrimp.

4.9.3 Wetlands Concerns Must be Integrated

Only U.S. Army Corps of Engineers jurisdiction was found to occur within the Air Operation Area or the Los Angeles/El Segundo Dunes; no California Department of Fish and Game (CDFG)

jurisdiction was determined to occur. The permanent conversion/loss of the 1.3 acres of atypical wetlands is a significant impact that will require a 404 permit. It will also require a Section 7 consultation between the Corps and USFWS because of the presence of embedded Riverside Fairy Shrimp cysts in soil samples.

The biological concerns associated with wetlands should also be included in a Conservation Program rather than addressed as a separate biological issue for which no Master Plan commitments are made. Although there is very limited natural habitat at LAX, any loss of these remaining natural habitats will be considered significant by USFWS, CDFG, and local wildlife protection groups. It would seem an opportune time to develop a long-term management plan for biological resources on airport lands. Once in place, this plan/strategy would set polices and procedures (officially approved by the resources regulators) for the next several years. As the Draft EIS/EIR currently reads, LAWA has identified several biological concerns that are being addressed separately and on a one-time basis. This would leave LAWA vulnerable to future challenges as unanticipated development/programs are proposed.

4.9.4 Reference to 2001 Comments from Land Protection Partners

During 2001, the Land Protection Partners (LPP) submitted a comment letter to LAWA entitled "Review of Biological Resources Analysis in LAX Master Plan Draft Environmental Impact Statement/Environmental Impact Report" as a review of the 2001 LAX Master Plan Draft EIS/EIR (please see the original comment letter in Attachment I). Based on a preliminary assessment of points made in the LPP letter, the County of Los Angeles has concluded that their comments raise some significant issues regarding incomplete or vague project descriptions of the build alternatives, outdated CEQA analyses, questionable survey methods, questionable El Segundo Blue Butterfly population counts, underestimating impacts, and inadequate mitigation. Many of Land Protection Partners' comments echo concerns raised in this comment letter, but with a particular focus on how the concerns impact the assessment of potential biological impacts. The County endorses the points raised by LPP, which are briefly summarized below, and looks forward to reviewing LAWA's responses:

Vague and Confusing Descriptions of the Build Alternatives: LPP noted that the Draft EIR/EIS does not give a complete project description of the build alternatives. Within the extent of the LAX Master Plan boundaries, it is unclear how LAWA proposes to use certain areas of biologically significant property. Designations such as "Airport Related" are useless in evaluating the potential biological impacts associated with that designation.

Outdated CEQA Analysis: The Draft EIR/EIS describes the LAX Northside Project as "Collateral Development" that previously was entitled through a 1983 CEQA process. No new or updated analysis is found in the Draft EIR/EIS, even though development of this project appears to be contingent on the project alternative selected for LAX. In this light, reliance on 1983 CEQA documentation that did not consider LAX as a contingent project is problematic at best.

Questionable Survey Methods: Land Protection Partners' document raised questions concerning survey results, particularly with respect to the incorrect choice of survey methods. LPP noted that LAWA did not conduct general biological surveys in all habitats within the proposed project site.

LPP also references impacts to 100 acres of the El Segundo Dunes habitat that was not surveyed by LAWA, even though it would be converted to a golf course under the Westchester Southside Project described in the 2001 Draft EIR/EIS.

Questionable El Segundo Blue Butterfly Population Counts: Land Protection Partners suggests that the surveys conducted by LAWA did not use the best available scientific methods for calculating population numbers of the Federally-endangered El Segundo Blue Butterfly (ESBB). In overestimating the ESBB population, the Draft EIR/EIS gives the false impression that the ESBB is able to sustain viable populations on limited habitat, and confuses the analysis by downplaying the need for land to be kept as conservation areas.

Underestimates Impacts of the Proposed Project Alternatives: The methods used to determine impacts to habitat were misleading and not used accurately. LPP concluded that the combined affect of not surveying all potential habitat, using questionable survey methods, and overestimating ESBB populations resulted in a misleading impact assessment.

Inadequate Mitigation Measures: LPP found that use of a point system to rate 'habitat units' resulted in inadequate mitigation for lost habitat. For example, the Draft EIR justifies preserving smaller areas of prime habitat in exchange for the conversion of larger areas of occupied but marginally disturbed habitat. LPP noted that species need both the space and the quality of habitat, concluding that 10 acres of prime habitat may not be adequate to sustain a population that had previously lived on 50 acres of marginally disturbed habitat.

4.9.5 General Comments

The 2001 Draft EIS/EIR and 2003 Supplemental Draft EIS/EIR do not give complete project descriptions of the build alternatives. Within the extent of the LAX Master Plan boundaries, it is unclear what the disposition of certain areas of biologically significant property will be indicating designations such as "Airport Related" which are useless in evaluating the potential biological impacts associated with that designation.

LAWA did not conduct general biological surveys in all habitats within the proposed project site. As an example, the 2001 Draft EIS/EIR and 2003 Supplemental Draft EIS/EIR describe impacts to 100 acres of the El Segundo Dunes habitat that was not surveyed and would be converted to a golf course under the Westchester Southside Project.

Unfortunately, given the amount of time and effort devoted to assessing baseline biological conditions, the remaining step of integrating and folding this information into a long-term Conservation Program is missing. This may be a conscious choice by LAWA management and the City of Los Angeles; however, this approach may deprive LAWA of the opportunity to gain long-term control of its own biological resources.

4.10 ADDITIONAL ISSUES

4.10.1 Historical Resources

Illustration of the different impacts associated with the Single v. Split Viaduct LAX Expressway Alternatives should be carried forward from the Appendices to the Historic/Architectural section of the Supplemental Draft EIS/EIR.

The commitment to have a qualified architectural historian supervise noise abatement of historic properties does not assure that the historic values and character of such properties will not be altered or lost. The SDEIS/EIR should discuss this possibility and attach alternate mitigation measures or a revised significance finding, if appropriate.

The 2003 Supplemental Draft EIS/EIR concludes for all the build alternatives that:

> *"The demolition of a historic/architectural resource is considered a significant impact at the state level that cannot be mitigated to a less than significant level without abandoning the project. A Statement of Overriding Considerations would be necessary to address unavoidable impacts on the International Airport Industrial District."*[50]

This is insufficient information to support an override. Revisions to the SDEIS/EIR need to explain why demolition of this historic/architectural resource is required to implement the project and what benefits will result from the project that override this significant impact.

4.10.2 Human Health

The analyses indicated that aircraft emissions account for about 97% of total emissions and also contribute most to emissions of individual Toxic Air Pollutants,[51] yet none of the mitigation measures address aircraft emissions. Many of the mitigation measures would be expected to occur regardless of what happens with the proposed Master Plan – for example, parking pricing policies to encourage single trips or to minimize idle time at the curb, steps to encourage employee telecommuting, and expanded off-airport intermodal services to other airports. Others would have no air quality benefit – for example, where unmitigated impacts result in payments to a trust fund for unrelated community improvements.

In this context, it is difficult to understand how the HHRA determined that the build Alternatives, with mitigation, would have no significant human health impacts at either horizon year. A clarification of the assumptions that were made in order to reach this conclusion is necessary to validate this conclusion.

The California Office of Environmental Health Hazards Assessment (OEHHA) evaluates non-cancer risks and has established maximum reference exposure levels (REL) for each TAP. No adverse health effects are foreseen for exposures at or below the REL. The exposure of TAP at concentrations equal to the REL represents a non-cancer hazard index level of 1.0. Exposure above

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[50] 2003 Supplemental Draft EIS/EIR, Section 4.9.1, page 4-443

[51] Technical Report 14a, Section 3.3.

a hazard index of 1.0 is considered a significant impact by OEHHA. The relationship for non-cancer health effects of Toxic Air Pollutants is shown in the following equation:

HI = C / REL, where:

HI = Hazard Index; an expression of the potential for non-cancer health effects
C = Annual average TAP concentration (ug/m_3)
REL = Reference exposure level (REL) for TAP; the TAP concentration at which no adverse health effects are anticipated

The Supplemental HHRA Technical Report provided as Appendix 9a in the 2003 Supplemental Draft EIS/EIR states that the REL for acrolein used in the HHRA is 0.19 ug/m_3.[52] This same document further states that under Alternative "D", total acrolein concentrations might range between 14 ug/m_3 and 87 ug/m_3 with an overall average of 23 ug/m_3.[53] Using the OEHHA equation for determining the hazard index as shown above, the resulting hazard index would range between 73.68 and 457.90, well above the OEHHA threshold of significance set at a hazard index of 1.0. Evaluation of all scenarios indicates that the hazard index for acrolein are all above the OEHHA threshold, even in the existing condition and while the Supplemental HHRA indicates that Alternative D has the lowest exposure levels of all these scenarios it is nevertheless above the threshold of significance set by OEHHA. How is it that both the 2003 Supplemental Draft EIS/EIR determined that this impact is less than significant? Revisions to the SDEIS/EIR need to be made that disclose this significant impact and either mitigate to less than significant or provide the evidence that supports a Statement of Overriding Consideration for this significant impact.

4.10.3 Environmental Action Plan

Many of the key Master Plan Commitments and mitigation measures in the Environmental Action Plan (EAP) are broad and programmatic in nature. Many will require further study, with choices among specific options deferred to the Final EIS/EIR and other stages of the decision making process. The EAP needs to be expanded to identify when and where such subsequent environmental reviews will be required, with discussion as to how these timeframes relate to the improvement phasing plan set forth by LAWA, and to the sequence for FAA and LAWA consideration of required discretionary actions. The EAP, including all Master Plan Commitments and mitigation measures, should be refined and detailed to adequately serve as the CEQA Mitigation Monitoring Program, pursuant to Public Resources Code 21081.6.

4.10.4 Video-Conferencing

In the § 1.3 discussion of Alternatives to air travel, the 2001 Draft EIS/EIR notes a study by Apogee Research that contains key findings that video-conferencing has potential to satisfy (1) from 5-30% of non-discretionary travel; and (2) less than 5% of discretionary travel. The discussion in § 1.3 concludes with: "Given that 50% of LAX users are leisure travelers, it is projected that less than 5% of air travel demand at LAX could be satisfied by communication technologies in 2015. These amounts were factored into the assumptions of the LAX Master Plan forecasts." The Supplement to the Draft EIS/EIR did not resolve this error. The total amount of air travel demand at LAX that

[52] Technical Report 9a, Section 5.1
[53] Technical Report 9a, Section 6.1.2

could be satisfied by communication technologies should equal the combined amounts for discretionary travel PLUS non-discretionary travel (i.e., [5-30% of demand x 50% of travel = 2.5% to 15%] + [<5% of demand x 50% of travel = <2.5%] = ~2.5% – 17.5%). It seems that a higher number should be factored into the assumptions of the LAX Master Plan forecasts.

4.10.5 Sixty-Minute Access Zone

The Zone Boundaries shown in Figure 1-3 of the 2001 Draft EIS/EIR showing the 60-minute travel time accessibility zones for airports in southern California appear to overstate driving times for at least some of the airports shown. The assumptions used in developing this map need to be discussed and clarified in order to support the map, as drawn.

4.10.6 Weather Conditions

The 2001 Draft EIS/EIR notes that only one of the four runways is sufficiently long to serve the largest aircraft when fully loaded under adverse weather conditions (hot days with little wind).[54] However, there is no discussion as to how many days of the year, on average, are characterized by these adverse weather conditions. There is also no discussion as to how many runways can accommodate the largest aircraft when fully loaded. Both of these issues require further explanation and investigation by LAWA.

4.10.7 Remote Terminals

The 2001 Draft EIS/EIR includes discussions of the possibility of remote terminals. However, no analysis is undertaken to determine their location or impacts. Alternative "D" described in the 2003 Supplemental Draft EIS/EIR includes a Ground Transportation Center connected to the main terminal buildings by an Automatic People Mover that appears to fit the descriptions of remote terminals mentioned in the 2001 Draft EIS/EIR. However, it is unclear whether or not the Ground Transportation Center within Alternative "D" is the remote terminal mentioned in the2001 Draft EIS/EIR. LAWA should clarify this in revisions to the Supplemental Draft EIS/EIR, and if there are other possibilities for remote terminals, then include a full characterization of these other remote terminals as well as a description of the baseline setting for the proposed locations, the impacts of their construction and use, and mitigation measures to address any adverse effects.

4.10.8 Hydrology and Water Quality

Section 4.7 of the SDEIS/EIR inadequately addresses SUSMP and drainage issues. The environmental document does not provide sufficient information to determine what drainage impacts, if any, the project may have on County facilities (MTD 992, storm drain Project Number 5241, 647, 670, etc.). To properly assess drainage and SUSMP impacts and to determine appropriate mitigation, a Drainage Concept/SUSMP report will be required. We recommend that the applicant prepare a Drainage Concept/SUSMP report showing the extent of drainage and SUSMP quality impacts, and if necessary, provide mitigation acceptable to the County. The analysis should address increases in runoff, any change in drainage patterns, treatment method proposed for SUSMP regulations, and the capacity of storm drain facilities.

[54] 2001 Draft EIS/EIR, Section 2.2.2, Page 2-6.

We also recommend that the Drainage Concept/SUSMP report should be reviewed and approved by the County of Los Angeles Land Development Division - Subdivision Plan-checking Section before the City considers its own approval. Once approved, a copy of the final Drainage Concept/SUSMP report should be included in the environmental document.

4.10.9 Solid Waste Generation and Landfill Capacity

Chapter 4 of the Master Plan Supplement to the Draft EIS/EIR, identifies the amount of solid waste generation as a result of construction and demolition activities of alternatives No Action/No Project, A, B, C, and D. The tonnage of waste generated from construction and demolition activities alone for Alternative D – the LAWA staff-preferred alternative – is well over 130,000 tons. Although LAWA states that it will require that contractors recycle a "specified" minimum percentage of waste materials generated during construction and demolition, a significant commitment is necessary to insure adequate mitigation of the scale of impact resulting from waste generated by this project. Therefore, the minimum percentage should be specified within the EIR, with a target of at least 50 percent of the waste diverted from disposal. Similarly, the percentage of minimum recycled content for materials used on site, and the specific diversion goals that will be required of lessors, should also be specified in the EIR.

Under heading of Master Plan Commitments (§4.19.5, p. 4-534), the SDEIS/EIR proposes implementation of a more aggressive recycling program, by expansion of the existing terminal recycling program to all terminals; lease provisions requiring that tenants meet specific diversion goals; and preference for recycled materials during procurement. The document should expand the discussion to include the type of material that might be targeted and the overall recycling goal.

The environmental document recognized that due to the uncertainty regarding future landfill capacity, impacts associated with cumulative increases in solid waste generation would be potentially significant (Sections 4.19.7 and 4.19.8, pages 4-537 and 4-538). Augmentation of landfill capacity is listed as a mitigation measure, however, the responsibility for implementing this mitigation measure is left to State, County, and local solid waste planning authorities. This discussion should be revised to indicate what measures the City of Los Angeles will implement to provide for the disposal of residual solid waste generated by this project and future projects within the City of Los Angeles considering the City's stated interest to close all landfills within the City's boundaries by 2006.

5.0 CONCLUSIONS

There is no doubt that Los Angeles International Airport is vitally important to the City of Los Angeles, to the County of Los Angeles, to the region, and to California generally. There is an obvious and pressing need for improvements at LAX, most particularly to ensure the safety and security of future air travel. However, the County of Los Angeles believes that LAWA is proposing to implement a flawed project and that the process is further compromised by an inadequate environmental review. As documented throughout this report our concerns include (a) an inadequate security planning effort, (b) misleading statements regarding growth potential, resulting in fundamentally flawed environmental analyses, (c) improper choice of a Supplement to propose and assess an entirely new preferred project, (d) use of an unwieldy and confusing document format, (e) continued reliance on a baseline that is outdated and serves to undermine rather than illuminate understanding of project impacts, (f) wholly inadequate consideration and disclosure of

Environmental Justice issues coupled with a scoping process that considered neither 2001 nor the 2003 preferred project options, (g) language suggestive of bias and advocacy and an absence of full disclosure, (h) incomplete analysis of noise and air quality and the absence of studies to establish baseline or impact-level toxic air emissions, (i) inadequate and misleading assessment of impacts on biological habitat, and (j) the failure to provide an alternative that meets stated goals and also avoids or minimizes significant impacts in the identification and assessment of Alternatives.

The problems with the 2001 and 2003 environmental documents are so serious, pervasive, and universal that the only practical remedy is to start the process over again and prepare a truly comprehensive revised EIS/EIR. The revised document would need to provide comprehensive scoping, an updated and consistent baseline, identify and assess a reasonable range of feasible alternatives, be free of internal inconsistencies, offer proper levels of analysis and explanation, and present an entirely new impact assessment that does not defer critical decisions. Only with these extensive modifications can the LAX Master Plan and associated EIS/EIR be rendered adequate.

Attachment I

Land Protection Partners

P.O. Box 24020, Los Angeles, CA 90024-0020
Telephone: (310) 276-2306

Review of Biological Resources Analysis in LAX Master Plan Draft Environmental Impact Statement/Environmental Impact Report

August 8, 2001

Travis Longcore, Ph.D.
Catherine Rich, J.D., M.A.

Review of Biological Resources Analysis in LAX Master Plan
Draft Environmental Impact Statement/Environmental Impact Report

This review pertains to the Federal Aviation Administration and Los Angeles World Airports Joint Draft Environmental Impact Statement/Environmental Impact Report ("EIS/R"). It addresses Sections 4.10 (Biotic Communities), 4.11 (Endangered and Threatened Species of Flora and Fauna), 4.12 (Wetlands), 4.14 (Coastal Zone), and 4.18 (Light Emissions). The review was prepared by Dr. Travis Longcore and Catherine Rich, who are experts in the ecology and history of the natural communities that would be affected by the proposed airport expansion. Dr. Longcore has co-authored several peer-reviewed scientific articles on the El Segundo Dunes and the Los Angeles Coastal Prairie (including its vernal pools),[1] which both would be adversely affected by the proposed project.

The presentation of information in the EIS/R about biological resources is segmented into several sections. For the purpose of this review, however, all biological resource issues are treated together, because mitigation measures for biological impacts are largely the same.

1.0 Project Description

For the purpose of discussing the impacts to biological resources, the EIS/R does not provide a complete project description. Within the extent of the Master Plan boundaries, it is unclear what the disposition of certain areas of biologically significant property will be. In maps of the various project alternatives, the legend indicates useless designations such as "Airport Related."[2] There is no way to ascertain with certainty what the use of such land will be under the various alternatives.

1.1 Failure To Analyze Northside/Southside Project

The EIS/R describes the LAX Northside Project as "Collateral Development" that previously has been entitled through the CEQA process.[3] Reliance on old CEQA documentation is problematic, and development of this project would seem to require a reopening of the environmental review, especially given the changed conditions since the approval in 1983. However, the real difficulty is that the EIS/R replaces the LAX Northside Project with the Westchester Southside Project in each of the three build alternatives for the Master Plan. These projects are not the same, and even if the CEQA documentation for the Northside Project is deemed adequate, the Southside Project must be fully analyzed under CEQA. The EIS/R does not completely describe or analyze the biological impacts of the Southside Project.

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1. Mattoni, R., T. Longcore, C. Zonneveld, and V. Novotny. 2001. Analysis of transect counts to monitor population size in endangered insects: the case of the El Segundo blue butterfly, *Euphilotes bernardino allyni*. *Journal of Insect Conservation* 5(3):197–206. Longcore, T., R. Mattoni, G. Pratt, and C. Rich. 2000. On the perils of ecological restoration: lessons from the El Segundo blue butterfly. Pp. 281–286 *in* J.E. Keeley, M. Baer-Keeley, and C.J. Fotheringham (eds.) *2nd Interface Between Ecology and Land Development in California*. U.S. Geological Survey, Sacramento, CA. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452. Mattoni, R., and T.R. Longcore. 1997. The Los Angeles Coastal Prairie, a vanished community. *Crossosoma* 26(2):71–102.
2. EIS/R, Figures 3-6, 3-11, 3-15.
3. EIS/R, pp. 3-20, 3-29.

The Westchester Southside Project, as depicted in the EIS/R,[4] would include the conversion of 100 acres of the El Segundo Dunes to a golf course. (Several figures in the EIS/R appendices map this area at the northern portion of the dunes as "golf course/open space" and include "Resort Hotels" within the same color designation. At a minimum the maps indicate some level of development of the dunes as part of the Westchester Southside Project.) The dunes golf course/open space development was not included in the CEQA analysis for the LAX Northside Project, and remains unanalyzed for compliance with any environmental laws (CEQA, NEPA, California Coastal Act). It is inappropriate for the EIS/R to rely on the Westchester Southside Project — which is a site for relocation of displaced businesses[5] — for mitigation, and not to evaluate the full impacts of the development. While all of the El Segundo Dunes are within the Master Plan area, and the alternatives themselves show no development on the 100 acres at the northern end of the dunes, the result of adopting any of the three project alternatives is to develop 100 acres of dunes in association with "Resort Hotels" and "golf course/open space."[6] The resource value of this area is discussed later, but the analysis of the Westchester Southside Project should not be piecemealed. Currently, the biological impacts of the Westchester Southside Project do not seem to be analyzed fully, nor are they included in the discussion of cumulative impacts for the project. Even if one accepts the premise of the EIS/R that the project will proceed absent approval of the Master Plan, the Westchester Southside Project is "reasonably foreseeable" — in fact relied upon for mitigation — and all of its impacts must be disclosed and mitigated as part of the Master Plan EIS/R.

The decision not to address the biological impacts of the Westchester Southside Project can be interpreted as a strategic choice to avoid disclosure of the full impacts of the airport expansion project. From a biological standpoint, the Westchester Southside Project, even though it would involve fewer square feet of built space than the LAX Northside Project (2.6 million square feet vs. 4.5 million square feet), it has a larger geographic footprint and greater biological impact. Any of the three build alternatives plus the Westchester Southside Project would be a catastrophe for the biological resources found at LAX.

1.2 Previous Failure To Disclose Impacts of Development on El Segundo Dunes

Los Angeles World Airports ("LAWA") has previously failed to disclose impacts of development on the El Segundo Dunes. In 1999, a newspaper story announced that LAWA was planning to install landscaping on the northern end of the El Segundo Dunes, along Waterview, Rindge, and Napoleon streets. The Urban Wildlands Group, a Los Angeles-based nonprofit whose board includes the authors of this letter, contacted LAWA to inform project managers of the sensitive resources present and request that the project not include invasive plants that would degrade the dunes. LAWA promised, but then failed to provide, the plant list for the project. LAWA proceeded to implement the project, but failed to secure the proper permits from the City of Los Angeles as required under the California Coastal Act. After installing a new walkway and over 90 mature, non-native palm trees in a sensitive habitat area,[7]

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4. EIS/R, Appendix J1. Biological Assessment Technical Report, Figures 8, 11, 14.
5. EIS/R, pp. 3-33, 3-47, 3-56.
6. City of Los Angeles Ordinance 169,767 restricts use of the northern 100 acres of the El Segundo Dunes at LAX to "nature preserve and accessory uses only." This ordinance was passed unanimously by the City Council on April 6, 1994 as part of the General Plan/Zoning Consistency Program. Given this unequivocal direction from the City, it is unclear why the Master Plan is ambiguous about the disposition of this area, unless the intention is to attempt to remove the development conditions from the property and seek another use as part of the Westchester Southside Project.
7. Installation of palm trees is damaging ecologically, and also provides sites for birds to perch, potentially increasing bird strikes with aircraft. Consultants for the airport report that "[t]he El Segundo Dunes provides relatively few attractants

(cont'd)

LAWA was instructed to stop work by the California Coastal Commission, told that it must obtain a permit, and subsequently applied for a permit from the City. The Urban Wildlands Group opposed the permit application for the partially implemented project because it would significantly disrupt habitat values of an environmentally sensitive habitat area ("ESHA"), as defined under the California Coastal Act.[8] The City analysis of the project also agreed that the site was an ESHA.[9] The appeal of the permit was denied by the City of Los Angeles Board of Public Works with the stipulation that LAWA resolve the issue in consultation with The Urban Wildlands Group and those residents opposed to the palm trees. This has not yet happened.

LAWA steadfastly maintains that the 100 acres outside of the El Segundo Blue Butterfly Preserve is not part of the El Segundo Dunes and that it will be developed as a golf course.[10] The area, however, is within the jurisdiction of the California Coastal Commission, and no approved Local Coastal Plan has been produced that would allow for a golf course. The EIS/R provides even more information to join previously published sources[11] showing that the area is an environmentally sensitive habitat area and therefore protected by Section 30240(a) of the California Coastal Act. For example, the EIS/R itself discloses that El Segundo blue butterflies (*Euphilotes bernardino allyni*) occupy one subsite,[12] sensitive Lewis' evening primrose (*Camissonia lewisii*) occupies seven subsites,[13] and the area is occupied by sensitive species such as silvery legless lizard (*Anniella pulchra*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*),[14] loggerhead shrike (*Lanius ludovicianus*; breeding),[15] and Dorothy's sand dune weevil (*Trigonoscuta dorothea dorothea*).[16] The golf course or other development on the dunes should either be analyzed as part of the Master Plan EIS/R for conformance with applicable laws, including the California Coastal Act, or be explicitly deleted from the plans for the area. The EIS/R should offer some certainty about what development will take place within the Master Plan boundaries and disclose the impacts of that development.

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to birds which may partially account for the significantly lower percentage of strikes occurring over this area than over the approach area. The El Segundo Dunes naturally supports very few trees — the only trees present are non-native trees that have been planted...." (EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 341). Without complete environmental review, LAWA planted more attractants for birds in the form of palm trees. The EIS/R also reports that the native birds of the dunes are not involved in bird strikes, while species promoted by urban development, such as pigeons and gulls, are involved in the most strikes.

8. California Public Resources Code §§ 30107.5, 30240.
9. City of Los Angeles. 2001. Coastal Development Permit Application No. 00-05 Final Staff Report, p. 5, "Consequently, for Coastal Act analysis purposes, the Project site is within an environmentally sensitive habitat area...."
10. Personal communication with Steve Crowther, LAWA Environmental Management Bureau, March 9, 2000, by telephone with Dr. Travis Longcore. City of Los Angeles 2001. Coastal Development Permit Application No. 00-05 Final Staff Report, p. 3, "The Project, a narrow, landscaped area along the streets, would provide a buffer between the golf course and residential areas...."
11. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452.
12. EIS/R, Appendix J1. Biological Assessment Technical Report, Figure 20.
13. EIS/R, Figure 4.10-2.
14. EIS/R, Figure 4.10-4.
15. EIS/R, Figure 4.10-5. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 244.
16. EIS/R, Appendix J1. Biological Assessment Technical Report, p. 214.

2.0 Current Conditions

The description of current conditions of the biological resources within the Master Plan boundaries is biased toward underestimating the value of the habitats that will be impacted.

2.1 Surveys

A great deal of effort was expended surveying the insects of the El Segundo Dunes, especially within the El Segundo Blue Butterfly Preserve, even though this area is not targeted for direct development. Surveys for areas that would be subject to significant direct impacts were inadequate. It appears that only one type of survey — sweep netting — was conducted east of Pershing Drive in the areas that would be most affected by development. This single method would not detect all of the sensitive species that might occur in the area. For example, the El Segundo Jerusalem cricket (*Stenopelmatus* sp.), a burrowing insect, would not be detected with sweep netting. Pitfall trapping would be required to ascertain its presence, and should be performed in the areas of project impacts east of Pershing Drive. Other survey methods, including black lighting and malaise trapping, were conducted only west of Pershing Drive on the El Segundo Dunes, not in the areas of direct project impacts.

While the extensive surveys conducted on the El Segundo Dunes may be useful for evaluating the impacts of the Westchester Southside Project, which the EIS/R does not do, they offer little information to understand the biological communities supported in the open spaces that would be developed under the three development alternatives. For example, the EIS/R provides no summary of the bird surveys conducted at the ephemeral wetlands and open spaces found in the western area of the airport, and provides only handwritten notes buried in the appendices.[17] A summary would be useful to understand the character of the biotic communities in these areas. Species of local conservation concern such as Costa's hummingbird (*Calypte costae*), western meadowlark (*Sturnella neglecta*), and common yellowthroat (*Geothlypis trichas*) were recorded in these areas, yet no complete description of the communities is provided in the text of the document. The biological consultants for the EIS/R report that the ephemeral wetland area at the west end of the airport "provides resting and foraging habitat for numerous resident and migratory bird species,"[18] but the EIS/R provides no summary of these observations or description of the impact of development on these species.

For the El Segundo Dunes, an extensive list of birds is found, complete with species that are almost certainly not present at all. The "Floral Compendium" and "Faunal Compendium" include "species observed or expected to occur on or in the immediate vicinity of the site."[19] On this list are found species that are highly unlikely to be present on the dunes or even near the dunes. For example, acorn woodpecker (*Melanerpes formicivorus*) is not likely to be found on the El Segundo Dunes now or in recent history. Acorn woodpeckers in Los Angeles would be associated with coast live oaks, which are found nowhere on the El Segundo Dunes or the Los Angeles Coastal Prairie. The rather excessive bird list in the Faunal Compendium is made ever more curious by the statement elsewhere by the biological

17. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, pp. 224 (Memo-Results of Directed Surveys for American Peregrine Falcon, et al., 1998), 292 (Memo-Results of Spring Directed Surveys for Burrowing Owl, 1998), 311 (Memo-Results of Winter Directed Surveys for Burrowing Owl, 1998), 416 (Memo-Wildlife Survey of the Argo Ditch, 1997).
18. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 340 (Memo-Aircraft Bird Strike Literature Review).
19. EIS/R, Appendix J1. Biological Assessment Technical Report, Appendix A, pp. 1–5.

consultants for the EIS/R that "the Dunes does not support a large resident bird population."[20] It is odd to include these ambitious lists, because the biological analysis does not evaluate the impacts of the three alternatives on the species of wildlife in them.

2.2 "Determined Absent"

The summary table for sensitive species provided in Section 4.10 of the EIS/R is misleading. For many species, the table indicates that they have been "determined absent" from the Master Plan boundaries based on directed surveys. When dealing with small arthropods that are difficult to capture, persist at low numbers, and may have large annual variation in numbers, one cannot conclude that a species is "determined absent." All that can be done is to state that the species was not found during a certain duration and intensity of searching. It is likely that the survey methodology did not possess sufficient statistical power to detect the species.[21] Presence may be determined conclusively, but absence cannot, especially for cryptic (i.e., small or camouflaged) species. Some degree of certainty about absence could be derived if one had knowledge of the population size, yearly variation in population size of the species, and the trapping efficiency of the survey methods. This information is not available, and therefore no statistically defensible declaration of absence can be made about the sensitive arthropod species.

In other instances, the declaration of absence is contradicted by the reports upon which the section is based. For example, Table 4.10-2 claims that the following species are absent from the Master Plan boundaries: Henne's ecosman moth (*Eucosa hennei*), Rivers' dune moth (*Euxoa riversii*), Ford's sand dune moth (*Psammobotys fordi*), El Segundo scythrid moth (*Scythris* new sp.), lesser dunes scythrid moth (*Scythris* new sp.), El Segundo goat moth (*Comadia intrusa*), and Santa Monica dunes moth (*Copeblepharon sanctamonicae*). However, in the underlying report, Frank Hovore, the surveyor, writes:

> Sensitive moth species (general *Comadia*, *Copeblepharon*, *Euxoa*, *Psammobotrys* [sic], *Scythris*) — A wide variety of moth specimens, including some possibly representing all of these species except *Psammobotrys* [sic], were taken in light traps, but moths in the traps were rendered unidentifiable by the combination of alcohol and churning actions of other species. All of the moth species previously known to occur on the dunes probably persist, because all of the known larval hosts are present. For most moth species, focused light collecting would be necessary to determine presence and distribution, using dry traps or light sheets. Very large numbers of *Psammobotrys* [sic] were collected on the dunes historically (LACM collection), and it is assumed that this species is present, but is highly seasonal and difficult to collect without sustained and focused field efforts.[22]

The text presented in Table 4.10-2 of the EIS/R contradicts the surveys that were conducted. Far from being absent, as maintained in Table 4.10-2, a qualified surveyor determined that the methodology was insufficient to determine presence of these moth species, but that the species were indeed probably

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20. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 342 (Memo-Aircraft Bird Strike Literature Review).
21. Gibbs, J.P., S. Droege, and P. Eagle. 1998. Monitoring populations of plants and animals. *Bioscience* 48(1):935–940.
22. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 214 (Memo-Results of Spring Surveys for Gastropods and Arthropods, 1998).

present. Mischaracterization such as this undermines the credibility of the description of current conditions presented in the EIS/R.

2.3 Terminology

The EIS/R is inconsistent in its use of terminology describing the 100 acres north of the El Segundo Blue Butterfly Preserve. This area, along with the preserve, is part of the El Segundo Dunes.[23] It has been degraded through residential construction and intrusion of exotic plant species, but it remains of significant biological value and is itself a sensitive habitat (see above, Section 1.2). In various places in the EIS/R, this area is referred to as "dunes and adjacent landforms," "non-restructured dunes,"[24] "100 acres north of Sandpiper Street,"[25] and "the 100-acre open space north of the preserve."[26] Implicit in the choice of terminology for this area is perhaps the intention to construct a golf course upon it. The Los Angeles Airport/El Segundo Dunes Specific Plan, adopted in 1992, incorrectly claims that "approximately 100 acres of the Dunes ... do not contain significant habitat resources."[27] The Specific Plan requires the proposed golf course to provide revenue for the upkeep of the dunes habitat preserve,[28] thereby lifting that burden from LAWA, which perhaps partially explains LAWA's enthusiasm for the idea. However, existing zoning for the area — established more recently than the Specific Plan — is as a nature preserve. EIS/R maps should be consistent with the existing "nature preserve" zoning and should consistently acknowledge this area as part of the El Segundo Dunes.

The EIS/R also exhibits some difficulty with terminology to describe the habitat that formerly was found throughout the entire project area inland of the El Segundo Dunes. In a published article, Mattoni and Longcore describe this area as the Los Angeles Coastal Prairie, and document the historic plant diversity and the presence of extensive vernal pools.[29] The article has been commended as an exemplar of the practice of historical ecology in *The Historical Ecology Handbook: A Restorationist's Guide to Reference Ecosystems*.[30] For some reason, the EIS/R avoids using the Mattoni and Longcore article where it could be useful. For example, Mattoni and Longcore provide documentation of many sensitive species historically present within the study area from herbarium label texts. This includes a full list of vernal pool species historically found in the area, as well as upland forbs, grasses, and shrubs. Instead, the EIS/R chooses to classify the site as Valley Needlegrass Grassland. The historic evidence does not support the assumption that this area was dominated by perennial grasses; rather it was dominated by forbs. This is an important conclusion of Mattoni and Longcore's research that the EIS/R neither accepts nor attempts to dispute.

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23. Mattoni, R.H.T. 1992. The endangered El Segundo blue butterfly. *Journal of Research on the Lepidoptera* 29(4):277–304. Mattoni, R., and T.R. Longcore. 1997. The Los Angeles Coastal Prairie, a vanished community. *Crossosoma* 26(2):71–102. U.S. Fish and Wildlife Service. 1998. *Recovery plan for the El Segundo blue butterfly (Euphilotes battoides allyni)*. U.S. Fish and Wildlife Service, Portland, Oregon, 67 pp.
24. EIS/R, p. 4-619.
25. EIS/R, p. 4-614 (this is listed separately from "the Los Angeles/El Segundo Dunes").
26. EIS/R, p. 3-20.
27. City of Los Angeles General Plan, Los Angeles Airport/El Segundo Dunes Specific Plan. Ordinance No. 167,940. June 28, 1992.
28. *Id.* at 6.
29. Mattoni, R., and T.R. Longcore. 1997. The Los Angeles Coastal Prairie, a vanished community. *Crossosoma* 26(2):71–102.
30. Egan, D., and A. Howell. 2001. Introduction. Pp. 1–23 *in* D. Egan and A. Howell (eds.) *The Historical Ecology handbook: a restorationist's guide to reference ecosystems*. Washington, D.C.: Island Press.

2.4 Disturbed Dune Scrub/Foredune

Concurrent with the changing terminology about the portion of the El Segundo Dunes not found within the habitat preserve is the decision to classify all dune scrub/foredune outside of the preserve area as disturbed dune scrub. While it is true that the dunes area outside the habitat preserve has a heavier exotic species load, and does not support coast buckwheat (*Eriogonum parvifolium*), it nevertheless has more biological value than is implied by the description. For example, this area supports sensitive plants (Lewis' evening primrose, *Camissonia lewisii*), birds (loggerhead shrike, *Lanius ludovicianus*), and arthropods (see above, Section 1.2). Mattoni et al. describe the ex-residential area in their 2000 article:

> Removal of the residences in the 1970s was superficial, leaving some foundations, substantial rubble, foreign soil, roads, and other infrastructure. Vegetation regenerated without assistance, producing a cover of predominately iceplant (*Carpobrotus edulis*) and acacia (*Acacia cyclopis*) with patches of a few highly dispersive dune shrub species.[31]

However, not all ex-residential sites supported the same arthropod communities. Some sites within the ex-residential area supported terrestrial arthropod communities (including rare and sensitive species) that were similar to those found on undisturbed foredune and undisturbed backdune sites.[32] This variation in the vegetation and associated wildlife across the 100 acres should be reflected in the EIS/R. The wholesale characterization of the area as "disturbed dune scrub/foredune" is misleading in terms of its value to the dune system and proper statutory designation as an ESHA.

2.5 El Segundo Blue Butterfly

Much ado is made over the population size of the El Segundo blue butterfly ("ESB"). However, the methodology used to calculate population size by LAWA is flawed and overestimates population size by at least 400%. While many methods to track trends in butterfly population size exist in the scientific literature,[33] when LAWA hired consultants in 1994 to prepare the EIS/R, they inexplicably used none of the established methods. While consultants continued walking a transect to count butterflies established by Mattoni in 1984, they stopped conducting surveys throughout the entire season. It is absolutely

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31. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452, at 446.
32. *Id.* at Table 1, Figure 2.
33. Pollard, E., D.O. Elias, M.J. Skelton, and H.A. Thomas. 1975. A method of assessing the abundance of butterflies in Monks Wood National Nature Reserve in 1973. *Entomologist's Gazette* 26:79–88. Pollard, E. 1977. A method for assessing change in the abundance of butterflies. *Biological Conservation* 12:115–132. Pollard, E. 1984. Synoptic studies of butterfly abundance. Pages 59–61 *in* R.I. Vane-Wright and P.R. Ackery (eds.) *The biology of butterflies*. Academic Press, London. Pollard, E. 1988. Temperature, rainfall and butterfly numbers. *Journal of Applied Ecology* 25(3):819–828. Zonneveld, C. 1991. Estimating death rates from transect counts. *Ecological Entomology* 16:115–121. Moss, D., and E. Pollard. 1993. Calculation of collated indices of abundance of butterflies based on monitored sites. *Ecological Entomology* 18(1):77–83. Pollard, E., D. Moss, and T.J. Yates. 1995. Population trends of common British butterflies at monitored sites. *Journal of Applied Ecology* 32(1):9–16. Van Strien, A.J., R. Van De Pavert, D. Moss, T.J. Yates, C.A.M. Van Swaay, and P. Vos. 1997. The statistical power of two butterfly monitoring schemes to detect trends. *Journal of Applied Ecology* 34(3):817–828. Brown, J.A., and M.S. Boyce. 1998. Line transect sampling of Karner blue butterflies (*Lycaeides melissa samuelis*). *Environmental and Ecological Statistics* 5(1):81–91. Royer, R.A., J.E. Austin, and W.E. Newton. 1998. Checklist and "Pollard walk" butterfly survey methods on public lands. *American Midland Naturalist* 140(2):358–371. King, R.S. 2000. Evaluation of survey methods for the Karner blue butterfly on the Necedah wildlife management area. *Transactions of the Wisconsin Academy of Sciences Arts and Letters* 88:67–75.

essential to survey throughout the flight season of the butterfly to obtain an estimate of total population size. Furthermore, rather than using an established method to analyze transect counts, Dr. Andrew Huang, an engineer at LAWA, constructed his own method to estimate population size. This method is flawed, and these flaws were explained by Dr. Travis Longcore to Dr. Huang in an email earlier this year, portions of which bear repeating here. The message describes methods used to estimate population size of the ESB by Longcore and others in a scientific article that was at that time in review and has subsequently been accepted for publication in an international scientific journal, the *Journal of Insect Conservation*.

> The first method [of calculating population size] was the Pollard Index, which is quite straightforward and about which there can be no argument. There is not a lot of latitude in summing the average weekly count over the course of the season.
>
> The second method is essentially the same as your numerical approximation. This method is first used, albeit with different data sources, by Watt et al in 1977 (Watt, Ward B., Frances S. Chew, Lee R. G. Snyder, Alice G. Watt, and David E. Rothschild. 1977. Population structures of Pierid butterflies I. Numbers and movements of some montane *Colias* species. *Oecologia* 27:1–22.) Watt at al. estimated "total animals [butterflies] present in the brood" by estimating daily butterfly numbers through MRR and extrapolation, summing them to calculate total animal-days, and multiplying this number by the death rate (determined by MRR). Dividing by the longevity (or residence time) would yield the same result. This is what we did, using Arnold's 1979 residence time estimates (ave 6.1 days). Your model does not divide by average longevity, but rather another figure. This is what I don't understand. What is wrong with the logic (used by Watt et al. as well) that the total brood size is equal to the total number of butterfly-days divided by the average butterfly longevity?
>
> $$\frac{\text{butterfly-days}}{\text{longevity (days)}} = \text{butterflies}$$
>
> Your model does something similar, calculating total butterfly days by integrating under the curve (gaussian or not) and dividing by a figure. The question, and the crux of the differences in our results, is the number that you divide by, which is 1.59. You get your number by parameterizing based on the recapture rates. I think the difficulty with this is that you do not know the age of the butterflies that were initially captured. Your method would work if all of the butterflies captured by Arnold on the first day were freshly eclosed adults. However, they cannot be. Some of them will be one, two, or more days old. Failure to account for this will skew your estimate of longevity downwards, and your total population estimate upwards. Now, I am going to guess that you will say that 1.59 days is not the longevity. But if it is not, what is it? Can you see a flaw in the logic of the Watt et al. method or otherwise reconcile it with your method?
>
> One last thing on this method. Our application of it gave a population estimate for 1984 at LAX of 432, while Arnold's MRR estimate was 664, and the Zonneveld model estimated 910. Application of your method would give an estimate of 1,658. (Note: in case you want to calculate these numbers, with the exception of Arnold's estimate, they include an adjustment for the number of flowerheads) (Arnold, R.A. (1986) Studies of the El Segundo blue butterfly - 1984. Inland Fisheries Administrative Report 86-4.)
>
> The third method that we used was the Zonneveld model. What is interesting is that our estimates of death rate (3.3–5.9 days), which vary from year to year, are similar to those given by Arnold (2.3–7.3 days) from MRR. We followed the model as set out by Zonneveld in the 1991 paper. We did not doubt the magnitude of the results because of the correspondence with the Watt et al method, the Pollard index, and the reasonableness of the longevity estimates.[34]

34. Longcore, T. 6 March 2001. Email to Dr. A. Huang.

Dr. Huang did not defend his method, stating in a response to Dr. Longcore, "You have raised many outstanding issues. ... I am very busy with a number of projects. I won't be able to respond to your questions for awhile."[35] To date, he has not provided a substantive response. The EIS/R should therefore be adjusted to reflect El Segundo blue butterfly population numbers that are calculated using the best available scientific methods. Three methods of evaluating the transect counts are given in the *Journal of Insect Conservation* paper, the proofs of which are appended to this report.[36]

As is evident from the literature about butterfly population size estimation,[37] the block counts promoted in the EIS/R are useful only to determine presence of the butterfly, not to estimate population size. The most perplexing part of the discussion of ESB population size by LAWA, both in reports by its consultants and in the EIS/R, is that none of the relevant scientific literature is referenced. Butterflies are conspicuous organisms, and schemes were developed in the 1970s to track population size, yet these are ignored. Sometimes remaking the wheel can lead to innovation, but in this instance it has led to confusion and the propagation of the myth that there are 40,000–80,000 El Segundo blue butterflies on the LAWA property. For example, LAWA claims that in 1998 there were roughly 12,000 ESB along the transect,[38] while proper analysis of the data indicates a population of 3,356 ± 805 S.D.[39] Similarly extravagant claims for the period 1996–2000[40] should be revised.

The EIS/R discussion of the ESB population size provides a diversion from the real issues at hand. Recovery of the species and downlisting from endangered to threatened status requires securing all of the El Segundo Dunes, including that area not currently in the habitat preserve.[41] The 200-acre preserve is still vulnerable to disease, adverse weather, fire, and other accidents. Long-term extinction risk for the butterfly can be minimized through increasing habitat area, not simply by relying on existing areas to provide spectacular numbers. Furthermore, concentration on the El Segundo blue butterfly draws attention away from the ten other endemic invertebrates found on the dunes whose continued persistence depends on habitat values beyond those needed to maintain the butterfly.[42]

LAWA's persistent strategy has been to focus on the butterfly and the 200-acre preserve to the exclusion of all else. For example, in the above-described Waterview Street Landscaping Project, LAWA's main claim in support of the project was that it did not affect the butterfly preserve or the butterfly. None of the appellants had argued that the project directly affected the butterfly, and pointed instead to the other sensitive species and habitats found on the project site. This notwithstanding, there are legitimate impacts to the El Segundo blue butterfly that would result from the alternatives in the EIS/R.

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35. Huang, A. 7 March 2001. Email to Dr. T. Longcore.
36. Mattoni, R., T. Longcore, C. Zonneveld, and V. Novotny. 2001. Analysis of transect counts to monitor population size in endangered insects: the case of the El Segundo blue butterfly, *Euphilotes bernardino allyni*. *Journal of Insect Conservation* 5(3):197–206.
37. *Id.*
38. Huang, A. November 25, 1998. Estimate of LAX El Segundo Blue Butterfly (ESB) Population (unpublished report).
39. Mattoni, R., T. Longcore, C. Zonneveld, and V. Novotny. 2001. Analysis of transect counts to monitor population size in endangered insects: the case of the El Segundo blue butterfly, *Euphilotes bernardino allyni*. *Journal of Insect Conservation* 5(3):197–206, at Table 2.
40. EIS/R, Appendix J1. Biological Assessment Technical Report, Table 4.
41. U.S. Fish and Wildlife Service. 1998. *Recovery plan for the El Segundo blue butterfly (Euphilotes battoides allyni)*. U.S. Fish and Wildlife Service, Portland, Oregon, 67 pp.
42. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452, at 450.

3.0 Assessment of Impacts

While the EIS/R identifies impacts to biological resources, its improper quantification of those impacts results in an underestimation of the actual biological consequences of the build alternatives and ultimately the incorrect conclusion that those impacts can be mitigated to a less than significant level.

3.1 Direct Impacts

The EIS/R uses what it calls a "modified Habitat Evaluation Procedure" to determine impacts on sensitive vegetation types and to quantify impacts to habitats of sensitive species.[43] This procedure is supposedly based on "Habitat Evaluation Procedures" ("HEP")[44] previously developed by the U.S. Fish and Wildlife Service that have some degree of scientific validity and history of usage.[45] However, the methodology employed in the EIS/R uses the name of this procedure without incorporating any of the essential elements of the analysis. By comparing existing habitat for sensitive species against an abstracted, ideal habitat type, the EIS/R argues that loss of up to 500 acres of habitat for sensitive species can be mitigated by "improving" 100 acres of land already in a nature preserve. This conclusion is not supported by any accepted methodology of impact assessment and seems to have been specifically designed to underestimate the actual impacts to sensitive species at LAX.

HEP was designed for use with target species by the U.S. Fish and Wildlife Service in the 1970s to provide a form of standardization and comparability for environmental analysis. In HEP implementation, the term "habitat" is defined as the biophysical requirements of an individual species (e.g., bald eagle habitat), not as a general term synonymous with vegetation type (e.g., grassland habitat). The U.S. Fish and Wildlife Service states this in the guiding policies for HEP implementation:

> HEP is a species-habitat approach to impact assessment; and habitat quality for selected evaluation species is documented with an index, the Habitat Suitability Index (HSI). This value is derived from an evaluation of the ability of key habitat components to supply the life requisites of selected species of fish and wildlife.[46]

The explicit species-based approach of the HEP is apparent in the manual describing the procedure:

> HEP is a species-based assessment methodology. It is applicable only for the species evaluated and does not directly relate that species with other ecosystem components. HEP conceptually addresses only the issues of species populations and habitats.[47]

The "modified" HEP in the EIS/R does not establish which species will be used to evaluate the value of the reference sites, nor does it create HSIs for them. Rather, it sets habitat evaluation standards based on an "optimal" site with "a multitude of floral and faunal species."[48]

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43. EIS/R, p. 4-615.
44. The EIS/R refers to a "Habitat Evaluation Procedure" in the singular form, while the U.S. Fish and Wildlife Service manual calls the method "Habitat Evaluation Procedures" in the plural form. We abbreviate both as "HEP" and treat the acronym as a singular noun indicating a methodology.
45. For example, see Johnson, T.L., and D.M. Swift. 2000. A test of a habitat evaluation procedure for Rocky Mountain bighorn sheep. *Restoration Ecology* 8(4S):47–56.
46. U.S. Fish and Wildlife Service. 1996. Fish and Wildlife Service manual, 870 FW 1, Habitat Evaluation Procedures. [online at http:policy.fws.gov/870fw1.html].
47. U.S. Fish and Wildlife Service. 1980. Habitat as the Basis for Environmental Assessment, 101 ESM.

The "modified" HEP does not provide information about the value of habitats within the subject site for several of the sensitive species found there. For example, it does not consider the habitat requirements of loggerhead shrike (*Lanius ludovicianus*) or black-tailed jackrabbit (*Lepus californicus bennettii*). It assigns values of 0.25 for vegetation types that are occupied by these species (Non-Native Grassland/Ruderal). By definition under a true HEP, occupied sites would score much higher. By "modifying" the HEP to address an abstract ideal habitat, actual habitat values to sensitive species are ignored (see below, Table 1).

In fact, the "modified" HEP resembles actual HEP implementation only superficially, in that values between 0 and 1 are assigned to certain arbitrary standards for vegetation types within the study area. None of the essential features of HEP are present in the modified method; the "modified" HEP therefore does not provide the basis for impact assessment in the project area.[49]

Not only is the "modified" HEP quite different from the actual procedure, the standards used to evaluate habitats do not reflect ecological value. This problem derives from the physical and biologic criteria used to evaluate habitat and the so-called "ecosystem functional integrity" components of the analysis. Rather than using target species and HSIs to characterize vegetation types as required in HEP, the EIS/R evaluates whether each of the vegetation types in the project area meets the characteristics found in a "reference site." The habitat type chosen for this standard is that of Valley Needlegrass Grassland/Vernal Pool complex[50] (i.e., Los Angeles Coastal Prairie). For some inexplicable reason, all habitats are measured against this standard, including Southern Foredune, Southern Dune Scrub, and Disturbed Dune Scrub/Foredune. Of course these dune habitats do not have features found in a needlegrass grassland/vernal pool complex. Therefore, because of their failure to have vernal pools and associated species, these vegetation classifications are assigned lower habitat values, 0.35 for both Southern Dune Scrub and Disturbed Dune Scrub/Foredune, and 0.45 for Southern Foredune. These values are ludicrous, first because habitat values and "Habitat Units" are supposed to be relevant to individual species, and second because one vegetation type is measured by the features of another. ***The analysis succeeds only in illustrating that dune habitats are not the same as vernal pool/grassland complexes.***

The portion of habitat value deriving from "ecosystem functional integrity" is another wholesale creation of the EIS/R. These standards are not part of HEP, and the choice of standards is arbitrary, with little to do with the sensitive species and vegetation types under analysis. Whether a site is "under regulatory conservation" does not necessarily have anything do with the ecological value of its vegetation type to sensitive species. Similarly, "contiguity with state-designated habitat" is not an ecological criterion. "Variety of pollinator/dispersal mechanisms present" is oriented toward vernal pool habitats, and the choice of "contiguous native habitat >40 acres" is arbitrary. Throughout, the analysis avoids recognition that sensitive plants and wildlife utilize habitats that are not dominated by native species. Loggerhead shrikes forage in ruderal and non-native grasslands as well as in dune scrub. Jackrabbits are thriving in an area with little native plant component. A true HEP would calculate the value of the areas being utilized by carefully selected individual species and use those values to quantify impacts. The EIS/R's "modified" HEP is fatally flawed and must either be revised to follow established procedure, or be abandoned.

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48. EIS/R, p. 4-616.
49. U.S. Fish and Wildlife Service. 1980. Habitat Evaluation Procedures (HEP), 102 ESM.
50. EIS/R, p. 4-615.

3.1.1 Sensitive Vegetation Types

With the exception of the ambiguous treatment of the 100 acres on the northern portion of the El Segundo Dunes, the EIS/R claims not to be proposing direct impacts to sensitive vegetation types. The vegetation types to be removed by the three build alternatives are 306–404 acres of Non-Native Grassland/Ruderal and 60–96 acres of Disturbed/Bare Ground. Although these are not sensitive vegetation types, they are used extensively by sensitive species. Whereas the impacts of removal are to sensitive species, the EIS/R proposes mitigation of abstract "Habitat Units" using the "modified" HEP. The result of the use of the "modified" HEP is to underestimate the effects on the species that use these habitats. The "modified" HEP does not evaluate the value of non-native grassland and disturbed areas to each of the species involved, but rather compares those habitats against an idealized habitat. This allows the EIS/R to state losses and to mitigate in "Habitat Units" instead of acres. ***"Habitat Units" calculated in the HEP do not reflect the value of the habitats to the sensitive species.*** The EIS/R considers these "Habitat Units" as fungible entities, and thereby proposes to mitigate effects to one vegetation type by enhancing another habitat type. Also, by ranking vegetation types on the dunes by comparing them with Valley Needlegrass Grassland/Vernal Pool complex, the EIS/R creates an artificial deficit of "Habitat Units" within the dunes area. The EIS/R then proposes to mitigate for the loss of Non-Native Grassland (occupied by sensitive species) by enhancing the habitat within the already-preserved and restored area of the El Segundo Dunes. If one accepts the logic of the EIS/R's HEP and mitigation scheme, the loss of Non-Native Grassland can be mitigated by making the El Segundo Dunes more like a Valley Needlegrass Grassland/Vernal Pool complex. (The EIS/R actually claims to restore these areas to Southern Dune Scrub, but does not reconcile that the "deficit" in habitat values on the dunes was caused by the "failure" of dune scrub to have vernal pool/grassland characteristics.) So by the twisted logic of the "modified" HEP, the loss of 366–500 acres of vegetation types occupied by sensitive species putatively can be mitigated by "improving" roughly 100 acres already protected as a nature reserve or zoned as such.[51] Because the "modified" HEP does not measure habitat values for the sensitive species involved, the description of impacts in terms of "Habitat Units" will drastically underestimate the impacts to those vegetation types. Again, it must be noted that the procedure used in the EIS/R *has no basis in scientific literature* and resembles the actual HEP in name only.

All alternatives propose the removal of sensitive habitats within the El Segundo Dunes to allow construction of navigational aids. These impacts range from 640–1,344 square feet. While this does constitute a significant impact, it is dwarfed in comparison to the other direct and indirect impacts proposed under the three build alternatives.

The discussion of acreage and "Habitat Units" lost under each alternative is not clear with respect to the Westchester Southside Project. Some impacts from the Westchester Southside Project are included (e.g., loss of mature trees), but the effects of the "Resort Hotels" and golf course/open space development are not discussed. The No Action/No Project Alternative explicitly includes the loss of habitat from the LAX Northside and Continental City projects. As mentioned above, this improperly assumes completion of the LAX Northside Project even though changed conditions should result in reopening of the environmental analysis. Inclusion of these speculative developments as part of the No Project alternative serves only to make the impacts of the Master Plan alternatives appear smaller.

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51. While there are certainly adequate opportunities to enhance the habitat on the El Segundo Dunes through road/infrastructure removal and revegetation, the area available is simply inadequate to compensate for the loss of sensitive species habitat under the three build alternatives.

The EIS/R mentions but does not discuss adequately one impact of the Westchester Southside development: the removal of 300 mature trees that are used as "nursery" sites for raptors.[52] The biological appendix contains no reference to this impact, or the abundance and species of raptors involved.[53] Neither is a description immediately apparent in the "Biological Resources Memoranda for the Record on Floral and Faunal Surveys."[54] The EIS/R should contain a full description of the species of raptors involved, their relative abundance, the location of the trees, and behaviors observed to allow a full evaluation of the impacts.

3.1.2 Sensitive Species

The faulty "modified" HEP results in the underestimation of impacts on sensitive species in the EIS/R. The statement of the impacts to populations are low, which results in improper conclusions about mitigation (see below, Section 4.0).

Lewis' evening primrose (*Camissonia lewisii*). All alternatives acknowledge direct impacts to Lewis' evening primrose. This is expressed in terms of the number of individuals that would be affected. While the number of individuals is important, the area that these individuals occupy is as important to the conservation of the species. However, the map showing the distribution of the species indicates locations only on the El Segundo Dunes west of Pershing Drive. No indication is given of the location of areas occupied east of Pershing Drive, which total 2.5 acres.[55] Populations separated from one another offer some degree of insurance against catastrophic losses at individual sites. The complete geographic distribution of the species at LAX should be provided in the EIS/R.

Belkin's tabanid dune fly (*Brennania belkini*). The EIS/R does not acknowledge the loss of habitat for the Belkin's tabanid dune fly, which is a sensitive species.[56] This species was recorded as present in the "north runway expansion area."[57] The report indicates that the species may disperse into suitable habitat areas. The presence of this dune-associated species and the sensitive Lewis' evening primrose in the north runway expansion area suggests that this area has a substrate suitable for dune obligate species. This may be the result of previous grading, but the value of this site to these and other sensitive species (e.g., potentially El Segundo crab spider, *Ebo* new sp.[58]) should be noted.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The EIS/R acknowledges direct impacts to the habitat of this species, west of the southern runway, east of Pershing Drive. Each of the alternatives would result in the loss of 118.75 acres of occupied area, consisting of the entire population at LAX. The EIS/R maintains that these 118.75 acres equal 14.91 "Habitat Units," or roughly 15 acres of ideal vernal pool/grassland complex. As discussed above, this conversion to "Habitat Units" is misguided and wrong. Only two of the sixteen standards for calculating "Habitat Units" are even remotely related to the value of these areas to black-tailed jackrabbit.

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52. EIS/R, pp. 4-657, 4-658, 4-663.
53. EIS/R, Appendix J1. Biological Assessment Technical Report.
54. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys.
55. EIS/R, p. 4-664.
56. California Department of Fish and Game Natural Diversity Database. 1999. Special Status Plants, Animals and Natural Communities of Los Angeles County. U.S. Fish and Wildlife Service. 1998. *Recovery plan for the El Segundo blue butterfly (Euphilotes battoides allyni)*. U.S. Fish and Wildlife Service, Portland, Oregon, 67 pp.
57. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 213.
58. *Id.* at 209.

Table 1. Relevance of "Modified" Habitat Evaluation Procedure Standards to Two Sensitive Species

HEP Standards	Relevance to value of area as black-tailed jackrabbit habitat	Relevance to value of area as loggerhead shrike habitat
TOPOGRAPHY		
Mound-depression microrelief	None. Species occurs in a variety of topographic conditions.	None
Native soils w/ slope <10%	None	None
Areas w/ period of inundation ≥ 30 days	None. Can serve as vectors for seed dispersal between vernal pools, but not necessary for habitat.[59]	None
Summer desiccation	None	None
FLORA		
>10% vegetative cover	Some. Forage and cover must be present.	Some. Vegetation must support prey populations.
Native grasses >10%	None. Will forage on all manner of grasses, forbs, and shrubs.[60]	None
Vernal pool associated species	None	None
Listed vernal pool associated species	None	None
FAUNA		
Domination of native fauna (reproducing)	None	None
Grassland associated species (reproducing)	None	None
Sensitive vernal pool associated species	None	None
Listed vernal pool associated species	None	None
ECOSYSTEM FUNCTIONAL INTEGRITY		
Contiguity w/ wetland and State-designated sensitive terrestrial habitat	None	None
Designated sensitive terrestrial habitat	None	None
Under regulatory conservation	None	None
Variety of pollinator/dispersal mechanisms present (wind, wildlife)	None. Is itself a dispersal agent.	None
Contiguous native habitat > 40 acres	Potentially important. Size of habitat, whether native or not, is important.	Potentially important. Size of habitat, whether native or not, is important.

The conversion of occupied area to "Habitat Units," based on the standards listed here, is a misapplication of HEP. The extent of habitat loss to the species is on the order of 119 acres. The use of improperly-defined "Habitat Units" to quantify this loss implies that 15 acres of ideal vernal pool/grassland could support as many black-tailed jackrabbits as 119 acres of non-native grassland.

59. Zedler, P.H., and C. Black. 1992. Seed dispersal by a generalized herbivore: rabbits as dispersal vectors in a semiarid California vernal pool landscape. *The American Midland Naturalist* 128(1):1–10. (Jackrabbits play a similar role in the vernal pool landscape.)
60. Johnson, R.D., and J.E. Anderson. 1984. Diets of black-tailed jack rabbits in relation to population density and vegetation. *Journal of Range Management* 37(1):79–83. MacCracken, J.G., and R.M. Hansen. 1982. Herbaceous vegetation of habitat used by blacktail jackrabbits and Nuttall cottontails in southeastern Idaho. *American Midland Naturalist* 107(1):180–184. Jameson, E.W., Jr., and H.J. Peeters. *California mammals*. Berkeley: University of California Press.

This is not possible; 15 acres is substantially smaller than the smallest recorded home range for the species (256 acres).[61]

Surveys determining the area occupied by black-tailed jackrabbit may underestimate the area currently occupied. Research indicates that jackrabbits may move from 2 to 10 miles during a day, from shrub cover where the species conceals itself during the day, to foraging habitat in the late afternoon and evening.[62] The EIS/R does not provide sufficient survey information to establish if the grasslands and disturbed areas to the west of the southern runways provide only foraging habitat, and whether other locations (e.g., El Segundo Dunes) are already occupied at different times of the day. This is also suggested by studies of home range. In a study of big sagebrush and black greasewood, black-tailed jackrabbit ranges were larger (256–768 acres)[63] than the presumed occupied area at LAX (119 acres). This raises the question whether the species actually occupies a greater area at LAX, especially during the night and crepuscular periods when no surveys were undertaken.

Loggerhead shrike (*Lanius ludovicianus*). The same difficulties found quantifying habitat of black-tailed jackrabbit are found with description of impacts to loggerhead shrike. According to the EIS/R, the species currently occupies 171.86 acres that would be unusable following implementation of any of the project alternatives. (Such precision in habitat quantification is illusory; the EIS/R extrapolates occupied area by vegetation type, providing an *estimate* of habitat area that may differ from the area actually utilized.) Similarly, the EIS/R claims that this impact equals 22.88 "Habitat Units," suggesting that roughly 23 acres of optimum habitat could mitigate for the loss of 172 acres of occupied habitat. This is false, and grossly underestimates the impacts to the species. No data are provided that link vegetation type to shrike density, as would be necessary to support this claim. The HEP standards are no more relevant to loggerhead shrike than they are to black-tailed jackrabbit. Unless an actual Habitat Suitability Index is developed for loggerhead shrike, all discussion of direct impacts should refer to the area of occupied habitat destroyed, not to the hypothetical "Habitat Units." It is furthermore unclear whether the area of the Westchester Southside Project was surveyed, and whether these impacts are included.

Burrowing owl (*Athene cunicularia*). Surveys located burrowing owls within the project boundaries, though found no direct evidence of breeding. The EIS/R claims that the species "was determined not to breed within the Master Plan boundaries."[64] This contradicts the previous assessment made by EIS/R consultant Jim Jennings, who concluded that "there is the potential that they may still breed in the project area."[65] Because burrowing owl densities fluctuate from year to year, burrowing owls were observed in the project area, and potential burrow sites were found, the conservative approach would be to implement measures to ensure the conservation of the species. This species has recently lost much of its local habitat and if extirpated from the project site will disappear from west Los Angeles as a whole.

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61. Smith, G.W. 1990. Home range and activity patterns of black-tailed jackrabbits. *Great Basin Naturalist* 50(3):249–256. This study found home ranges of 0.4–1.2 square miles for big sagebrush and black greasewood communities in northern Utah. Many factors may allow higher densities at LAX, such as more forage provided by dense non-native grasses and forbs, but there is no evidence that 15 acres of even the best habitats could compensate for the loss of 119 acres.
62. Dunn, J.P., J.A. Chapman, and R.E. Marsh. 1982. Jackrabbits: *Lepus californicus* and allies. Pp. 124–125 in J.A. Chapman, and G.A. Feldhamer (eds.). *Wild mammals of North America: biology, management and economics.* Baltimore: The Johns Hopkins University Press.
63. Smith, G.W. 1990. Home range and activity patterns of black-tailed jackrabbits. *Great Basin Naturalist* 50(3):249–256.
64. EIS/R, Tables 4.10-2, 4-630.
65. EIS/R, Technical Report 7. Biological Resources Memoranda for the Record on Floral and Faunal Surveys, p. 463.

Western spadefoot toad (*Spea hammondi*). The EIS/R reports that the proposed project alternatives will destroy four seasonal ponds occupied by western spadefoot toads on the south airfield.[66] These populations number at least several hundred adults and all would be destroyed by the various project alternatives. The EIS/R estimates occupied area as 8.97 acres of ephemerally wetted areas and adjacent upland habitats. Spadefoot toads require upland habitats surrounding their aquatic habitat.[67] It is unclear how this area was determined for the EIS/R. Critically important in the analysis is that the species is found in four separate areas. Even though the areas are close to each other, the existing configuration of habitat patches is important to reduce risk to the species from a catastrophic event (e.g., chemical spill, disease). Depending on the separation of the pools, there may still be genetic exchange among the populations in each. These risk dynamics should be considered when evaluating the impact on the species and potential mitigation measures. Loss of the LAX population of western spadefoot toad would cause a significant restriction of the range of the species.

Riverside fairy shrimp (*Branchinecta sandiegoensis*). LAX represents the only known coastal population of Riverside fairy shrimp in Los Angeles County. Loss of this population, which is spread among nine sites on the western portion of the property, would be a significant impact. The EIS/R asserts that because the sites where fairy shrimp cysts were found do not have characteristic vernal pool plants, no suitable habitat is found for the species. This conclusion is false — fairy shrimp require vernal pool hydrology, not vernal pool plants, for their existence. This condition would exist, were the management practices at LAX to remove standing water in these pools. It is indeed LAWA's own management scheme that prevents Riverside fairy shrimp from completing its life cycle; LAWA, therefore, should incur liability for "take" of the species under the Endangered Species Act. LAWA fails to recognize that once the presence of fairy shrimp cysts was detected in the vernal pools at LAX, the airport should have ceased its activities that inhibited the life cycle of the species. Instead, the proposal is to destroy all of the areas currently occupied.

The description of acreage for this species does not seem to include the size of the cachements necessary to fill the "ephemerally wetted areas." These areas are necessary to formulate appropriate mitigation measures and evaluate impacts.

The EIS/R is insistent that "there are no extant vernal pools within the [Airport Operations Area]."[68] This statement is meant within the definition of vernal pools as a vegetation type. However, the term "vernal pool" may be used to refer to pools with standing water during the winter and spring, regardless of the presence of certain plant species. As defined by the U.S. Fish and Wildlife Service, "a vernal pool is a natural habitat of the Mediterranean climate region of the Pacific coast covered by shallow water for extended periods during the cool season but completely dry for most of the warm season drought."[69] The definition of the term is hydrological, not botanical. The EIS/R should therefore explicitly disclose that the statement "no vernal pools" refers to a botanical definition. Given the near complete destruction of vernal pools in Los Angeles County,[70] even loss of sites with vernal pool

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66. *Id.* at 248.
67. Ruibal, R., L. Trevis, and V. Roig. 1969. The terrestrial ecology of the spadefoot toad *Scaphiopus hammondii*. *Copeia* 572–584.
68. EIS/R, p. 4-691.
69. Zedler, P.H. 1987. *The ecology of southern California vernal pools: a community profile*. U.S. Fish and Wildlife Service Biological Report 85(7.11), p 1.
70. Mattoni, R., and T.R. Longcore. 1997. The Los Angeles Coastal Prairie, a vanished community. *Crossosoma* 26(2):71–102.

hydrology and any remnant species (plant or invertebrate) represents a significant impact. The EIS/R emphasizes that Riverside fairy shrimp habitat is degraded through the presence of exotic plant species, presumably to suggest how much better mitigation sites will be than current conditions. However, the degradation of the habitat by exotic plant species is irrelevant to the quality of the pool as habitat for Riverside fairy shrimp. Other degradation to the habitat results directly from LAWA's management;[71] this degradation is avoidable.

3.2 Indirect Impacts

As a whole, indirect impacts are not well described in the EIS/R. Those that are described are dismissed with little or no data offered in support, leaving the probability of much greater indirect impacts from the project alternatives than those disclosed.

3.2.1 Light

Night lighting has an effect on bird species composition in an area. A study in Sacramento showed that American crows (*Corvus brachyrhynchos*) roost in areas with high nighttime lighting levels.[72] It is hypothesized that artificial lighting allows them to reduce predation from owls.[73] Crows are native, but they are also aggressive, and artificially increased population levels can be detrimental to other native bird species, including such sensitive species as loggerhead shrike. Artificial night lighting has also been shown to affect the behavior of nocturnal frogs, reducing their visual acuity and ability to consume prey, an impact that may befall those amphibians found within Master Plan boundaries.[74] Many larval forms of arthropods are positively phototactic (e.g., attracted to light, even artificial light), which poses a threat to the many sensitive insect species found on the El Segundo Dunes.[75] Artificial lighting results in increased mortality of moths and other nocturnal insects.[76] Night lighting can also affect kestrels as seen from observation of lesser kestrel (*Falco naumanni*), but also applicable to American kestrel (*Falco sparverius*), found on the El Segundo Dunes.[77] In fact, artificial night lighting affects singing and foraging time of many bird species.[78] Increased lighting even affects gastropods, which would include the sensitive Trask's snail (*Helminthoglypta traskii*).[79]

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71. EIS/R, p. 4-699.
72. Gorenzel, W.P., and T.P. Salmon. 1995. Characteristics of American Crow urban roosts in California. *Journal of Wildlife Management* 59(4):638–645.
73. Brody, J.E. 1997. The too-common crow is getting too close for comfort. *New York Times*, May 27.
74. Buchanan, B.W. 1993. Effects of enhanced lighting on the behaviour of nocturnal frogs. *Animal Behaviour* 45(5):893–899.
75. Summers, C.G. 1997. Phototactic behavior of *Bemisia argentifolii* (Homoptera: Aleyrodidae) crawlers. *Annals of the Entomological Society of America* 90(3):372–379.
76. Frank, K.D. 1988. Impact of outdoor lighting on moths: an assessment. *Journal of the Lepidopterists' Society* 42(2):63–93. Kolligs, D. 2000. Ecological effects of artificial light sources on nocturnally active insects, in particular on butterflies (Lepidoptera). *Faunistisch-Oekologische Mitteilungen* Supplement(28):1–136.
77. Negro, J.J., J. Bustamante, C. Melguizo, J.L. Ruiz, and J.M. Grande. 2000. Nocturnal activity of Lesser Kestrels under artificial lighting conditions in Seville, Spain. *Journal of Raptor Research* 34(4):327–329.
78. Outen, A. 1998. *The possible ecological implication of artificial lighting*. Hertfordshire, UK: Hertfordshire Biological Records Centre. Bergen, F., and M. Abs. 1997. Etho-ecological study of the singing activity of the blue tit (*Parus caeruleus*), great tit (*Parus major*) and chaffinch (*Fringilla coelebs*). *Journal fuer Ornithologie* 138(4):451–467. Derrickson, K.C. 1988. Variation in repertoire presentation in northern mockingbirds. *Condor* 90(3):592–606. Hoetker, H. 1999. What determines the time-activity budgets of avocets (*Recurvirostra avosetta*)? *Journal fuer Ornithologie* 140(1):57–71. Frey, J.K. 1993. Nocturnal foraging by Scissor-Tailed Flycatchers under artificial light. *Western Birds*

(cont'd)

These effects may seem to be relatively innocuous, except that species that extend their activity periods into nighttime are often exposed to drastically increased predation threats. In a study of butterfly larvae, a higher growth rate associated with longer photoperiod (as would be caused by artificial light) resulted in significantly higher predation on the butterfly larvae from the primary parasitoid species.[80] Similar tradeoffs will likely occur for the El Segundo blue butterfly with increased lighting on the El Segundo Dunes. While the increased light may increase larval development, the time of activity may also increase predation and parasitism.

The conclusion in the EIS/R that the increased levels of night lighting will have no effect on the El Segundo blue butterfly is completely unsupported by current scientific knowledge of the mechanisms of such effects on ecological systems. The EIS/R concentrates on the adult form of the El Segundo blue butterfly, which only constitutes a minute fraction of the lifecycle of the organism, and ignores published scientific literature documenting the tradeoffs of increased lighting on larval forms of butterflies. Furthermore, the EIS/R includes no discussion of bat species that may forage on the El Segundo Dunes. Many bat species found in Los Angeles County are considered sensitive species, and their foraging patterns are affected by lighting levels. Some faster-flying species congregate at streetlights, while slower-flying species avoid them.[81] The EIS/R should document the bat species foraging within the project site and evaluate the impacts of lighting and other development on them.

The increased nighttime light levels on the El Segundo Dunes constitute a significant adverse impact, and should be avoided. One method to decrease the impacts of nighttime lighting is to use low pressure sodium lamps in place of other lighting types. Yellow light from these sources has less ecological impact. Other possible mitigation measures include using full cut-off lighting fixtures and mandating operational controls.

3.2.2 Noise

The effects of airport noise on the fauna of the project area are not considered at all. Perhaps this results from the noise analysis, which improperly chooses 1996 — prior to the introduction of quieter airplanes — as the baseline for noise impacts, rather than what noise conditions would be in the absence of the proposed project. Through this careful choice of baseline, the EIS/R argues that there would be virtually no change in the noise levels on the El Segundo Dunes. However, this is not the case. Noise would be more constant under increased passenger capacity — more planes would be traveling in and out of the airport. Increased noise levels on the El Segundo Dunes will have significant adverse effects on the wildlife found there, effects that are evident from the available scientific literature.

The use of a weighted average to describe noise levels (CNEL) precludes and obfuscates analysis of actual noise impacts. From the standpoint of wildlife, and indeed human physiological responses, it is relevant to know what maximum noise levels are experienced, and at what duration. While the average noise levels described in the EIS/R offer some indication of which areas are louder than others,

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24(3):200. Hill, D. 1992. *The impact of noise and artificial light on waterfowl behavior: a review and synthesis of available literature*. British Trust for Ornithology Research Report No. 61.

79. Lamiot, F. 1998. Impacts écologiques de l'éclairage nocturne. Premier Congrès européen sur la protection du ciel nocturne, June 30–May 1, Paris.
80. Gotthard, K. 2000. Increased risk of predation as a cost of high growth rate: an experimental test in a butterfly. *Journal of Animal Ecology* 69(5):896–902.
81. Rydell, J., and H.J. Baagoe. 1996. Bats & streetlamps. *Bats* 14(4):10–13.

maximum noise levels are necessary to evaluate potential hearing loss, startle reactions in animals, barriers to vocal communication, and other significant impacts to the fauna of the El Segundo Dunes.

The body of research on the effects of noise on vertebrates shows that chronic noise, even at low levels, is associated with elevated stress hormone levels, higher blood pressure, faster heart rates, and other physiological effects.[82] As a result, birds, mammals and other vertebrates may show anatomical differences (smaller body size, enlarged adrenal glands) from prolonged exposure to noise. Species that use vocalizations to communicate may be excluded altogether from noisy areas. The effects of noise on birds and mammals in particular are relevant to the EIS/R.

Birds. Of 45 bird species investigated in woodlands in The Netherlands, 33 showed significantly depressed breeding density in response to increased noise levels near roads. All species in the small passerine families Sylviidae, Fringillidae, and Emberizidae were affected by noise.[83] This research also showed that noise effects followed a threshold model.[84] This means that up to a certain noise level, no decrease in density is observed. When noise increases beyond that threshold level, bird density decreases dramatically in the area between the location at which that threshold is met and the road. The decreased density over the area with noise greater than the threshold level ranges from 30% to 100% and is known as the "decrease factor."[85]

These two variables, the threshold value and the decrease factor, describe the impact of noise on breeding birds. Empirical measurement of the threshold value in woodlands shows that for all bird species combined the threshold value is 42–52 dB(A), with individual species exhibiting thresholds as low as 36 dB(A) and as high as 58 dB(A).[86] Furthermore, years with overall low population densities showed lower threshold levels.

Similar research has been conducted for grasslands. Overall, this research shows that breeding bird habitat is degraded at noise levels as low as 36 dB(A). Minimum noise levels on the El Segundo Dunes are 70 dB(A) CNEL,[87] a quantification that does not even provide maximum noise levels. There is no question therefore that noise from LAX operations affects breeding bird densities on the El Segundo Dunes.

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82. Manci, K.M., D.N. Gladwin, R. Villella, and M.G. Cavendish. 1988. Effects of aircraft noise and sonic booms on domestic animals and wildlife: a literature synthesis. U.S. Fish and Wildlife Service National Ecology Research Center, Ft. Collins, Colorado. NERC-88/29. 88 pp. Such effects are found in humans too; children exposed to chronic noise greater than 60 dB "experienced marginally higher resting systolic blood pressure, greater heart rate reactivity to test, and higher overnight cortisol levels, which are signs of modestly elevated physiological stress" (Environmental News Network. 24 May 2001. Noisy neighborhoods harmful to childrens' health).
83. Reijnen, R., R. Foppen, and G. Veenbaas. 1997. Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. *Biodiversity and Conservation* 6:567–581.
84. Reijnen, R., R. Foppen, C. ter Braak, and J. Thissen. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. *Journal of Applied Ecology* 32:187–202.
85. *Id.* at 192.
86. Reijnen, R., R. Foppen, C. ter Braak, and J. Thissen. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. *Journal of Applied Ecology* 32:187–202. Reijnen, R., and R. Foppen. 1995. The effects of car traffic on breeding bird populations in woodland. IV. Influence of population size on the reduction of density close to a highway. *Journal of Applied Ecology* 32:481–491. Reijnen, R., R. Foppen, and H. Meeuwsen. 1996. The effects of traffic on the density of breeding birds in Dutch agricultural grasslands. *Biological Conservation* 75:255–260.
87. EIS/R, Figures 4.2-15, 4.2-19, 4.2-23.

Mammals. Chronic noise is a problem for native mammals on the El Segundo Dunes, as it is for humans in surrounding neighborhoods. The description of one study on the effect of airport noise on a small mammal illustrates one example of this problem:

> Only a few studies of the physiological effects of noise on rodents have involved wild animals. A field study by Chesser et al. (1975) involved two populations of house mice near the end of a runway at Memphis International Airport. Adult mice also were collected from a rural field 2.0 km from the airport field. Background noise levels at both fields were 80–85 dB. Noise levels of incoming and outgoing aircraft at the airport field averaged 110 dB, with the highest reading reaching 120 dB. Total body weights and adrenal gland weights of mice from the fields were measured. Additional mice were captured from the rural field, placed in the laboratory, and exposed to 1 minute of 105-dB recorded jet aircraft noise every 6 minutes to determine if noise was the causative factor. Control mice were not subjected to noise. After 2 weeks, the adrenals were removed and weighed. Adrenal gland weights of male and female mice from the airport field were significantly greater than those of mice from the rural field. The noise-exposed mice in the laboratory study had significantly greater adrenal gland weights than the control mice. After ruling out stress factors, such as population density, Chesser et al. (1975) concluded that noise was the dominant stressful factor causing the adrenal weight differences between the two feral populations.[88]

While house mice are of no regulatory concern, native mammals on the El Segundo Dunes include some native small mammals (harvest mouse, *Reithrodontomys megalotis*, desert wood rat, *Neotoma lepida*) which are locally significant. Impacts of noise to the habitat quality of the El Segundo Dunes for native mammals should be evaluated.

Reptiles and Amphibians. Spadefoot toads may be induced to emerge from their burrows in response to loud noises (95 dB(A) recordings of motorcycle noise in one experiment).[89] Fringe-toed lizards are rendered deaf after 9 minutes exposure to 95 dB(A) noise in the same study. Some snakes will show alert behavior in response to airplanes flying overhead.[90]

The EIS/R should evaluate the effects of noise on the biota of the El Segundo Dunes. It is likely that if the noise baseline were set at current conditions rather than before the implementation of quieter planes, this analysis would reveal significant impacts on the ability of the El Segundo Dunes to support populations of some species of birds, mammals, and other vertebrates. Such significant impacts should be identified and mitigated.

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88. Manci, K.M., D.N. Gladwin, R. Villella, and M.G. Cavendish. 1988. Effects of aircraft noise and sonic booms on domestic animals and wildlife: a literature synthesis. U.S. Fish and Wildlife Service National Ecology Research Center, Ft. Collins, Colorado. NERC-88/29. 88 pp.
89. Brattstrom, B.H., and M.C. Bondello. 1983. Effects of off-road vehicle noise on desert vertebrates. Pp. 167–206 in R.H. Webb and H.G. Wilshore, eds. *Environmental effects of off-road vehicles. Impacts and management in arid regions.* New York: Springer-Verlag.
90. Yahya, S.A. 1978. Hearing ability of brown tree snake (*Oendrelaphis tristis*). *Journal of the Bombay Natural History Society* 75:930–931.

3.2.3 Pollution

The discussion in the EIS/R about pollution effects on the El Segundo blue butterfly deserves comment. The EIS/R makes the statement, "Monitoring results indicate that current levels of vanadium are not adversely affecting the El Segundo blue butterfly population at the Habitat Restoration Area since counts for the year 2000 showed a significant increase in the population when compared to 1999."[91] Many factors influence butterfly abundance from year to year; changes from 1999 to 2000 provide no information about the effect of pollution on the butterfly. This statement is indicative of a fundamental misunderstanding of the process of deductive reasoning. The reality is that we have no idea what effect pollution has on the populations of sensitive species on the El Segundo Dunes, including the El Segundo blue butterfly. Population trends cannot be derived from two years of data, and are even difficult with ten years of measurements.[92]

3.2.4 Landscaping

The EIS/R does not asses the detrimental impacts of landscaping adjacent to the El Segundo Dunes. LAWA has planted invasive exotic species as landscape plants in the past, resulting in a greater load of exotic seed rain on the El Segundo Dunes.[93] Exotic landscaping material, and associated irrigation, can cause significant adverse effects on the biological resources of the El Segundo Dunes.

Installation of permanent irrigation in new areas along Pershing Drive would result in an expansion of the invasive exotic arthropod community on the El Segundo Dunes. Water sources promote population increases of non-native Argentine ants (*Linepithema humile*), European earwigs (*Forficula auricularia*), and other exotic species, which displace native insect species, an effect that has recently been documented to extend 200 m into native habitats.[94] Argentine ants are found on the El Segundo Dunes already, but the explosion in numbers associated with permanent irrigation will wreak havoc on native arthropod communities. This is shown by consistent decreases in native arthropod diversity in response to increased Argentine ant abundance.[95] Argentine ants would displace native ants surrounding the project site. This extirpation reverberates up the food chain, as some native reptiles (e.g., coast horned

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91. EIS/R, Appendix J1. Biological Assessment Technical Report, p. 91.
92. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452.
93. Kowsky, K. 24 April 1995. Plant-life dispute blooms at airport; environmentalist sees exotic plants at LAX as threat to survival of endangered butterfly. *Los Angeles Times*, B-1. Gregor, I. 1 April 2000. Seeds of trouble: airport landscaping project has environmental groups up in arms. *Daily Breeze*, B-1.
94. Holway, D.A. 1998. Factors governing rate of invasion: a natural experiment using Argentine ants. *Oecologia* 115(1-2):206–212. Suarez, A.V., D.T. Bogler, and T.J. Case. 1998. Effects of fragmentation and invasion on native ant communities in coastal southern California. *Ecology* 79(6):2041–2056.
95. Erickson, J.M. 1971. The displacement of native ant species by the introduced Argentine ant *Iridomyrmex humilis* (Mayr). *Psyche* 78:257–266. Cole, B.J. 1983. Assembly of mangrove ant communities: patterns of geographic distribution. *Journal of Animal Ecology* 52:339–348. Human, K.G., and D.M. Gordon. 1996. Exploitation and interference competition between the invasive Argentine ant, *Linepithema humile*, and native ant species. *Oecologica* 105(3):405–412. Human, K.G., and D.M. Gordon. 1997. Effects of Argentine ants on invertebrate biodiversity in Northern California. *Conservation Biology* 11(5):1242–1248. Holway, D.A. 1998. Effect of Argentine ant invasions on ground-dwelling arthropods in northern California riparian woodlands. *Oecologia* 116(1-2):252–258. Kennedy, T.A. 1998. Patterns of an invasion by Argentine ants (*Linepithema humile*) in a riparian corridor and its effects on ant diversity. *American Midland Naturalist* 140(2):343–350. Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Thesis, Department of Geography, University of California, Los Angeles.

lizard, *Phrynosoma coronatum*, found on the El Segundo Dunes) preferentially feed on native ants and decline in their absence.[96]

The EIS/R should require as a mitigation measure that in areas adjacent to the El Segundo Dunes, all landscaping plants be limited to locally native species, and that irrigation be limited to winter only.

3.3 Cumulative Impacts

The analysis of cumulative impacts is woefully inadequate and is inconsistent with previous conclusions reached by the City of Los Angeles in environmental impact reports. The discussion of cumulative impacts in Sections 4.10 and 4.11 of the EIS/R consists of a description of the Master Plan area and the following statement:

> Areas surrounding the study area consist largely of developed areas with little or no habitat value. However, two biologically significant open spaces, the Ballona Wetlands and the Ballona Bluffs, remain extant within the vicinity of the study area.[97]

However, in the Final Environmental Impact Report for the West Bluffs Project — a project to build residences on the last open space on the Ballona Bluffs — the City of Los Angeles found:

> The contribution of the proposed project to impacts on plant and animal life from ongoing development in the region is not considered to be significant, due to the disturbed nature and correspondingly low resource value of the project site.[98]

The current EIS/R is inconsistent with the above statement. To the contrary, the current EIS/R states that:

> The cumulative impacts on biotic communities from development of the LAX Master Plan Improvements, and other proposed projects in the area, most notably the Playa Vista Master Plan Project and the Catellus residential proposal on the Ballona Bluffs, are considered significant due to the limited amount of extant natural habitat in the vicinity of the study area, particularly wetlands.[99]

The EIS/R then argues that implementation of the LAX Master Plan will not contribute to these cumulative impacts. The City of Los Angeles seems to claim that whichever project is under review does not contribute to cumulative impacts, yet once approved, the City's subsequent environmental review documents acknowledge that projects did contribute to cumulative impacts. The reality is that both the Catellus West Bluffs Project and the LAX Master Plan will contribute to significant cumulative impacts on natural resources.

Upland foraging habitat for grassland songbirds and raptors will be nearly eliminated by the combination of the LAX Master Plan, the West Bluffs Project, Playa Vista Phase I, and the potential

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96. Suarez, A.V., J.Q. Richmond, and T.J. Case. 2000. Prey selection in horned lizards following the invasion of Argentine ants in southern California. *Ecological Applications* 10:711–725.
97. EIS/R, pp. 4-663, 4-706.
98. City of Los Angeles. October 1998. EIR No. 91-0675. West Bluffs Project Section IV.D.3.
99. EIS/R, p. 4-664.

Playa Vista Phase II. The Ballona Creek watershed (with the exception of the Baldwin Hills) will no longer support many bird species as a result of the cumulative impacts of these developments. Western meadowlark, white-tailed kite, California horned lark, loggerhead shrike, sharp-shinned hawk, northern harrier, Cooper's hawk, and American kestrel will experience significant declines in suitable habitat as a result of these cumulative impacts. Peregrine falcon will experience significant losses of foraging habitat. Many birds associated with the Ballona Wetlands forage in upland habitats, especially during the winter and spring rains. For example, great blue heron and snowy egret forage in the ephemeral wetlands at LAX and the West Bluffs site. If all of these projects are completed, all remnants of vernal pools in the northern portion of the former Los Angeles Coastal Prairie will be obliterated. Vernal pool hydrology at the West Bluffs site and at LAX would be destroyed, yet the EIS/R claims that no significant cumulative impacts will result from the project.

This is the end of the line for open space in west Los Angeles. The City of Los Angeles must recognize that the current project, plus the others previously approved by the City, have significant, irreversible, cumulative impacts on biological resources.

4.0 Mitigation Measures

The mitigation measures that rely on the "modified Habitat Evaluation Procedure" are insufficient to offset the significant impacts that would result from the build alternatives. The use of "Habitat Units" in mitigation measures MM-BC-2, MM-BC-4, MM-BC-5, MM-BC-6, and MM-BC-7 is fundamentally flawed.

The all-purpose mitigation measure "Conservation of Faunal Resources" (MM-BC-4) is completely inadequate to address impacts to sensitive species from the project alternatives. The conversion to "Habitat Units" is spurious; all mitigation must replace lost habitat with an equal or greater area.

4.1 Lewis' Evening Primrose

Mitigation for Lewis' evening primrose does not ensure that a replacement population of the species will be created, only that more individuals will be grown on the El Segundo Dunes, where the species is already found. In addition to establishing a numerical goal for the number of individuals to be replaced, mitigation should ensure the area occupied by the species will increase by at least the 2.5 acres that would be lost. Because there is a risk-spreading benefit in the disjunct configuration of the impacted population, the mitigation site should be geographically distinct from currently occupied sites.

4.2 Western Spadefoot Toad

Mitigation for the western spadefoot toad ignores the geographic configuration of the impacted population(s). These toads are found in four distinct ephemerally wet areas on the LAX property, all of which would be destroyed by the build alternatives. Division of the population into separate, hydrologically distinct pools with different cachements is a benefit to the population. Mitigation for these losses cannot be achieved through creation of 1.24 acres of ideal habitat (the "Habitat Units"), but rather must consist of four separate pools and associated cachements of at least 9 acres.

The choice of mitigation location is important as well. The top choice would be on the areas of the former Los Angeles Coastal Prairie west of Pershing Drive. However, the EIS/R claims that allowing a vernal pool in this area would encourage bird life as well, and would therefore pose a hazard to aircraft.

If off-site mitigation is necessary, the first choice should be the West Bluffs property, currently subject to development by the Catellus Corporation. The West Bluffs site has vernal pool hydrology and is the only candidate site within a reasonable distance of LAX. Distant sites such as Madrona Marsh and potentially California State University Dominguez Hills (where spadefoot toads possibly persist in a vernal pool but are subject to imminent extirpation from construction), should be utilized only in addition to a more proximate site. If no proximate sites are secured (e.g., the West Bluffs property is unobtainable), then the conclusion of the EIS/R must be that the impacts to the species cannot be mitigated to a less than significant level. Without the LAX population, or a possible West Bluffs replacement, the range of the species in the region will be significantly diminished, even with more distant offsite mitigation.

4.3 Riverside Fairy Shrimp

A similar analysis applies to the proposed mitigation for the loss of habitat for the Riverside fairy shrimp. The species is currently found in at least nine areas affected by the build alternatives. The proposed mitigation is for "no more" than 1.3 acres of replacement habitat.[100] To the contrary, loss of this occupied habitat should be mitigated by provision of nine pools with associated upland cachement areas to support vernal pool hydrology. While the mitigation measure suggests one location with 0.75 habitat value (i.e. restoration of vernal pool plants and other vernal pool characteristics), it is more important to the fairy shrimp that multiple locations be acquired. Population models for species found in habitat patches (e.g., metapopulations) show that persistence is enhanced not by density at a single site — although patch size is important — but by maximizing the number of occupied patches.[101] To trade occupied sites for other biological values such as presence of sensitive plant species decreases the long-term persistence possibilities for the fairy shrimp. Certainly full vernal pool restoration would be a noble conservation goal, but it does not mitigate the impacts to the Riverside fairy shrimp. The potential mitigation sites should be chosen by proximity to LAX. The West Bluffs site could provide one, possibly two pools. Additional pools should be identified to mitigate fully the impacts to the species.

4.4 San Diego Black-tailed Jackrabbit

As discussed above, the proposed mitigation for the San Diego black-tailed jackrabbit is insufficient to offset the losses to the species. The loss of 119 acres of occupied habitat must be offset by the provision of at least 119 acres of additional habitat. The EIS/R provides no evidence to show that the species can be supported at similar densities in the Habitat Restoration Area on the dunes, nor that the "Habitat Units" of restoration on the dunes will make the area more suitable for jackrabbits. Black-tailed jackrabbits require mixed grasses, forbs, and shrubs for food; dune scrub may provide less preferred forage than exotic grassland. The Habitat Restoration Area therefore may support lower densities of the species than currently occupy the 119 acres of exotic grassland. Furthermore, the EIS/R provides no estimate of the size of the population to be impacted, or the diel[102] patterns of movement exhibited by the species, information that is necessary to formulate an effective mitigation measure. Any release program on the El Segundo Dunes must be accompanied by a humane control program for the exotic red fox (*Vulpes vulpes*).

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100. EIS/R, p. 4-708.
101. Hanski, I. 2000. *Metapopulation ecology*. London: Oxford University Press.
102. "Diel" refers to a 24-hour period, a full day and night.

4.5 Loggerhead Shrike

The EIS/R proposes to mitigate for loss of occupied loggerhead shrike habitat (172 acres) with restoration on the El Segundo Dunes in the form of 22.88 "Habitat Units." Implicit in this proposal is the assumption that the density of loggerhead shrikes on the El Segundo Dunes can be increased to accommodate those displaced by the loss of 172 acres of occupied habitat. The EIS/R provides no information about densities of loggerhead shrike to support this implicit assumption. To the contrary, because the El Segundo Dunes are already occupied with breeding loggerhead shrikes, and the shrike's use of habitat is not tied to whether the vegetation is native or not (or to the arbitrary habitat standards of the HEP), restoration on the El Segundo Dunes is not likely to appreciably increase the density of shrikes found there. Mitigation for this impact must be found elsewhere, in the form of 172 acres of shrike habitat. Loggerhead shrike are found at the West Bluffs site, but the site is only 44 acres and so could only offer partial mitigation for impacts at LAX. Other additional mitigation sites include properties covered under the Playa Vista master plan, or in the Baldwin Hills. However, if 172 acres of shrike habitat in addition to the El Segundo Dunes cannot be identified and acquired as mitigation, then the significant impact to this species cannot be mitigated to a less than significant level. The impacts are certainly not mitigated by the proposal to provide 23 extra "Habitat Units" in currently occupied habitat.

4.6 Los Angeles Coastal Prairie

Prescriptions for restoration of Valley Needlegrass Grassland described in MM-BC-5, MM-BC-6, and MM-BC-7 are not consistent with evidence of the historic vegetation in the area, which Mattoni and Longcore have described as Los Angeles Coastal Prairie. The prescription is for a needlegrass dominated habitat, with four common subshrubs. First, five plant species are insufficient to restore this habitat type; the actual plant diversity of the habitat was significantly higher. Second, the relative abundance of species is nothing approaching historical conditions. A transect along a historic photograph of the Coastal Prairie (or "meadow" as described by Pierce[103]), shows the following coverage: *Lupinus bicolor* (39%), *Camissonia bistorta* (18%), *Phacelia stellaris* (14%), *Lotus strigosus* (8%), *Festuca megalura* (4%), *Cryptantha intermedia* (1%), and open (16%).[104] A mitigation measure should bear at least some resemblance to the vegetation type that it proposes to emulate. Furthermore, the standard of 10% native cover for successful restoration is outrageous. The claim that this is defensible because 10% is deemed significant for the identification of a native grassland by the California Department of Fish and Game is equally stunning. Ten percent cover represents the most degraded grasslands, not a standard to achieve in restoration. If the success criterion for grassland mitigation were followed, the vegetation created would score very low on the "modified" HEP touted in the EIS/R.

4.7 Restoration Performance Criteria

The performance criteria for the restoration efforts are all exceedingly weak. The only quantifiable standard for revegetation performance is attainment of native cover, the highest of which is 45%. Ecologists have developed many measures of habitat quality that are be available to define performance

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103. Pierce, W.D. 1938. The fauna and flora of the El Segundo sand dunes: 1. General ecology of the dunes. *Bulletin of the Southern California Academy of Sciences* 37(3):93–97.
104. Mattoni, R., and T.R. Longcore. 1997. The Los Angeles Coastal Prairie, a vanished community. *Crossosoma* 26(2):71–102, at 87.

standards for revegetation, including many measures of plant diversity and plant structure.[105] Wetland mitigation must meet stringent standards quantifying wetland functions and values.[106] Terrestrial arthropods have been used to assess the performance of revegetation in re-creating native habitats.[107] The performance criteria for restoration should provide more ecological information than simply percent native cover, especially when so many measures are readily available. Without true ecological assessment of restored areas, the success of the mitigation will be forever unknown.

4.8 Raptor "Nursery Sites"

Insufficient information about the impact to raptors using mature trees is provided to allow assessment of whether the mitigation measure (MM-BC-3) would be effective for replacement of mature trees. The location of this mitigation would be important, and the destruction of nearly all of the open space used for foraging by raptors may render "nursery sites" extraneous, with no raptors to use them.

5.0 California Coastal Act

None of the build alternatives in the Master Plan would be consistent with the California Coastal Act. First, there would be many impacts to the environmentally sensitive habitat area on the El Segundo Dunes through the indirect effects of increased construction, light, landscaping, pollution, and road construction. The mitigation measures proposed are insufficient to mitigate for these significant disruptions of habitat values. Even though the development is designed to occur outside the coastal zone boundary, Section 30240(b) of the Coastal Act provides that:

> Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.[108]

Second, the EIS/R does not discuss impacts to marine biological resources, which could occur as a result of runoff into and jet fuel dumping over the ocean. Impacts to marine biological resources should be described and appropriate changes implemented before preparation of a final EIS/R.

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105. Magurran, A.E. 1988. *Biological diversity and its measurement*. Princeton: Princeton University Press, 179 pp.
106. Rheinhardt, R.D., M.M. Brinson, and P.M. Farley. 1997. Applying wetland reference data to functional assessment, mitigation, and restoration. *Wetlands* 17(2):195–215.
107. Mattoni, R., T. Longcore, and V. Novotny. 2000. Arthropod monitoring for fine scale habitat analysis: a case study of the El Segundo dunes. *Environmental Management* 25(4):445–452. Bisevac, L., and J.D. Majer. 1999. Comparative study of ant communities of rehabilitated mineral sand mines and heathland, Western Australia. *Restoration Ecology* 7(2):117–126. Holl, K.D. 1996. The effect of coal surface mine reclamation on diurnal lepidopteran conservation. *Journal of Applied Ecology* 33(2):225–236. Longcore, T.R. 1999. Terrestrial arthropods as indicators of restoration success in coastal sage scrub. Ph.D. Thesis, Department of Geography, University of California, Los Angeles. Parmenter, R.R., and J.A. Macmahon. 1987. Early successional patterns of arthropod recolonization on reclaimed strip mines in southwestern Wyoming [USA]: the ground-dwelling beetle fauna (Coleoptera). *Environmental Entomology* 16(1):168–177. Wheater, C.P., W.R. Cullen, and J.R. Bell. 2000. Spider communities as tools in monitoring reclaimed limestone quarry landforms. *Landscape Ecology* 15(5):401–406. Williams, K.S. 1993. Use of terrestrial arthropods to evaluate restored riparian woodlands. *Restoration Ecology* 1:107–116. Williams, K.S. 1997. Terrestrial arthropods as ecological indicators of habitat restoration in southwestern North America. Pp. 238–258 in K.M.N.R.W. Urbanska and P.J. Edwards (eds.). *Restoration ecology and sustainable development; First International Conference, Zurich, Switzerland*. Cambridge: Cambridge University Press.
108. California Public Resources Code § 30240(b).

6.0 Conclusion

The EIS/R treatment of biological resources represents the result of significant effort and expenditure on the part of the preparers. Unfortunately, the resulting analysis is deeply flawed, unscientific, and improperly reaches the conclusion that the mitigation measures would reduce impacts to a less than significant level. To the contrary, implementation of any of the three build alternatives would be catastrophic for the biological resources on the project site and result in a significant local and cumulative impact on sensitive species. If approved and implemented, the Master Plan will permanently degrade the diversity and abundance of native wildlife in west Los Angeles. The last refuges of birds and mammals depending on large open spaces will be erased from the landscape.