3. ALTERNATIVES (INCLUDING PROPOSED ACTION)

The Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) call the analysis of alternatives the heart of the Environmental Impact Statement (EIS). These regulations require federal decision-makers to:

- Rigorously explore and objectively evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the federal agency; and for alternatives that were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- Devote substantial treatment to each alternative considered in detail, including the no action alternative and the preferred alternative, so that reviewers may evaluate their comparative merits.

CEQ guidance defines "reasonable alternatives" as those that are practical or feasible from the technical and economic standpoint. Federal courts have clarified that "reasonable alternatives" are those that might accomplish the purpose of a proposed project, and that alternatives that fail to satisfy the basic project objectives may be excluded from consideration.

The guidelines implementing the California Environmental Quality Act (CEQA) are contained in Title 14, Division 6, Chapter 3 of the California Code of Regulations (CEQA Guidelines). Section 15126.6(a) of the CEQA Guidelines states that an Environmental Impact Report (EIR) shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

Therefore, this discussion is limited to the reasonable alternatives that are considered practical and feasible for achieving the overall purpose and most of the basic objectives of the project. The alternatives considered in this chapter relate solely to the Master Plan objective to improve the operation of LAX.

Other alternatives, including those not within the jurisdiction of the lead agency, but required for the EIS are discussed in Chapter 1, *Regional Context*. These include other approaches to satisfying the region's transportation needs such as alternative modes of transportation and dispersal of growth to other regional airports. Chapter 1, *Regional Context*, provides the reasons for their elimination. Because these approaches would not satisfy the basic purpose and objectives of the project, they were not considered reasonable alternatives to the proposed action and are addressed here only briefly.

3.1 Alternatives Examined, Including Those Rejected from Further Consideration

This section reviews the alternatives discussed in Chapter 1, *Regional Context*, that were rejected from further consideration and analyzes other reasonable alternatives that could possibly meet the purpose and objectives of the project as outlined in Chapter 2, *Purpose and Need for the Proposed Action*, but that were rejected from further consideration because of various factors. This section provides an overview of these alternatives and the reasoning and process of elimination.

Three approaches are available to meet the project's purpose and objectives:

- Off-site Alternatives: Alternate modes of transportation and use of other airports in the Los Angeles region as discussed in Chapter 1, *Regional Context*.
- Aviation Activity or Demand Management Concepts: Developing measures to limit or redistribute airport use through pricing or regulatory actions. These management and regulatory controls would be intended to avoid, reduce, or delay the need for airport improvements.
- LAX Development Concepts: Developing alternative airfield and facility designs for improvement projects at LAX. These concepts may provide increased capacity and operational efficiency through structural changes or additions to the airport.

3.1.1 Alternate Modes of Transportation and Off-Site Alternatives

3.1.1.1 Alternate Modes of Transportation

Chapter 1, *Regional Context*, discusses other modes of transportation - highway, rail, and ocean surface vessels - and other modes of communication - video conferencing and telecommunications. In both cases it was concluded that, while these are important and growing technologies that may have some impact in reducing the demand for air transportation, the overall effect is small.

All other modes of transportation do not compete well with air travel in terms of convenience and price. Table F1-14, Major Los Angeles Region Domestic and International Passenger Markets, displays the large differences in travel time between highway and air travel, and the differences for rail and ocean are even greater. Neither the California High-Speed Rail Authority's proposed plans for a statewide high-speed rail (HSR) system nor SCAG's proposed Maglev train systems are expected to be operational within the 2015 forecast horizon for the LAX Master Plan. Cost in terms of both fares and travel costs are often lower for air travel. Other modes cannot satisfy demand for international travel. Air travel is the fastest growing mode of transportation for both passengers and freight and the availability of other modes does not and, in some cases, cannot replace the growing demand for air travel.

New electronic technologies will have little effect on leisure travel, particularly international leisure travel that comprises over 50 percent of the demand at LAX. The rapidly growing information technology industry is fueling the growth in demand for air travel. Also, these new technologies may actually increase the demand for air cargo due to rising internet sales. It is estimated that electronic communications may reduce the demand for business travel by only a few percentage points. Alternate modes of transportation and communication are not considered feasible or practical alternatives for the need to improve LAX and were thus rejected from further consideration.

3.1.1.2 Alternate Airport Locations

Use of other airports in the region or "dispersal of growth" is considered in Chapter 1, *Regional Context.* Market forces and the regulatory structure of the commercial air transportation industry favors and promotes the continued development and use of primary airports such as LAX. Passengers and air cargo shippers tend to use the most convenient airport and the airport with the most services. LAX is located within the highest concentrations of population and businesses needing air transportation, making it one of the most convenient airports for over 50 percent of the Los Angeles region's air travelers and air cargo shippers. LAX has the greatest investment in airport facilities and related infrastructure within the region and has the largest number of airline connections. The airlines, not government, dictate where air service will be provided and the airlines will tend to select airports that are convenient to their customers so they can maximize their investments and gain competitive advantages.

Chapter 1, *Regional Context*, reviews existing and potential commercial service airports in the Los Angeles region for their ability to attract and maintain airline service. Many of these airports have growth constraints arising from some combination of limited physical size; physical, man-made, or natural impediments to expansion; policy limits imposed by ordinances, plans or agreements of the local jurisdiction that operates the airport; capacity limits on surface transportation facilities; and various environmental problems. Palmdale and Ontario Airports (owned by LAWA) are being given every advantage to increase their levels of service. However, increased levels of service at Palmdale and Ontario Airports will not replace the need to modernize LAX to meet the various project objectives, including maximizing the return on existing infrastructure capital and sustaining the international trade component of the regional economy. While it is recognized that other commercial service airports in the region will continue to grow and to serve a greater share of the regional demand, development of other regional airports is not within the scope or responsibility of the LAX Master Plan. The alternatives evaluated within this Final EIS/EIR for the LAX Master Plan do, however, include an option (i.e., Alternative D) that is consistent with the policy framework of the Southern California Association of Governments (SCAG) 2001 and Draft 2004 Regional Transportation Plans (RTPs). These RTPs call for not expanding the capacity of LAX in order to encourage the accommodation of future aviation demand at other commercial airports in the region.

3.1.2 Aviation Activity or Demand Management Alternatives

Other suggested alternatives to the Master Plan improvements for LAX include air traffic demand management and activity restrictions. The aim of such measures is to limit or redistribute airport use through pricing or regulatory actions in order to delay or eliminate the need for airport improvements.

Displacing general aviation (GA) operations to other airports to free space at LAX for commercial airliners was considered as a potential alternative to the project. GA encompasses all types of aviation except commercial air carriers and military operations and usually refers to private aircraft that are smaller than air carrier aircraft. GA includes limited commercial uses such as charters, but the vast majority of GA encompasses personal, corporate, recreational flying, and diverse activities such as pilot training, news reporting, and public services. An extensive system of reliever airports exists in the Los Angeles region which contains some 40 GA airports. Potential receptor airports for GA operations displaced from LAX would include Burbank, Compton, El Monte, Hawthorne, Long Beach, Santa Monica, Van Nuys, and Torrance. All public use airports such as LAX are freely accessible to GA aircraft, and various federal regulations limit the ability of an airport operator to restrict airport use to any class of aircraft.

However, GA operations have been a small and declining portion of the operations at LAX. In 1970, there were over 67,000 annual GA operations comprising 12.3 percent of all operations at LAX. In 1996, GA operations totaled only 28,000 operations or 3.66 percent of all operations. GA operations are forecast in 2015 to increase to approximately 35,000 to 37,000 operations per year or 4.4 percent of the total. GA operations tend to occur during non-peak hours when the airspace and runways are less congested with large commercial aircraft. The two GA facilities presently at LAX utilize 14 acres of the 3,000 acre airfield or about 0.47 percent of the total area. The build alternatives would reduce the GA space to only 4 to 6 acres. GA operations constitute a small proportion of the operations and land use at LAX, therefore removing them would not provide significant capacity for commercial air transportation. Additionally there are difficult legal issues involved with restricting airport use by class of aircraft. Therefore, restricting GA operations is not a reasonable or practicable alternative to the Master Plan improvements. However, the shifting of GA operations to other nearby regional airports has occurred voluntarily by aircraft operators wishing to avoid the high level of large jets using LAX.

Several other demand management strategies are already in use at LAX and affect the number and peaking of aircraft operations. Yield management, which is a ticket pricing strategy to increase load factors (the percentage of seats filled on any given flight), is a common practice among airlines to encourage passengers to take typically underbooked flights. Central Flow Control, conducted on a national basis by the FAA, reduces airborne congestion and delay by holding aircraft on the ground at their origination airport until capacity at a destination airport, such as LAX, is available.

Other demand management strategies that were considered to reduce the need for Master Plan improvements include:

- Shifting other classes of aircraft, such as commuters or all-cargo, elsewhere within the system of regional airports.
- Using aircraft with larger average seating capacity.
- Achieving higher load factors.
- Shifting aircraft operations to non-peak periods of the day.

These strategies could be implemented through mandatory or voluntary means. Federal law (including the Airport Noise and Capacity Act of 1990) limits the City of Los Angeles' authority to place restrictions on aircraft activity at LAX. However, LAWA may encourage airlines to adopt some or all of these strategies through pricing policies or negotiated agreements.

Additional airspace and airfield capacity could be obtained by diverting commuter aircraft operations to other regional airports. This shift in air service pattern is predicted to occur unassisted as the airfield system reaches its practical capacity under the three four-runway alternatives (No Action/No Project and Alternatives C and D). However, much of the commuter traffic at LAX connects to international and long-haul domestic operations, making it impractical to divert all commuter operations while still meeting the project's purpose and objectives.

The use of pricing policies (offering lower landing and operations fees, for instance) by the airport operator to induce airlines to decrease operations, increase average seat size or load factors, or move to

non-peak hour periods is not considered an effective strategy. On average, only three to six percent of airline operating costs are associated with the operating fees charged at airports, which means that airlines base their decisions about the type and service offered on other factors such as fuel costs and ticket prices. The airlines at LAX are already taking steps to increase their ability to serve demand by voluntarily using larger aircraft with higher load factors and scheduling flights during less congested periods (peak spreading) in response to capacity constraints and increased competition. Pricing policies designed to encourage these practices are unlikely to produce significant additional benefits in terms of airport capacity, while setting fees to discourage operations would reduce airport income and lower the service available to the public.

For these reasons, activity or demand management alternatives would not meet the project objectives nor prevent the need for improvements at LAX.

3.1.3 Development Concepts

The LAX Master Plan process investigated a variety of airfield configurations, roadway alignments, cargo facilities, and passenger terminal designs before selecting the developmental, or build, alternatives to evaluate in detail. This investigation entailed three separate analyses, or *iterations,* as described below:

3.1.3.1 1st Iteration: Concept Development

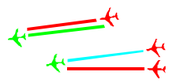
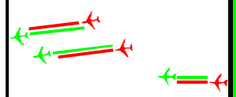
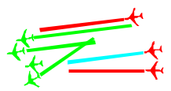
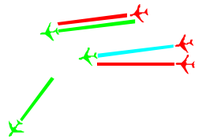
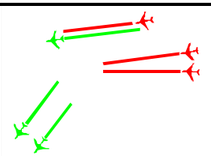
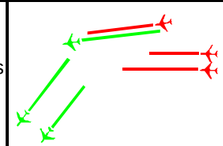
Upon completion of the inventory of existing conditions and the forecasts for air transportation demand, Phase II of the Master Plan began in the fall of 1995 by investigating basic runway configurations to serve the forecast LAX demand. (A detailed description of the process that developed the airfield themes and concepts was included in Chapter V, *Concept Development*, of the Draft LAX Master Plan.) Each of the 1st iteration options was analyzed for its airfield performance, construction and implementation feasibility, cost, transportation and ground access, and major environmental and land use impacts. The analysis conducted during the 1st Iteration Concept Development as summarized here is illustrated in **Figure F3-1**, 1st Iteration Concept Development.

Minimal Change Theme: This theme considered options in which improvements at LAX would stay within the existing airport property. The airfield design that emerged from this theme and was carried forward into the next iteration of design (Option 1) was a new Runway 7R/25L, which would be relocated at an angle in relation to the existing Runway 25R to provide more separation between the arrival streams of Runways 25R and 25L.

New Airport Theme: This theme considered replicating virtually the entire airport facility on newly acquired land immediately adjacent to the existing airport property, which would require substantial land acquisition. The new airport theme alternatives would satisfy the aviation needs at LAX, as the facilities would operate efficiently and meet the projected air travel demand. Called Options 6, 7, and 8, respectively, the designs considered in this theme included an ocean airport concept, a Westchester airport concept, and an El Segundo airport concept. Despite their long-term capacity potential, it was determined that the new airport options could not feasibly be implemented because of costs, neighborhood disruption, and approval requirements from jurisdictions outside of the City of Los Angeles. Therefore, no concept for a completely new airport was carried forward into the 2nd iteration for further analysis.

Major Expansion Theme: As a compromise between the new airport theme and the minimal change theme, a major expansion theme was considered in which a portion of the airport facility requirements would be satisfied by developing outside the existing property boundaries. Called Options 2, 3, 4, and 5 (a and b) respectively, the designs considered in this theme included redevelopment of the Hawthorne Airport to provide runway capacity for commuter aircraft, a crosswind concept, a single ocean runway option, and two ocean runways option (either 5a, converging, or 5b, parallel). Five of the major expansion options were carried forward into the 2nd iteration for further analysis.

As illustrated in **Figure F3-1**, the minimal change option and five major expansion options were, therefore, carried forward and identified as the following:

Development Themes	1st Iteration Options		2015 Airside Performance	Implementation				Environment			Community		Transportation/ Access (P)	Post 2015 Potential
				Cost	Phasing	Land	Ocean	Noise	Dunes	Marine	Population/ Housing	Collateral Opportunity		
Existing Airfield	- -													
Minimal Change	1. Minimal Change		P											
Major Expansion	2. Hawthorne		T								P			P
	3. Crosswind								P&T	P	P			P
	4. One Ocean Runway								P	P				
	5a. Two Ocean Runways (Converging)								P	P				
	5b. Two Ocean Runways (Parallel)									P				

LEGEND
P = Policy Issue
T = Technical Issue

Go - Okay to Proceed
Caution - Issues To Be Addressed
Show Stopper

Preparedby:Landrum&Brown,June2000

LAX Master Plan Final EIS/EIR

1st Iteration
Concept Development

Figure
F3-1

- Option 1 Minimal Change Concept - New runway on the south airfield relocated to permit a third arrival stream.
- Option 2 Hawthorne Concept - Redevelop the Hawthorne Airport to provide runway capacity for commuter aircraft and provide a transit link to LAX.
- Option 3 Crosswind Concept - Add two intersecting runways on the west end between the existing runways.
- Option 4 Single Ocean Runway Concept - Construct one additional runway in the ocean, linked by a taxiway.
- Option 5a Two Ocean Runways Concept (Converging) - Construct two runways in the ocean with runways on the south airfield converging.
- Option 5b Two Ocean Runways Concept (Parallel) - Construct two runways in the ocean with runways on the south airfield parallel.

3.1.3.2 2nd Iteration: Concept Development and Refinement

Between March and October 1996, a 2nd iteration of concept development was initiated, based on the six options carried forward from the 1st iteration (see **Figure F3-2**, 2nd Iteration Concept Development). During this process, more than 20 development concepts relating to the minimal change option and the three major expansion options were produced and evaluated. (A detailed description of the concepts, the analysis, and the selection process is contained in the Chapter V, *Concept Development*, of the Draft LAX Master Plan.) The 2nd iteration set strategic goals, developed site-specific themes, identified technical and political issues, developed concepts, performed analyses, and solicited direction and feedback from community leaders. Specific issues and design constraints were evaluated that led to eliminating some concepts and modifying others.

Several factors emerged to eliminate many concepts. Ocean development was deemed infeasible due to cost, construction difficulty, and environmental concerns. (A study was conducted by Bechtel Corporation entitled "Constructability Review for LAX Master Plan 2nd Iteration Concepts, dated September 30, 1996 on the feasibility of ocean runways.) Expansion of runways to the west and ocean runways which would involve the use of the Los Angeles/El Segundo Dunes were eliminated from further consideration due to potential impacts on this environmentally sensitive area. The concepts of expanding into Westchester and the City of El Segundo were given considerable attention, but the large scale acquisition of homes was extremely expensive and would result in community disruption inconsistent with the Board of Airport Commissioners' goal of protecting surrounding neighborhoods.

Four concepts from the 2nd iteration were carried forward into the 3rd iteration for further analysis:

- **Concept 1:** Build a fifth runway on the north airfield and relocate the existing north airfield runways southward to increase separation, and relocate the south airfield runways for increased separation.
- **Concept 2:** Build two new 6,000-foot runways, one on the north airfield and one on the south airfield. Shift and extend other runways to the east.
- **Concept 3:** Build two new 6,000-foot runways as in Concept 2, but shift the north airfield runways westward.
- **Concept 4:** Develop a 6,000-foot runway at the existing Hawthorne Airport and connect the airport to LAX via transit.

3.1.3.3 3rd Iteration: Alternative Development and Refinement

The essence of the 3rd iteration began in July 1997, when the four alternatives developed in the 2nd iteration were given extensive public review as part of a comprehensive scoping process for the environmental review documents. The design alternatives of this 3rd iteration are depicted in **Figure F3-3**, 3rd Iteration Concept Development and Refinement. The comments from the public review represented a broad spectrum of organizations, individuals, agencies, and jurisdictions:

- Westchester residents opposed a new runway north of the existing runway complex.
- El Segundo residents opposed relocation of the existing south outboard runway.
- The airlines preferred the airfield configurations that provided greater instrument weather capacity.

- The U.S. Fish and Wildlife Service objected to any encroachment into the potential habitat for the El Segundo blue butterfly, a federally listed endangered species.
- The City of Hawthorne expressed its strong opposition to the development of a commuter runway for LAX at its airport within its jurisdiction along with opposition from the airlines using LAX.

After the public scoping process, it was concluded that Alternative 4 was not practical because of strong opposition from the City of Hawthorne. Excessive time would be required to implement the project since Hawthorne must approve LAX projects within their jurisdiction. Airline concerns about the operational impacts on flight schedules and longer connecting passenger processing time also contributed to the elimination of Alternative 4. Alternative 3 was eliminated because Alternative 2 provided the same new runways and airport facilities as Alternative 3 but without any potential intrusion west into the dunes.

After Alternatives 3 and 4 were eliminated from further consideration, a new alternative was developed. The new alternative (the current Alternative B) relocated cargo facilities to the Manchester Square area, allowing a new runway to be built on the south airfield.

The next step was an intensive environmental analysis of the remaining three alternatives: Alternatives 1 and 2 and the new alternative (the current Alternative B) that replaced Alternatives 3 and 4. This analysis addressed all factors included in an EIS/EIR. These alternatives all met the aviation demands of the region.

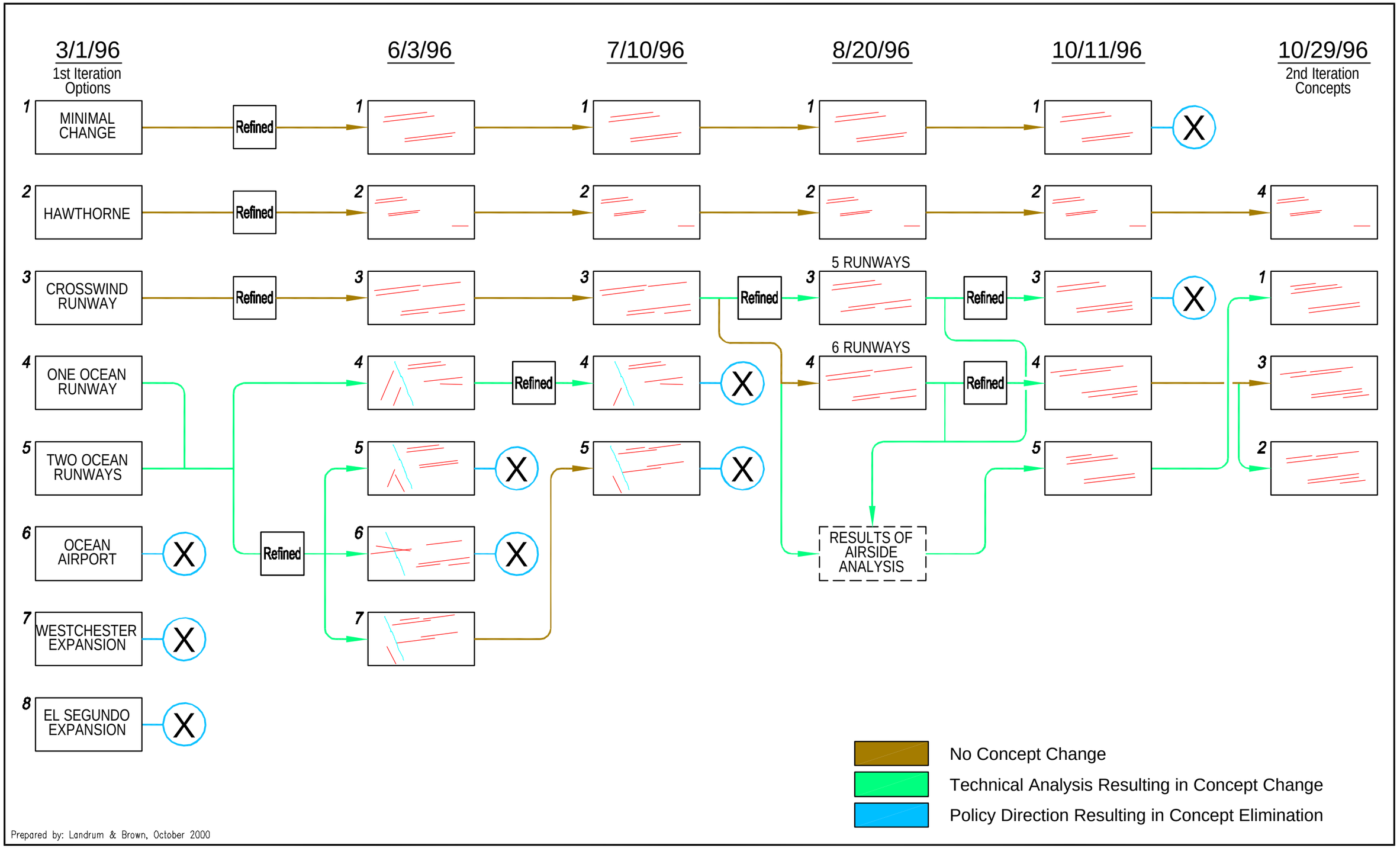
The environmental analysis prompted the elimination of the Six-Runway Alternative (Alternative 2). After consultation with the FAA, LAWA determined that this alternative was not practical or feasible due to much higher land acquisition requirements, reduced air service, very high noise impacts to newly affected areas, and difficult construction.

The environmental analysis of the other two alternatives (Fifth Runway, North Airfield and Fifth Runway, South Airfield) indicated potential impacts relating to air quality, noise, business interruption (land acquisition), and disruption of airfield operations. Aircraft emissions particularly oxide of nitrogen (NO_X) were projected to exceed applicable standards. Aircraft noise associated with additional runways was projected to expose additional residences to noise levels in excess of 65 Community Noise Equivalent Level (CNEL). Land acquisition would affect a large number of businesses and community facilities. Finally, the demolition and relocation of terminal and cargo building space as well as runways and taxiways would create extensive disruption during the construction period.

In view of these potentially significant impacts, the decision was made by LAWA and the FAA to develop a scaled-down (four-runway) alternative, as CEQA Guidelines suggest, that might "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." The new four-runway alternative would meet a portion of the region's aviation demand while fulfilling the overall project purpose and objectives with fewer and less severe environmental impacts. These three iterations of concept design, encompassing four years of effort, produced the three of the four build alternatives evaluated in this document: two five-runway alternatives (now identified as Alternatives A and B) and one four-runway alternative (Alternative C).

3.1.3.4 Development and Addition of Alternative D

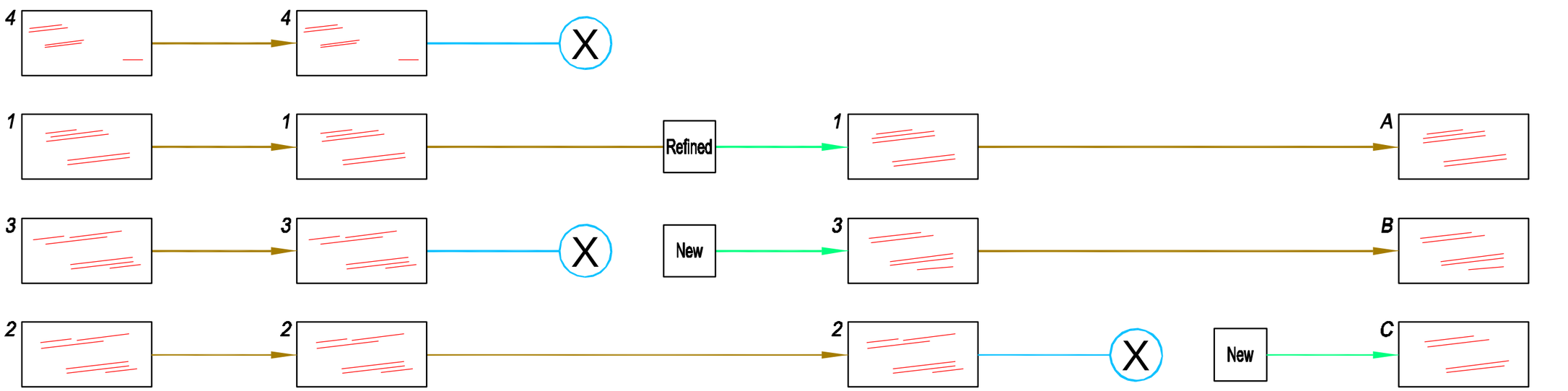
Following the publication of the Draft LAX Master Plan and the Draft EIS/EIR in January 2001, public comment received during the review period for the Draft EIS/EIR called for a regional approach alternative, whereby growth at LAX would be planned so as to encourage other airports to accommodate a greater share of future air travel demand. In addition, the terrorist attacks that occurred on September 11, 2001, greatly elevated the issue of airport security. In response to these events, the newly elected Mayor of Los Angeles directed the Los Angeles Board of Airport Commissioners to develop a new LAX Master Plan alternative that, consistent with public comment calling for a regional approach alternative, would be designed to accommodate passenger and cargo activity levels at LAX that would approximate those of the No Action/No Project Alternative, have fewer environmental impacts than the No Action/No Project Alternative and, in light of the events of September 11, 2001, would be designed to enhance airport safety and security.



Prepared by: Landrum & Brown, October 2000

LAX Master Plan Final EIS/EIR	**2nd Iteration Concept Development**	Figure **F3-2**

10/29/96	July, 1997	1997-1998	1998-1999	1999	2000
2nd Iteration Concepts	Scoping	Scoping Results	Environmental Review	Environmental Review Results	LAX Master Plan Draft EIS/EIR



No Concept Change

Technical Analysis Resulting in Concept Change

Policy Direction Resulting in Concept Elimination

Prepared by: Landrum & Brown, October 2000

LAX Master Plan Final EIS/EIR	**3rd Iteration** **Concept Development and Refinement**	Figure **F3-3**

Alternative D, the Enhanced Safety and Security Plan, was developed in consultation with LAWA staff and the FAA as a fifth alternative within the existing Master Plan process. Facilities that comprise Alternative D are designed to serve 78.9 million annual passengers (MAP) and 3.1 million annual tons (MAT) of air cargo activity, which is similar to the activity level identified in the scenario adopted by the SCAG's Regional Council for the 2001 Regional Transportation Plan (2001 RTP). This level of aviation activity is also equivalent to the No Action/No Project activity level, which is projected to accommodate 78.7 MAP and 3.1 MAT of air cargo. The facilities planned for Alternative D would reduce airport congestion and delay by accommodating less of the projected regional aviation demand at LAX than Alternative C and would encourage the growth of aviation activity at airports other than LAX. Alternative D would also reduce environmental impacts of the airport as compared to the No Action/No Project Alternative.

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.

Airport improvements included in Alternative D would increase passenger convenience by replacing existing remote gates with contact gates, improve roadway access to curbfront and parking areas by decentralizing ground access points and reduce airfield operational delays, as compared to the No Action/No Project Alternative, by improving the airfield layout to fit the future aircraft fleet. These physical improvements are also intended to enhance the safety and security of passengers, employees, visitors and aircraft at LAX over the No Action/No Project Alternative. A more detailed description of Alternative D and its design process is provided in this document in Section 3.3.2, *Alternative D - Enhanced Safety and Security Plan*.

3.2 Alternatives Fully Evaluated

This section describes the proposed alternatives and baseline conditions. Alternatives A, B, and C were discussed in detail in Chapter V, Concept Development, of the Draft LAX Master Plan, under Section 3.3, *Final Iteration Alternative Development and Refinement*. Alternative D was discussed in detail in Section 2, *Alternative D Development and Refinement*, of the Draft LAX Master Plan Addendum. Their full evaluation is the subject of Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*.

3.2.1 Summary of Alternatives

As required by NEPA and CEQA, the impacts of the four build alternatives fully assessed in this Final EIS/EIR are compared with a "no build" scenario. NEPA requires the alternatives analysis to include the alternative of "no action" (40 C.F.R. §1502.14(d)). The "no action" alternative under NEPA includes the consequences of predictable actions by others in the absence of federal action or approval of the project. CEQA requires analysis of a "no project" alternative which reflects the existing conditions as well as accounts for what would be reasonably expected in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

In accordance with NEPA and CEQA, the No Action/No Project Alternative is discussed as a potential alternative. This document analyzes the No Action/No Project Alternative through each of the factors assessed in Chapter 4, *Affected Environment, Consequences and Mitigation Measures*. (Note: mitigation measures do not apply to the No Action/No Project Alternative.)

The following alternatives are fully evaluated in this Final EIS/EIR:

- **No Action/No Project Alternative.** This alternative was initially defined at the outset of the environmental analysis, and was subsequently refined based on October 1998 revisions to the State CEQA Guidelines relative to how the no project alternative should be defined. The No Action/No Project Alternative includes, but is not limited to, anticipated operational changes such as the introduction of larger aircraft, all projects that are fully entitled, approved, those improvements that are entitled, approved, under construction or have been completed between 1997 (the baseline year), and the release of the Draft EIS/EIR. This includes taxiway improvements, passenger terminal improvements, reconstruction of an on-airport auto parking structure, cargo facility improvements, demolition of facilities on acquired real estate, and collateral development. Passenger and cargo volumes would continue to increase in response to projected demand. In addition, the No Action/No

Project Alternative includes additional projects and actions consistent with the 1981 Interim Plan, that would reasonably be expected to occur in the foreseeable future if the LAX Master Plan is not approved and/or that are predictable responses to increasing congestion at LAX that would be implemented in the absence of FAA action. For example, this alternative includes anticipated operational changes, such as the introduction of new larger aircraft. For the purpose of the EIS/EIR analysis, these improvements associated with the No Action/No Project Alternative, which did not exist at the time of the environmental baseline, are assumed to be completed by 2015, notwithstanding the fact that some of those improvements have now been completed, some may not be completed as planned, and some new improvements have been, or may be in the future, introduced. The assumptions used for the No Action/No Project Alternative include the known and reasonably foreseeable projects as applied consistently throughout the analyses in the Draft EIS/EIR and in the Supplement to the Draft EIS/EIR, which provide the basis of this Final EIS/EIR.

- **Alternative A - Added Runway North.** A new runway would be added to the north airfield. Some existing runways would be lengthened and all runways would be further separated from one another. New roadways, cargo facilities, and passenger terminal uses would be developed.
- **Alternative B - Added Runway South.** A new runway would be added to the south airfield complex, and some runways would be lengthened and all runways would be further separated from one another. New roadways, cargo facilities, and passenger terminal uses would be developed.
- **Alternative C - No Additional Runway.** The existing four runways would be improved by lengthening some and further separating all. New roadways, cargo facilities, and passenger terminal uses would be developed but the terminal facilities would be less extensive than under Alternatives A and B.
- **Alternative D - Enhanced Safety and Security Plan.** The existing four runways would be improved by lengthening some and further separating all. Extensive improvements to, and near, the existing Central Terminal Area (CTA) would be made, including relocation of the existing passenger curbfront to a new facility, the Ground Transportation Center, to be developed east of the CTA, the construction of an Intermodal Transportation Center, the development of a Consolidated Rental Car facility, and the development of an Automated People Mover (APM) that would connect to all of these facilities. The design of the airfield improvements and development of the new landside facilities are intended to enhance the safety and security characteristics of the existing airport, while serving a future level of airport activity comparable to that of the No Action/No Project Alternative.

This chapter also describes the baseline conditions used to compare and assess the potential impacts and significance of the alternatives under CEQA:

- **Environmental Baseline - Existing Conditions.** This baseline reflects historical airport activity for the full year 1996 and the physical facilities of the airport as they existed in 1997. CEQA requires a description of the existing conditions in the vicinity to provide a baseline for the environmental impacts analysis. Under the 1998 revised CEQA Guidelines, the environmental conditions as they existed at the time that the Notice of Preparation (NOP) was published are normally to be the environmental baseline. Calendar year 1996 was the last year of complete information available for the airport before the release of the NOP for the Draft EIS/EIR in July 1997. Physical conditions are represented in the Draft EIS/EIR as they existed in 1997. In conjunction with the subsequent development of the Supplement to the Draft EIS/EIR, an assessment was made to determine whether the environmental conditions updated to the Year 2000 would result in any material changes to the Draft EIS/EIR analysis of 1996/1997 baseline conditions. The existing environmental conditions and analysis described in the Draft EIS/EIR and the Supplement to the Draft EIS/EIR are the primary basis of the conditions and analysis presented in this Final EIS/EIR.
- **Adjusted Environmental Baseline.** This baseline comprises the same historical airport activity (1996) and physical facilities (1997) as in the Environmental Baseline Existing Conditions, but it includes land use activity and regional traffic development anticipated for the planning year 2015. Except for these two factors, the Adjusted Environmental Baseline Conditions are identical to the Environmental Baseline Existing Conditions for 2015.

The following sections summarize the baselines and the alternatives. As a ready reference for the reader, **Table F3-1**, Summary of Activity by Alternative - 2015, tabulates the aviation activity for the baseline and each alternative; and **Table F3-2**, Summary of Facilities by Alternative - 2015, tabulates the facilities, development activity, and land acquisition associated with all alternatives and the environmental

baseline. Detailed descriptions of Alternatives A, B and C were presented in Chapter V of the Draft LAX Master Plan, and a detailed description of Alternative D was provided in Section 2 of the Draft LAX Master Plan Addendum.

Table F3-1

Summary of Activity by Alternative - 2015

Activity/Facility	Environmental Baseline (1996)	Planning Year 2015					
		Unconstrained Forecast	Alternative				
			NA/NP[7]	A	B	C	D
Passenger Activity[1]							
Million Annual Passengers (MAP)	58.0	97.9	78.7	97.9	97.9	89.6	78.9
Domestic MAP (w/ Commuters)	43.9	60.9	49.9	60.9	60.9	54.9	48.6
International MAP	14.0	37.1	28.9	37.0	37.0	34.6	30.3
Design Day[2] Passengers	186,512	326,380	262,329	326,329	326,329	298,588	262,758
Peak Hour Passengers	16,682	30,218	20,884	28,142	28,142	24,519	20,404
Passengers per Departure	90.76	122.98	127.47	133.09	133.09	145.09	127.68
Cargo Activity (Tons per year)	1,896,764	4,172,000	3,120,000	4,172,000	4,172,000	4,172,000	3,120,000
Aircraft Activity							
Total Annual Aircraft Operations[3]	763,866	1,004,591	783,430	935,140	935,140	797,249	784,126
Total Domestic (incl. Hawaii)	386,733	421,138	383,245	431,390	431,390	401,669	350,791
International	91,641	217,818	168,773	217,818	217,818	203,393	179,592
Commuter	233,832	280,335	160,437	200,632	200,632	108,905	182,767
All Cargo	23,682	48,300	35,994	48,300	48,300	48,300	35,994
General Aviation	27,978	37,000	34,982	37,000	37,000	34,982	34,982
Design Day Operations[4]	2,235	2,921	2,279	2,719	2,719	2,319	2,279
All Weather Peak Hour Operations[5]	150	N/A	144	176	181	145	146
Three Hour Average Operations[6]	145	N/A	140	172	172	138	141
Annual Cancellations	2,050	N/A	10,126	15,586	9,108	15,910	9,719
All Weather Average Delay (minutes per operation)	8.69	N/A	13.33	9.86	10.88	13.81	11.56

1 Totals may not add due to rounding.
2 A Design Day is a 24-hour period at LAX representing an average day of the peak activity month.
3 Total Annual Aircraft Operations includes air carrier, cargo, general aviation, and military operations for the baseline or planning year.
4 Design Day Operations are the operations that make up the 24-hour period at LAX representing an average day of the peak activity month.
5 All Weather Peak Hour Operations are the weighted averages of the maximum number of operations in an hour in each operating configuration under the alternative.
6 Three Hour Average Operations are the weighted averages of each of the operating configuration's maximum average number of operations in a 3-hour time period.
7 NA/NP = No Action/No Project Alternative.

Source: Landrum & Brown, 1999, 2003.

3.2.2 Environmental Baseline-Existing Conditions

This baseline reflects historical airport activity for the full year 1996 and the physical facilities of the airport as they existed in 1997. The Continental City and LAX Northside areas of airport property, though fully entitled to proceed without further CEQA documentation, are not developed; the Manchester Square and Belford residential areas, though in the process of being acquired by LAWA, remain as residential. All physical facilities and all aviation and passenger activity for the unconstrained condition, the No Action/No Project Alternative, and the four build alternatives are listed in **Table F3-1 and Table F3-2**. The existing physical facilities on the airport summarized below are shown in **Figure F3-4**, Existing Conditions 1997.

Airfield

The two sets of parallel runways set in an east/west configuration are the dominating feature of LAX (see **Figure F3-4**). The runways are also a key constraint on airport capacity. The north airfield runways are 700 feet apart centerline to centerline. Both are 150 feet wide; 6L/24R is 8,925 feet long and 6R/24R is 10,285 feet. The south airfield runways are 745 feet apart. Runway 7L/25R is 12,091 feet long by 200 feet wide; Runway 7R/25L is 11,096 feet long by 150 feet wide. Navigational aids in the Dunes area are shown in **Figure F3-4**. Runway use for arrivals and departures would continue as they exist now during various weather conditions, as shown in **Figure F3-5**, Airside Alternatives Runway Operating Plans.[33]

The length, width, and separation of these runways constrain capacity by creating delays both in the air and on the ground. Lack of adequate length on the north airfield runways often requires aircraft to taxi a greater distance to the longer runway on the south airfield. The spacing between both sets of runways is too narrow to allow a center taxiway where aircraft queuing and safe maneuvering can occur. The lack of this center taxiway slows the arrival stream by requiring time-consuming coordination of runway crossings.

Passenger Terminals

The existing eight terminals are located mid-field between the two sets of parallel runways in the CTA. In total, the approximately 4 million square feet of building space and 165 aircraft gates (including 32 remote gates) are depicted in **Figure F3-4**.

Traffic/Parking/Circulation

The primary circulation roadway at LAX is World Way, which links all eight terminals in a two-level loop in the middle of the CTA. World Way has only one ingress/egress at the interchange between Century and Sepulveda Boulevards. These two boulevards link to the regional freeway system, but there is no direct freeway access to LAX. The following roads provide access to LAX:

- Lincoln Boulevard
- Sepulveda Boulevard
- Westchester Parkway/Arbor Vitae Street
- Pershing Drive
- Imperial Highway
- I-405
- I-105

Short-term vehicle parking includes 8,300 stalls within the CTA with some long-term parking stalls within the loop road. Long-term parking includes 13,000 stalls located on the airport and operated by LAWA, and 12,500 stalls located off the airport in remote lots operated by private enterprises.

There are 23 acres of rental car facilities located on the airport and over 56 acres located off the airport that are served by shuttle buses.

Cargo Facilities

The existing cargo facilities are concentrated in three areas - the Century Cargo Complex (located between Century Boulevard and the south airfield), the Imperial Cargo Complex (on the northwest corner of Imperial Highway and Aviation Boulevard), and the South Cargo Complex (along Imperial Highway on the southern side of the airport.) Existing cargo building space and ramp areas are provided on **Table F3-2**.

[33] The existing runway operating plan is the same as the runway operating plan for Alternative D.

Table F3-2

Summary of Facilities by Alternative - 2015

Facility	1996 Baseline	Planning Year 2015 Alternative: Unconstrained	NA/NP[1]	A	B	C	D
Runway Development							
North Airfield							
(6L/24R)	8,925 ft	6 runways 3 independent approaches 2,500-3,400 foot lateral runway separation.	8,925 ft	6,700 ft (new runway)	10,000 ft (relocate 135 ft north, extend 600 ft to the east and 475 ft to the west)	9,400 ft (relocate 340 ft north, extend 500 ft to west)	10,420 ft (extend 1,495 ft to west)
(6C/24C)	none	Takeoff runway length of 10,000-12,000 feet. Landing runway length of 9,000-10,000 feet.	none	12,000 ft (reconstruct 6L/24R, move 400 ft south, extend 3,075 ft to the east)	none	none	none
(6R/24L)	10,285 ft	Commuter runway length of 6,000 feet.	10,285 ft	12,000 ft (relocate 500 ft south, extend 1,715 ft to the east)	12,000 ft (relocate 35 ft north, extend 1,715 ft to the east)	12,000 ft (extend 2,900 ft to east shorten west end by 1,185 ft)	11,700 ft (extend 135 ft to west extend 1,280 ft east, move 340 ft south of existing centerline)
South Airfield							
(7L/25R)	12,091 ft		12,091 ft	12,000 ft	12,000 ft (relocate 555 ft north, shorten east end 91 ft)	12,091 ft	12,091 ft
(7C/25C)	none		none	none	12,000 ft (relocate 7R/25L, 500 ft north and 950 ft east)	none	none
(7R/25L)	11,096 ft		11,096 ft	12,000 ft (relocate 156 ft south)	6,700 ft (new runway)	11,096 ft (relocate 50 ft south of existing centerline)	11,096 ft (relocate 50 ft south of existing centerline)

Table F3-2

Summary of Facilities by Alternative - 2015

Facility	1996 Baseline	Planning Year 2015 Alternative: Unconstrained	NA/NP[1]	A	B	C	D
Terminals							
Central Terminal Area							
Nominal Aircraft Gates	133		115	78	77	97	153
Narrow Body Equivalent Gates (NBEG)[3]	150.9		148.3	93.9	92.5	121.6	178.9
Square Feet (SF) of Building Space	3,997,000		3,997,000	4,149,000	3,542,000	4,224,000	6,550,000
Remote Gates (nominal/NBEG)[3]	32/41.3		48/55.1	N/A	N/A	N/A	N/A
New West Terminal Area							
Nominal Aircraft Gates	N/A	N/A	N/A	121	122	71	N/A
Narrow Body Equivalent Gates (NBEG)[3]	N/A	N/A	N/A	162.5	164	100.6	N/A
Square Feet of Building Space	N/A	N/A	N/A	6,270,000	6,170,000	3,095,000	N/A
Total All Terminals							
Nominal Aircraft Gates	165	214	163	199	199	168	153
Narrow Body Equivalent Gates (NBEG)[3]	192.2	276	194.2	256.5	256.5	222.2	178.9
GTC Building Area	N/A	N/A	N/A	N/A	N/A	N/A	200,000 [2]
ITC Building Area	N/A	N/A	N/A	N/A	N/A	N/A	50,000 [2]
Total Square Feet of Terminal Building Space	3,997,000	7,786,800	3,997,000	10,419,000	9,712,000	7,319,000	6,800,000 [2]
Transit							
Green Line Transit	to El Segundo	N/A	to El Segundo	to West Terminal	to West Terminal	to West Terminal	to ITC
Parking Stalls							
On-Airport Short-Term	8,441	16,000	9,127	15,500	15,500	15,500	13,380
On-Airport Long-Term	12,985	12,500	12,985	12,514	12,514	12,514	8,732
Off-Airport Long-Term	12,500	15,750	13,500	8,607	6,387	11,477	12,890
Total Public Stalls	33,926	44,250	35,612	36,621	34,401	39,441	35,002
Employee Parking Stalls	8,990	12,400	8,990	12,000	13,748	14,265	13,600

Table F3-2

Summary of Facilities by Alternative - 2015

Facility	1996 Baseline	Planning Year 2015 Alternative: Unconstrained	NA/NP[1]	A	B	C	D
On-Airport Rent-A-Car Acres[7]	52	101	82	78	78	78	180
Cargo							
Annual Tons	1,896,764	4,172,000	3,120,000	4,172,000	4,172,000	4,172,000	3,120,000
Square Feet of Building Space	1,910,752	4,735,305	2,342,052	4,518,000	4,871,000	4,903,000	2,342,000
Acres of Apron/Ramp Space	77	159	77	128	104	164	77
Total Cargo Acres	197	473	197	436	450	473	197
Ancillary (acres)							
General Aviation	14	14	14	5	4	6	6
Ground Services	9	13	9	4	6	9	4
Airline Admin & Maintenance	295	415	295	72	92	87	31
LAWA & FAA	30	43	30	8	7	6	5
Flight Kitchens	10	18	10	13	16	11	2
Fuel Farm	20	36	20	13	off-site	32	14
Aircraft Rescue and Firefighting	1	1	1	2	1	2	1
Miscellaneous[8]	5	10	5	9	8	11	9
Total Ancillary Acres	384	550	384	126	134	164	72
Land Acquisition							
Total Net Acres		N/A	148	273	345	216	77
Single Family Dwelling Units		N/A	279	57	57	57	0
Multiple Family Dwelling Units		N/A	2,285	27	27	27	0
Library		N/A	N/A	N/A	N/A	N/A	N/A
Schools		N/A	98th St. School	Private elementary (1) and vacant comm. college	Private elementary (1) and vacant comm. college	Private elementary (1) and vacant comm. college	Private elementary (1) and Hollywood CPR
Remote Airport Parking Stalls		N/A		4,893	7,113	2,023	3,676
Rent-A-Car Space		N/A		47 acres	35 acres	52 acres	9 acres
Number of Businesses		N/A		330	323	239	38
Office Use Acquired (SF)		N/A		997,936	1,140,000	603,020	240,607

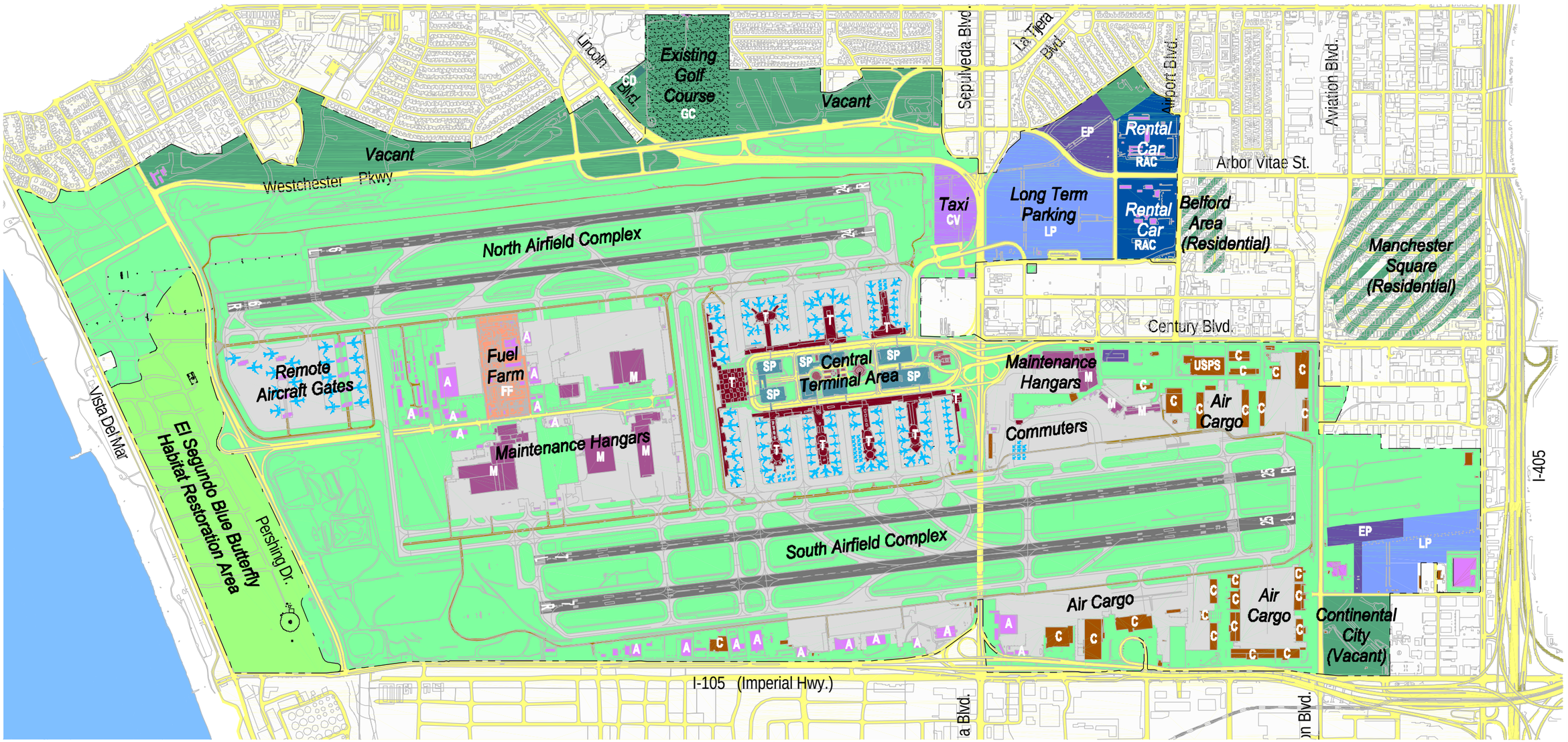
Table F3-2

Summary of Facilities by Alternative - 2015

Facility	1996 Baseline	Planning Year 2015 Alternative: Unconstrained	NA/NP[1]	A	B	C	D
Retail Use Acquired (SF)		N/A		151,806	126,586	199,707	57,943
Hotel Use (SF)/Rooms Acquired		N/A		1,330,622/1,929	1,404,933/2,083	374,653/729	63,595/154
Bus. Park/Light Industrial (SF) Acquired		N/A		868,262	1,921,164	895,217	96,901
Freight Light Industrial (SF)		N/A		1,724,486	1,784,799	686,138	146,867
Total SF of Commercial Building Space		N/A		5,164,540	6,468,930	2,758,735	605,913
Estimated Market Value		N/A		$1.06 billion	$1.36 billion	$743.5 million	$155.9 million
Collateral Development							
LAX Northside		N/A	4.5 MSF[4]	N/A	N/A	N/A	4.5 MSF[4,5]
Westchester Southside		N/A	N/A	2.62 MSF[4]	2.62 MSF[4]	2.62 MSF[4]	N/A
Continental City		N/A	3.1 MSF[4]	airport use	airport use	airport use	airport use
Manchester Square		N/A	vacant	Independent LAWA development[6]	airport use	airport use	airport use
Belford		N/A	vacant	airport	airport use	airport use	vacant

1 NA/NP = No Action/No Project.
2 Estimated future building space requirement. Actual building size will be refined as part of project-level design activities.
3 This table uses methodology for calculating NBEG based on a wingspan size factor for each nominal gate position based on the largest aircraft that can be accommodated on a particular gate.
4 MSF = Million Square Feet.
5 Under Alternative D, the existing vehicle trip cap for LAX Northside would be reduced to limit vehicle trips to a level comparable to that of the Westchester Southside project. As such, full development of the 4.5 million square feet of uses currently entitled for LAX Northside would not occur under Alternative D. As the exact nature and amount of land uses have not been specified to correspond with this cap, it is assumed, for purposes of impacts analysis that LAX Northside would be fully built out relative to all environmental topics except traffic and traffic-related issues such as air pollutant emissions and noise.
6 Under Alternative A, Manchester Square is assumed to be redeveloped with commercial/light industrial uses independent of the Master Plan.
7 Only ready-return (does not include storage support).
8 Includes airport police, central utility plant, LNG/CNG station, ground run-up enclosures, and Coast Guard building.

Source: Landrum & Brown, 2000, 2003.



LEGEND

Airfield/Airport Open Space	C	Cargo Buildings	LP	Long-Term Public Parking
El Segundo Blue Butterfly Habitat Restoration Area	M	Maintenance Facilities	SP	Short-Term Public Parking
Runways	A	Ancillary Facilities	RAC	Rental Car Facility
Taxiways/Aircraft Aprons	FF	Fuel Farm	GC	Golf Course/Open Space/Recreation
Roadways	CV	Commercial Vehicle Holding Area		Residential ANMP Acquisition Area
T Terminal Buildings	EP	Employee Parking		Light Rail Transit
	CD	Collateral Development		Navigational Aids

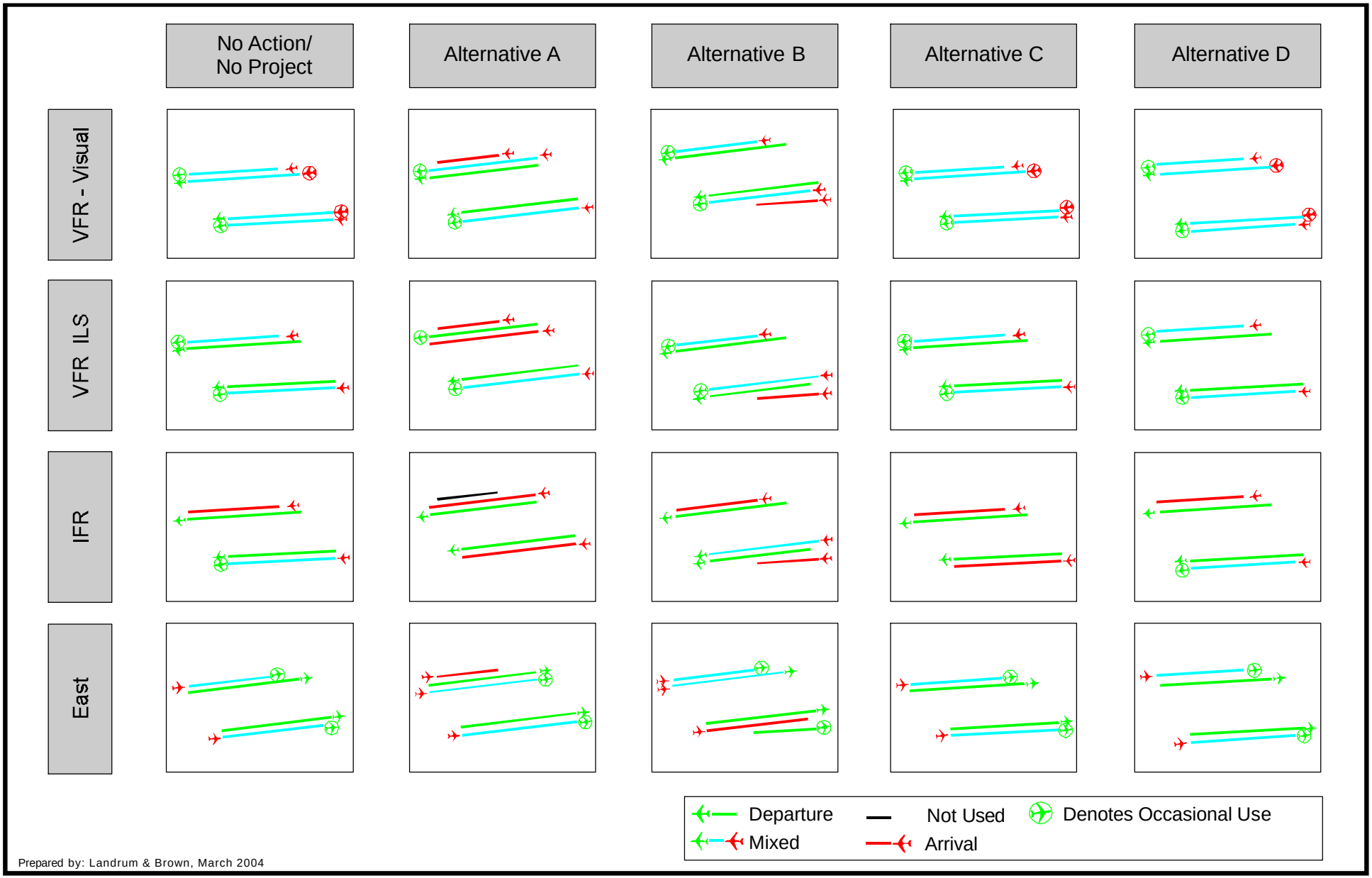
400' 800' 2,400'
800' 0 1,600'

Prepared by: Landrum & Brown, March 2004

LAX Master Plan Final EIS/EIR

Existing Conditions 1997

Figure
F3-4



Prepared by: Landrum & Brown, March 2004

LAX Master Plan
Final EIS/EIR

2015 Airside Alternatives
Runway Operating Plans

Figure
F3-5

Ancillary Facilities

Ancillary facilities providing maintenance and operation services occupy 384 acres of the airport. Significant uses include 295 acres for airline maintenance/administration, a 20-acre fuel farm, and 14 acres for general aviation. Large aircraft maintenance hangars are located on the west side of the airport and southeast of the intersection of Sepulveda and Century Boulevards. The use of airport land for ancillary facilities no longer matches the needs and demands of the aviation activity, and much of it is inefficient. This is particularly true for general aviation and airline maintenance/administration facilities.

Ongoing Collateral Development and Land Acquisition

In the existing conditions, over 800 acres of land owned by the airport, or being acquired by the airport, are not used for aviation purposes. As shown in **Figure F3-4**, these include the 340-acre LAX Northside site along the northern boundary, the 28-acre Continental City site in the southeastern corner, the 203-acre El Segundo Blue Butterfly Habitat Restoration Area, the 104-acre open space north of the habitat restoration area, the 19.54-acre Belford area, and the 128.16-acre Manchester Square area. The now vacant LAX Northside and Continental City areas are fully entitled through the City of Los Angeles including general plan, zoning, final tract map and a final EIR such that in accordance with CEQA, the commercial development projects may proceed without further environmental documentation. The Belford and Manchester Square areas are slated for acquisition under the Aircraft Noise Mitigation Program (ANMP), but remain for this baseline study as residential uses.

3.2.3 Updated Baseline Conditions

The environmental baseline used for CEQA analysis in the Draft EIS/EIR was based on 1996/1997 conditions. As part of the Supplement to the Draft EIS/EIR, the need for, and nature of, consideration of more recent data to reflect current conditions was addressed. The terrorist attacks of September 11, 2001 had a profound, immediate effect on aviation activity, driving nearly all subsequent domestic aviation activity downward. Consequently 2001 is an anomalous year that would have been inappropriate to use for a comparison to the Draft EIS/EIR's baseline year. Similarly, aviation activity in 2002 is also considered to be an anomalous year due to the effects of September 11, 2001.

For the purpose of the analysis in the Supplement to the Draft EIS/EIR, which is incorporated into this Final EIS/EIR, the most recent "normal" year for which a complete dataset is available is 2000. That year is evaluated as the basis for consideration and comparison of how "current" conditions have evolved from the baseline conditions analyzed in the Draft EIS/EIR. The comparison of 1996 existing baseline conditions to 2000 conditions described herein also assesses whether the passage of time from the publication of the Draft EIS/EIR had any material effect on the "No Action/No Project" Alternative. The passenger activity for the year 2000 was 67.3 MAP, and the cargo activity level was 2,247,833 annual tons compared to 58 MAP and 1,896,764 annual tons in 1996. This change in aviation activity is discussed in detail in Appendix S-B, *Existing Baseline Comparison Issues - 1996 to 2000*.

The use of Year 2000 conditions within this Final EIS/EIR continues to be for updated comparative purposes. The environmental baseline conditions described above, which are referred to in this Final EIS/EIR as the "1996 baseline" conditions to help more readily distinguish from references to Year 2000 conditions, constitute the primary basis by which all conclusions regarding the significance of impacts are determined for all build alternatives (Alternatives A, B, C, and D). For certain environmental disciplines, an "adjusted environmental baseline" serves as the basis for determining the significance of impacts, as described in Section 3.2.4.

In instances where the environmental setting under Year 2000 conditions is materially different from that of the 1996 baseline environmental setting, such differences are described in this Final EIS/EIR, as are any material differences in the impacts that would result by using the Year 2000 conditions compared to the 1996 baseline conditions. To reiterate, however, conclusions regarding the significance of impacts, under CEQA, for all build alternatives are based on the 1996 baseline or, for certain environmental disciplines, the adjusted environmental baseline.

Methodology

A discussion of the background assumptions and methodologies used in updating the existing baseline is detailed in Appendix S-B, *Existing Baseline Comparison Issues - 1996 to 2000*. The discussion reviews

the 2000 Design Day Schedule modeling, the Geographic Information Systems (GIS) off-airport land use database, and the on-airport and off-airport traffic analyses.

Update by Airport Component

A number of airport facility changes occurred between 1997 and 2000 and are detailed in Appendix S-B, *Existing Baseline Comparison Issues - 1996 to 2000*. These changes are depicted on **Figure F3-6**, Changes in Existing Conditions - 1997 to 2000, and they were each accounted for in the EIS/EIR analysis as part of the future No Action/No Project Alternative. The following is a brief summary of the facility components that have experienced notable changes since 1997:

- Additional airport property/land acquisition in the Manchester Square and Belford areas under the Aircraft Noise Mitigation Program (ANMP);
- Modifications to the taxiways on the south airfield;
- Several reconstruction and renovation projects within the existing terminal buildings that focused principally upon adding international arrivals processing facilities or Federal Inspection Services (FIS) and improvements to passenger convenience. This created additional international passenger handling capacity, but did not increase overall passenger handling capacity;
- The realignment of Avion Drive, which provides internal access to the Century Cargo Complex located south of Century Boulevard;
- An increase in the number of short-term parking spaces in the CTA due to the construction of Parking Structure 6;
- Changes in the Century Cargo Complex and the South Cargo Complex East, which were accounted for in the Draft EIS/EIR as part of the future No Action/No Project Alternative;
- Three new ancillary facilities; and
- A new 9,000-square foot First Flight Child Development Center constructed on vacant land at 9320 Lincoln Boulevard in 1997.

3.2.4 Adjusted Environmental Baseline

The Adjusted Environmental Baseline is based on airport activity of the existing conditions in 1996, but it is adjusted to off-airport land use activity and regional traffic development anticipated for the planning year 2015. In all other respects, the Adjusted Environmental Baseline conditions, that is, the physical characteristics of the airport in 2015, are identical to the Environmental Baselines.

The Manchester Square and Belford residential areas (depicted in **Figure F3-4**) are assumed to be acquired and fully demolished through the Aircraft Noise Mitigation Program. The Belford area comprises 19.54 acres and 583 multi-family units. The Manchester Square area is 128.16 acres containing 271 single-family dwelling units and 1,706 multi-family dwelling units.

The regional traffic and land use development assumed to occur in the Adjusted Environmental Baseline during the planning years as forecast by appropriate planning agencies are listed in the Appendix L to Chapter V of the Draft LAX Master Plan. Significant new developments anticipated within the vicinity of LAX are discussed in Section 2.6, *Non-LAX Development Having Cumulative Impact,* of this Final EIS/EIR.

3.2.5 No Action/No Project Alternative

In addition to the requirement to compare a proposed action to the environmental baseline, Section 15126.6(e)(3)(A) of the *State CEQA Guidelines* requires that when EIR-evaluated projects are revisions of an existing land use or regulatory plan, policy, or ongoing operation, the no-project alternative will be the continuation of the existing plan, policy or operation into the future. In such situations, according to the guidelines, other projects initiated under the existing plan will typically continue while the new plan is developed. Under NEPA, the alternative of "no action" must be evaluated. The no action alternative includes the future consequences of foregoing the federal action (40 C.F.R. §1502.14(d)).

Accordingly, the No Action/No Project Alternative was initially defined at the outset of the environmental analysis, and was subsequently refined based on October 1998 revisions to the State CEQA Guidelines relative to how the no project alternative should be defined. The No Action/No Project Alternative

includes, but is not limited to, anticipated operational changes such as the introduction of larger aircraft, all projects that are fully entitled, approved, those improvements that are entitled, approved, under construction or have been completed between 1997 (the baseline year), and the release of the Draft EIS/EIR. This includes taxiway improvements, passenger terminal improvements, reconstruction of an on-airport auto parking structure, cargo facility improvements, demolition of facilities on acquired real estate, and collateral development. Passenger and cargo volumes would continue to increase in response to projected demand. In addition, the No Action/No Project Alternative includes additional projects and actions consistent with the 1981 Interim Plan, that would reasonably be expected to occur in the foreseeable future if the LAX Master Plan is not approved and/or that are predictable responses to increasing congestion at LAX that would be implemented in the absence of FAA action. For example, this alternative includes anticipated operational changes, such as the introduction of new larger aircraft. For the purpose of the EIS/EIR analysis, these improvements associated with the No Action/No Project Alternative, which did not exist at the time of the environmental baseline, are assumed to be completed by 2015, notwithstanding the fact that some of those improvements have now been completed, some may not be completed as planned, and some new improvements have been, or may be in the future, introduced. The assumptions used for the No Action/No Project Alternative include the known and reasonably foreseeable projects as applied consistently throughout the analyses in the Draft EIS/EIR and in the Supplement to the Draft EIS/EIR, which provide the basis of this Final EIS/EIR. The No Action/No Project Alternative also evaluates land use and the regional transportation infrastructure as forecast for the plan year 2015

Physical elements of the No Action/No Project Alternative are depicted in **Figure F3-7**, No Action/No Project Alternative (2015), that illustrates the boundaries for this alternative referred to in Chapter 4. The facilities and activities, tabulated in **Tables F3-1** and **F3-2**, are summarized here.

Activity

Under the No Action/No Project Alternative, passenger activity levels are projected to increase to 78.7 MAP in 2015. The 2015 demand of 97.9 MAP cannot be satisfied by the existing facilities because the airfield, roadways and terminal buildings would experience complete breakdown. Even at these reduced activity levels, peak hour loads would progressively spread into longer time periods, and the peak period would be at or exceed the airfield capacity. Aircraft operations are expected to reflect a fleet mix of larger aircraft and increased loads as the airlines react to capacity constraints. Congestion, delays, and passenger inconvenience would be common all year, not just during peak holiday periods. A detailed description of fleet mix and daily schedules was included in Appendix H to Chapter V of the Draft LAX Master Plan.

Runways and Taxiways

Runway locations and operations would remain as they existed in 1997 with the addition of three high-speed exit taxiways and an extension of the Sepulveda tunnel to straighten a taxiway as identified in **Figure F3-7**. Runway use for arrivals and departures will continue as it exists now during various weather conditions as shown in **Figure F3-5**.[34] These are approved and underway projects that will provide a small increment of capacity to the airfield. Taxiways WG, WF, and T will be constructed on the south airfield. The first two will provide high-speed exit taxiways for Runways 7L and 7R in east flow. Taxiway T will provide an additional high-speed exit taxiway for Runway 25L. Taxiway EE will be constructed on the north airfield. It will be a high-speed exit taxiway off the end of Runway 24R to provide more efficient use of this runway by adding a third turn-off for widebody aircraft. Taxiway C will be improved and widened after extension of the Sepulveda Boulevard tunnel to the north. During east flow conditions, the high-speed taxiways will allow aircraft to clear runways sooner, permitting the next in line to land sooner.

Passenger Terminals and Aircraft Gates

The physical layout of the eight passenger terminals and the number of aircraft gates does not change from the existing conditions in 1997 as depicted in **Figure F3-7**. The north side of the CTA has 1,151,000 square feet of terminal space and 41 nominal aircraft gates and the south side (including the Tom Bradley International Terminal) has 2,844,000 square feet and 74 nominal aircraft gates. Dual curbfronts provide

[34] The runway operating plan for the No Action/No Project Alternative is the same as that for Alternative D.

6,575 linear feet of curbing area on the upper level, 6,576 lineal feet on the lower level inner lanes, and 4,770 lineal feet on the lower level outer lanes.

Minor refurbishment of certain terminal buildings is planned to enhance passenger comfort, but not increase capacity. Additional remote boarding lounges similar to the five recently completed will be constructed in the remote boarding area on the west side of the airport. The project does not increase the total number of aircraft parking positions on the airport, but it does improve passenger service and comfort. The remote aircraft parking positions are served by the passenger processing facilities at Tom Bradley International Terminal, and the passengers are transported to the remote sites by bus. Another portion of the project consists of facilities to serve the aircraft at the remote boarding lounges: a 400 Hz power supply, new loading bridges, and a pre-conditioned air system.

Remote aircraft parking (hard standing) by commuter aircraft with busing to the terminals is projected to increase as passenger volume increases, thereby freeing up jet ways for larger air carrier aircraft.

Renovations to Terminals 4, 7, and 8 will be completed to improve passenger comfort and convenience. Portions of the International Terminal to be remodeled include the food and beverage concession, the interline baggage area, the in-transit lounge, and the building power supply. This project will improve the bus terminal on the west side of the building but will not add any aircraft parking positions.

Traffic/Parking/Circulation

The No Action/No Project Alternative is generally identical to the existing conditions, except for the reconstruction of a vehicle parking structure that added 686 stalls for close-in parking beyond the 1997 inventory. A privately operated, long-term parking facility with 1,000 stalls has been constructed on the northwest corner of the Bellanca Street/Century Boulevard intersection that adds to the 1997 inventory. Off-airport, long-term parking facilities are constantly being altered to add and subtract stalls by private enterprises.

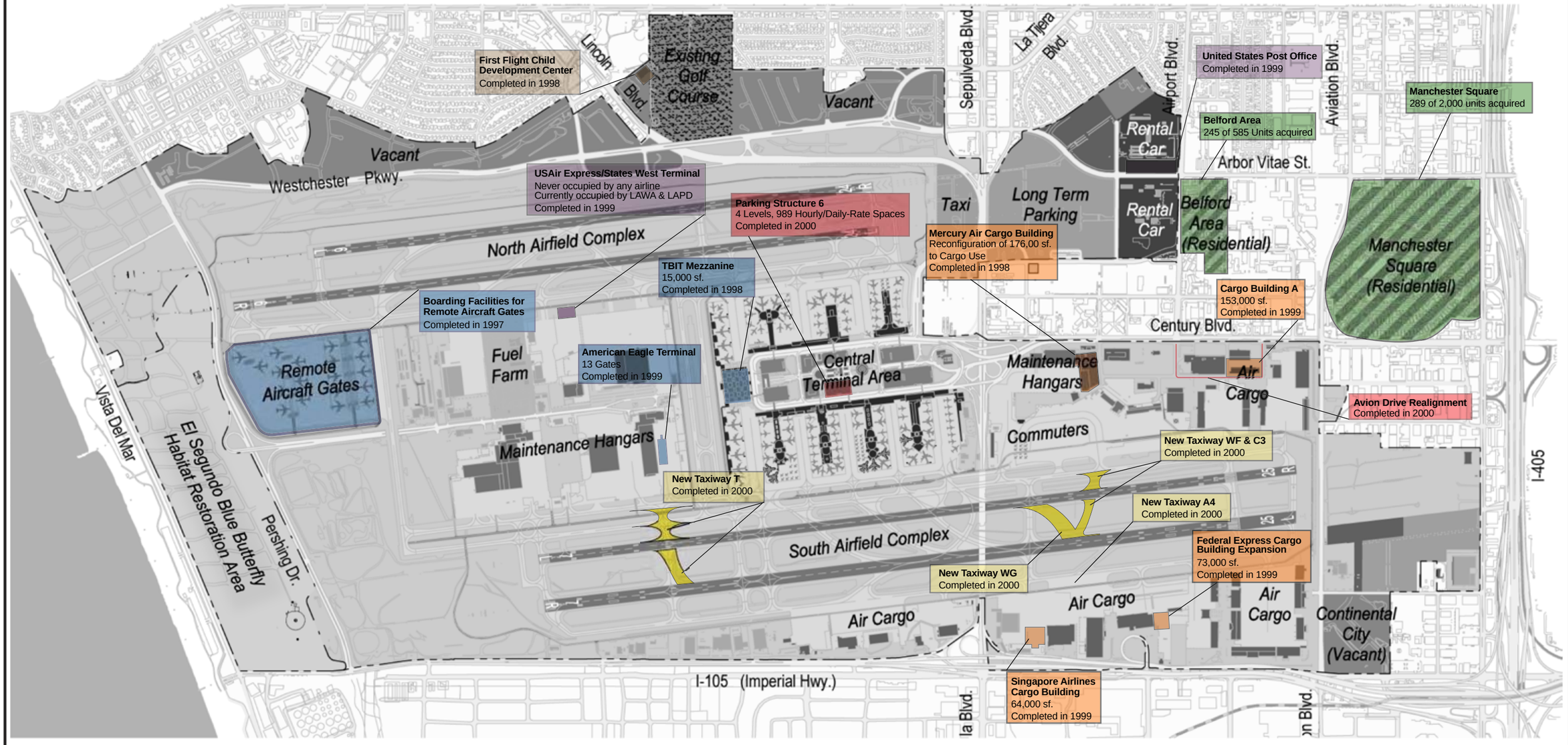
Access roads will remain as under Existing Baseline Conditions and no major improvements are envisioned except for a planned new interchange for the southern half of I-405 and Arbor Vitae. High Occupancy Vehicle lanes on I-405 south of SR-90 and north of I-105 are presently under construction. High Occupancy Vehicle lanes on I-405 north of SR-90 are in the design phase by Caltrans.

The numbers of vehicles entering the CTA would continue to increase and strain the capacity of roadways. Operational changes to increase the ability of the curbfront to serve passengers would include improved curbfront enforcement and requiring rental car companies and hotels to share their courtesy shuttles. The increased congestion would cause vehicle occupancy rates to rise for private vehicles, shuttles, and buses.

Cargo Facilities

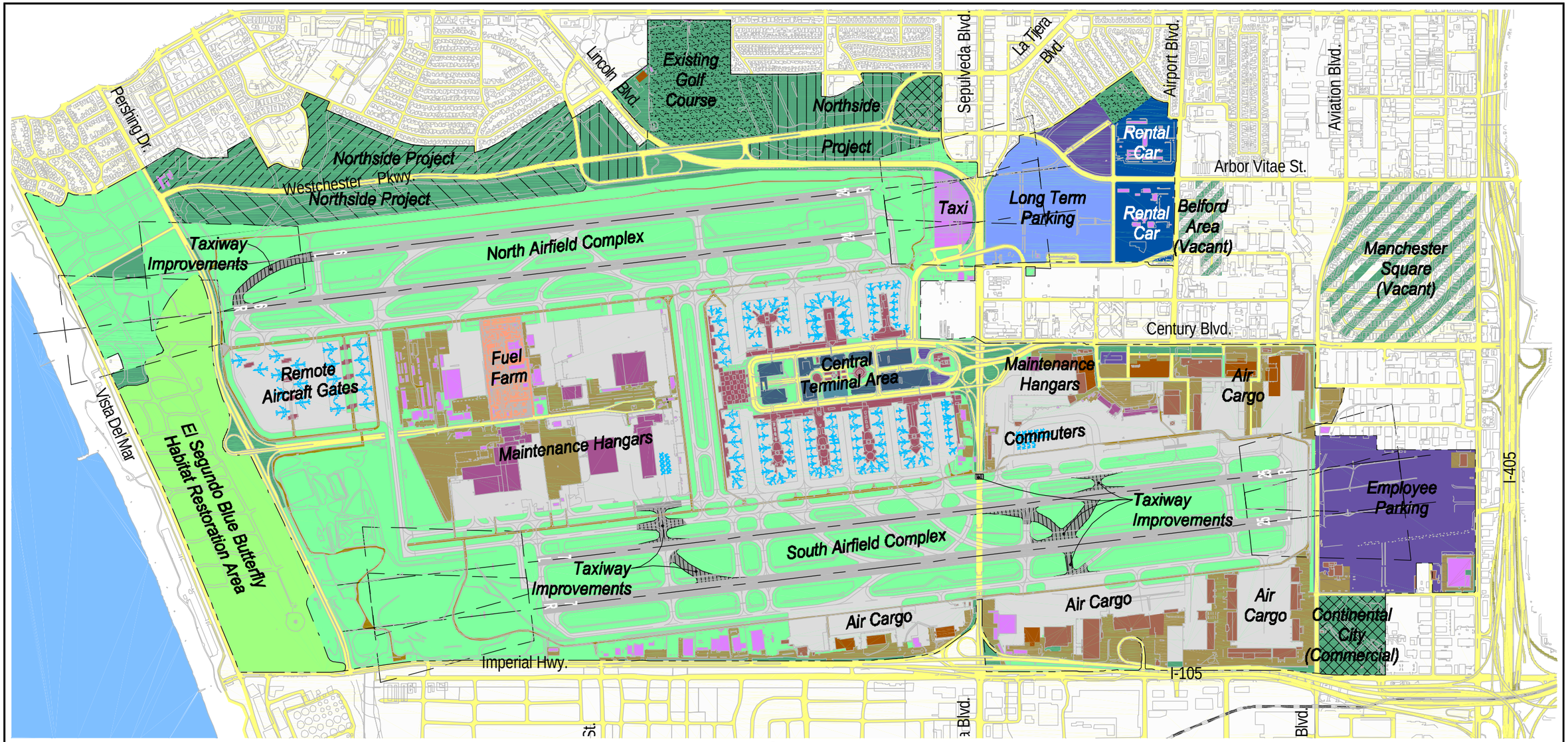
Existing older and functionally obsolete cargo facilities will be rebuilt and expanded such that there will be a net gain of 431,300 square feet of building space beyond the 1997 inventory. To be demolished are the B4 hangar building (51,000 square feet), Air Freight 8 (80,000 square feet), Air Freight 6 (41,000 square feet), Air Freight 5 (88,000 square feet), the US Air building (29,000 square feet), Air New Zealand building (25,000 square feet), TWA building (80,000 square feet), and AIA building (40,000 square feet). Reconstruction will include the facilities operated by Mercury Air Group (174,000 square feet), United Airlines (180,900), Singapore Airlines, (64,400 square feet), Asiana/Virgin Airlines (145,000 square feet), EVA/AIA, (150,000 square feet), NCA (45,000 square feet), Qantas (55,000 square feet), and EVA Air (51,000 square feet). As of August 2000, the Singapore Airlines facility has been completed and the United Airlines facility is under construction.

A new frontage roadway along Century Boulevard would be constructed to serve the Century Cargo area. The constrained facilities would, however, severely restrict further growth in cargo service. Air cargo employee parking spaces for the new cargo facilities described above will be provided on site at a ratio of approximately one stall per 1,000 square feet of building area to serve customers and administrative staff. Additional parking at the ratio of 0.5 stalls per 1,000 square feet of building will be provided in the airport employee parking areas and accessed via airport shuttles.



Prepared by: Landrum & Brown, April 2003

LAX Master Plan Final EIS/EIR	**Changes In Existing Conditions - 1997 to 2000**	Figure **F3-6**



LEGEND

- Airport Property
- Existing El Segundo Blue Butterfly Habitat Restoration Area
- Existing Runways
- Existing Taxiways/Aircraft Aprons
- Existing Terminal Buildings
- Existing Cargo Buildings
- Existing Roadways
- Existing Light Rail Transit
- Existing Ancillary Facilities
- Existing Fuel Farm
- Existing Short-Term Public Parking
- Existing Long-Term Public Parking
- Existing Rental Car
- Planned Cargo Buildings
- Planned Public Parking Facilities
- Planned Taxiway Improvements
- High Density Mixed Use (Hotel, Office, Retail)
- Medium Density Commercial (Hotel, Office, Retail)
- R/D Business Park
- Airport Related
- Golf Course/Open Space/Recreation
- Residential ANMP Acquisition

400' 800' 2,400'
800' 0 1,600'

Prepared by: Landrum & Brown, March 2004

LAX Master Plan Final EIS/EIR

No Action/No Project Alternative (2015)

Figure
F3-7

An air cargo roadway system to serve planned improvements to the Century Cargo area and a new frontage roadway along the south side of Century Boulevard will be developed. The frontage road will be 50 feet wide with 2 lanes in each direction and will make direct connections to the cargo complexes along Aviation and Century Boulevards to reduce cargo truck use of Century Boulevard. Airport Boulevard, south of Century, will be closed. A 50-foot landscaped setback area will be provided to screen the cargo activities from Century Boulevard and hotel/office land uses on the north side. This setback area may also provide space for street widening and turning lanes.

Ancillary

The existing ancillary facilities will not change.

Land Acquisition

LAWA would continue its real estate acquisition program under the Aircraft Noise Mitigation Program (ANMP). The Belford Avenue and the Manchester Square residential areas described in the Environmental Baseline scenario and depicted in **Figure F3-4**, would be acquired and demolished.

Collateral Development

Under the No Action/No Project Alternative, the Business Development Unit of LAWA would proceed with the development of two airport properties -- LAX Northside and Continental City as depicted in **Figure F3-7**:

- LAX Northside: This project, encompassing approximately 340 acres, is located along the northern boundary of LAX between the north airfield and the community of Westchester. The project would be built-out with approximately 4.5 million square feet of entitled improvements by 2015.

  By 2015, this development would comprise one office park area with 1,360,000 square feet of office space, 650,000 square feet of hotel use (1,000 rooms), and 100,000 square feet of retail/restaurant space. Another office park would contain 220,000 square feet of office space, 220,000 square feet of hotel use (400 rooms), and 30,000 square feet of retail/restaurant uses. A research/development (R/D) business park would contain 1,170,000 square feet for R/D and 750,000 square feet of airport-related uses.

- Continental City: This project would encompass 28.5 acres of land situated along Aviation Boulevard, between 111th Street and Imperial Highway (see **Figure F3-7**). This project would be built-out with 3 million square feet of office and hotel space, and 100,000 square feet of retail space by 2015.

3.2.6 Alternative A - Added Runway North

The major feature of this build alternative is a new runway on the north airfield complex. Other major project elements include passenger terminals, roadways, and cargo facilities designed to meet the purposes and needs identified in this Final EIS/EIR for LAX. The ultimate (2015) physical layout of Alternative A is depicted in **Figure F3-8**, Alternative A - 2015, Added Runway North. The aviation activity levels are presented on **Table F3-1** and the size and amount of facilities are presented on **Table F3-2**. Chapter V of the Draft LAX Master Plan provided a detailed description, and a summary is presented below.

Activity

Under Alternative A, the addition of a fifth runway and more terminal facilities would permit the airport to serve all of the forecast demand of 97.9 MAP in 2015.

Airfield Facilities

Alternative A increases the all weather airfield capacity by reconfiguring and expanding the airfield facilities. These runway changes are summarized in **Table F3-2**. The fifth runway added to the north airfield complex is depicted in **Figure F3-8**, as are relocated navigational aids in the dunes area. This additional runway (6L/24R) in this alternative increases the all weather airfield capacity by providing a northside third arrival stream to accommodate smaller and slower aircraft (up to B-757s) that occupy a disproportionate share of capacity.

Alternative A also provides additional runway length, width, and separation to increase airfield and airspace capacity. A relocated replacement Runway 6C/24C provided on the north airfield is 12,000 feet long and 200 feet wide. Runway 6R/24L is lengthened to 12,000 feet, widened to 200 feet, and moved southward to provide more separation from Runway 6C/24C. The increased length permits departures by the largest aircraft at either the north or south airfield complex. The increased width provides for the new large aircraft expected to succeed the B-747. The increased separation between runways permits the installation of a center taxiway where aircraft can queue without blocking runway operations. Alternative A also provides extensive new taxiways and airfield improvements to eliminate the need for waivers from FAA design standards discussed in Chapter 2.

Runway Operating Plans

As shown in **Figure F3-5**, each of the five runways in Alternatives A may be used for arrivals or departures in various combinations depending on weather conditions. Aircraft assigned to the new fifth runway are limited to B757 or smaller. These smaller aircraft and those with slower approach speeds require a larger separation distance from other aircraft so that the aircraft following the slower plane does not overtake it or encounter the wake turbulence. Separating these smaller aircraft from the operating streams of the larger aircraft increases airspace capacity because standard separations create smaller time intervals between arriving aircraft.

Air traffic in Alternative A is segregated among the available runways based on the type of aircraft and the origin and destination outer navigational fix. The outer navigational fix is the point of entry or exit of an aircraft into or out of the LAX airspace modeled in the LAX Master Plan study. It is the starting point of the arrival airspace route within the LAX airspace to the arrival runway or the last point of a departure route from the departure runway before exiting the LAX airspace. The flight is assigned an outer navigational fix depending on the flight's origin or destination city. In general, aircraft bound to the north are primarily assigned to the north runways, and aircraft bound to the south fixes are assigned to the south runways.

Terminal Facilities

To serve higher passenger demand, to increase efficiency and convenience, and to accommodate a fleet mix of larger aircraft, Alternative A would provide new and improved passenger terminal space and aircraft gates. The terminal layout for Alternative A is depicted in **Figure F3-8**, the terminal gates and building space are tabulated in **Table F3-2** and detailed plans were described in Chapter V of the Draft LAX Master Plan.

Alternative A would have over 10 million square feet of terminal space and 199 nominal aircraft gates. Terminal space in the Alternative A would be split between two major areas: the reconfigured CTA and a new West Terminal Area (WTA). In Alternative A, the terminal piers on the north side of the CTA and the Tom Bradley International Terminal would be removed and replaced with a linear terminal to accommodate the new runway on the north airfield complex.

Traffic/Parking/Circulation Facilities

Alternative A would improve ground access and maximize the use of regional highway and transit networks by including the three features contained in Alternatives A, B, and C -- a ring road, an LAX Expressway, and a direct link to the MTA Green Line rail system.

- The ring road for Alternative A, depicted in **Figure F3-8**, would connect to the I-405 at Arbor Vitae, and include improvements along Westchester Parkway to Pershing Drive, provide access to the WTA on the Pershing Drive corridor, and connect to an extension of the I-105 along Imperial Highway.
- The LAX Expressway fully described in Chapter V of the Draft LAX Master Plan would consist of four vehicle lanes added adjacent to I-405, beginning just south of the Sepulveda Boulevard overpass, extending to La Cienega Boulevard, and connecting to the ring road at Arbor Vitae Street.
- The MTA Green Line rail system would be extended from the current station at Aviation Boulevard to provide service to the new WTA, via the Imperial Highway corridor.

LAX Master Plan Final EIS/EIR	**Alternative A - 2015** **Added Runway North**	Figure **F3-8**

Alternative A also would improve the interchanges at Lincoln/Westchester, Sepulveda/Westchester, and Century/Sepulveda. Aviation Boulevard would be tunneled and relocated between Century Boulevard and Imperial Highway in response to airfield needs. Sepulveda Boulevard would be tunneled at the location where the runways are lengthened on the north airfield.

Public and employee parking would be provided in the southwest corner of the airport and in new lots on the east side to adequately serve both terminal areas.

Rent-A-Car facilities (RAC) are provided in Alternative A at a 2 million square-foot facility in the southwest corner of the airport and in a 1.4 million square-foot facility in the northeast corner of the airport between 98th Street and Arbor Vitae Street. Alternative A would require off-airport rental car customers to access the airport exclusively via the APM. Drop-off or pick-up of passengers at terminal curbs by off-airport rental car shuttles would be prohibited in order to decrease congestion.

Service roads would be provided within the airport, as needed, to accommodate delivery and other service vehicles. Primary roadways would be provided to and within the cargo areas for truck and employee access.

Cargo Facilities

As depicted in **Figure F3-8**, and tabulated on **Table F3-2**, Alternative A would add additional cargo facilities and optimize existing space by preserving all of the south airfield Imperial Cargo Complex, augmenting the existing Century Complex, and providing new facilities on newly acquired property north of Imperial Highway and west of La Cienega Boulevard.

Ancillary Facilities

Alternative A would locate essential ancillary facilities on-airport to ensure continuity of service and consolidate or relocate off-airport non-essential ancillary uses. General aviation uses and airline maintenance areas would be consolidated in smaller land areas, and administration buildings would be moved off-airport.

Alternative A would relocate the fuel farm from its existing 20-acre location on the west side of the airport along World Way West to a new 13-acre location on the airport just west of the south entrance to the Sepulveda tunnel.

The acreage for ancillary uses is provided on **Table F3-2**, and precise locations of all ancillary facilities for Alternative A was presented in the Chapter V of the Draft LAX Master Plan.

Land Acquisition and Relocation

Alternative A would acquire much of the land located east of the airport within the ring road and west of La Cienega Boulevard, except for a group of hotels and office buildings along Century Boulevard. The alternative would also acquire light industrial uses north of 98th Street and west of Aviation Boulevard. Several graphics and materials in this and other documents provide the many specifics that the acquisition and relocation entail. **Table F3-2** shows the gross acreage and other statistics, and a map of the acquisition areas is presented in **Figure F3-9**, Alternative A Proposed Property Acquisition Areas. Detailed descriptions of each numbered parcel including type of buildings, number of businesses, taxes, etc. were provided in Appendix P of Chapter V of the Draft LAX Master Plan. Residents and businesses displaced by the acquisition programs for all build alternatives would be relocated in accordance with applicable federal, state, and local statutes and regulations as outlined in the LAX Master Plan Relocation Plan.

Companies and businesses displaced by the acquisition program would be given the opportunity to relocate into the airport collateral development projects described in the next section. The mixed use Westchester Southside could accommodate many of the displaced establishments including office uses and non-warehouse, light industrial uses.

Collateral Development

Alternative A would develop airport-owned property not required for airfield or aviation support facilities to benefit the community of Westchester. The 340-acre, 4.5 million square foot LAX Northside described in the No Action/No Project Alternative, would be reconstituted into the 210-acre, 2.62 million square foot Westchester Southside depicted in **Figure F3-8**. Westchester Southside would provide a pedestrian-

oriented community commercial "village" area to benefit the residents of Westchester and to accommodate the retail, office, and educational uses displaced by the land acquisition program. Westchester Southside project would also accommodate light industrial uses from the acquisition areas to preserve their employment and other economic benefits. Proposed uses include approximately 800,000 square feet of mixed uses (office, retail, restaurant, and entertainment); 970,000 square feet of business park/research and development (i.e., light industrial) use; and 850,000 square feet of resort hotel/recreational uses to accommodate uses displaced by the land acquisition program.

Manchester Square, as in the No Action/No Project Alternative, would be acquired through the Aircraft Noise Mitigation Program but would not be used for any airport purposes.

The area referred to as Continental City would be incorporated directly into LAX property for airport use.

Phasing

Alternative A would be implemented in two phases, with the overall project assumed to be completed by the 2015 planning horizon.

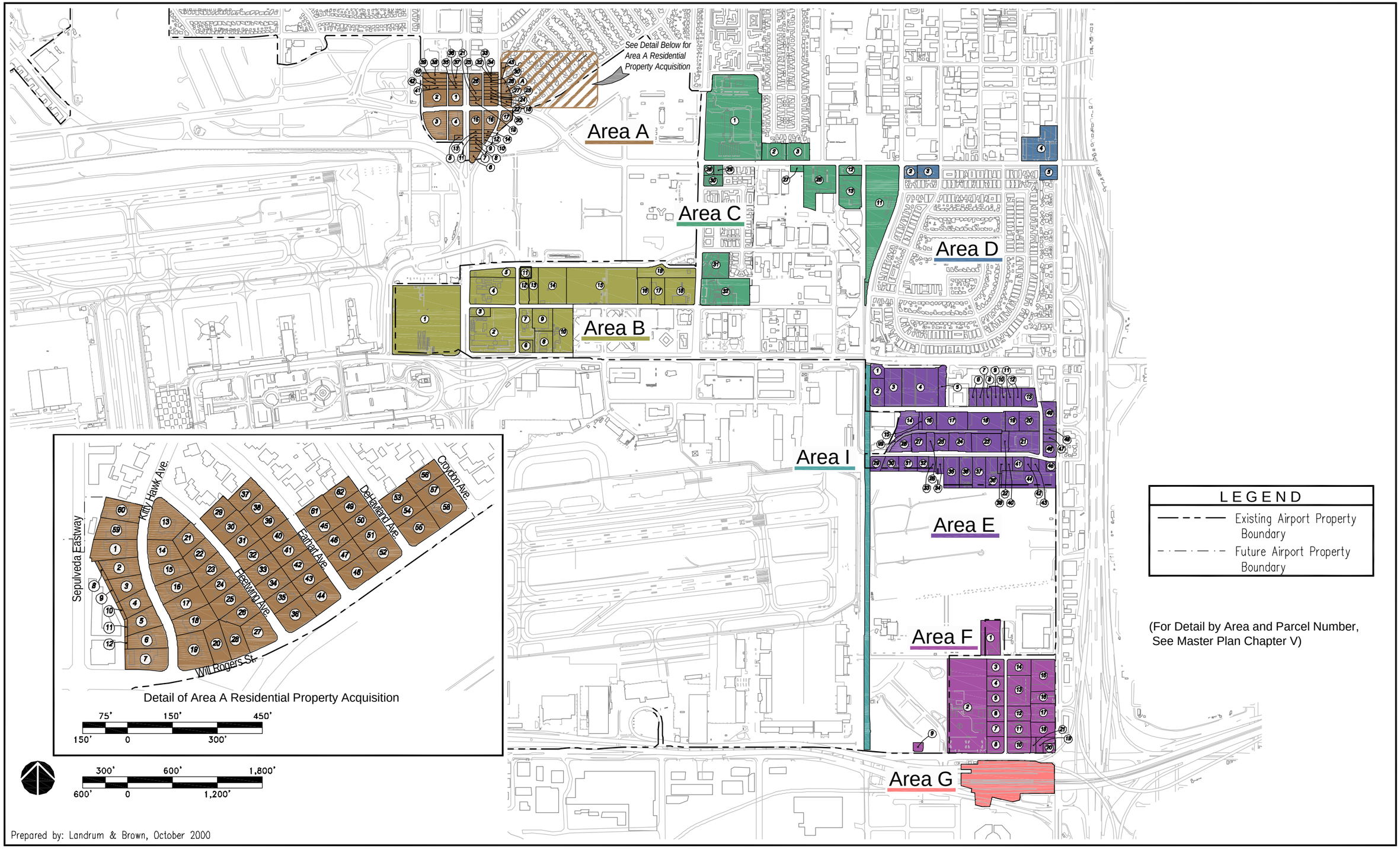
The projects included in Phase I and Phase II of Alternative A are listed below in chronological sequence of their completion.

Phase I Improvements

- Continue to redevelop Century Cargo Complex
- Complete property acquisition in areas southeast and east of the airport
- Build new aircraft maintenance facilities at the southeast corner of Century and Sepulveda Boulevards
- Reconstruct Aviation Boulevard between Century Boulevard and Imperial Highway and provide taxiway to new East Imperial Cargo Facility
- Construct new East Imperial Cargo Complex
- Build extension of I-105 including portions of Green Line support structures
- Build new satellite concourse and provide service to existing terminals by shuttle bus
- Acquire land along Arbor Vitae Street
- Develop portion of ring road linking Arbor Vitae and I-405
- Rebuild flight kitchens at the corner of Imperial Highway and Sepulveda Boulevard
- Complete all land acquisition along Sepulveda Boulevard in Westchester
- Construct Westchester Parkway/Lincoln Boulevard interchange
- Complete 50 percent of consolidated Rent-A-Car (RAC) facility in southwest corner
- Complete acquisition of former Wyndham Hotel (current Radisson Hotel) and Park One property
- Complete tunneling of Sepulveda Boulevard to provide for extension of Runway 6R/24L
- Complete new WTA Access Roadway
- Complete west end parking garages
- Complete new interchange at Sepulveda Boulevard/Westchester Parkway
- Complete new WTA including infrastructure for the MTA Green Line
- Complete extension of Runway 6R/24L

Phase II Improvements

- Complete realignment of Westchester Parkway
- Relocate Runway 24R north
- Relocate existing fuel farm
- Complete midfield satellite concourses
- Continue to redevelop the Century Cargo Complex



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Alternative A
Proposed Property Acquisition Areas

Figure
F3-9

- Complete Consolidated Rental Car Facility and Long-Term Parking Lot
- Reconfigure Terminals 1,2 and 3 into a linear terminal building
- Reconfigure Tom Bradley International Terminal and Terminal 4
- Extend APM connection from WTA to CTA
- Relocate Runway 24L south and reconfigure north airfield complex taxiway system
- Construct Runway 24C in the north airfield complex
- Relocate Runway 25L south and build new center parallel taxiway
- Complete cargo facilities east of Aviation Blvd.
- Complete ancillary facilities and commercial vehicle storage area north of Century Blvd.

3.2.7 Alternative B - Added Runway South

The major feature of this build alternative is a new runway on the south airfield. Other major project elements include passenger terminals, roadways, and cargo facilities. The ultimate (2015) physical layout of Alternative B is depicted in **Figure F3-10,** Alternative B - 2015, Added Runway South, which also illustrates the Master Plan boundaries for this alternative referred to in Chapter 4. The aviation activity levels are presented in **Table F3-1**, and the size and amount of facilities are presented in **Table F3-2**. Chapter V of the Draft LAX Master Plan provided a detailed description, and a summary is presented below.

Activity

Under Alternative B, the addition of a fifth runway and more terminal facilities would permit the airport to serve all of the forecast demand of 97.9 MAP in 2015.

Airfield Facilities

Alternative B increases the all weather airfield capacity by reconfiguring and expanding the airfield facilities. These runway changes are summarized in **Table F3-2** and depicted in **Figure F3-10**, which also shows relocated navigational aids in the dunes area. The fifth runway added to the south airfield increases the arrival capacity of the airport by providing a third runway to accommodate smaller and slower aircraft, which occupy disproportionate shares of airspace capacity. This additional runway (7R/25L) under Alternative B also provides sufficient runway separation to permit a third arrival stream during the most adverse weather conditions. Alternative B, therefore, decreases flight delays and cancellations to a significantly greater degree than the other alternatives as shown in **Table F3-2**.

Alternative B provides additional runway length, width, and separation on the north airfield to add airfield and airspace capacity. Runway 6R/24L is lengthened to 12,000 feet and widened to 200 feet to balance the number of departures by the largest aircraft between the north and south airfields. The increased width provides for the new large aircraft expected to succeed the B-747. Runway 6L/24R is lengthened to 10,000 feet, widened to 200 feet, and moved 135 feet farther north. The increased separation between runways permits the installation of a center taxiway where aircraft can queue without blocking runway operations. Alternative B also provides extensive new taxiways and airfield improvements to eliminate the current variances from FAA design standards discussed in Chapter 2. Navigational aids in the dunes area are shown in **Figure F3-10**.

Runway Operating Plans

As shown in **Figure F3-5**, each of the five runways in Alternatives B may be used for arrivals or departures in various combinations depending on weather conditions. Aircraft assigned to the new fifth runway are limited to B-757 or smaller. These smaller aircraft and those with slower approach speeds require a larger separation distance from other aircraft so that the aircraft following the slower plane does not overtake it or encounter the wake turbulence. Separating these smaller aircraft from the operating streams of the larger aircraft increases airspace capacity because standard separations create smaller time intervals between arriving aircraft.

Air traffic in all alternatives is segregated among the available runways based on the type of aircraft and the origin and destination outer fix. In general, aircraft bound to the north are primarily assigned to the north runways, and aircraft bound to the south fixes are assigned to the south runways.

Terminal Facilities

To serve higher passenger demand, to increase efficiency and convenience, and to accommodate a fleet mix of larger aircraft, Alternative B would provide new and improved passenger terminal space and aircraft gates. The terminal layout for Alternative B is depicted in **Figure F3-10**, Alternative B 2015, Added Runway South, the number of terminal gates and the area of building space are tabulated in **Table F3-2** and detailed plans were described in Chapter V of the Draft LAX Master Plan.

Alternative B would have over 9.7 million square feet of terminal space and 199 nominal aircraft gates. Terminal space in Alternative B would be split between two major areas: the reconfigured CTA and the new WTA. The new WTA in Alternative B is located approximately 500 feet farther north than in Alternative A to accommodate the new runway on the south airfield complex. In Alternative B, the terminal piers on the south side of the CTA and the Tom Bradley International Terminal would be removed and replaced with a linear terminal to accommodate the new runway on the south airfield.

Traffic/Parking/Circulation Facilities

Alternative B would improve ground access and maximize the use of regional highway and transit networks by including the three features contained in Alternatives A, B, and C -- a ring road, an LAX Expressway, and a direct link to the MTA Green Line rail system.

- The ring road for Alternative B, depicted in **Figure F3-10**, would consist of a connection to the I-405 at Arbor Vitae Street, improvements along Westchester Parkway, WTA access roads along Pershing Drive, and an extension of the I-105 along Imperial Highway.
- The LAX Expressway fully described in Chapter V of the Draft LAX Master Plan would consist of four vehicle lanes added adjacent to I-405, beginning just south of the Sepulveda Boulevard overpass, extending along the railroad right-of-way, and connecting to the ring road at Aviation Boulevard.
- The MTA Green Line rail system would be extended from the current station at Aviation Boulevard to provide service to the new WTA via the Imperial Highway corridor.

Alternative B also would improve the interchanges at Lincoln/Westchester, Sepulveda/Westchester, and Century/Sepulveda. Aviation Boulevard would be tunneled and relocated to varying degrees in response to airfield needs. Sepulveda Boulevard is tunneled at the location where the runway is lengthened on the north airfield. Century Boulevard would be tunneled in Alternative B to provide for a taxiway between new cargo development and the south airfield. The existing Sepulveda Boulevard tunnel would be extended southward in Alternative B to provide for the added runway.

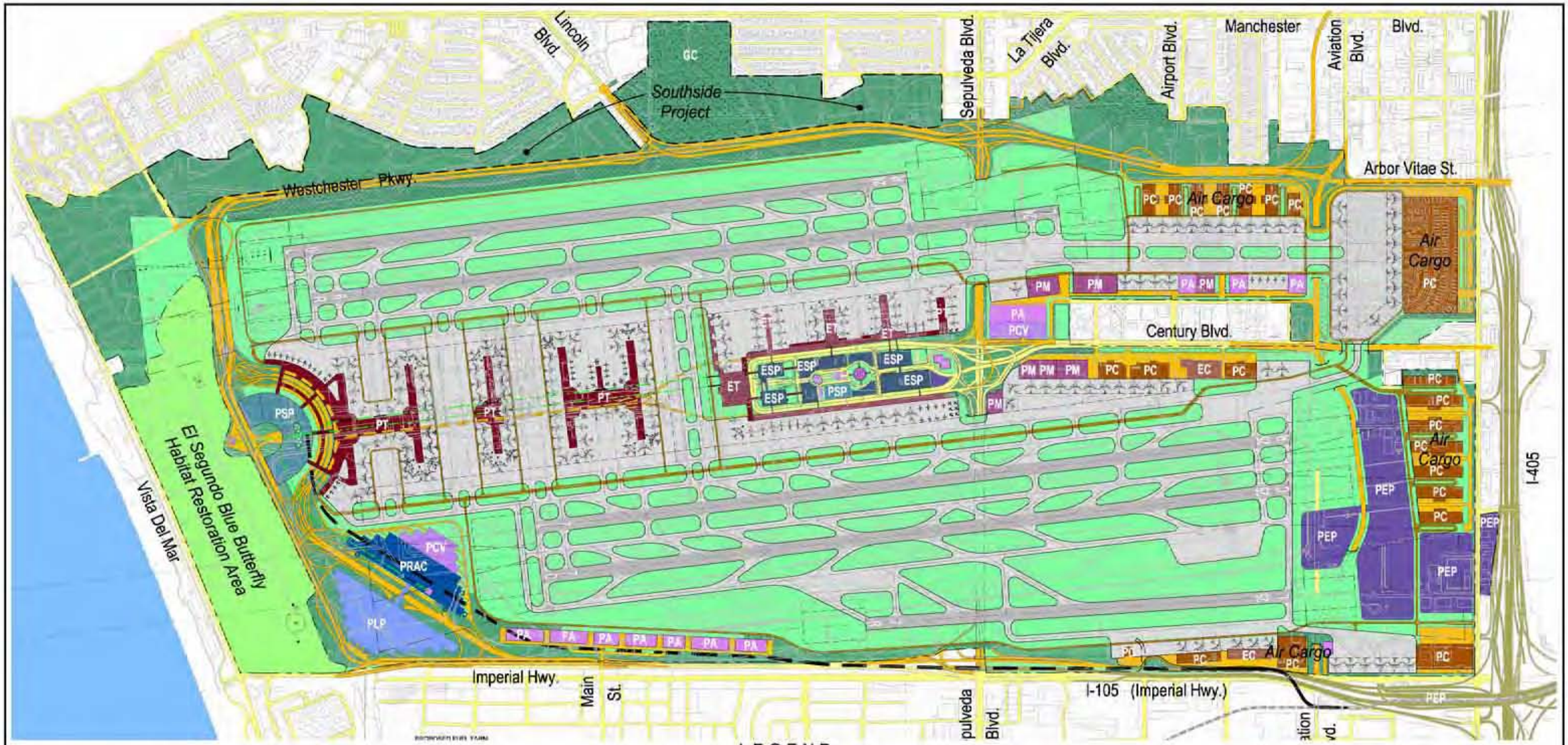
Public and employee parking would be provided in the southwest and southeast corners of the airport to adequately serve both terminal areas.

Rent-A-Car facilities (RAC) are provided in a new 3.4 million square foot facility in the southwest corner of the airport. As for Alternative A, off-airport rental car customers would be required to access the airport exclusively via the APM. Drop-off or pick-up of passengers at terminal curbs by off-airport rental car shuttles would be prohibited to decrease curbside congestion.

Service roads would be provided within the airport, as needed, to accommodate delivery and other service vehicles. Primary roadways would be provided to and within the cargo areas for truck and employee access.

Cargo Facilities

As depicted in **Figure F3-10** and tabulated on **Table F3-2**, Alternative B would provide additional cargo facilities but would require the relocation of almost all existing cargo space to new facilities on newly acquired property at the east end of the airport. Portions of the Century and Imperial Cargo Complexes would be preserved. Alternative B would provide 353,000 square feet more cargo building space than Alternative A. Also, an 88-acre cargo complex at the southwest corner of Arbor Vitae and La Cienega would accommodate a highly efficient Materials Handling System (MHS) similar to those used at Asian airports and at JFK International in New York. The MHS is a cost-effective means of conveying and



LEGEND

- Airport Property Boundary Line
- Airfield/Airport Open Space
- ET Existing Terminal Buildings
- EC Existing Cargo Building
- EM Existing Maintenance Facility
- EA Existing Ancillary Facility
- ESP Existing Short-Term Public Parking
- Existing Roadways
- Existing El Segundo Blue Butterfly Habitat Restoration Area
- Existing Light Rail Transit
- Proposed Light Rail Transit (Above Grade)
- Proposed Light Rail Transit (Below Grade)
- Proposed Runways
- Proposed Taxiways/Aircraft Aprons
- PT Proposed Terminals
- PC Proposed Cargo Building
- PM Proposed Maintenance Facility
- PA Proposed Ancillary Facility
- PSP Proposed Short-Term Public Parking
- Proposed Airport Service Pavement
- FF Proposed Fuel Farm
- Proposed Airside Service Roads
- Proposed People Mover
- PCV Proposed Commercial Vehicle Holding Area
- PEP Proposed Employee Parking
- PLP Proposed Long-Term Public Parking
- PRAC Proposed Rental Car Facility
- Berms
- Medium Density Commercial (Hotel, Office, Retail)
- R/D Business Park
- Airport Related
- GC Golf Course/Recreation
- Open Space/Landscape Buffers
- Navigational Aids

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Alternative B - 2015
Added Runway South

Figure
F3-10

transporting materials between different work centers and stores using pre-defined and tested methods and equipment to achieve the maximum efficiency and effectiveness along the route. This additional space and enhanced capacity would accommodate some of the air freight and warehousing uses displaced by the land acquisition program.

Ancillary Facilities

Alternative B would locate essential ancillary facilities on-airport to ensure continuity of service and consolidate or relocate off-airport non-essential ancillary uses. General aviation uses and airline maintenance areas would be consolidated in smaller land areas, and administration buildings would be moved off-airport.

Alternative B would relocate the fuel farm off-airport to either the Scattergood Electric Generating Station located in Los Angeles or the oil refinery located south of the airport in El Segundo. The acreage for ancillary uses is provided on **Table F3-2**, and precise locations of all ancillary facilities are provided in Chapter V of the Draft LAX Master Plan.

Land Acquisition and Relocation

Alternative B would acquire much of the land located east of the airport within the ring road and west of La Cienega Boulevard, except for a group of hotels and office buildings along Century Boulevard. Several graphics and materials in this and other documents provide the many specifics that the acquisition and relocation entail. **Table F3-2** shows the gross acreage and other statistics. A map of the areas that would be acquired is presented in **Figure F3-11**, Alternative B Proposed Property Acquisition Areas. Detailed descriptions of each numbered parcel including names of property owners, type of buildings, number of businesses, taxes, etc. were provided in Appendix P of Chapter V of the Draft LAX Master Plan. Residents and businesses displaced by the acquisition programs for all build alternatives would be relocated in accordance with the federal, state, and local statutes and regulations as outlined in the LAX Master Plan Relocation Plan.

Companies and businesses displaced by the acquisition program would be given the opportunity to relocate into the airport collateral development projects described next. The mixed use Westchester Southside Development can accommodate many displaced establishments including office uses and non-warehouse, light industrial uses. A complete accounting of the relocation plans for all acquired uses was provided in the Relocation Plan included in Appendix P of Chapter V of the Draft LAX Master Plan.

Collateral Development

Alternative B would develop airport-owned property not required for airfield or aviation support facilities to benefit the community of Westchester and to provide an opportunity to relocate businesses from acquisition areas. The 340-acre, 4.5 million square foot LAX Northside described in the No Action/No Project Alternative, would be reconstituted into the 210-acre, 2.62-million square foot Westchester Southside depicted **Figure F3-10**. Westchester Southside would provide a pedestrian-oriented community commercial "village" area to benefit the residents of Westchester and to accommodate the retail, office, and educational uses displaced by the land acquisition program. Westchester Southside would also accommodate light industrial uses from the acquisition areas to preserve the employment and other economic benefits from these businesses. Proposed are approximately 800,000 square feet of mixed uses (including office, retail, restaurant, and entertainment); to accommodate uses displaced by the land acquisition program; 970,000 square feet of business park/research and development (i.e., light industrial) use; and 850,000 square feet of resort hotel/recreational uses.

The areas referred to as Manchester Square and Continental City would be incorporated directly into LAX property for airport use.

Phasing

Alternative B would be implemented in two phases, with the overall project assumed to be completed by the 2015 planning horizon.

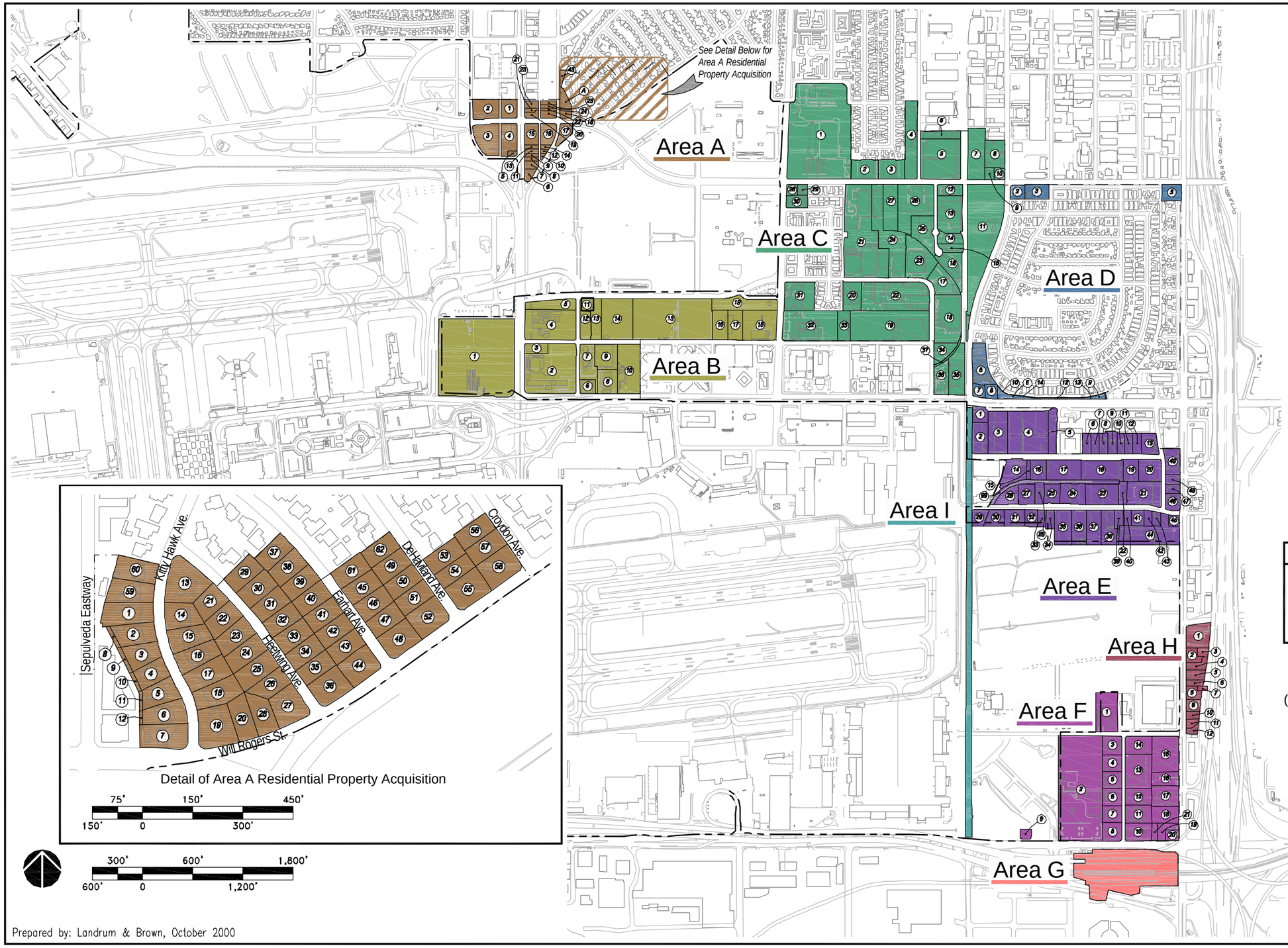
The projects included in Phase I and Phase II of Alternative B are listed below in chronological sequence.

Phase I Improvements

- Continue to redevelop Century Cargo Complex
- Complete property acquisition in areas southeast and east of the airport and along Arbor Vitae Street
- Complete the new La Cienega Cargo Complex
- Reconstruct Aviation Boulevard between Century Boulevard and Imperial Highway and provide taxiways to new cargo facilities
- Build new aircraft maintenance facilities at the southeast corner of Century and Sepulveda Boulevards
- Construct new cargo ramp in southeast corner of airport
- Develop new Arbor Vitae connection between I-405 and Westchester Parkway
- Build new satellite concourse and provide service to existing terminals by shuttle bus
- Extend I-105 to Pershing Drive
- Build North Sepulveda Boulevard tunnel
- Build new Sepulveda/Imperial interchange
- Build new WTA access road including Green Line support structures
- Construct half of Rent-A-Car facility
- Construct new aircraft maintenance facility at corner of Sepulveda and Century Boulevards
- Develop new commercial vehicle staging area
- Develop new ground service equipment maintenance facility
- Develop new Sepulveda/Westchester interchange
- Reconstruct Lincoln/Westchester Parkway interchange
- Complete half of the long-term parking garage in southwest corner and the entire short-term parking garage adjacent to the new West Terminal
- Complete new WTA and parking structure including infrastructure for the MTA Green Line
- Develop tunnel on north portion of Aviation Boulevard
- Develop new cargo areas along Arbor Vitae Street
- Complete ancillary and aircraft maintenance facilities and Fixed Base Operator (FBO) areas along 98th Street
- Complete extension of Runway 6R/24L

Phase II Improvements

- Continue to redevelop the Century Cargo Complex
- Complete Consolidated Rental Car Facility and Long-Term Parking Lot
- Build new Manchester Square cargo facility and taxiway to south airfield complex
- Demolish Imperial Cargo Complex east of Sepulveda
- Complete cargo facilities east of Aviation Blvd.
- Construct new Runway 25L
- Complete realignment of Westchester Parkway
- Complete midfield satellite concourses
- Build new terminal concourse on the former Park One site
- Relocate Runway 24R north and complete center parallel taxiway
- Relocate old Runway 25L north and rename Runway 25C
- Relocate existing fuel farm
- Expand employee parking lot west of relocated Aviation Blvd.
- Reconfigure Terminals 4, 5, 6, and 7 into a linear terminal building



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Alternative B
Proposed Property Acquisition Areas

Figure
F3-11

- Reconfigure Tom Bradley International Terminal
- Extend APM connection from WTA to CTA
- Relocate Runway 25R north and build new center parallel taxiway
- Build ancillary facilities north of Imperial Hwy and west of Sepulveda Blvd.

3.2.8 Alternative C - No Additional Runway

This alternative retains the existing four-runway configuration at LAX. Major project elements include passenger terminals, roadways, and cargo facilities. The physical layout of Alternative C is depicted in **Figure F3-12**, Alternative C - 2015, No Additional Runway which also illustrates the Master Plan boundaries for this alternative referred to in Chapter 4. The aviation activity levels are presented in **Table F3-1** and the size and amount of facilities in **Table F3-2**. Chapter V of the Draft LAX Master Plan provides a detailed description, and a summary is presented below.

Activity

Under Alternative C, which does not include the addition of a new runway, the airport would be able to accommodate a projected activity level of 89.6 MAP in 2015 (about 8 MAP short of the projected demand of 97.9 MAP).

Airfield Facilities

Alternative C increases the capacity of the airfield to serve larger aircraft through various improvements to the existing four runways. Runway 6L/24R on the north airfield is extended to 9,400 feet, widened to 200 feet, and moved 340 feet north. Runway 6R/24L is lengthened to 12,000 feet and widened to 200 feet. Runway 7R/25L is moved 50 feet to the south. These runway changes are summarized in **Table F3-2**. The increased length permits departures by the largest aircraft at either the north or south airfield. The increased runway width would accommodate Airplane Design Group VI aircraft such as the New Large Aircraft (NLA) and subsequent variations of the Boeing B-747. The increased separation between runways permits the installation of a center taxiway where aircraft can queue without blocking runway operations. Alternative C also provides extensive new taxiways and airfield improvements to eliminate the need for variances from FAA design standards discussed in Chapter 2. Relocated navigational aids in the dunes area are depicted in **Figure F3-12**.

Runway Operating Plans

Each of the four runways in Alternatives C, as shown in **Figure F3-5**, may be used for arrivals or departures in various combinations depending on weather conditions. Air traffic in Alternative C is segregated among the available runways based on the aircraft type and the origin and destination outer navigational fix. In general, aircraft bound to the north are primarily assigned to the north runways, and aircraft bound to the south fixes are assigned to the south runways.

Terminal Facilities

To serve higher passenger demand, to increase efficiency and convenience, and to accommodate a fleet mix of larger aircraft, Alternative C would provide new and improved passenger terminal space and aircraft gates. The terminal layout for Alternative C is depicted in **Figure F3-12**, the number of terminal gates and the area of building space are tabulated in **Table F3-2,** and detailed plans were described in Chapter V of the Draft LAX Master Plan.

Alternative C would have over 7.3 million square feet of terminal space and 168 nominal aircraft gates. Terminal space in Alternative C would be split between two major areas: the reconfigured CTA and the new WTA. As shown in **Figure F3-12**, and tabulated in **Table F3-2**, the West Terminal would be 1.7 million square feet smaller and configured differently than in Alternatives A and B to account for a lower level of passengers and operations. Alternative C would make minor alterations to the CTA terminal piers on the north and south side and add 10 aircraft gates to the west side of the Tom Bradley International Terminal. As a result, Alternative C would minimize disruption to existing terminal facilities.

Traffic/Parking/Circulation Facilities

Alternative C would improve ground access and maximize the use of regional highway and transit networks by including the three features contained in Alternatives A, B, and C -- a ring road, an LAX Expressway, and a direct link to the MTA Green Line rail system.

- The ring road for Alternative C is depicted in **Figure F3-12**, and would consist of a connection to the I-405 at Arbor Vitae Street, improvements along Westchester Parkway, WTA access roads along Pershing Drive, and an extension of the I-105 along Imperial Highway.
- The LAX Expressway fully described in Chapter V of the Draft LAX Master Plan would consist of four vehicle lanes added adjacent to I-405, beginning just south of the Sepulveda Boulevard overpass, extending to La Cienega Boulevard, and connecting to the ring road at Arbor Vitae Street.
- The MTA Green Line rail system would be extended from the current station at Aviation Boulevard to provide service to the new WTA, via the Imperial Highway corridor.

Alternative C also would improve the interchanges at Lincoln/Westchester, Sepulveda/Westchester, and Century/Sepulveda. Aviation Boulevard would be tunneled in two locations between Century Boulevard and Imperial Highway to provide taxiways to aircraft apron areas. Sepulveda Boulevard would be tunneled at the location where Runway 6R/24L is lengthened in the north airfield.

Public parking would be provided near the new WTA and in the CTA. Employee parking would be provided in several lots along the east side of the airport.

Rent-A-Car facilities would be provided in Alternative C at a 3.4-million square foot facility in the southwest corner of the airport. As with the other build alternatives, off-airport rental car customers would access the airport exclusively via the APM. Drop-off or pick-up of passengers at terminal curbs by off-airport rental car shuttles would be prohibited to decrease curbside congestion.

Service roads would be provided within the airport, as needed, to accommodate delivery and other service vehicles. Primary roadways would be provided to and within the cargo areas for truck and employee access.

Cargo Facilities

As depicted in **Figure F3-12**, and tabulated on **Table F3-2**, Alternative C would provide additional cargo space by preserving all of the south airfield Imperial Cargo Complex, augmenting the existing Century Cargo Complex, and providing new facilities on newly acquired property south of Arbor Vitae and along both sides of Aviation Boulevard. Alternative C would provide 385,000 square feet more cargo building space than Alternative A and 32,000 square feet more than Alternative B. Also, an approximately 80-acre cargo complex at the southwest corner of Arbor Vitae and La Cienega would accommodate a highly efficient Materials Handling System (MHS) similar to those used at Asian airports and at JFK International Airport in New York. This additional space would accommodate some of the air freight and warehousing uses displaced by the land acquisition program.

Ancillary Facilities

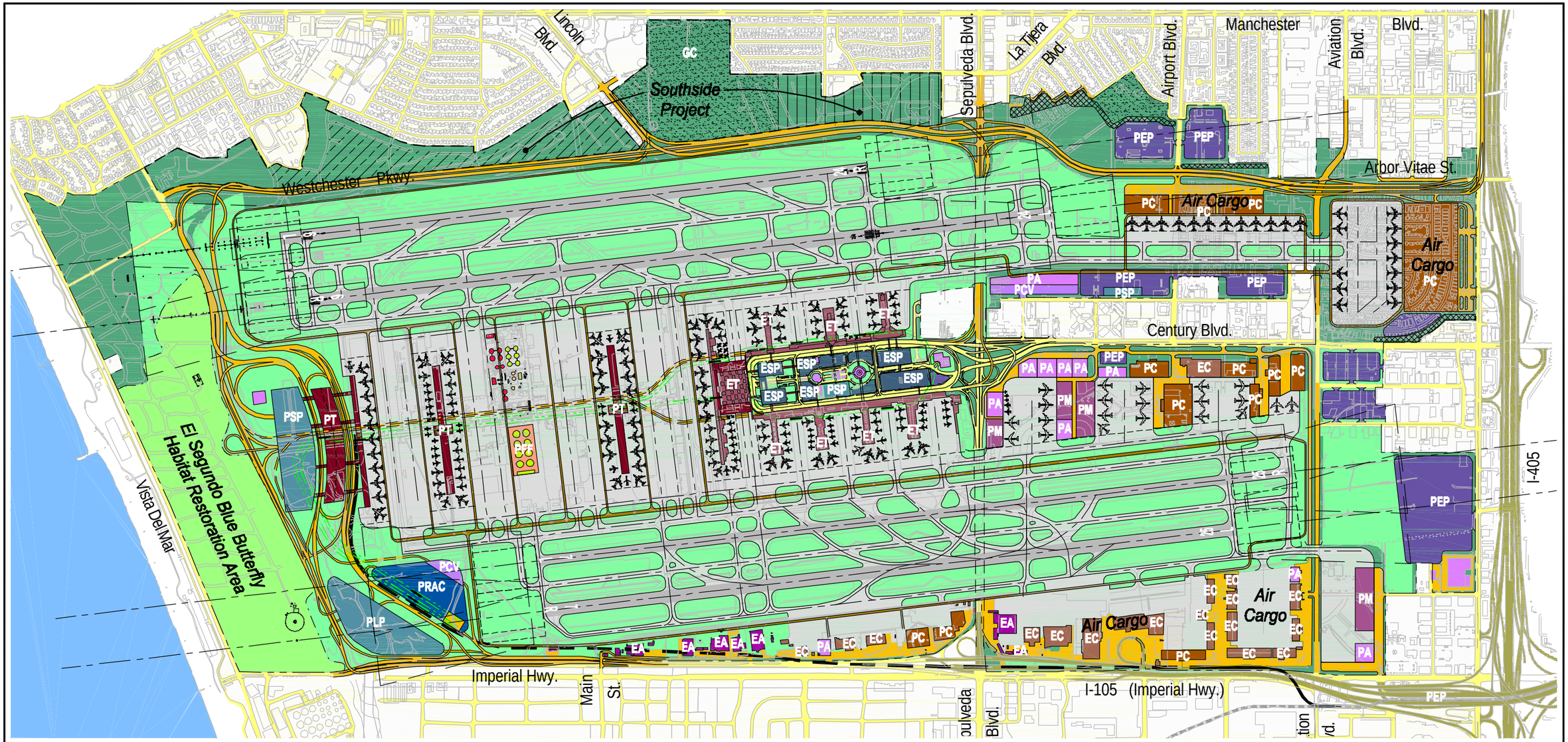
Alternative C would locate essential ancillary facilities on-airport to ensure continuity of service and consolidate or relocate off-airport non-essential ancillary uses. General aviation uses and airline maintenance areas would be consolidated into smaller land areas, and administration buildings would be moved off-airport.

Alternative C would maintain the existing fuel farm, increasing its size 11 acres to provide for increased demand.

The acreage for ancillary uses is provided on **Table F3-2**, and precise locations of all ancillary facilities for Alternative C was presented in Chapter V of the Draft LAX Master Plan.

Land Acquisition and Relocation

Alternative C would acquire much of the land located east of the airport within the ring road and west of La Cienega Boulevard, except for a group of hotels and office buildings along Century Boulevard and two areas of predominately air cargo uses along La Cienega Boulevard. Alternative C would also acquire light industrial uses north of 98th Street and west of Aviation Boulevard. Several graphics and materials



LEGEND

- Airport Property Boundary Line
- Airfield/Airport Open Space
- ET Existing Terminal Buildings
- EC Existing Cargo Building
- EM Existing Maintenance Facility
- EA Existing Ancillary Facility
- ESP Existing Short-Term Public Parking
- Existing Roadways
- Existing El Segundo Blue Butterfly Habitat Restoration Area
- Existing Light Rail Transit
- Proposed Light Rail Transit (Above Grade)
- Proposed Light Rail Transit (Below Grade)
- Proposed Runways
- Proposed Taxiways/Aircraft Aprons
- PT Proposed Terminals
- PC Proposed Cargo Building
- PM Proposed Maintenance Facility
- PA Proposed Ancillary Facility
- PSP Proposed Short-Term Public Parking
- Proposed Airport Service Pavement
- PFF Proposed Fuel Farm
- Proposed Airside Service Roads
- Proposed People Mover
- PCV Proposed Commercial Vehicle Holding Area
- PEP Proposed Employee Parking
- PLP Proposed Long-Term Public Parking
- PRAC Proposed Rental Car Facility
- Berms
- Medium Density Commercial (Hotel, Office, Retail)
- R/D Business Park
- Airport Related
- GC Golf Course/Recreation
- Open Space/Landscape Buffers
- Navigational Aids

400' 800' 2,400'
800' 0 1,600'

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Alternative C - 2015
No Additional Runway

Figure
F3-12

in this and other documents provide the many specifics that the acquisition and relocation entail. **Table F3-2** shows the gross acreage and other statistics, and a map of the areas that would be acquired under Alternative C is presented as **Figure F3-13**, Alternative C Proposed Property Acquisition Areas. Detailed descriptions of each numbered parcel including type of buildings, number of businesses, taxes, etc. were provided in Appendix P of Chapter V of the Draft LAX Master Plan. Residents and businesses displaced by the acquisition programs for all build alternatives would be relocated in accordance with the federal, state, and local statues and regulations as outlined in the LAX Master Plan Relocation Plan.

Companies and businesses displaced by the acquisition program will be given the opportunity to relocate into the airport collateral development projects described next. The mixed-use Westchester Southside development can accommodate many displaced establishments including office uses, the University of West Los Angeles School of Law, and non-warehouse, light industrial uses. A complete accounting of the relocation plans for all acquired uses was provided in the Relocation Plan included in Chapter V, Appendix P of the Draft LAX Master Plan.

Collateral Development

Alternative C would develop airport-owned property not required for airfield or aviation support facilities to benefit the community of Westchester and to provide an opportunity to relocate businesses from acquisition areas. The 340-acre, 4.5-million square foot LAX Northside Project, described in the No Action/No Project Alternative, would be reconstituted into the 210-acre, 2.62-million square foot Westchester Southside depicted in **Figure F3-12.** Westchester Southside would provide a pedestrian-oriented community commercial "village" area to benefit the residents of Westchester and to accommodate the retail, office, and educational uses displaced by the land acquisition program. Westchester Southside would also accommodate light industrial uses from the acquisition areas to preserve employment and other economic benefits from these businesses. Proposed are approximately 800,000 square feet of mixed uses (including office, retail, restaurant, and entertainment); 970,000 square feet of business park/research and development (i.e., light industrial) use; and 850,000 square feet of resort hotel/recreational uses to accommodate uses displaced by the land acquisition program.

The areas referred to as Continental City and Manchester Square would be incorporated directly into LAX property for airport use.

Phasing

Alternative C would be implemented in two phases, with the overall project assumed to be completed by the 2015 planning horizon.

The projects included in Phase I and Phase II of Alternative C are listed below in chronological sequence.

Phase I Improvements

- Continue to develop Century Cargo Complex
- Acquire property south of Century Boulevard between Aviation and La Cienega Boulevard
- Complete property acquisition along Arbor Vitae Street
- Relocate Taxiways Q and S, relocate American Eagle facility and relocate Fire Station 80
- Construct North Sepulveda Boulevard tunnel and ramps
- Extend Runway 6R/24L
- Remodel the Tom Bradley International Terminal
- Develop Sepulveda/Westchester interchange
- Acquire properties along Sepulveda Boulevard in Westchester
- Construct Westchester Parkway/Lincoln Boulevard interchange
- Construct new employee parking lot at Imperial Highway and Aviation Boulevard
- Build replacement Rent-A-Car facility between Aviation and La Cienega Boulevards
- Construct parking garage along 98th Street
- Develop new ground service equipment maintenance facility
- Relocate Runway 6L/24R 350 feet north

- Develop new cargo areas along Arbor Vitae Street
- Complete commercial vehicle staging area
- Complete employee parking lots
- Extend I-105 to Pershing Drive
- Construct WTA access road
- Complete initial phase of western long-term parking garage and the close-in parking garage adjacent to the new West Terminal
- Complete new WTA including infrastructure for the MTA Green Line
- Complete all property acquisition in northeast area of airport
- Construct new aircraft maintenance facilities at southeast corner of Century and Sepulveda Boulevards

Phase II Improvements

- Continue to redevelop the Century Cargo Complex
- Build Consolidated Rental Car Facilities and Commercial Vehicle Holding Area
- Relocate Runway 25L south and build new center parallel taxiway
- Build new Manchester Square cargo facility
- Complete airline maintenance facilities east of Aviation Blvd.
- Complete midfield satellite concourses
- Extend APM system to new concourses
- Expand existing fuel farm
- Extend APM system east to new midfield satellite and TBIT
- Complete LAX Expressway

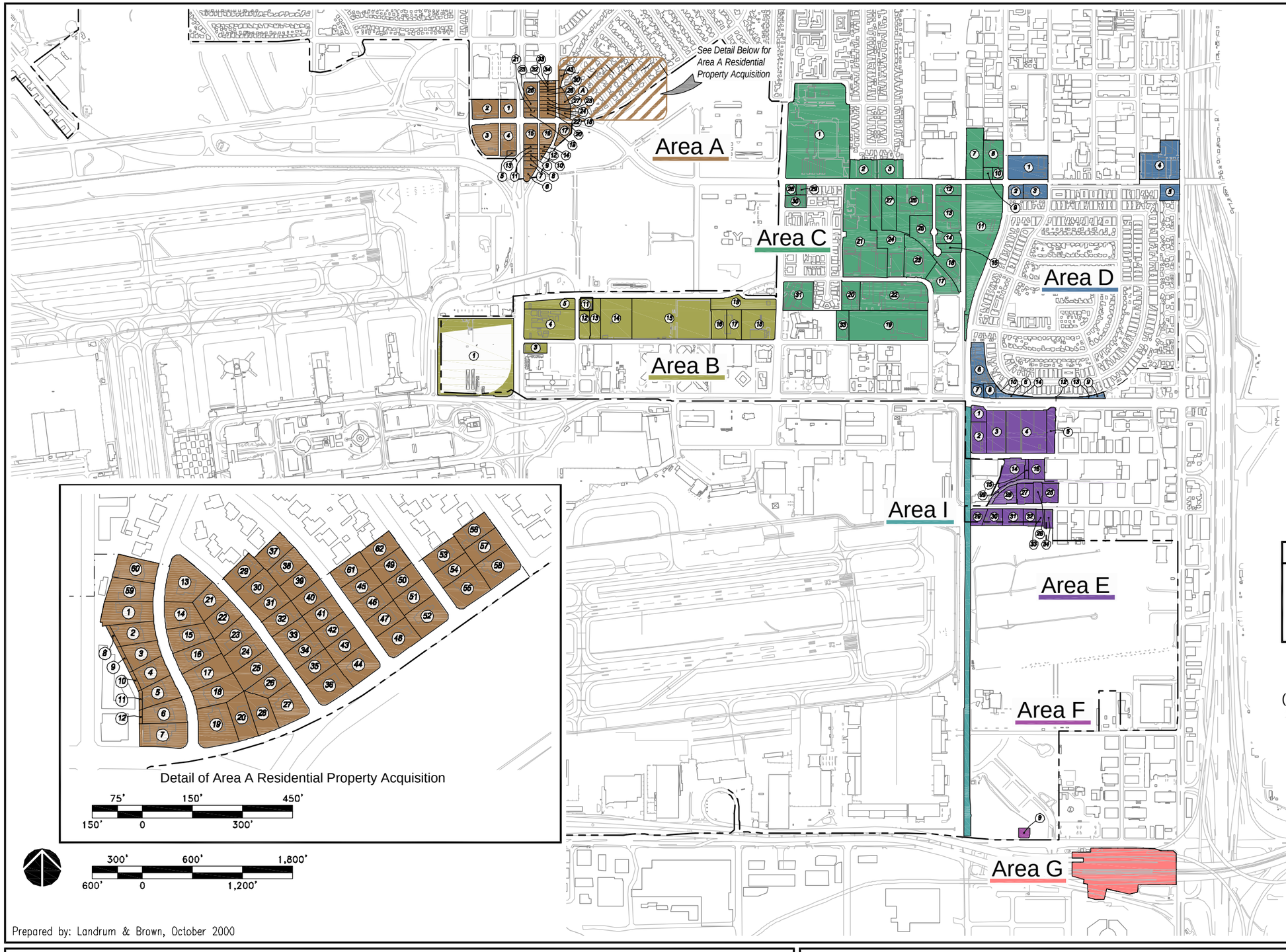
3.2.9 Alternative D - Enhanced Safety and Security Plan

The Alternative D Design

Alternative D, as stated previously in Section 3.1.3.4, *Development and Addition of Alternative D*, is a direct response to the strongly expressed desire of many local officials and 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 respond to the purpose and objectives of the LAX Master Plan, as outlined in Chapter 2, and achieve the following:

- 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.

Alternative D represents a new design approach to securing airports. By limiting access by private vehicles to the main airport infrastructure, significant threats can be identified and mitigated in new facilities designed for the new security environment. This approach reduces the risk to airport users while also protecting the airport infrastructure and its link to the economy. By creating additional space for passenger terminals, efficient passenger and baggage screening facilities can be implemented at the airport. Flexibility of the new passenger space created would allow for space to implement evolving changes in airport security technology while also being responsive to the identified security threats. Accessing the airport from four landside points provides redundancy in the passenger access system and



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Alternative C
Proposed Property Acquisition Areas

Figure
F3-13

also solves many of the traffic congestion problems associated with the current airport access. The end goal of this design concept is to achieve a new balance between the needs of both passenger security and passenger convenience. The physical layout of Alternative D is depicted in **Figure F3-14**, Alternative D - 2015 - Enhanced Safety and Security Plan, which also illustrates the Alternative D Master Plan boundaries referred to in Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*.

Enhanced airfield safety is achieved through airfield facility modifications that mitigate the primary causes of runway incursions at LAX. Further airfield safety and improved airfield efficiency are achieved through taxiway development that matches the future fleet of larger aircraft.

Alternative D emphasizes the maintenance of LAX's role as an international gateway and encourages 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 as projected in regional plans, such as the SCAG RTP. 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. However, it is important to understand that the levels of passengers that each alternative is designed to accommodate are not finite limits where the airport would somehow be closed or where aircraft would be redirected to some other facility when this number is reached. These levels are an indication of the number of passengers that can be accommodated at a reasonable level of service. The airport can accommodate additional aircraft and passengers beyond these levels; however, the result is a degraded level of service."

LAWA also determined that improvements in efficiency and reductions in delay could be achieved if improvements to all other airport system components could be made without increasing the airport's passenger and cargo activity levels. This would translate into lower average aircraft delays on the airfield, less passenger congestion in the terminal buildings and reduced surface traffic congestion at the airport and in the nearby communities.

International demand would play an increasingly important role at LAX under Alternative D. The high unit value of this international activity would likely entice airlines to choose this activity over less profitable domestic activities that can be more efficiently and more cost-effectively handled at other regional airports.

Alternative D Constrained Activity Forecast

The activity analysis for Alternative D is described as "constrained" because, like Master Plan Alternatives A, B and C, Alternative D facilities would not be designed to accommodate the unconstrained aviation demand forecast profile.[35] 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. The cargo warehouse space available in Alternative D is equal to the space available in the No Action/No Project Alternative. Summarized below is the activity analysis approach used by LAWA to determine the appropriate amount of equivalent contact gate space and cargo warehouse space needed to accommodate approximately the same passenger and cargo levels as in the No Action/No Project Alternative.

Activity Forecasts and Facility Constraints

Airport proprietors commonly forecast air travel demand and study the effects of air service market tendencies on their airport and community. The forecasts assist airport proprietors in planning for and providing sufficient air transportation facilities in a timely manner to meet market needs. While air transportation is a federal priority, the federal government does not determine where and how to serve this demand; this critical element is left up to individual airlines. Similarly, the federal government does not determine the need for or location of airport facilities to accommodate projected air traffic demand. Thus, airport facility planning is a local government function. Local agencies plan for efficient and

[35] The "unconstrained aviation demand forecast profile" refers to both the volume and manner in which airline operations are conducted.

compatible airports and surrounding land use in their communities with the least amount of external impacts on people and the environment.

The starting place for the facility design concept for Alternative D was to design basic airport and ground access facilities that enhance airport safety and security while retaining the ability to serve aviation activity equivalent to the projected No Action/No Project level while reducing the impacts associated with the No Action/No Project Alternative. This design approach was an iterative process that reapplied projected market forces to the constrained facilities to forecast the changes that would likely occur at LAX if this policy and the associated facilities were developed. Finally, the airport and ground access facilities were refined, as necessary, to best reflect the forecast for the constrained market changes.

The most constraining component of an airport defines the practical capacity[36] of the entire airport. An airport is a complex system made up of components through which passengers and aircraft flow in a sequential order. Aircraft arriving at the airport pass through the airspace, land on the runways, travel on the taxiways and proceed to the terminal gates to unload and reload passengers. Once loaded and ready for departure, the aircraft pass through these same components in reverse order.

Passengers move through the system in a similar set of sequential steps. Departing passengers travel on local roadways and on-airport roads, arrive at the terminal from the curbfront, parking, or other shuttle facility, are processed in the terminal and proceed to the designated aircraft gate for boarding. Arriving passengers generally proceed through these steps in reverse order upon arrival at an airport. Exceptions for arriving passengers include domestic connecting passengers who board other flights, international arrivals who move through FIS facilities and baggage claim before they connect to other flights or use ground transportation facilities.

Each component of the airport system, the airfield, terminal passenger facilities and the curbfront, has an operational or passenger capacity that is a function of the physical characteristics of the component. The annual passenger level served by the overall airport system is related to the hourly capacity of its weakest component. The relationship between hourly aircraft operations, design day[37] operations and annual operations is based on fluctuations in passenger market service patterns throughout the design day and in seasonal market fluctuations throughout the year. These market fluctuations are driven by passenger travel needs and by airport facility limitations when these limitations are present in the system.

Each of the Master Plan alternatives has facility constraints that would limit its ability to accommodate the forecast of unconstrained passenger and cargo demand to varying degrees. Even Alternatives A and B that accommodate the forecast for both passengers and cargo nonetheless require adjustments in airline schedules to do so because of airfield limitations. When an airport system component is operating at "capacity," -- meaning that it is processing a maximum level of hourly operations given its characteristics and procedures -- increasing the capacity of other components does not increase the capacity of the system. For example, if a runway is operating at its throughput operational capacity and, by definition, accepting the maximum number of hourly arriving and/or departing flights without regard for delay, increasing the number of gates will not improve the airport's ability to accept more arriving flights. The runway system would have to be expanded to increase the throughput operational rate.

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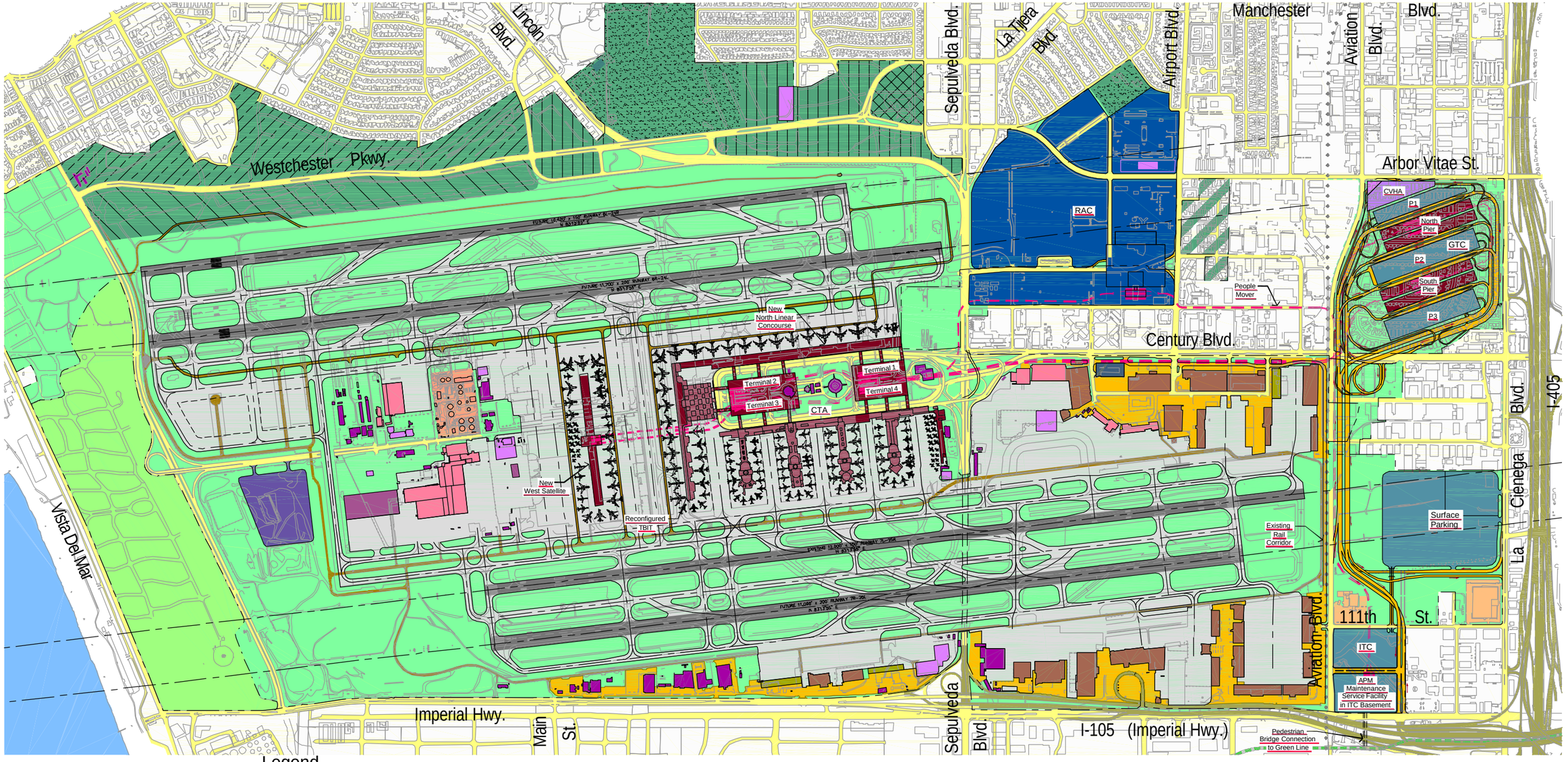
36 *Practical Capacity* is a term used here to refer to the number of hourly or annual aircraft operations (takeoffs and landings) that can be accommodated with no more than a given amount of delay, usually expressed in terms of maximum acceptable average delay (since delay is a dynamic variable, airport and airspace simulation modeling was used to develop delay averages, which recognize that some aircraft will be delayed more than the specified levels and some less). Extensive airport and airspace simulation modeling was undertaken for each alternative in the LAX Master Plan using FAA's approved SIMMOD model. This modeling was used to determine hourly and annual aircraft operational capacity and delay. The results of these analyses were presented in the Draft LAX Master Plan (November 2000) and the Draft LAX Master Plan Addendum (July 2003).

37 "Design day" is defined as a level of daily activity that represents the average of the weekday activity in the peak month of the year. The purpose of the design day is to establish a level of activity that accounts for the normal peaking characteristics during the days of the week and the seasonal peaks during the months of the year.



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Alternative D - 2015 Enhanced Safety and Security Plan

Figure
F3-14

Annual Passengers/Tons as a Common Performance Metric

Top-down forecasts of unconstrained aviation demand, or forecasts based on macro-economic drivers, are expressed in terms of annual passengers and annual tons of cargo. Forecasts of aircraft operations to serve this demand must be derived through the application of historical and forecast market factors. These market factors include the proportion of origin and destination (i.e., "O&D" trips that start or end at LAX) and connecting (i.e., trips where LAX is used only a "layover" for a trip that starts or ends elsewhere) passengers, aircraft fleet mix (in terms of seats per departure or tons per departure), load factor (passenger enplanements or cargo tons per departure), annual operations ratios (annual aircraft operations divided by design day aircraft operations) and annual passenger ratios (annual passengers divided by design day passengers). Conversely, these same factors can be applied to hourly airfield constraints expressed by aircraft operations to convert them to annual passengers or tons of cargo.

Each of the above-listed market factors varies widely from one airport to another and must be evaluated individually to create a complete airport activity profile. It is reasonable to compare historical aviation activity statistics among several airports; however, it is of little value to compare forecast levels of passenger and cargo activity without knowing the above listed market factors for each airport in the comparison. An extensive historical record and forecasting effort to define each of these parameters and their application at LAX was undertaken as a part of the LAX Master Plan (see Chapter 3 of the Draft LAX Master Plan, January 18, 2001). It is from this body of information that detailed design day forecasts have been developed for each of the LAX Master Plan alternatives.

A projected design day and annual performance measure of total passengers and total cargo has been computed for each Master Plan alternative. Alternative D has a passenger and cargo activity level that is determined by the ability of facilities in that alternative to serve the unconstrained market demand. **Figure F3-15**, Master Plan Alternative Capacity Constraints**,** summarizes the Master Plan alternatives and their corresponding activity levels. The No Action/No Project Alternative is limited by the capacity of the curbfront in the CTA where passengers are dropped-off and picked-up in front of the existing terminals. The resulting annual passenger performance measure of this alternative is 78.7 million. Alternatives A and B include a fifth runway and were designed to serve the 2015 passenger demand forecast. Alternative A and B would accommodate 97.9 MAP.[38] Alternative C's projected annual passenger activity level served is limited by the capacity of the four-runway system and is forecast to be 89.6 million. The constrained activity profiles for Master Plan Alternatives A, B, and C were discussed in Chapter V of the Draft LAX Master Plan in Section 3.3.2. Extensive analysis is included in that document, establishing the levels of passengers that each alternative is designed to accommodate. Alternative D was designed to accommodate approximately the same level of passenger activity as the No Action/No Project Alternative. The ability to increase aircraft size, thereby increasing passenger levels, was limited by the number and type of gates available under the Alternative D terminal design.

Cargo Activity

The Alternative D cargo activity forecast is determined by the amount of cargo sort space available to process cargo tonnage. This sort space would be measured in square feet of cargo building space. The Alternative D cargo facilities would be sized to accommodate 3.1 MAT, which is the total cargo volume forecast in the constrained No Action/No Project Alternative.

The effective constraint on cargo activity in Alternative D would be the lack of sufficient cargo building space to process the unconstrained cargo activity forecast. The most effective representation of this constraint is illustrated by the utilization rates, or tons per square foot, for the available warehouse space. A common benchmark in the industry is to process approximately 0.9 to 1.0 annual ton of cargo for each square foot of cargo warehouse space available. Higher space utilization rates, ranging from 1.1 to 1.42 annual tons per square foot, are expected for domestic and express cargo, with lower space utilization rates, ranging from 0.5 to 0.6 annual tons per square foot, expected for international freight due to the added time associated with customs clearing and fewer available flights.

The space utilization rate (excluding air mail) calculated for Alternative D is 1.22 tons per square foot. This rate is based on approximately 2.3 million square feet of cargo building space and approximately

[38] In order to accommodate the 2015 unconstrained passenger forecast of approximately 98 MAP, it would be necessary for the airlines to make air service adjustments, such as reducing the number of daily flights to a destination, limiting the number of non-stop destinations served or adjusting the flights' departure or arrival time to off-peak hours.

2.85 MAT of cargo (excluding air mail). It is the weighted average of the domestic and express cargo (approximately 2.09 tons per square foot) and international cargo (approximately 0.8 tons per square foot). Based on current cargo activity, the split is 55 percent domestic and 45 percent international. Cargo space is split 32 percent domestic and 68 percent international. Air mail is projected to be 272,000 tons, resulting in 3.1 MAT of projected cargo activity. These figures are tabulated in **Table F3-3**, Alternative D - Cargo Building Space Utilization.

Table F3-3

Alternative D - Cargo Building Space Utilization

	2015 Cargo Volume Forecast (Tons)	Space Requirement (SF/Ton)	Space Utilization Rate (Tons/SF)	2015 Gross Cargo Building Space Requirement (SF)
Domestic Freight + Total Express	1,566,400	0.48	2.09	749,440
International Freight	1,281,600	1.24	0.80	1,592,560
Total Cargo (Excluding Mail)	2,848,000	0.82	1.22	2,342,000
Air Mail	272,000	0.64	1.57	173,000
Total Cargo	3,120,000	0.81	1.24	2,515,000

Source: Landrum & Brown, 2004.

The cargo space utilization rates for Alternative D exceed both the industry benchmark rates and the high utilization rates already experienced at LAX. Improvements in cargo technologies and building efficiencies would be needed to realize the future utilization rates projected for Alternative D. If regional air cargo demand forecasts are achieved, additional cargo demand pressure will be placed on other regional airports to process a greater proportion of the regional cargo activity closer to the source of the demand.

Aircraft Activity

Alternative D peak hour aircraft operations activity was projected based on the capacity of the existing four-runway system at LAX in visual operating conditions. Given that the airport was operating with high peak hour delays and a significant number of cancelled flights during poor weather conditions in 1996, peak hour operations in the 2015 activity scenario were projected not to exceed the 1996 levels. However, operations were projected to increase in other hours as warranted by market demand. Additional information and explanation regarding the aircraft activity assumptions for, and characteristics, of Alternative D are provided in Chapter 3 of the Draft Lax Master Plan Addendum and Appendix E of that document.

The resulting total daily aircraft operations are forecast to be the same as the No Action/No Project Alternative and less than Alternative C. This difference in total operations is due to the fact that Alternative D would not be designed to accommodate the same level of cargo activity as Alternative C (and the other build alternatives). It is also projected that design day cargo aircraft operations levels would be below the unconstrained forecast operations demand.

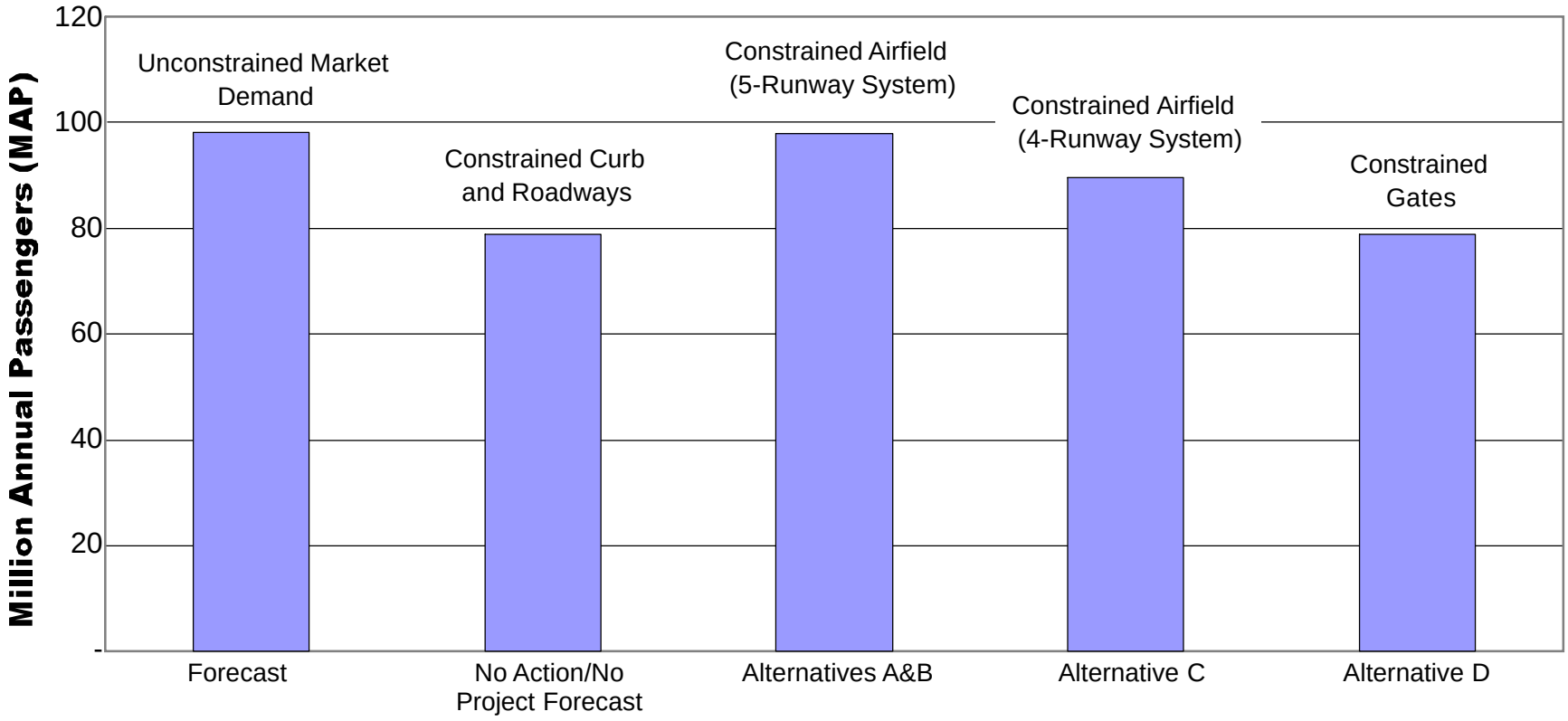
Passenger Activity

As stated previously, Alternative D would be designed to accommodate the same design day aircraft operations as the No Action/No Project passenger level. The passenger activity that would be expected in 2015 with Alternative D was determined based on the design of the Alternative D gate facilities and the projected airline response to the constrained facilities. The following sections describe the steps taken to develop the Alternative D constrained design day forecast schedule.

A passenger capacity analysis was conducted to allow aircraft size (as measured by enplanements per departure) to increase beyond 1996 and 2000 levels without significantly exceeding the 2015 unconstrained forecast enplanements per departure for each air service region. This enabled the

Summary of Constraints

2015 Activity



Preparedby: Landrum&Brown,January8,2003

LAX Master Plan Final EIS/EIR	**Master Plan Alternative Capacity Constraints**	Figure **F3-15**

enplanements per departure ratios for the domestic and international fleet to grow to a level between the 2010 and 2015 Master Plan forecast. The average commuter fleet size (again measured by enplanements per departure) was able to grow to the 2015 unconstrained forecast level. On average, the proportion of air carrier and commuter operations results in an enplanements per departure ratio similar to the No Action/No Project Alternative. The ability to increase aircraft size, thereby increasing passenger levels, was limited by the number and type of gates available under the Alternative D terminal design. By comparison, Alternative C was designed to test the limit of the market to serve passenger and cargo demand within the constraint of a four-runway system at LAX. Gate space is provided in Alternative C as necessary to accommodate the projected increase in average fleet size that serves both the international and domestic markets. As the projections in the following section indicate, the design of Alternative D would encourage airlines to choose the most efficient use of the gate facilities at LAX and supplement high-frequency domestic service at other airports in the region.

Air Service Changes

Alternative D is projected to meet 87 percent of the unconstrained 2015 O&D passenger demand forecast and 82 percent of the 2015 international passenger demand forecast. **Figure F3-16**, Design Day Hourly Operations, **Figure F3-17**, Hourly Distribution of Domestic Operations by Geographic/Time Zone Regions, and **Figure F3-18**, Hourly Distribution of International Operations by Geographic/Time Zone Regions, present a comparison of forecast air service operations between the No Action/No Project Alternative, Alternative D, and unconstrained demand at LAX. The forecast of air service changes at LAX, as a reaction to the airport facilities available under Alternative D, is based on the following projections and expectations:

- High priority would be given by the airlines to accommodating O&D passengers. However, it would still be important to maintain a minimum level of connecting passengers to maintain LAX's role as a hub and an international gateway. Accommodating O&D passengers would be maximized to the extent possible within these guidelines; resulting in 87 percent of the 2015 unconstrained O&D demand forecast being accommodated in Alternative D. The projected number of Alternative D O&D passengers as a percent of total passengers would be similar to the forecast for Alternative C.
- Commuter operations would likely be reduced from 1996 levels, consistent with the forecasts for the No Action/No Project Alternative and Alternative C, in order to maximize the number of passengers that could be served with a limited number of operations. It is also projected that some of the forecast commuter O&D demand would be served by domestic air carrier flights.
- Domestic air carrier connecting passengers would decrease from 2015 forecast levels to reflect the projected loss of connecting passengers from commuter flights.
- The domestic air carrier hourly profile would be de-peaked and service would be reduced from 2015 unconstrained forecast levels in the Central, Eastern, and Asia-Pacific regions to reflect the projected response from the airlines to the airfield constraints. The airlines would adjust their schedules to allow for more profitable and less flexible international operations to be scheduled at peak periods. Time zone and airport operating restrictions at international destinations in both Asia and Europe place limitations on the arrival and departure times for flights to these world regions.
- The percentage of domestic and international air carrier O&D passengers would increase as the airlines attempt to serve the unconstrained forecast O&D demand with fewer operations. As a result the projected percentage of connecting passengers would decrease.
- The average aircraft size would increase from existing levels without significantly exceeding the unconstrained forecast seats per departure for each air service component. This is reflective of the already large fleet size serving LAX.
- Cargo operations would be equivalent to those forecast in the 2015 No Action/No Project Alternative.
- Total general aviation activity would remain at 1996 and 2000 levels and operations would move out of peak hours to avoid excessive arrival and departure delays.

Table F3-4, 2015 Activity Comparison, contains a comparison of the resulting 2015 Alternative D aviation activity forecast, the actual 1996 and 2000 aviation activity, the unconstrained 2015 forecast and the forecasts for the other Master Plan alternatives. The corresponding aircraft operations and passenger activity profiles was included in the Draft LAX Master Plan Addendum, Appendix F.

Table F3-4

2015 Activity Comparison

	Commercial Passenger Operations								
	Domestic					Total[3]		GA &	
	Air Carrier	Commuter	Hawaii	Total[3]	Intl.[2]	Commercial	Cargo	MI[4]	Total[3]
Design Day Operation									
1996 Actual	1,150	644	49	1,843	212	2,055	76	104	2,235
2000 Actual	1,227	474	52	1,753	301	2,054	117	104	2,275
2015 No Action/No Project	1,069	467	54	1,590	468	2,058	117	104	2,279
2015 Alternatives A & B	1,206	584	58	1,848	604	2,452	157	110	2,719
2015 Alternative C	1,120	317	57	1,494	564	2,058	157	104	2,319
2015 Alternative D	975	532	53	1,560	498	2,058	117	104	2,279
2015 Unconstrained	1,176	816	58	2,050	604	2,654	157	110	2,921
Design Day Passengers									
1996 Actual	127,417	7,595	12,516	147,528	38,984	186,512	n/a	n/a	n/a
2000 Actual	138,565	8,232	11,480	158,277	57,368	215,645	n/a	n/a	n/a
2015 No Action/No Project	141,332	10,147	14,423	165,902	92,427	262,329	n/a	n/a	n/a
2015 Alternatives A & B	172,977	13,287	16,283	202,547	123,782	326,329	n/a	n/a	n/a
2015 Alternative C	160,041	6,911	15,947	182,899	115,689	298,588	n/a	n/a	n/a
2015 Alternative D	134,982	11,937	14,702	161,621	101,137	262,758	n/a	n/a	n/a
2015 Unconstrained	167,914	18,319	16,320	202,553	123,827	326,380	n/a	n/a	n/a
Design Day Enplane-ments per Departure									
1996 Actual	110.80	11.79	255.43	80.05	183.89	90.76	n/a	n/a	n/a
2000 Actual	112.93	17.37	220.77	90.29	190.59	104.99	n/a	n/a	n/a
2015 No Action/No Project	132.21	21.73	267.09	104.34	206.04	127.47	n/a	n/a	n/a
2015 Alternatives A & B	143.43	22.75	280.74	109.60	204.94	133.09	n/a	n/a	n/a
2015 Alternative C	142.89	21.80	279.77	122.42	205.12	145.09	n/a	n/a	n/a
2015 Alternative D	138.44	22.44	277.40	103.60	203.09	127.68	n/a	n/a	n/a
2015 Unconstrained	142.72	22.45	281.38	98.81	205.01	122.98	n/a	n/a	n/a
Annual Operations									
1996 Actual	n/a	233,832	n/a	620,565	91,641	712,206	23,682	27,978	763,866
2000 Actual	n/a	172,770	n/a	609,758	101,033	710,791	37,270	19,412	767,473
2015 No Action/No Project	365,300	160,400	17,900	543,700	168,800	712,500	36,000	35,000	783,400
2015 Alternatives A & B	412,100	200,600	19,300	632,000	217,800	849,800	48,300	37,000	935,100
2015 Alternative C	382,700	108,900	18,900	510,600	203,400	714,000	48,300	35,000	797,200
2015 Alternative D	333,200	182,800	17,600	533,600	179,600	713,100	36,000	35,000	784,000
2015 Unconstrained	401,900	280,300	19,300	701,500	217,800	919,300	48,300	37,000	1,004,600
Annual Passengers									
1996 Actual	n/a	2,759,991	n/a	43,942,028	14,032,531	57,974,559	n/a	n/a	n/a
2000 Actual	n/a	2,918,282	n/a	49,926,815	17,376,367	67,303,182	n/a	n/a	n/a
2015 No Action/No Project	42,232,000	3,115,400	4,510,900	49,858,300	28,856,900	78,715,200	n/a	n/a	n/a
2015 Alternatives A & B	51,688,000	4,079,400	5,092,600	60,860,000	37,043,200	97,903,300	n/a	n/a	n/a
2015 Alternative C	47,822,500	2,121,800	4,987,500	54,931,800	34,621,300	89,553,200	n/a	n/a	n/a
2015 Alternative D	40,334,500	3,664,900	4,598,200	48,597,600	30,266,500	78,864,100	n/a	n/a	n/a
2015 Unconstrained	50,175,000	5,624,000	5,104,000	60,903,000	37,057,000	97,960,000	n/a	n/a	n/a
Annual Enplanements per Departure[1]									
1996 Actual	n/a	11.80	n/a	70.81	153.13	81.40	n/a	n/a	n/a
2000 Actual	n/a	16.89	n/a	81.88	171.99	94.69	n/a	n/a	n/a
2015 No Action/No Project	115.61	19.42	251.40	91.70	170.98	110.48	n/a	n/a	n/a
2015 Alternatives A & B	125.42	20.33	264.25	96.29	170.07	115.20	n/a	n/a	n/a
2015 Alternative C	124.95	19.48	263.34	107.59	170.22	125.43	n/a	n/a	n/a

Table F3-4

2015 Activity Comparison

	Commercial Passenger Operations								
	Domestic					Total[3]		GA &	
	Air Carrier	Commuter	Hawaii	Total[3]	Intl.[2]	Commercial	Cargo	MI[4]	Total[3]
2015 Alternative D	121.06	20.05	261.10	91.08	168.53	110.59	n/a	n/a	n/a
2015 Unconstrained	124.86	20.06	264.85	86.82	170.13	106.56	n/a	n/a	n/a

[1] Annual Enplanements per Departure reflect the seasonal fluctuations in passenger demand throughout the year as compared to the peaking characteristic of the Design Day and the associated Design Day Enplanements per Departure. For reference, "Design Day" is defined as the average of the weekday activity in the peak month of the year.
[2] Canadian passengers and operations are included in the international totals.
[3] The total columns for the annual and design day enplanements/departure ratios are not a sum of the individual components. Rather, these total ratios represent a weighted average based on the number of passengers and operations for each air service region.
[4] General aviation and military.

Source: Landrum & Brown, 2002.

Alternative D Facilities Description

Alternative D retains the existing four-runway configuration at LAX. Major project elements include airfield modifications, the development of new terminals with the removal of public parking structures in the existing CTA and elimination of private vehicle access to the CTA. It also includes a Ground Transportation Center (GTC), Consolidated Rental Car Facility (RAC), Intermodal Transportation Center (ITC), and an APM system.

Alternative D is designed to be flexible in accommodating new federal security requirements and is the only alternative that is specifically planned to enhance and improve security by increasing emergency support facilities and limiting access to core airport facilities.

Important security features include the elimination of private vehicles from the CTA roadways and elimination of the public parking structures within the CTA. Passengers and employees working in the CTA would access the CTA via the APM system. Limiting vehicle access to these areas would enhance security at each of the facilities in the CTA. One hundred percent baggage screening capability would be a fundamental component of the new terminals, in addition to all other federal security recommendations and mandates enhancing the safety and security of the existing and new facilities.

The presence of law enforcement and emergency response teams would be enhanced with Alternative D. The project would include two new Aircraft Rescue and Firefighting (ARFF) facilities to increase fire response capabilities and a new 110,000-square-foot police headquarters with convenient access to airport facilities. Additional police substations would be located in the terminal facilities.

Airfield Facilities

The airfield modifications in Alternative D would improve gate accessibility for large aircraft at LAX, reduce delays, and reduce the potential for runway incursions, thereby enhancing the safety of passengers and aircraft at LAX. Runway 6L/24R on the north airfield would maintain its current location; however, it would be extended approximately 1,495 feet to the west for a total length of approximately 10,420 feet. Runway 6R/24L would be reconstructed approximately 340 feet south of the existing runway centerline to allow for the construction of a new parallel taxiway between the runways. Runway 6R/24L would be extended approximately 135 feet west and approximately 1,280 feet to the east. The total runway length would be approximately 11,700 feet long and 200 feet wide.

The primary purpose for modifying the airfield as suggested in Alternative D is to develop a physical solution that will greatly reduce the risk of runway incursions. A runway incursion, as defined by the Federal Aviation Administration (FAA), is any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land. In June 2002, FAA published a study entitled, "FAA Runway Safety Report: Runway Incursion Trends at Towered Airports in the United States - CY 1998 - CY 2001." This report identified a total of 1,460

runway incursions out of 268 million airport operations in the U.S. that resulted in three collisions and four fatalities over the four years studied. LAX had 38 total runway incursions during the period of the FAA study and had an average rate of occurrence of 1.24 incursions per 100,000 operations. Annual runway incursions at LAX totaled 12, 10, 8, and 8, respectively, for the years 1998 through 2001. In 2002 total runway incursions declined further to six. FAA also classifies runway incursions by their relative severity. The highest severity is given to an incursion in which extreme action is needed to avoid a collision or if a collision occurs. Five of the 38 runway incursions at LAX during the period of the FAA study were in this category and none of the five resulted in a collision. Over 80 percent of these incursions took place on the South Airfield Complex.

The goal of the FAA is to raise awareness of runway incursions, identify solutions, and implement strategies to reduce their severity and frequency as well as the risk of a runway collision. Airport surface radar technology and airport infrastructure implementation at key airports like LAX are some of the strategies identified by FAA to help solve the problem. LAWA has already implemented improvements to airfield lighting, taxiway marking, runway signage, and has sponsored on-going seminars on airfield familiarization with airport users. However, more improvement is needed. Taxiway system configuration is one of the key infrastructure methods to solving the problem.

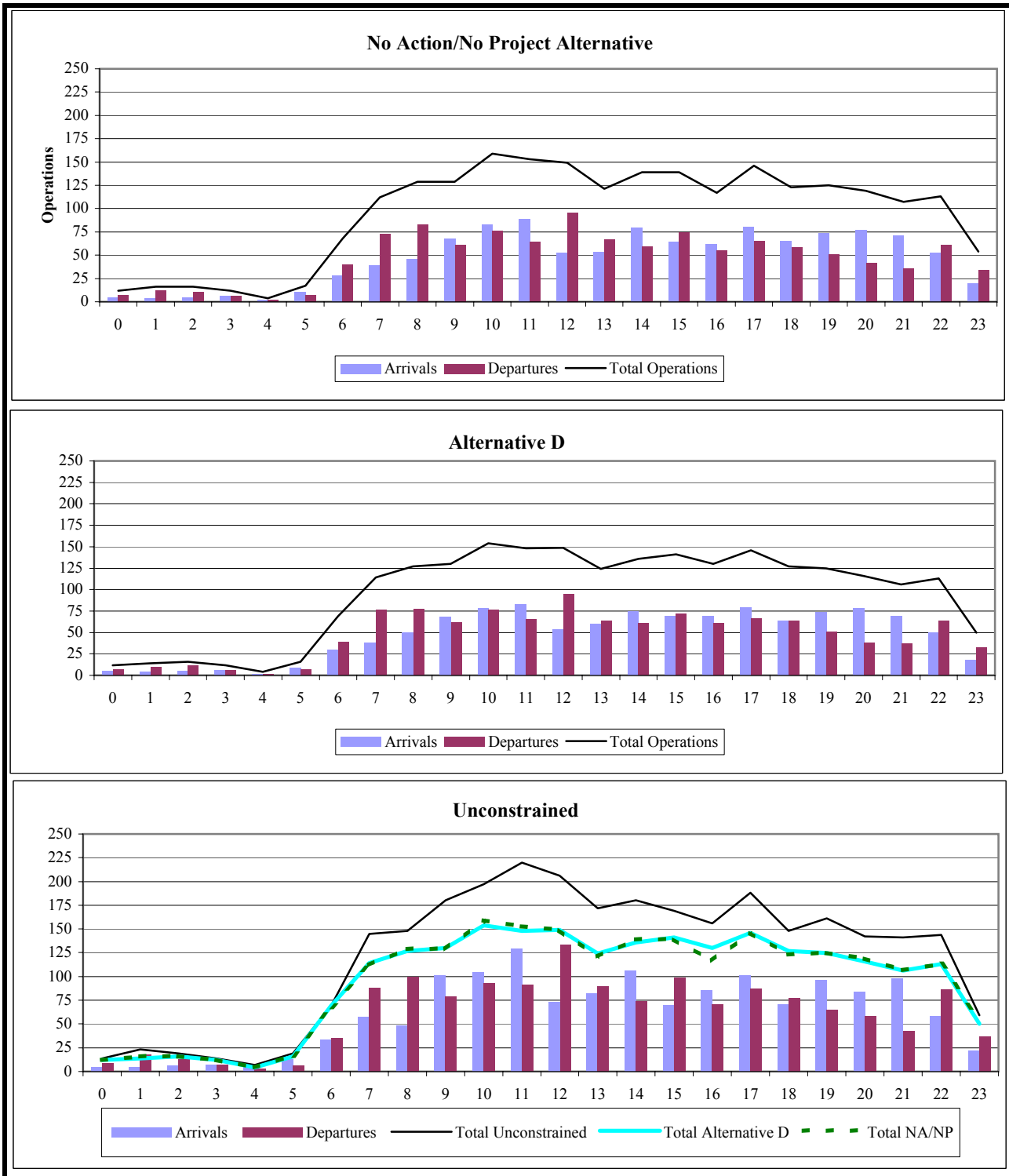
LAWA, in cooperation with NASA Ames Research Center, conducted a study titled "Los Angeles International Airport Runway Incursion Studies, Phase III - Center Taxiway Simulation" (published on July 31, 2003), comparing the costs and benefits of a center parallel taxiway and an "end-around" taxiway on the south airfield complex. LAWA sponsored and participated in this operational analysis and human-in-the-loop testing that included FAA Air Traffic Controllers from LAX Tower. The study concluded that the end-around taxiway greatly increased taxi time and delays for arriving aircraft and thereby increased the operational costs of this option and did not give any increased safety margin. Air traffic controllers also found the center parallel taxiway to be an operationally efficient solution to the primary cause of the most severe types of runway incursions experienced at LAX.

A new parallel center taxiway would be constructed between Runways 6L/24R and 6R/24L to reduce the potential for runway incursions and to enhance the safety of aircraft operations at LAX. The new taxiway would be 10,420-feet long and 100-feet wide. It would be planned as a full-length Modified Group VI parallel taxiway located 520 feet north of relocated Runway 6R/24L and 520 feet south of Runway 6L/24R. FAA Design Group VI taxiway separation standards call for 600 feet between a runway centerline and taxiway centerline intended to serve aircraft with Design Group VI tail heights, length and wing span. Significant analysis was provided in the Draft LAX Master Plan, Chapter VI, Section 3.2.6.3, Justification for the Modified Group VI Standards to Accommodate the NLA at LAX, documenting the feasibility of using 520 feet separation at LAX and meeting the same safety standards set by FAA for airfield safety.

The new north airfield center parallel taxiway combined with the configuration of the exit taxiways is instrumental in the physical solution to runway incursions. Existing high-speed or acute angled exits off of Runway 6L/24R diverge from the runway centerline to the south and are aligned to cross Runway 6R/24L, directing arriving aircraft to Taxiway E. The new exit taxiways associated with Runway 6L/24R would similarly diverge at acute angles from the runway centerline toward the south until they intersect with the new center parallel taxiway centerline. Arriving aircraft would then proceed west or east (depending upon the direction from which they arrived) for a short distance before coming to a perpendicular connecting taxiway that crosses Runway 6R/24L. The required aircraft turns associated with this taxiway layout provide time for pilots to fully acclimate to the airport surface environment, to comply with air traffic control taxi instructions and to clearly see runway hold bars prior to crossing the inboard runway. All of these safety benefits are achieved without degrading the arrival and departure capacity of the north airfield runways.

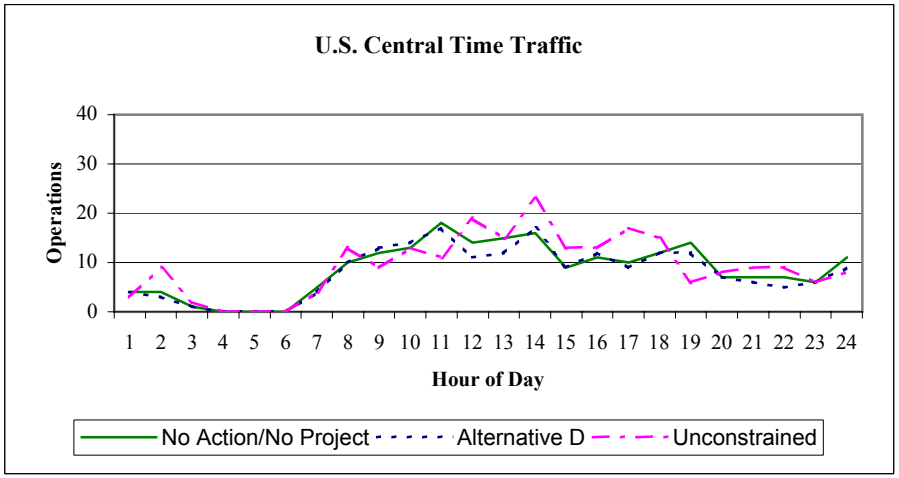
Runway 7L/25R on the south airfield would not be modified in Alternative D. Runway 7R/25L would be moved approximately 50 feet south of the existing Runway 7R/25L centerline to allow for the construction of a new parallel taxiway between the south airfield runways. The relocated runway would be 11,096 feet long and 200 feet wide.

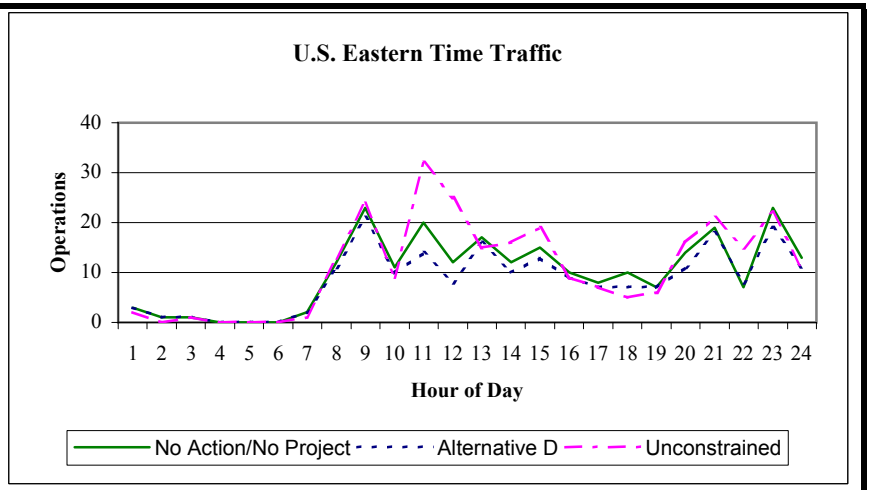
A new full-length Group V parallel taxiway would be constructed between Runways 7L/25R and 7R/25L. The new taxiway would be located 400 feet north of Runway 7R/25L and 400 feet south of Runway 7L/25R.

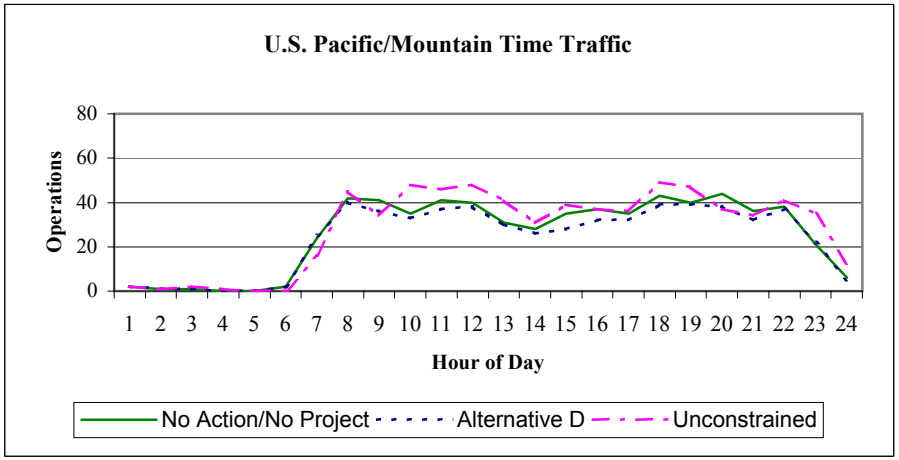


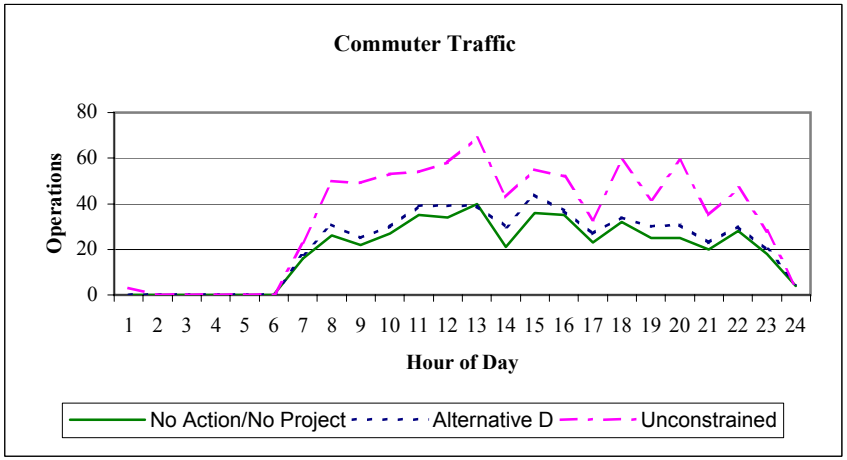
Prepared by: Landrum & Brown, April 21, 2003

LAX Master Plan Final EIS/EIR	Design Day Hourly Operations	Figure F3-16



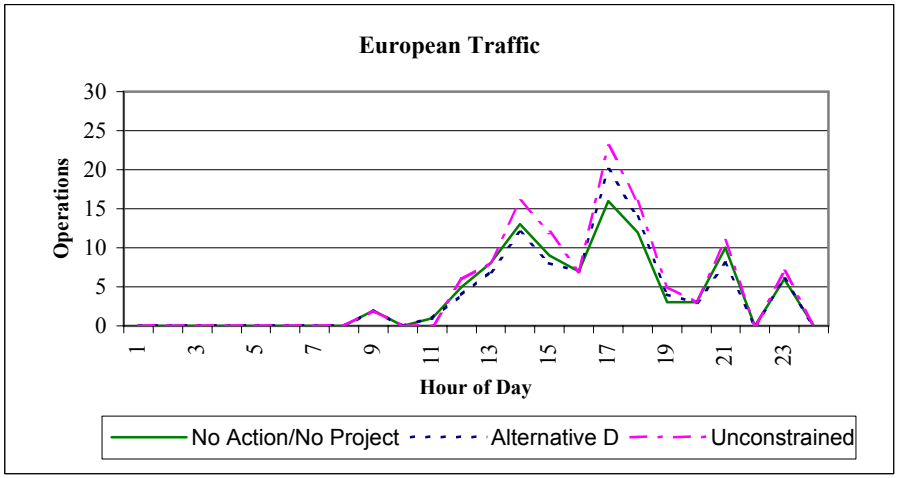


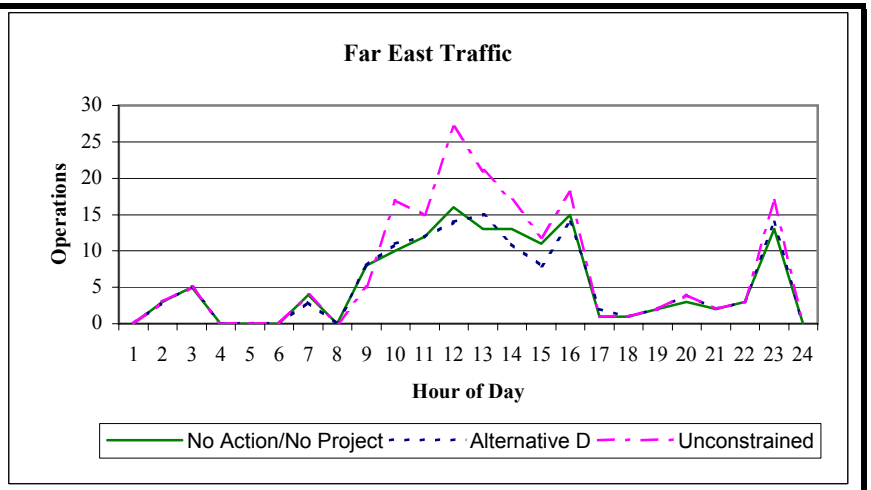


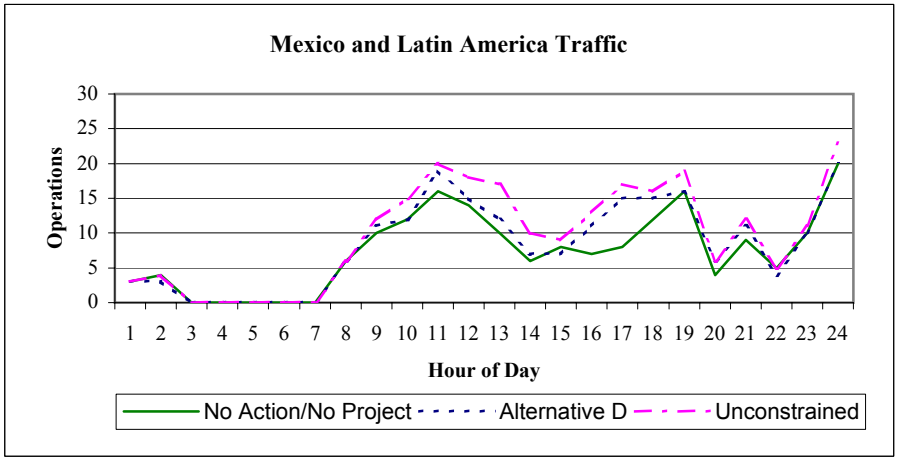


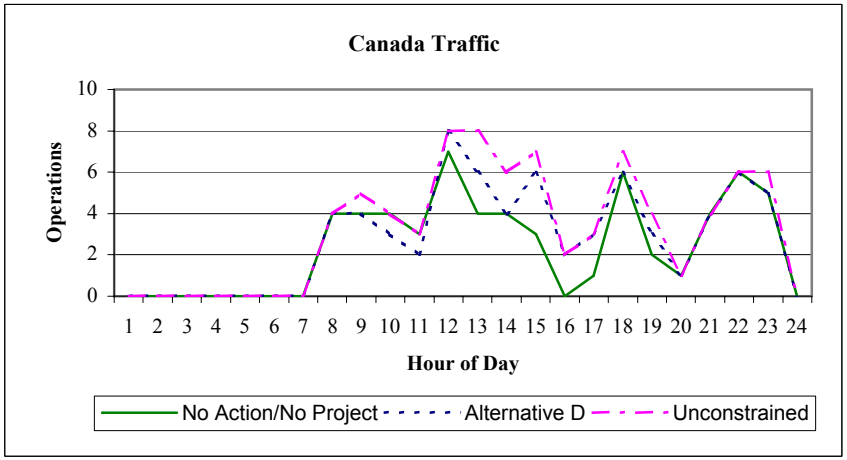
Prepared by: Landrum & Brown, May 3, 2002

LAX Master Plan **Final EIS/EIR**	**Hourly Distribution of Domestic Operations by Geographic/Time Zone Regions**	Figure **F3-17**









Prepared by: Landrum & Brown, May 3, 2002

LAX Master Plan **Final EIS/EIR**	**Hourly Distribution of International Operations by Geographic/Time Zone Regions**	Figure **F3-18**

The proposed new south airfield center parallel taxiway, like the one proposed in the north airfield, combined with the configuration of the exit taxiways is instrumental in the physical solution to runway incursions. Existing high-speed or acute angled exits off of Runway 7R/25L diverge from the runway centerline to the north and are aligned to cross Runway 7L/25R, directing arriving aircraft to Taxiways B and C. The new exit taxiways associated with Runway 7R/25L would similarly diverge at acute angles from the runway centerline toward the north until they intersect with the new center parallel taxiway centerline. Arriving aircraft would then proceed west or east (depending upon the direction from which they arrived) for a short distance before coming to a perpendicular connecting taxiway that crosses Runway 7L/25R. The required aircraft turns associated with this taxiway layout provides time for pilots to fully acclimate to the airport surface environment, to comply with air traffic control taxi instructions and to clearly see runway hold bars prior to crossing the inboard runway. All of these safety benefits are achieved without degrading the arrival and departure capacity of the south airfield runways. This is the first planned project within the proposed implementation of Alternative D due to the high proportion of runway incursions in this vicinity of the airport.

Alternative D would also provide additional cross-over taxiways and airfield improvements to eliminate the need for variances from FAA design standards discussed in Chapter 2, *Purpose and Need for the Proposed Action,* of this Final EIS/EIR, and enhance the safety of operations at LAX.

These airfield changes are summarized in **Table F3-2**.

Runway Operating Plans

Except for the use of the center parallel taxiways described above, Alternative D, as in the No Action/No Project Alternative and Alternative C, would operate very similarly to the existing airfield. The anticipated use of the runways for Alternatives A, B, C and D is shown on **Figure F3-5**, 2015 Airside Alternatives Runway Operating Plans. The primary use of the runways is assumed to be arrival operations on the outboard Runways 6L/24R and 7R/25L and departure operations on the inboard Runways 6R/24L and 7L/25R. Occasional departures would continue off of the outboard Runway 6L/24R during peak departure periods and off of the southern-most Runway 7R/25L for cargo and general aviation aircraft parked on the south side of the south airfield. Simultaneous approaches to the closely spaced runways on the north airfield or on the south airfield would be conducted only in west flow under visual approach procedures (similar to the way the airfield is presently used).

Terminal Facilities

Alternative D would provide new and reconfigured passenger terminal space and aircraft gates to enhance safety and security, to increase the level of passenger service and to accommodate the forecast mix of aircraft. Alternative D would eliminate the existing CTA automobile parking facilities and replace them with new passenger terminal buildings. The Tom Bradley International Terminal (TBIT) would be reconfigured with the addition of a new north/south linear concourse on the west side of the existing building. The remote gates at the west pad facility would be eliminated and this area would be prohibited from use as a remote passenger boarding location (this area currently has nine fixed loading bridges with bus ports but no passenger hold rooms or other amenities). Existing Terminals 4 through 7 would be reconfigured as necessary to improve passenger facilities and integrate the concourses with the new passenger terminal buildings. A new 120-foot-wide by 1,900-foot-long West Satellite Concourse would be constructed west of the TBIT and would be accessed via an airside secure underground APM from the CTA. Existing Terminals 1, 2, and 3 would be reconfigured to accommodate aircraft on one continuous east/west flight line.

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. Total terminal space in Alternative D would increase over the space projected as part of the No Action/No Project Alternative to make up for the constraints and shortfalls in the existing terminal buildings. These shortfalls would be alleviated through the design of the new terminal building space being developed in the location of the existing parking structures. In addition, while the west remote gates ticketing and baggage claim requirements are being accommodated in the existing terminal buildings, Alternative D would make up required holdroom, concessions, and circulation space as they are converted to contact gates. However, total terminal space available in Alternative D would be less than the total terminal space available in Alternatives A, B, or C. Alternatives A, B, and C rely on the development of a new West Terminal to supplement the existing CTA

terminals, whereas Alternative D terminal space in the CTA is greater than the other build alternatives because of its reliance on new terminal space in place of the existing CTA parking garages.

The terminal layout for Alternative D is depicted in **Figure F3-14**, and the number of terminal gates and the area of building space are tabulated in **Table F3-2**. Detailed plans were described in Chapter 2 of the Draft LAX Master Plan Addendum.

Traffic/Parking/Circulation Facilities

The on-airport landside system would be composed of four primary facilities: the CTA, GTC, an ITC, and a RAC. These facilities are illustrated in **Figure F3-14**. The Alternative D landside system modifications would protect the airport's critical infrastructure components and airport users by altering passenger and employee access to the CTA. The existing CTA public parking facilities would be relocated. The existing long-term Parking Lot B remains as a long-term lot and is expanded. Existing long-term Parking Lot C is reused as a portion of the consolidated rental car storage and maintenance area.

A new GTC would be the primary airport access center for private and most commercial vehicles. A people mover would connect the GTC with the CTA. The GTC would be the primary access point for all passenger drop-off and pick-up and for private vehicle parking.

An ITC would serve as the connection point between the airport, the Green Line and regional bus service. In addition, the ITC would provide parking facilities for the public and large buses. The MTA buses would use the MTA Green Line station. The APM would connect the ITC to the CTA, with a stop at the RAC facility.

The access point to the existing CTA roadway would be controlled to enhance security in the areas immediately surrounding the airport's critical infrastructure. Primary public airport access would be provided via the APM from the GTC and ITC. FlyAway buses and other vehicles that are currently cleared to drive on the secure airside of the airport, like airport operations, police and fire protection would use the existing CTA roadway system to access the new terminals. Delivery vehicles would be primarily directed to a consolidated warehouse within the airport for security screening and internal distribution control. Analysis of the on-airport roadway impacts has also assessed the impact of a portion of these delivery vehicles being checked at the future entrance to the CTA. Delivery vehicles accessing the CTA would proceed to designated delivery locations at the new terminals once they have passed the screening process.

Public parking would be provided in the ITC, the GTC, and in an expanded Lot B. The GTC would consist of three garages and provide approximately 7,515 stalls, made up of both short-term and long-term parking. The ITC facilities would provide approximately 9,127 short-term parking stalls. The surface lot north of 111th Street would be incorporated into Lot B and would provide 5,470 long-term parking stalls. A shuttle bus would transport people between this lot and the ITC for people mover access to the CTA. In addition, there would be approximately 12,890 parking stalls located off-airport and operated by private parking providers, providing at total of 35,002 public parking stalls.

A new 12,400-stall employee parking garage would be constructed on the west side of the airport, south of World Way West. This garage would replace and consolidate the various surface parking lot spaces located throughout the airport into one garage. Employees using this garage would be shuttled on World Way West or on the Airport Operations Area (AOA) to their workplaces.

The existing garage on the southeast corner of Avion Drive and Century Boulevard would provide approximately 1,200 additional stalls. Employees using this garage would be shuttled to the RAC people mover station for access to the CTA, GTC, or ITC. The total Alternative D employee parking is greater than the No Action/No Project Alternative and similar to the total provided in each of the other build alternatives. The No Action/No Project Alternative assumes a deficit of employee parking as compared to the demand that would exist in 2015. The proposed employee parking garage on the west side of the airport in Alternative D would consolidate existing employee parking that is scattered around the airport on numerous surface lots. This location is available for this use in contrast to the other build alternatives, which have passenger terminal development and associated access infrastructure located on the west side of the airport.

Rental car facilities would be consolidated in a campus bordered by Nielsen Park, Airport Boulevard, 98th Street, and Sepulveda Boulevard. A three-level, 150,000-square-foot customer service building would be

adjacent to the APM, a passenger station, and a four-level, 9,000-space ready/return garage. The RAC facilities in Alternative D have the unique ability to meet the entire demand for this use on-airport. The automobile storage component is one of very few allowable land uses at the end of the runway inside of the runway protection zone. The other build alternatives each assumed that a substantial portion of their space requirement for automobile storage would be met off airport property due to limited available space near the planned RAC locations in these alternatives.

Various intersection improvements would be made to the off-airport transportation network to accommodate the shift in traffic patterns from the CTA to the GTC and ITC areas. Alternative D proposes that one northbound lane be added on La Cienega Boulevard from 111th Street to Arbor Vitae Street, one southbound lane be added on La Cienega Boulevard from Century Boulevard to 104th Street, an additional eastbound and westbound lane be provided on Arbor Vitae Street from Aviation Boulevard to La Cienega Boulevard, an additional lane northbound and southbound be provided on Aviation Boulevard from Arbor Vitae Street to Imperial Highway, an additional lane be provided in each direction on 111th Street between Aviation Boulevard and La Cienega Boulevard, and improvements be provided on Century Boulevard east of Aviation Boulevard would be added from Arbor Vitae Street to 104th Street. The intersection of La Cienega Boulevard and Lennox Boulevard would be designed to restrict traffic from traveling between Lennox Boulevard and the on-airport roadways. These improvements are strategically designed to improve those intersections that would experience the primary increase in traffic as a result of Alternative D implementation.

The air cargo roadway system in the Century Cargo Complex would be modified to provide direct access to the existing and reconfigured cargo facilities from Century Boulevard.

The existing MTA Green Line station located at Aviation Boulevard would be linked to the proposed ITC by a covered walkway. Access from the ITC to the CTA would be via the proposed APM.

Service roads would be provided within the airport, as needed, to accommodate service vehicles. Roadways would also be provided within the cargo areas for truck and employee access.

A tunnel between the GTC and the CTA would be one method of optimizing the movement of "oversized" passenger baggage between these two facilities. The proposed baggage tunnel is currently anticipated to be developed in conjunction with the APM and sharing the same alignment along the existing 98th Street corridor. Other alignments, including but not limited to the 96th Street corridor, may be identified during the preliminary design process as being less restrictive, more cost effective, and less disruptive to the surrounding community. Typical baggage tug vehicles and baggage carts would be used in this tunnel for baggage movement.

Automated People Mover

Alternative D would have landside and airside APM systems. The landside APM system would include two separate, but coordinated, sets of facilities and routes. One route would connect the ITC, the RAC, and the CTA, following along Aviation Boulevard and 98th Street. The other route would connect the GTC and the CTA, following along the south side of Century Boulevard. The airside APM system would provide the connection between the CTA and the new West Satellite Concourse. The proposed APM is depicted in **Figure F3-14**.

Cargo Facilities

The Imperial Cargo Complex and the South Cargo Complex East would remain unchanged under Alternative D. One existing building in the South Cargo Complex West would be demolished to accommodate a proposed general aviation facility that is being developed independent of the Master Plan. Two new cargo handling facilities would be constructed in the South Cargo Complex West. In the Century Cargo Complex, one existing facility would be demolished, and in its place a new, larger cargo facility would be developed. The cargo facilities under Alternative D would be equivalent to the overall square footage of the No Action/No Project Alternative cargo facilities. Cargo facilities associated with Alternative D are depicted in **Figure F3-14**, and tabulated in **Table F3-2**.

Ancillary Facilities

Alternative D would locate essential ancillary facilities on-airport to ensure continuing service and would consolidate or relocate off-airport, non-essential ancillary uses. Airline maintenance areas would be consolidated into smaller land areas.

The overall site footprint of the fuel farm would be reduced to accommodate north airfield modifications, but the fuel farm would retain its existing capacity and remain at its existing location.

Fire Stations 51 would be expanded to accommodate the future Aircraft Rescue and Firefighting (ARFF) requirements and increase response capabilities at LAX. Fire Station 80 would be relocated and expanded due to the construction of new Taxiways S and Q. This ARFF facility will be located east of the fuel farm and north of the United States Coast Guard facility. Fire Station 95 would remain the same.

The existing LAWA police headquarters would be removed and a new 110,000-square-foot airport police headquarters would be constructed at the northwest corner of Westchester Parkway and Emerson Avenue. The acreage for ancillary uses is provided in **Table F3-2**.

Land Acquisition and Relocation[39]

Alternative D would require the acquisition of approximately 77 acres of property, the least amount of land acquisition of all the proposed build alternatives.[40] Alternative D would principally acquire land located on 98th Street between Sepulveda and Airport Boulevard. Some additional properties would also be acquired east of Aviation Boulevard between Arbor Vitae Street to the north and Imperial Highway to the south. Several graphics and materials in this and other documents provide the specifics that the acquisition and relocation entail (See Draft LAX Master Plan Addendum, Section 2.7, *Land Acquisition - Alternative D*). A map of the areas that would be acquired under Alternative D is presented as **Figure F3-19**, 2015 Alternative D Proposed Property Acquisition Areas. Statistics relating to proposed acquisition are provided in **Table F3-2** and in Section 2.7, *Land Acquisition - Alternative D*, of the Draft LAX Master Plan Addendum. All businesses identified for acquisition or relocation can be accommodated either on LAX property, or in the surrounding business community within the City of Los Angeles. Space would be available in the LAX Northside development to accommodate compatible businesses displaced by Alternative D.

Collateral Development

Alternative D would develop airport-owned property not required for airfield or aviation support facilities to provide an opportunity for compatible businesses to relocate from the acquisition areas. The 340-acre, LAX Northside Development, described in the No Action/No Project Alternative, would be developed under Alternative D. The project would include office, hotel, and retail uses. The Westchester Golf Course would be expanded to replace the three holes that were removed when Westchester Parkway was widened.

The original LAX Northside Development provided entitlements for 4.5 million square feet of development, subject to a limitation on the total number of daily vehicle trips (a "trip cap"). Alternative D includes a proposed reduction in the existing trip cap included in the original LAX Northside Development. The reduced trip cap would limit the amount of total daily traffic generated by the LAX Northside Development to a level comparable to that associated with the Westchester Southside development proposed under Alternatives A, B, and C. The total development of the subject property shall not

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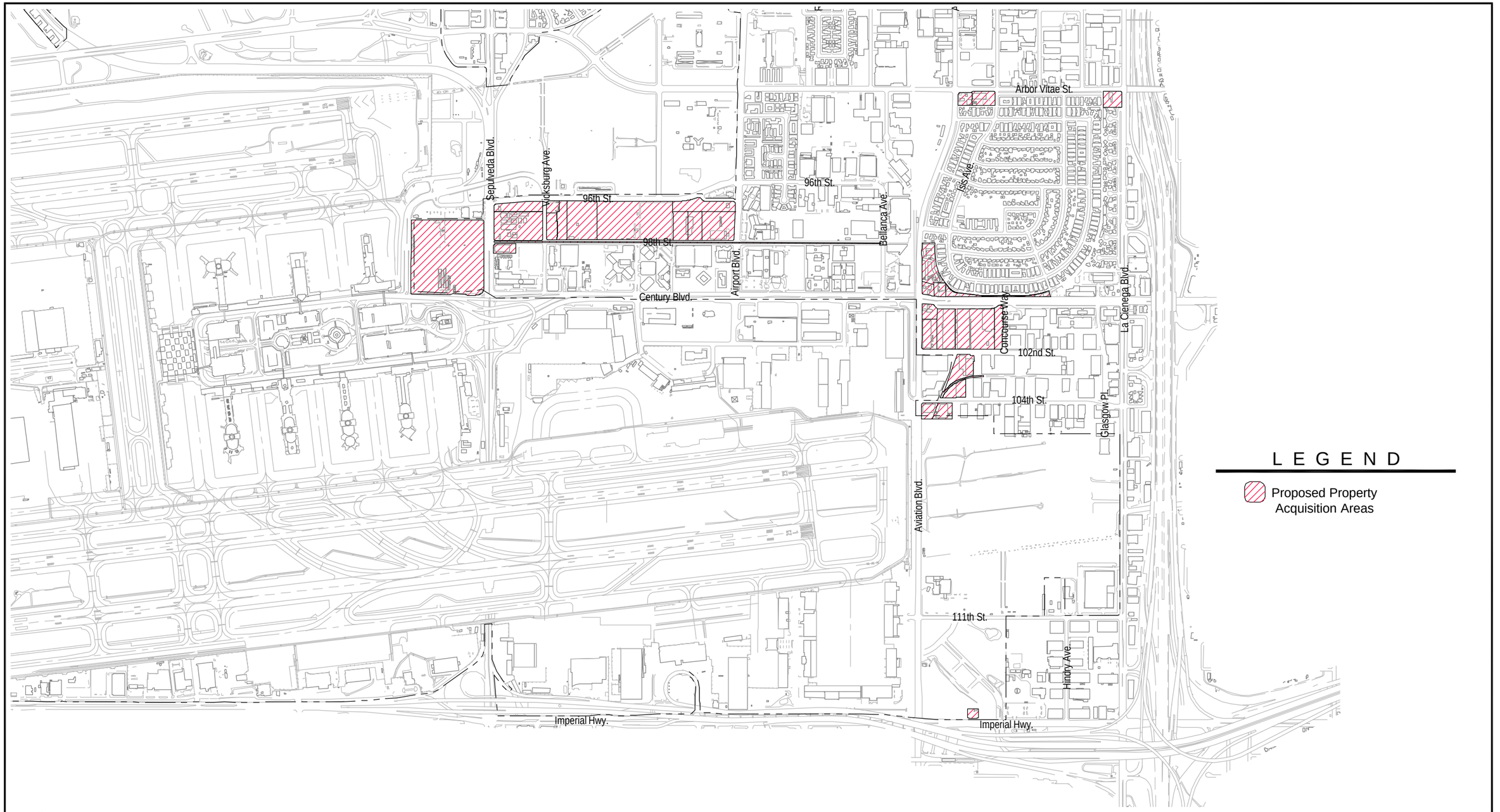
39 Under the existing Aircraft Noise Mitigation Program, LAWA is in the process of acquiring the Airport/Belford and Manchester Square areas east of and adjacent to the airport. These properties are heavily impacted by noise, traffic, and incompatible adjacent land uses. Residents in those areas approached the airport and requested that their properties be acquired rather than soundproofed. Should the ANMP land acquisition for the Airport/Belford and Manchester Square areas not be completed by the time the Master Plan is approved, the City of Los Angeles will use the most appropriate and practical measures available (e.g., voluntary acquisition, leasing, and/or public condemnation) to ensure that the designated areas are vacated consistent with the Construction Sequencing Plan. These measures would be available to be used for all build alternatives to pursue any needed acquisition that cannot be obtained through negotiations.

40 Acquisition of residential uses is not proposed under Alternative D and would only occur if the Master Plan is approved and LAWA's Existing ANMP Relocation Plan is not completed, or if Mitigation Measure MM-ST-13 is approved.



Prepared by: Landrum & Brown, May 2003

LAX Master Plan Final EIS/EIR	**2015 Alternative D** **Proposed Property Acquisition Areas**	Figure **F3-19**

generate more than 3,152 project-related inbound vehicle trips in the a.m. peak hour, and 3,040 project-related outbound vehicle trips in the p.m. peak hour, resulting in a reduction of 50 percent from the approved LAX Northside trips of 6,340 in the a.m. and a reduction of 57 percent from the approved LAX Northside trips of 7,000 in the p.m. The amount of trips generated by a project shall be based on the trip generation rates used in the transportation analysis for Alternative D and on square footages of the proposed development, under the LAX Northside plan. Estimates of the number of trips generated by specific projects shall be made prior to issuance of building permit and shall be documented so that the total number of trips generated by ongoing development is monitored and reviewed for consistency with the maximum allowable number of a.m. and p.m. peak trips described above for each new on-site development. The precise square footage and allocation of land uses associated with LAX Northside under Alternative D have not been identified, but would include a mix of office park, hotel, retail/restaurant, and research/development (R/D) business park uses, similar to the original LAX Northside Development.

Independent of the Master Plan, the existing ANMP voluntary land acquisition program at Belford and Manchester Square would continue. As with the other build alternatives, under Alternative D, the vacated land within Manchester Square would be cleared of the remaining roads, utilities, and ornamental landscaping/trees and then be redeveloped with the proposed GTC. There are no development plans proposed under Alternative D for the vacated Belford area.

The area referred to as the Continental City site would be incorporated directly into LAX property for the development of the ITC.

Proposed Phasing

Alternative D would be implemented in three phases, which were developed independent of financial, operational, and existing lease constraints. The timing for the facilities in this alternative is depicted in an order that is consistent with the priorities established by LAWA staff. **Figure F3-20**, 2015 Alternative D Conceptual Summary Schedule, contains the summary schedule for Alternative D. This schedule is intended to show the general phasing and estimated construction durations for the various elements of the project and is to be used for planning purposes only.

Phase I

- Reconstruct and recrown Runway 7R/25L approximately 50 feet to the south, construct a new full-length parallel taxiway between Runways 7R/25L and 7L/25R, and install the navigational aids associated with Runway 7R/25L.
- Redevelop the Continental City lot into a new ITC containing 9,127 parking stalls. This facility would provide short-term parking and would contain a physical link to the existing Green Line transit station at the corner of Aviation Boulevard and Imperial Highway. The link would provide power-assisted moving walkways to assist passengers transferring to and from the APM system.
- Reconfigure the existing long-term parking Lot B west of and adjacent to La Cienega Boulevard. This facility would contain approximately 5,470 parking spaces. Passengers using this lot would be shuttled by bus to the ITC and transferred to the APM for connection to the CTA.
- Begin relocation of existing off-site utility infrastructure impacted by development program.
- Construct a baggage tunnel from the site of the future GTC to the existing CTA.
- Construct a new access roadway system east of Aviation Boulevard including Century Boulevard overpasses. These roads would provide access to/from the ITC, GTC, and the RAC facility.
- Construct a new consolidated RAC facility in the general location of the existing long-term parking lots C and D. A 150,000-square foot customer service center, including a 9,000-stall, four-level ready/return-parking garage, would be located north of 98th Street. This project would be completed in two phases. Upon the completion and opening of the GTC, the public parking component of Lot C would be transferred to the GTC, and a series of maintenance facilities and vehicle storage lots would be distributed to the north of the service center. In the period between the completion of the RAC service facility and the opening of the GTC, rental car companies would shuttle vehicles from the existing lots to the new customer service/ready return garage.
- Construct the West Employee Parking Garage. The new facility would contain a total of approximately 12,400 parking stalls. A consolidated employee security screening facility could be

developed as part of this project. Shuttle buses would transport employees between this lot and their respective employer locations.

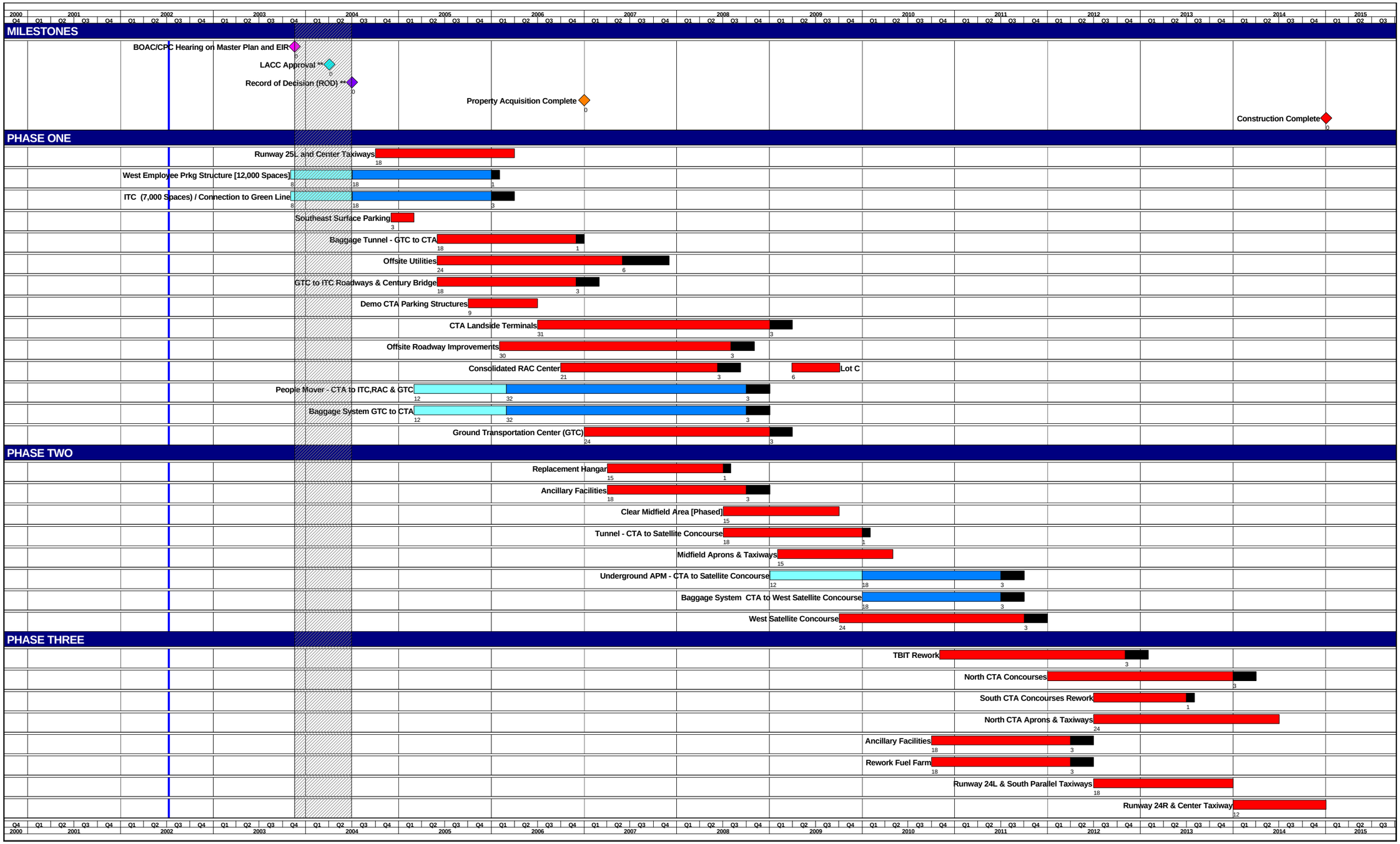
- Demolish the existing parking structures in the CTA, relocate necessary utilities and complete site preparation for new terminal facilities.
- Construct off-site roadway improvements required for Alternative D.
- Construct a new passenger-processing center (terminal) in the area currently occupied by the parking garages in the CTA. This new facility would provide ticketing, baggage claim, concessions, level two Transportation Security Administration (TSA) security screening for both passengers and baggage, and new meeter/greeter areas. New pedestrian bridges would link the new processing building with the existing passenger concourses.
- Construct a new aboveground APM from the CTA to the RAC, GTC, and ITC. An associated APM maintenance facility and test track would be located in the basement of the ITC.
- Install new baggage security and distribution systems in the CTA and the GTC, including linkage between the two facilities.
- Construct a new GTC north of Century Boulevard and south of Arbor Vitae Street, between Aviation and La Cienega Boulevards. This GTC would serve all commercial and private vehicular traffic for departing and arriving passengers at LAX. This would also include the construction of three new parking garages containing a total of approximately 7,515 parking spaces. A new commercial vehicle staging area would be developed north of the northern-most parking structure at the GTC.

Phase II

- Construct replacement airline maintenance facilities for the American Airlines High Bay maintenance facility, which would be displaced by the construction of the West Satellite Concourse. The new facility would encompass approximately 275,000 square feet of enclosed space.
- Construct replacement ancillary facilities for midfield facilities displaced by the future West Satellite Concourse. These facilities include two ARFF facilities, two 90,000-square foot ground run-up enclosures (GREs) and associated apron space. The first GRE would be located immediately east of the replacement airline maintenance facilities and the second located on the existing Delta Airlines maintenance apron.
- Clear midfield airline maintenance areas, including the American High and Low Bay hangars, the former TWA hangar, and US Airways maintenance building. Complete site preparation for the future West Satellite Concourse.
- Construct an underground tunnel for APM and baggage systems from the future West Satellite Concourse to the redeveloped CTA. Construction should be phased to coincide with apron and taxiway reconstruction.
- Construct, light, and mark new cross-field taxiways west of the new satellite building. Build the aircraft parking apron associated with the satellite concourse. Relocate Taxiways Q and S that are located immediately to the west of the TBIT building. Construct the aircraft parking apron associated with the future new TBIT gates.
- Construct a new West Satellite Concourse west of the TBIT building in the area formally occupied by the TWA, US Airways, and American Airlines aircraft maintenance hangars.
- Complete the underground APM from the West Satellite Concourse to the redeveloped CTA.
- Install a new baggage system from West Satellite Concourse to the redeveloped CTA.

Phase III

- Reconfigure the existing fuel farm to accommodate future north airfield runway and taxiway configuration.
- Reconfigure the TBIT. The components of this reconfiguration include the addition of holdrooms and departure gates on the west side of the TBIT and the demolition of a portion of the north concourse.
- Reconfigure Terminals 1, 2, and 3 on the north side of the CTA into one linear facility capable of a continuous Group VI flight line.



This schedule is intended to provide a general phasing plan and an estimate on construction durations - it is not intended to show precise event and/or construction dates and it is acknowledged that the initial schedule for late-2003 and early-2004 has been revised.

Source: URS Corporation, March 2004

LAX Master Plan Final EIS/EIR

2015 Alternative D
Conceptual Summary Schedule

Figure
F3-20

- Relocate and reconstruct the aircraft parking apron associated with the reconstructed north concourses. Relocate and extend the dual taxiway system south of Runway 6R/24L.
- Reconstruct, widen, extend, light, install associated navigational aids, and mark the existing Runway 6R/24L with a centerline approximately 340 feet south of the existing 6R/24L centerline. The extended runway would be approximately 11,700 feet long and 200 feet wide.
- Renovate the existing south CTA concourses to accommodate the relocated carriers' operational needs.
- Demolish West Remote Gate facilities and associated bus loading docks. Aircraft parking apron, lighting and marking to remain for general aircraft parking and holding purposes.
- Construct, light, and mark a new full length Group VI taxiway between Runways 6R/24L and 6L/24R.
- Extend, light, and mark the existing Runway 6L/24R approximately 1,495 feet to the west with minimum paved shoulders 50 feet wide.
- Demolish portions of the existing west remote pad.

3.3 Comparative Summary of Alternatives

With a constrained air service profile, Alternatives A and B would fully accommodate the projected passenger demand of 98 MAP in 2015. Alternative C would accommodate 89.6 MAP, the No Action/No Project Alternative would accommodate 78.7 MAP, and Alternative D is designed to accommodate approximately the No Action/No Project passenger level in 2015. Alternatives A, B, and C are designed to meet the projected cargo demand of 4.2 MAT in 2015. Alternative D and the No Action/No Project Alternative cargo facilities would serve 3.1 MAT in 2015. The airfield capacity for Alternatives C, D, and the No Action/No Project Alternative is basically the same.

The following summary identifies the common attributes of the build alternatives. Alternatives A, B, C, and D would:

- Permit balanced operations between the north and south airfields.
- Accommodate New Large Aircraft (NLA), under design by airframe manufacturers and under consideration by airlines.
- Enhance safety and efficiency of the airport by eliminating the need for FAA variances and upgrading facilities to current FAA airport design standards.

The layout of the build alternatives includes the following differences:

- **Runways:** Alternatives A and B would develop a new runway close to existing neighborhoods. Alternative C would shift existing runways toward nearby neighborhoods, but not as close as the proposed runways in Alternatives A and B. Alternative D would shift one existing runway approximately 50 feet closer to existing neighborhoods, in order to improve safety by increasing separation between runways. Alternative D would also move another runway over 300 feet farther away from existing neighborhoods.
- **Cargo:** Alternative A places cargo facilities generally in the southeastern corner of the airport, while Alternatives B and C place cargo facilities generally in the northeastern corner of the airport. Alternative D would retain most of the existing cargo facilities in their existing locations on the airport while reducing the total cargo building space equivalent to the No Action/No Project level.
- **Ground Transportation:** Alternatives A, B, and C provide direct freeway access from the regional freeway system to airport passenger and cargo terminals. Alternative D would provide roadway access to the new GTC and ITC with a people mover connection to the CTA.
- **Terminals:** Alternatives A and B would include passenger terminal facilities to meet the unconstrained 2015 demand forecast. Alternative C and D terminal facilities would not serve the unconstrained 2015 demand forecast.

Alternative D and the four other alternatives were also compared to see how they respond to the public's request for a regional alternative for LAX.

Alternative D is designed to serve approximately the No Action/No Project passenger and cargo activity levels so as to promote development of other regional airports to serve local demand and so as to reduce

impacts to neighboring communities. This level of passenger activity is generally consistent with the scenario adopted by the Regional Council of SCAG in the 2001 RTP forecast for LAX. The Alternative D gate locations and layout are superior to those of the No Action/No Project Alternative for passenger convenience and level of service. Alternatives A, B, and C are designed to accommodate more than the No Action/No Project Alternative passenger and cargo activity levels and therefore do not respond as well to public comments requesting a regional airport solution. Alternatives A, B, and C do accommodate more of the forecasted demand than either Alternative D or the No Action/No Project Alternative.

To address the increased risk of terrorism, Alternative D is specifically designed to protect airport users and critical airport infrastructure, to incorporate federal security recommendations as they are developed to the greatest extent possible and to enhance on-airport presence of law enforcement and emergency response teams. Airport security considerations are now of heightened importance in the aftermath of the events of September 11, 2001. New security measures were immediately implemented at the airport following these events. LAWA met the congressionally mandated deadline that all checked baggage on passenger flights be screened for explosives after December 31, 2002, through the implementation of a number of interim measures at the existing LAX terminals. These measures include the installation of explosive detection and explosive trace detection systems in the existing ticket lobbies of the terminals. Longer-term plans are being developed to install explosive detection systems into the existing baggage sortation systems in each of the terminals at LAX. These "in-line" systems will greatly improve the efficiency of the explosive screening process and will relieve the space congestion in the ticket lobbies that was created by the present short-term solution. Even though the No Action/No Project Alternative and Alternatives A, B, and C were developed prior to September 11, 2001, these alternatives would provide on-airport space for the TSA to conduct its mission. The federal government's security requirements continue to evolve and LAWA officials are working with TSA to determine and accommodate its needs to the greatest extent possible. It is too early to determine the details of how the federal security requirements would be fully accommodated under Alternatives A, B, and C; however, inasmuch as all three alternatives propose a substantial amount of new development including new, larger terminal facilities, new parking areas, new surface transportation facilities, and various airfield improvements, 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. Given that current security requirements have been accommodated within the existing airport facilities, it is clear that accommodating those requirements would not represent a material change in the basic characteristics of Alternatives A, B, or C. Alternative D, however, presents a different approach to securing the CTA above and beyond the current operational solution in use or contemplated for Alternatives A, B, or C. Finally, the additional security requirements do not alter the composition of the No Action/No Project Alternative. No change to this alternative is anticipated by LAWA's longer-term solutions, given that all of the in-line systems being considered use existing facilities to accomplish the baggage screening function.

The cargo facilities associated with Alternative D would accommodate the No Action/No Project Alternative cargo activity level, which is comparable to the cargo activity level for LAX in the SCAG 2001 RTP. The cargo facilities for Alternatives A, B, and C are designed to accommodate the unconstrained market demand forecast for 2015, which is substantially more than the 3 MAT anticipated in the RTP.

Alternative D is superior to the other alternatives,[41] including the No Action/No Project Alternative, in terms of overall noise impacts. Alternative D has fewer negative ground transportation impacts than the No Action/No Project Alternative. Alternative D and the No Action/No Project Alternative would include the proposed LAX Northside Development, with a cap on vehicle trips. Under Alternative D, the existing trip cap would be reduced which would reduce more traffic than the No Action/No Project Alternative. Alternative D would have substantially less construction-related air pollutant emissions than Alternatives A, B, or C, as well as comparatively less operations-related emissions. Possible health impacts associated with Alternative D are the lowest among the four build alternatives.

A complete summary of the environmental consequences of all alternatives is provided in the Executive Summary.

[41] A summary of key conclusions explaining why Alternative D is the superior alternative is provided in Section 3.5, *The CEQA Environmentally Superior Alternative,* of this document.

3.4 The Preferred Alternative

Alternative C was initially identified as the LAWA staff-preferred alternative to meet the purpose and objectives of the Master Plan, as documented in the Draft EIS/EIR and Draft LAX Master Plan. Based on public comments, the events of September 11, 2001, and the direction from the Mayor of Los Angeles, Alternative D was specifically designed to address the desire for a more 'regional' approach as well as accommodating safety and security features required by current regulations and anticipated in future regulations. Alternative D is now the LAWA staff-preferred alternative, because it promotes a regional solution to air transportation demand, increases the level of passenger service, enhances safety and security, and addresses both community and environmental concerns better than the No Action/No Project Alternative.

Alternative D is designed to serve the No Action/No Project passenger and cargo activity levels in order to be consistent with the activity level for LAX that was identified in the scenario adopted by SCAG's Regional Council for the 2001 RTP. The facilities planned for Alternative D would improve passenger and cargo access to LAX, while enhancing the safety and security of the traveling public.

Each of the Master Plan alternatives would incorporate, to the greatest extent possible, federal security recommendations as they are developed. Alternative D is the only alternative that would remove private vehicles from the CTA roadways and eliminate the public parking structures within the CTA. Limiting vehicle access to these areas would enhance the security at each of the facilities in the CTA. The Alternative D plan to increase emergency support facilities and enhance coordination capabilities would enhance the safety and security of LAX. The airfield modifications for Alternative D would improve the taxiway access to gates over the No Action/No Project Alternative, reduce the potential for runway incursions, and reduce delays.

For the purposes of NEPA, the FAA has not yet identified its Preferred Alternative.

3.5 The CEQA Environmentally Superior Alternative

CEQA requires that an EIR address a reasonable range of alternatives that would feasibly obtain most of the objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and that "no project" be included in the alternatives analysis. Section 15126.6(e)(2) of the CEQA Guidelines requires that if following the evaluation of alternatives the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Based on the analysis provided in Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*, of this Final EIS/EIR, the No Action/No Project Alternative is considered to be environmentally superior to the four build alternatives (Alternatives A, B, C, and D) relative to avoiding or having substantially less temporary construction-related impacts; however, with respect to the long-term environmental effects associated with operation of LAX, Alternative D is considered to be the environmentally superior alternative of all five alternatives, including the No Action/No Project Alternative. Although the No Action/No Project Alternative would avoid or have substantially less permanent impacts to the environment that would otherwise occur under any of the four build alternatives, such as the potential to impact archaeological or paleontological resources, grading impacts, and changes in surface hydrology, these effects were determined to be less than significant, or could be mitigated to a level less than significant. More importantly, however, long-term impacts related to major issue areas associated with operation of LAX, such as aircraft noise, land use plans and policies, traffic, and air quality including human health risk, were found to be lowest under Alternative D. This includes as compared to the impacts of the other three build alternatives (Alternatives A, B, and C), as well to future (2015) conditions under the No Action/No Project Alternative. The following summarizes key conclusions from Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*, relative to these issues.

- ***Aircraft Noise Exposure*** The lowest total exposure of dwellings, population, and non-residential noise-sensitive parcels to aircraft noise exceeding 65 dBA Community Noise Equivalent Level (CNEL) in 2015 would be achieved by Alternative D, including as compared to No Action/No Project Alternative. Similarly, Alternative D would result in the least number of dwellings and population exposed to single event aircraft noise levels exceeding the CEQA threshold established in this Final

EIS/EIR relative to nighttime awakenings. Alternative D would also result in the least number of schools affected by single event aircraft noise levels exceeding the CEQA threshold established in this Final EIS/EIR relative to classroom discussion. These conclusions are further summarized in Section 4.1.6.1.6, *Comparison of Aircraft Noise - All Alternatives* and presented in detail in Section 4.1.6.1, *Aircraft Noise*, of this Final EIS/EIR.

- ***Land Use Plans and Policies*** The compatibility of Alternative D with the various land use plans and policies discussed in Section 4.2, *Land Use*, of this Final EIS/EIR is generally similar to that of the other build alternatives (Alternatives A, B, and C), with the most notable exceptions of noise-related plans and policies, and the SCAG 2001 RTP-Regional Aviation Plan. As indicated above, Alternative D has the least overall impacts relative to aircraft noise exposure in 2015 for the various alternatives; consequently, Alternative D would result in the least amount of conflicts with local general plan policies and standards pertaining to land uses that are incompatible with the ambient noise levels (i.e., residential areas and other noise sensitive land uses exposed to aircraft noise levels in excess of 65 CNEL). Relative to the SCAG 2001 RTP, Alternative D would be consistent with the policy framework of the Regional Aviation Plan, which calls for no expansion of LAX. While the No Action/No Project Alternative would also be consistent with that policy framework, the expansion plans associated with Alternatives A, B, and C would conflict with the SCAG 2001 RTP policy framework.
- ***Traffic*** The on-airport traffic conditions, as measured in terms of roadway volume to capacity ratios and operational levels of service, in 2015 for Alternative D would be generally comparable to those of Alternatives A, B, and C, as all of the build alternatives propose substantial improvements to the on-airport roads and surface transportation systems. Those future operational conditions would be substantially better than what would otherwise occur under the No Action/No Project Alternative, whereby traffic flows on most of the key roadway links would be severely deficient. Section 4.3.1, *On-Airport Surface Transportation*, of this Final EIS/EIR provides the specifics of such future conditions.

  Relative to off-airport traffic conditions in 2015, Alternative D would result in the fewest (three) number of significantly affected intersections where the operational characteristics cannot be mitigated to a level less than significant. By comparison, Alternatives A, B, and C would result in eight intersections that cannot be mitigated to a level less than significant. The No Action/No Project Alternative would have 40 intersections that would operate at a deficient level of service in 2015, and there would also be 9 deficient street links, 4 deficient freeway segments, and 2 deficient freeway ramps. Section 4.3.2, *Off-Airport Surface Transportation*, of this Final EIS/EIR provides the specifics of such future conditions.

- ***Air Quality*** Alternative D would have the lowest amount of total construction-related emissions of the four build alternatives but would have a higher amount of total construction-related emissions than the No Action/No Project Alternative. Alternative D would have the lowest amount of long-term operational emissions of all five alternatives, including the No Action/No Project Alternative. The airfield improvements and local surface transportation improvements associated with Alternative D would provide more efficient movement and operation of aircraft and ground vehicles than would otherwise occur by not making any such improvements under the No Action/No Project Alternative. These improvements coupled with the operations-, transportation-, and construction-related air quality mitigation measures that are proposed under Alternative D provide for very substantial reductions in the amounts of air pollutant emissions associated with the long-term operation of LAX than would otherwise occur under the No Action/No Project Alternative. Section 4.6, *Air Quality*, of this Final EIS/EIR provides the specifics for these conclusions.
- ***Human Health Risk*** As a direct result of the improvements and mitigation measures noted above that achieve a substantial reduction in operations-related air pollutant emissions, there would also be a reduction in certain air pollutant emissions, referred to as toxic air pollutants (TAPs), that relate to cancer risk and other non-cancer human health risks. In 2015, with mitigation, Alternative D would reduce potential impacts from TAPs released from LAX to levels below those associated with baseline conditions, resulting in a beneficial impact. The No Action/No Project Alternative, in contrast, might cause cancer risk and non-cancer hazards. The other build alternatives, Alternatives A, B, and C would cause cancer risks and non-cancer hazards to increase above baseline in some instances, and would have beneficial impacts in others. However, estimated impacts from releases of

TAPs from LAX are always lowest for Alternative D. Section 4.24.1, *Human Health Risk Assessment (CEQA),* of this Final EIS/EIR provides the specifics for these conclusions.

Based on the above, Alternative D is considered to be the CEQA Environmentally Superior Alternative relative to the long-term implementation and operation of the LAX Master Plan.

3.6 List of Applicable Federal Laws and Regulations

In accordance with paragraph 47(c)(3)(e) of FAA Order 5050.4A, & CEQ §1502.25(a), the following lists applicable federal laws and regulations:

Airport and Airway Improvement Act of 1982, as amended

Airport Noise and Capacity Act of 1990

Archaeological and Historic Preservation Act of 1974

Aviation Safety and Noise Abatement Act of 1979

Aviation Safety and Capacity Expansion Act of 1990

Clean Air Act and Amendments

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Department of Transportation Act of 1966, as amended

Endangered Species Act

Executive Order 11988 - Floodplain Management

Executive Order 11990 - Protection of Wetlands

Executive Order 12898 - Environmental Justice

Farmland Protection Policy Act

Federal Aviation Act of 1958, as amended

Fish and Wildlife Coordination Act

Land and Water Conservation Fund Act of 1965

National Environmental Policy Act of 1969

National Historic Preservation Act of 1966

President's Council on Environmental Quality (CEQ) (Title 40 CFR Parts 1500-1508)

Resource Conservation and Recovery Act (RCRA)

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

Water Pollution Control Act, as amended by the Clean Water Act of 1977

Water Quality Assurance Revolving Fund (WQARF)

Wild and Scenic Rivers Act, as amended

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