

## 4.19 Solid Waste

### Overview

The solid waste analysis takes place in a context of steady reductions in the amount of solid waste being disposed of in landfills. For the last decade, Los Angeles has implemented a citywide program of waste diversion measures in accordance with the California Integrated Waste Management Act (AB 939). The program includes source reduction, recycling, composting, and other forms of waste management. Under this program, which includes LAX, the City of Los Angeles has reduced its annual disposal of municipal solid waste in landfills by 11 percent between 1990 and 1997.

At LAX, the proposed project would be judged to have a significant solid waste impact if:

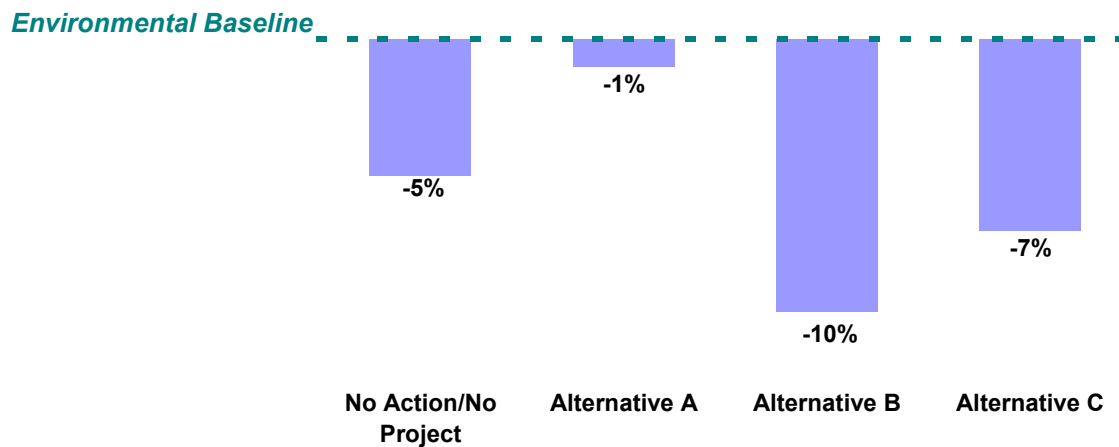
- ◆ There would be a net increase in project-related solid waste that could not be accommodated by existing or permitted regional landfills or other disposal facilities.
- ◆ The project-related waste generation would conflict with solid waste policies and objectives intended to achieve the requirements of AB 939.

### Key Conclusions

Based on these criteria, there would be no significant impact from the Master Plan alternatives.

Solid waste generation for the environmental baseline is estimated at approximately 52,750 tons per year within the Master Plan boundaries. The No Action/No Project Alternative, and each of the three build alternatives, would reduce this amount by at least 1 percent, and the reduction could be as much as 10 percent.

**Percentage of Solid Waste Reduction Within the Master Plan Boundaries  
Alternatives Compared Using Environmental Baseline as Benchmark**



Solid waste generated in the airport environs, including from aviation uses, is collected by municipal and private waste haulers and, for the most part, is disposed of at regional landfills. Eight regional landfills currently serve the region and have estimated closure dates ranging from 2002 to 2040.

In addition to municipal solid waste, the impact analysis takes into account solid waste generation associated with construction and demolition activities. Such waste generation is a relatively small component of the project's waste generation and can be readily accommodated at existing inert materials landfills.

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### Environmental Action Plan

Master Plan Commitments have been established that would:

- ◆ Implement a more aggressive recycling program. Features of the enhanced recycling program would include expansion of the existing recycling program to all terminals and the new West Terminal Area, development of a recycling program at Westchester Southside, and lease provisions requiring tenants to meet solid waste diversion goals.
- ◆ Require contractors to use a specified minimum percentage of recycled materials during construction of LAX Master Plan improvements.
- ◆ Require contractors to recycle a minimum percentage of waste materials generated during demolition and construction.

In addition, a Mitigation Measure to pursue additional landfill capacity in the Los Angeles region is proposed relative to cumulative impacts on existing landfill capacity. This Mitigation Measure is the responsibility of state, county, and local solid waste planning authorities.

### Related Topics

For information regarding the generation and disposal of hazardous waste associated with uses within the Master Plan boundaries, see Section 4.23, *Hazardous Materials*.

Potential birdstrike hazards due to solid waste disposal facilities are discussed in Section 4.24.3, *Safety*.

For an analysis of impacts to solid waste associated with growth induced by the Master Plan, please see Section 4.5, *Induced Socio-Economic Impacts (Growth Inducement)*.

#### 4.19.1 Introduction

The solid waste analysis addresses municipal solid waste and construction waste generation. Technical Report 10, *Solid Waste Technical Report*, provides additional information on the affected environment relative to solid waste, and the methodology used to assess both baseline conditions and project impacts, including detailed information regarding the solid waste generation factors used in this analysis. This section addresses potential impacts related to municipal and construction waste generation and disposal; impacts associated with hazardous waste generation and disposal are addressed in Section 4.23, *Hazardous Materials*. Potential birdstrike hazards due to solid waste disposal facilities are addressed in Section 4.24.3, *Safety*. Potential effects of regional growth induced by the LAX Master Plan are addressed in Section 4.5, *Induced Socio-Economic Impacts (Growth Inducement)*.

#### 4.19.2 General Approach and Methodology

This analysis compares the municipal solid waste generation projected for the No Action/No Project Alternative and three build alternatives to baseline solid waste generation and conditions, characterized by existing solid waste sources, diversion mechanisms, and methods of collection and disposal. Construction wastes and their disposal mechanisms are also evaluated as described below. The analysis estimates on-airport solid waste generation under baseline conditions, as well as solid waste generation in areas proposed to be acquired as part of the LAX Master Plan or other airport programs.

Direct and indirect growth associated with the Master Plan outside of the Master Plan boundaries and elsewhere in the region would also result in increased generation of solid waste. Potential impacts are addressed in Section 4.5, *Induced Socio-Economic Impacts (Growth Inducement)*, and in Section 4.19.7, *Cumulative Impacts*.

The acreage and location of land required for the proposed Master Plan improvements are unique to each of the three build alternatives. Consequently, each alternative would result in a different footprint for LAX. In order for the environmental baseline, the No Action/No Project Alternative, and the three build alternatives to be compared side by side, a single solid waste study area was used. This composite study area is referred to as the "Master Plan boundaries."

Total solid waste generation within the Master Plan boundaries was then calculated (as described below) for the environmental baseline and for all alternatives at the 2005 and 2015 planning horizons. Under the environmental baseline, land within the Aircraft Noise Mitigation Program (ANMP) acquisition areas is evaluated based on its existing use. Under the No Action/No Project Alternative, it is assumed to be vacant. For each of the build alternatives, it is assumed that all proposed acquisition has been completed

and existing land uses demolished. Each alternative proposes a different configuration of land acquisition; thus, not all land within the Master Plan boundaries would be acquired by any one alternative. Land uses within areas not acquired would be unaffected by the Master Plan. The Alternative B off-site fuel farm sites are discussed separately from the Master Plan boundaries.

Several different sources, means, and factors were used for calculating solid waste generation. Solid waste generation factors are typically provided in terms of solid waste generation (in tons or pounds per day or year) per unit (e.g., square foot of building space, ton of cargo, employee). Solid waste generation is projected by multiplying the factor by the appropriate number of units. All solid waste generation values presented in the impact analysis represent estimates and are projected based on the factors and methods described below. Details on the derivation and use of these factors are presented in Technical Report 10, *Solid Waste Technical Report*.

Baseline on-airport solid waste generation was estimated during a solid waste audit performed in 1991 and updated in 1994 and documented in *LAX Waste Audit and Recovery Program Update*.<sup>583</sup> Data contained in the *LAX Waste Audit and Recovery Program Update* was used to derive solid waste generation factors for passenger- and cargo-related activities at LAX, which were used to estimate solid waste generation for the environmental baseline (1996) and future conditions.

For non-airport land uses, including planned and proposed uses within LAX Northside/Westchester Southside, solid waste generation was estimated using factors from the *1995 Annual Report on Disposal and Diversion in the City of Los Angeles*.<sup>584</sup> In order to account for anticipated future solid waste diversion achieved through source reduction and recycling, as mandated by AB 939 (discussed in Section 4.19.3, *Affected Environment/Environmental Baseline* below), it was assumed that the required 50 percent diversion would be accomplished by 2005. Both on-airport and off-airport generation factors were adjusted to reflect 50 percent diversion.

Information regarding off-airport solid waste generation, collection, disposal, and diversion within the region was obtained from agencies responsible for solid waste in the area, and contacts with disposal facilities. Data regarding off-airport solid waste generation is based on off-airport land uses as of 1996. Data regarding the capacities of regional landfills is current to 2000.

To determine whether the projected increase in solid waste generation associated with the Master Plan alternatives would be significant, the total quantity of solid waste that would be generated by each of the three build alternatives and the No Action/No Project Alternative was estimated using the factors described above. Projected solid waste generation was then compared to the anticipated capacity at the appropriate regional disposal facilities. The implementation of various solid waste-related city and county plans and policies was also taken into account.

For the generation of waste by construction and demolition activities, quantitative factors were taken from studies performed by the Metro Regional Environmental Management (Metro), a regional government that serves the Portland, Oregon, metropolitan area.<sup>585</sup> Metro has performed studies to develop a quantitative factor for waste generated by the construction and demolition of residences and commercial buildings. Factors used for demolition of commercial buildings were for light, wood frame buildings. Although some of the structures that would be demolished as a result of Master Plan implementation would be of similar construction, others would be concrete structures. As a result, the actual quantity of solid waste generated as a result of demolition could be higher than presented in this analysis. More detailed information on these factors is presented in Technical Report 10, *Solid Waste Technical Report*.

### **4.19.3 Affected Environment/Environmental Baseline**

#### **Regional Solid Waste Collection, Disposal, and Diversion**

Solid waste in the City of Los Angeles is collected by municipal agencies and private refuse haulers. Waste collected by these entities is disposed of at regional landfills. There are eight major landfills currently accepting municipal waste in Los Angeles County. **Figure 4.19-1**, Locations of Active Regional

<sup>583</sup> Recycling By Nature, *LAX Waste Audit and Recovery Program Update*, June 1995.

<sup>584</sup> City of Los Angeles, Integrated Solid Waste Management Office, *1995 Annual Report on Disposal and Diversion in the City of Los Angeles*, 1995.

<sup>585</sup> Metro Regional Environmental Management Department Solid Waste Department of Portland, OR (Metro), *Characterization of Construction Site Waste*, July 30, 1993.

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Solid Waste Disposal Facilities, illustrates the locations of these landfills. **Table 4.19-1**, Regional Municipal Solid Waste Landfills, provides pertinent information including owner/operator, permitted daily capacity, average daily tonnage in tons per day (tpd), approximate closure date for each of the landfills, and approximate distance from LAX.

**Table 4.19-1**

### Regional Municipal Solid Waste Landfills

Landfill	Owner/Operator	Permitted Daily Capacity (tpd)	Average Daily Tonnage (tpd)	Approx. Closure Date	Approx. Distance From LAX (miles)
Antelope Valley	Waste Management Inc.	1,400	600	2016	67
Bradley West	Waste Management Inc.	10,000	7,000	2002 <sup>5</sup>	30
Calabasas	LACSD <sup>3</sup>	3,500	900	2018	33
Chiquita Canyon	Republic Services of California	5,000	1,610	2019	40
Lancaster	Waste Management Inc.	1,000	800	2040	82
Puente Hills <sup>1</sup>	LACSD	12,000	11,500	2003 <sup>4</sup>	31
Scholl Canyon <sup>1</sup>	LACSD	3,400	1,200	2023	32
Sunshine Canyon	Browning-Ferris Industries	6,600	6,000	2005 <sup>2</sup>	82
<b>TOTAL</b>		<b>42,900</b>	<b>29,610</b>		

<sup>1</sup> Puente Hills and Scholl Canyon do not accept waste from the City of Los Angeles. Calabasas does not accept waste from portions of the City of Los Angeles, including the LAX area.

<sup>2</sup> Sunshine Canyon, located in an unincorporated area of Los Angeles County, is pursuing expansion of its facility into an area under the jurisdiction of the City of Los Angeles, which would substantially increase its capacity and extend their closure date for an additional 26 years.

<sup>3</sup> County Sanitation Districts of Los Angeles County

<sup>4</sup> Puente Hills is pursuing extension of their closure date for an additional ten years

<sup>5</sup> Bradley West is permitted until 2007; however, its approximate closure date is expected in 2002 due to its limited capacity.

Sources: Burns, John, Waste Management Inc., Personal Communication, January 25, 2000; Krumwiede, Kay, Waste Management Inc., Personal Communication, August 17, 2000; Mays, John, Browning-Ferris Industries, Personal Communication, January 25, 2000; Mendoza, Larry, County Sanitation Districts of Los Angeles County, Personal Communication, January 21, 2000; Rohoff, Sam, Republic Services of California, Personal Communication, January 26, 2000; Walker, Hugh, Waste Management Inc., Personal Communication, August 24, 2000; California Integrated Waste Management Board, California Waste Facilities, Sites, & Operations Database Solid Waste Information System (SWIS) Database, Available: <http://www.ciwmb.ca.gov/SWIS/SWISsrch.htm> [May 19, 2000].

There are also several other small landfills in Los Angeles County that are currently accepting waste. Most of these facilities are restricted from receiving waste from outside of a specified watershed. In addition, several landfills in Riverside, San Bernardino, and Orange counties receive waste from the City of Los Angeles. Only a small portion of the City of Los Angeles-generated waste is disposed of in landfills outside of Los Angeles County.<sup>586</sup> Currently, the cost of hauling material to facilities outside the county limits the volume of waste disposed of at these facilities.

A portion of city-generated waste is also disposed of through transformation. Transformation involves the incineration of municipal solid waste in order to generate energy. In the fourth quarter of 1995, approximately 17,000 tons of municipal solid waste were transformed at two facilities.<sup>587</sup>

The mid- to long-term solid waste disposal capacity availability in Los Angeles County is uncertain and is based on a variety of dynamic parameters, including new regulations, the ability to permit expanded or new sites, the economic viability of recycling, flow control legislation, and waste generation rates. Other factors governing solid waste disposal include increasing solid waste management costs and more restrictive regulations governing landfill operations. Even with maximum levels of source reduction, recycling, composting, and other diversion, and assuming that potential expansions at existing landfills are permitted, new landfill sites will be a necessary part of the solid waste management system in the Los Angeles region. With many of Los Angeles County's currently permitted landfills facing closure or

<sup>586</sup> Los Angeles County Department of Public Works, Environmental Programs Division, Countywide Siting Element, June 1997.

<sup>587</sup> City of Los Angeles, Integrated Solid Waste Management Office, 1995 Annual Report on Disposal and Diversion in the City of Los Angeles, 1995.



expiration of their permits, additional landfill sites must be located and approved, or operating permits at existing landfills must be extended, or there will be a severe shortfall in solid waste disposal capacity within the Los Angeles region.

As indicated in **Table 4.19-1**, plans are underway to enable the expansion of the Sunshine Canyon landfill into an area under the jurisdiction of the City of Los Angeles. In addition, the County Sanitation Districts of Los Angeles County (LACSD) is planning to seek a 10-year extension of its operating permit for the Puente Hills Landfill. LACSD is also pursuing regional solutions for future solid waste disposal. Recently, LACSD signed agreements to purchase Eagle Mountain Landfill in Riverside County and Mesquite Regional Landfill in Imperial County. Eagle Mountain and Mesquite Regional Landfill are proposed municipal landfills, neither of which is currently operating. Both of these landfills have received the necessary environmental and local permits for operation and could provide over a hundred years of disposal capacity for Los Angeles County residents and businesses. However, the purchase agreements are not yet finalized and could be subject to legal challenge. For purposes of this analysis, it is assumed that landfill capacity will remain constrained until such time as future capacity at these and other landfills is assured.

The total remaining landfill capacity (assuming the implementation of potential capacity expansions) available to the City of Los Angeles in 1992, the last date for which data is available, was 63.1 million tons.<sup>588</sup> As of December 31, 1995, the remaining permitted Class III (municipal waste) landfill capacity in Los Angeles County was estimated at 102.3 million tons.<sup>589</sup> This figure includes landfills in Los Angeles County that do not currently receive waste from the City of Los Angeles. According to the county, based on the countywide average 1995 disposal rate, excluding waste being imported to the county, the 102.3 million ton capacity will be exhausted by 2007. This figure does not include landfills that have obtained additional permitted capacity since 1995; however, three major landfills accepting municipal solid waste closed in 1996, which may accelerate the rate at which the remaining permitted capacity is exhausted. A permitted daily capacity shortfall may occur in the near future.

In light of landfill capacity problems throughout the state, in 1989, the state legislature enacted AB 939.<sup>590</sup> AB 939 required each city and county to divert 25 percent of its solid waste from landfill disposal, through source reduction, recycling, and composting, by the end of 1995. AB 939 also required cities and counties to divert 50 percent of their waste streams by the year 2000. These percentages are based on the volume of waste generated in the 1990 baseline year.

Subdivision (C) of Section 41781 of AB 939 provides for exceptions or adjustments to the diversion goals due to changing conditions. Subdivision (C) states: "[t]he amount of solid waste from which the required reductions are measured shall be the amount of solid waste existing on January 1, 1990, with future adjustments for increases or decreases in the quantity of waste caused only by changes in population or changes in the number or size of governmental, industrial, or commercial operations in the jurisdiction."

AB 939 encourages source reduction activities as the preferred management approach. Recycling is the second best alternative, including composting of green and food wastes. Waste that is disposed of through transformation, the combustion or incineration of waste, is not considered diverted under AB 939. Landfilling is the least preferred solid waste disposal alternative.

In 1997, the city disposed of 3.5 millions tons of waste. This is an 11 percent decrease from the 3.7 million tons of solid waste generated in 1990.<sup>591</sup> Both the county and city are striving to continue to decrease solid waste generation through source reduction and recycling, as well as attempting to site new landfills and extend the permits of existing landfills in order to ensure adequate landfill disposal capacity for the region. These efforts are documented in a number of plans, which are briefly described below.

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<sup>588</sup> Envicom Corporation, et. al., Draft City of Los Angeles, General Plan Framework EIR, prepared for the City of Los Angeles, Department of City Planning, January 1995.

<sup>589</sup> Los Angeles County Department of Public Works, Environmental Programs Division, Countywide Siting Element, June 1997.

<sup>590</sup> Assembly Bill 939 or the California Integrated Waste Management Act of 1989. Codified in Public Resources Code Section 42920-42928, the law is commonly referred to as AB 939.

<sup>591</sup> City of Los Angeles, Integrated Solid Waste Management Office, 1995 Annual Report on Disposal and Diversion in the City of Los Angeles, 1995.

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- ◆ In response to AB 939, which requires that adequate long-term municipal solid waste disposal capacity be secured, the City of Los Angeles, Integrated Solid Waste Management Office (now the Solid Resources Citywide Recycling Division or SRCRD), established the City Solid Waste Management Policy Plan (CiSWMPP). It is a long-term overall city policy and planning document that contains goals, objectives, and policies covering all aspects of solid waste management within the city. It provides direction for the solid waste management decision-making process, projects citywide diversion goals and disposal capacity needs over the 30-year planning period (1990 to 2020), and ensures that disposal practices would not conflict with diversion goals. CiSWMPP establishes citywide diversion objectives of 25 percent by 1995, 50 percent by 2000, and 70 percent by 2020 based on the Solid Waste Generation Study (SWGS).<sup>592</sup> The SWGS quantifies and characterizes existing solid waste generation, diversion, and disposal, and identifies proposed measures to increase source reduction, recycling, and composting activities.
- ◆ *The Annual Report on Disposal and Diversion*, prepared by the City of Los Angeles, Bureau of Sanitation, Integrated Solid Waste Management Office, documents the city's comprehensive disposal studies that serve to examine public and private solid waste generators and pinpoint wastestreams that can be most easily diverted or recycled. It contains data on solid waste generation, diversion, and disposal practices for each city department, as well as a number of targeted generator types, and identifies additional measures each generator can take to increase diversion. *The Annual Report* also documents the city's methodology for determining its 1995 diversion rate.<sup>593</sup>
- ◆ AB 939 mandated that each city and county in California prepare a *Source Reduction and Recycling Element* (SRRE) to document the plan the city or county would use to achieve AB 939 diversion requirements. The county's SRRE includes a solid waste generation study to quantify and characterize existing solid waste generation, diversion, and disposal, and identifies proposed measures to increase source reduction, recycling, and composting activities in the county. Additionally, the SRRE proposes education and public information programs and means to fund the recommended activities.<sup>594</sup> The city's SRRE includes a strategic action plan for diverting solid waste from landfills. It establishes diversion objectives for specific programs and targeted generators that would demonstrate exceedance of the diversion objectives of the CiSWMPP. It also includes public education goals defined by specific programmatic elements.
- ◆ The *Countywide Siting Element* (CSE) was prepared by the Los Angeles County Department of Public Works pursuant to state law. The purpose of the CSE is to address the management of that portion of solid waste that remains after cities and communities have completed their recycling, composting, and other waste diversion activities. The CSE provides a means for proper planning and siting of solid waste transformation and land disposal facilities on a countywide basis. It also offers strategies and establishes siting criteria to be used as an aid to evaluate sites proposed for development of needed solid waste facilities.<sup>595</sup>

In response to AB 939 and as a result of the previously-described plans, the city has implemented source reduction, recycling, composting, and market development programs for about one-half of the city's waste stream disposed of by the Bureau of Sanitation.<sup>596</sup> The city's programs concentrate on removing barriers to stimulate voluntary programs and creating markets for recyclable materials. The programs rely heavily on commercial and industrial waste generators for the major portion of their materials diversion, as they have greater amounts of homogeneously separated materials ready for transport. Curbside recycling and yard waste collection have been extended to all households, and the SRCRD is working with city government, the Bureau of Sanitation, and private collection companies to develop programs and policies that target specific private generators for cost-effective diversion and recycling programs. As a result of

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<sup>592</sup> City of Los Angeles, Board of Public Works, City of Los Angeles Solid Waste Management Policy Plan, 1993.

<sup>593</sup> City of Los Angeles, Integrated Solid Waste Management Office, 1995 Annual Report on Disposal and Diversion in the City of Los Angeles, 1995.

<sup>594</sup> Los Angeles County Department of Public Works, Waste Management Division, Los Angeles County Source Reduction and Recycling Element, August 1993.

<sup>595</sup> Los Angeles County Department of Public Works, Environmental Programs Division, Countywide Siting Element, June 1997.

<sup>596</sup> The Bureau of Sanitation is responsible for transportation and disposal of waste generated by single-family residences, certain multi-family residences, and city department facilities (e.g., parks). Industrial, commercial, and most multi-family residences must contract with private companies for their solid waste transportation and disposal needs.

these efforts, the City of Los Angeles diverted 46 percent of its waste stream in 1998,<sup>597</sup> which was up from 44.6 percent in 1995.<sup>598</sup>

### **Construction and Demolition Waste**

Construction and demolition waste comprises 28 percent of the solid waste stream statewide, with wood waste as the largest component. Other major components include concrete, asphalt, and ferrous materials. Waste generated by construction and demolition activities is considered to be inert material and can be disposed of at unclassified landfills, which include a greater number of facilities than those that accept municipal solid waste. These facilities are often abandoned gravel pits. Facilities in the Los Angeles region that accept inert waste include Azusa Land Reclamation, CalMat Landfill, Nu-Way Live Oak Landfill, Peck Road Gravel Pit, Reliance Pit #2, and Strathern Landfill.

As of December 31, 1995, the total remaining permitted inert waste capacity in Los Angeles County was estimated to be approximately 53.1 million tons. Based on the average 1995 disposal rate, this capacity will be exhausted in 96 years.<sup>599</sup> Therefore, there is anticipated to be no shortfall in disposal capacity for inert waste within the county.

Construction and demolition waste continues to contribute a significant portion to the waste stream but is more cost-effectively diverted than sent to a landfill. Many opportunities for recycling within city departments remain for construction and demolition waste. Diversion of this material will continue to play an important role in reducing the city's disposed waste stream and a large portion of construction and demolition waste can be diverted from landfills through reuse and recycling. In Los Angeles County, there are a number of operations that recycle most kinds of construction and demolition materials. Generally, construction waste (e.g., lumber scraps) is more desirable for recycling than demolition waste, which is generally less uniform and may be commingled with other materials. However, asphalt from demolition is commonly crushed and reused as filler below new pavement. This practice is discussed in Section 4.17.2, *Natural Resources*. The California Integrated Waste Management Board (CIWMB) does not track the generation, disposal, and diversion of construction and demolition waste specifically.

### **Autoclaved Waste**

The U.S. Department of Agriculture requires all trash that would come into contact with putrescible<sup>600</sup> waste generated on international flights be either incinerated or autoclaved<sup>601</sup> prior to disposal at a landfill. International waste is any waste removed from any means of conveyance originating from a foreign country. This type of waste includes leftover food and anything that could have come into contact with food that is to be disposed, including disposable utensils, napkins, plastic plates, and cups.

At LAX, food caterers that provision aircraft are charged with the responsibility for proper handling and disposal of international waste. Food waste is autoclaved or incinerated and then transported to regular landfills for disposal per federal quarantine regulations which address foreign and international waste. Food waste to be incinerated is transported to the Southeast Resource Recovery Facility (SERRF) for incineration per federal quarantine regulations. The U.S. Department of Agriculture has approved the use of the SERRF for this purpose.

The SERRF is a waste-to-energy plant, located in Long Beach, with total permitted capacity to receive 2,240 tpd of solid waste and with average daily processed tonnage of 1,610 tpd.<sup>602</sup> The standard procedure for the ash remains resulting from the incineration process is to transport the ashes to the Puente Hills Landfill for use as a roadbase for the landfill.<sup>603</sup> The SERRF has sufficient capacity to meet

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<sup>597</sup> City of Los Angeles, Solid Resources Citywide Recycling Division, Update AB 939 2000, Available: <http://www.cityofla.org/SAN/ab939.htm> [June 5, 2000].

<sup>598</sup> City of Los Angeles, Integrated Solid Waste Management Office.

<sup>599</sup> Los Angeles County Department of Public Works, Environmental Programs Division, Countywide Siting Element, June 1997.

<sup>600</sup> Putrescible waste is waste that is likely to become putrid.

<sup>601</sup> An autoclave is an apparatus that uses superheated steam under high pressure to achieve sterilization. Autoclaved waste is waste that is treated in an autoclave.

<sup>602</sup> California Integrated Waste Management Board, California Waste Facilities, Sites & Operations Database, Solid Waste Information System (SWIS) Database, Available: <http://www.ciwmb.ca.gov/SWISsrch.htm> [September 19, 2000].

<sup>603</sup> Yueehara, Stan, County of Los Angeles, Department of Health Services, Personal Communication, September 19, 2000.

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present demands. However, if the facility does not have capacity in the future, it would deny waste from other cities and waste coming from Long Beach would have priority over nearby cities. Although it would be more costly, autoclaved waste could also be disposed of in municipal landfills.<sup>604</sup>

### **Baseline LAX Solid Waste Generation and Diversion**

Solid waste is generated at LAX by numerous on-airport uses, including passengers, visitors, LAWA uses, and tenant activities. The greatest variety of solid waste is generated by tenant activities, which include airlines, cargo handlers, caterers, flight service operators, concessionaires, and service and aviation-related support businesses. Solid waste management is conducted by both LAWA and private companies. The solid waste management system at LAX is one component of a larger solid waste system described above, encompassing the entire Los Angeles region. Private companies operating in the Los Angeles region provide collection services, and waste is transported to several regional landfills.

Baseline solid waste generation within the Master Plan boundaries is 52,754 tons per year (tpy). Of this, LAX generates approximately 40,228 tpy, based on cargo and passenger volumes for 1996.

As mentioned in Section 4.19.2, *General Approach and Methodology*, in 1991 a waste audit and recovery program was undertaken at LAX, which was updated in 1994. This program was the first comprehensive audit of solid waste activities at the airport. The purpose of the program was to provide reliable solid waste information for LAX, develop a system-wide database, and recommend a comprehensive integrated materials recovery and source reduction plan for LAX. Based on the audit, a program was developed for achieving the waste diversion mandated by AB 939. The program consists of a combination of source reduction, recycling, composting of food wastes, and the collection and separation of recyclable material. The proposed plan was designed to reduce wastes disposed of by LAX by a minimum of 58 percent.

LAWA has implemented several waste recovery efforts at LAX in accordance with this program. Some of these efforts pre-date the audit. Cardboard, metals, and wood pallets are the largest constituents of the recycled waste stream. Aluminum used beverage containers (UBC) recovery is a small portion of the waste recovery effort, with most of the recycled UBC coming from the airlines. There is also an extensive concrete and asphalt recycling program at LAX. In 1995, almost half of all materials recycled by LAWA was asphalt and concrete from demolition and repaving operations. LAWA recovers, grinds, and recycles concrete and asphalt generated at LAX at an on-site batch plant. As a result of these efforts, LAX has achieved a diversion rate of 54 percent.<sup>605</sup> Technical Report 10, *Solid Waste Technical Report* provides more detailed information on recycling and diversion efforts at LAX.

### **4.19.4 Thresholds of Significance**

#### **4.19.4.1 CEQA Thresholds of Significance**

A significant solid waste impact would occur if the direct and indirect changes in the environment that may be caused by the particular build alternative would potentially result in one or more of the following future conditions:

- ◆ A net increase in project-related solid waste generation that could not be accommodated by existing or permitted regional landfills or other disposal facilities.
- ◆ Conflicts with solid waste policies and objectives intended to help achieve the requirements of AB 939.

These thresholds are utilized because they address the two potential impacts to solid waste associated with the Master Plan alternatives: the potential for project-generated solid waste to exceed the capacity of permitted regional landfills or other disposal facilities, and the potential for the project to hinder compliance with AB 939 diversion requirements. The first threshold was developed based upon guidance provided in the *Draft L.A. CEQA Thresholds Guide*.<sup>606</sup> The second threshold was developed specifically to address potential conflicts associated with the requirements of AB 939, which was not addressed in the *Draft L.A. CEQA Thresholds Guide*.

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<sup>604</sup> Foley, Allen, Southeast Resource Recovery Facility (SERRF), Personal Communication, September 27, 2000.

<sup>605</sup> Los Angeles World Airports (LAWA), LAX – Summary of Recycling Statistics for 1999 Calendar Year, 2000.

<sup>606</sup> City of Los Angeles, Draft L.A. CEQA Thresholds Guide, May 14, 1998.

As indicated in these thresholds, only existing or permitted landfill capacity was considered in this analysis; planned new landfills, landfill expansions, or permit extensions are excluded from the determination of significance. Although there are plans to extend the closure dates for two landfills in the region, discretionary approval for these facilities is extremely difficult to obtain and may take many years. Other landfills may have reached capacity and, therefore, would not be able to extend their permits.

#### 4.19.4.2 Federal Standards

There are no federal standards that define significance thresholds for solid waste impacts. However, the FAA *Airport Environmental Handbook*, requires an evaluation to determine if solid waste disposal facilities (i.e., landfills) are located within 3,000 meters (approximately 9,843 feet) of all runways planned to be used by turbojet aircraft. This is addressed in Section 4.24.3, *Safety*.

#### 4.19.5 Master Plan Commitments

As addressed in Section 4.19.6, *Environmental Consequences*, implementation of any of the Master Plan alternatives would have potential impacts related to solid waste. In recognition of these potential impacts, LAWA has included the commitments listed below in the Master Plan, coded “SW” for “solid waste.”

◆ **SW-1. Implement an Enhanced Recycling Program.**

LAWA will implement a more aggressive recycling program, based on successful programs at other airports and similar facilities. Features of the enhanced recycling program will include: expansion of the terminal recycling program to all terminals and the new West Terminal Area, development of a recycling program at Westchester Southside, lease provisions requiring that tenants meet specified diversion goals, and preference for recycled materials during procurement.

◆ **SW-2. Requirements for the Use of Recycled Materials during Construction.**

LAWA will require that contractors use a specified minimum percentage of recycled materials during construction of LAX Master Plan improvements. The percentage of recycled materials required will be specified in the construction bid documents. Recycled materials may include, but are not limited to, asphalt, drywall, steel, aluminum, ceramic tile, cellulose insulation, and composite engineered wood products. The use of recycled materials in LAX Master Plan construction will help to reduce the project's reliance upon virgin materials and support the recycled materials market, decreasing the quantity of solid waste requiring disposal.

◆ **SW-3. Requirements for the Recycling of Construction and Demolition Waste.**

LAWA will require that contractors recycle a specified minimum percentage of waste materials generated during construction and demolition. The percentage of waste materials required to be recycled will be specified in the construction bid documents. Waste materials to be recycled may include, but are not limited to, asphalt, concrete, drywall, steel, aluminum, ceramic tile, and architectural details.

#### 4.19.6 Environmental Consequences

This section describes the potential environmental impacts of the No Action/No Project Alternative and the three build alternatives. For each alternative, the effects are discussed as they relate to overall solid waste generation, compliance with AB 939 diversion requirements, and construction and demolition solid waste generation. Increases in solid waste generation are presented for both the 2005 and 2015 planning horizons. The potential impacts associated with the two planning horizons are similar, and are therefore discussed together below.

##### 4.19.6.1 No Action/No Project Alternative

The No Action/No Project Alternative contains various features that are especially pertinent to the analysis of solid waste impacts, including the demolition of existing land uses in Belford and Manchester Square (currently underway by LAWA as part of a separate action) and the development of LAX Northside and Continental City.

Under the No Action/No Project Alternative, there would be limited improvements to the airfield and related uses (e.g., cargo) at LAX. It is assumed that all of the improvements would be completed by 2005. These improvements would increase cargo activity at LAX (by 1,223,236 additional tons), a 64 percent increase over baseline conditions. In addition, under the No Action/No Project Alternative,

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passenger activity at LAX would increase 23 percent over the environmental baseline. The demolition of existing land uses in Belford and Manchester Square included in the No Action/No Project Alternative would eliminate existing solid waste generation in those areas; however, the development of LAX Northside and Continental City would increase solid waste generation in currently undeveloped areas within the Master Plan boundaries.

Although cargo and passenger activity would increase under the No Action/No Project Alternative, due to compliance with AB 939, total solid waste generation for airport-related land uses would decrease 8,306 tpy below baseline conditions by 2005 (a 21 percent decrease), and would decrease 7,686 tpy below the environmental baseline by 2015 (a 19 percent decrease). LAX Northside solid waste generation would be 2,212 tpy by 2005 and 5,389 tpy by 2015.

**Table 4.19-2**, Summary of Solid Waste Generation in tons per year, includes solid waste generation projections for the No Action/No Project Alternative. Total solid waste generation within the Master Plan boundaries, including LAX Northside, Continental City, and land that would not be acquired under this alternative, would decrease 8,379 tpy below the environmental baseline by 2005 (a 16 percent decrease) and 2,805 tpy below the environmental baseline by 2015 (a five percent decrease). This decrease is partly due to the ongoing acquisition and demolition of existing land uses within Belford and Manchester Square and partly due to compliance with AB 939 diversion requirements, the LAX on-site recycling program, and participation in the city's diversion program. The development of LAX Northside and Continental City and the increase in passengers and cargo tonnage would partially offset this decrease. Overall solid waste generation would decrease as compared to baseline conditions.

**Table 4.19-2**

**Summary of Solid Waste Generation in Tons Per Year**

	Baseline Conditions	Alternative							
		No Action/No Project		A		B		C	
		2005	2015	2005	2015	2005	2015	2005	2015
<b>LAX</b>									
Airport Facilities	40,228	31,922	32,542	31,922	43,728	31,922	43,728	31,922	40,516
Belford	535	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>
Continental City	NA	1,186	2,964	NA	NA	NA	NA	NA	NA
LAX Northside	NA	2,212	5,389	NA	NA	NA	NA	NA	NA
Westchester Southside	NA	NA	NA	1,453	3,633	1,453	3,633	1,453	3,633
<b>Subtotal LAX<sup>3</sup></b>	<b>40,763</b>	<b>35,320</b>	<b>40,895</b>	<b>33,375</b>	<b>47,361</b>	<b>33,376</b>	<b>47,361</b>	<b>33,375</b>	<b>44,149</b>
<b>Non-Project Uses Within the Master Plan Boundaries<sup>4</sup></b>									
Manchester Square	1,947	NA <sup>1</sup>	NA <sup>1</sup>	1,603 <sup>5</sup>	3,162 <sup>5</sup>	NA <sup>6</sup>	NA <sup>6</sup>	NA <sup>6</sup>	NA <sup>6</sup>
Land Within Acquisition Areas <sup>7</sup>	10,044	9,055	9,055	2,006	2,006	371	371	4,854	4,854
<b>Subtotal Non-Project Uses<sup>3</sup></b>	<b>11,991</b>	<b>9,055</b>	<b>9,055</b>	<b>3,609</b>	<b>5,168</b>	<b>371</b>	<b>371</b>	<b>4,854</b>	<b>4,854</b>
<b>TOTAL MASTER PLAN BOUNDARIES<sup>3</sup></b>	<b>52,754</b>	<b>44,375</b>	<b>49,949</b>	<b>36,985</b>	<b>52,529</b>	<b>33,747</b>	<b>47,732</b>	<b>38,230</b>	<b>49,003</b>

<sup>1</sup> Under the No Action/No Project Alternative, existing uses would be demolished. No redevelopment is assumed for purposes of this analysis.

<sup>2</sup> Under Alternatives A, B, and C, existing uses within Belford would be demolished, and the area would be incorporated into the overall Master Plan development. Solid waste generation associated with proposed land uses in this area is incorporated within "Airport Facilities" above.

<sup>3</sup> Information in table may not total due to rounding.

<sup>4</sup> For purposes of this analysis, a single composite study area was established, referred to as the "Master Plan boundaries." However, for each alternative, a portion of the study area is assumed to be incorporated into the Master Plan development.

<sup>5</sup> Under Alternative A, Manchester Square is assumed to be redeveloped with commercial/light industrial uses independent of the Master Plan.

<sup>6</sup> Under Alternatives B and C, existing uses within Manchester Square would be demolished, and the area would be incorporated into the overall Master Plan development. Solid waste generation associated with proposed land uses in this area is incorporated within "Airport Facilities" above.

<sup>7</sup> No land within the acquisition areas would be acquired under the No Action/No Project Alternative. Only a portion of the land within the acquisition areas would be acquired for each build alternative. The land within the areas that would not be acquired would not be affected by the Master Plan and would remain in its current use.

NA = Not Applicable

Source: Camp Dresser & McKee Inc., 2000.

LAWA would continue to implement existing programs aimed at reducing waste generation, which are designed to achieve a 58 percent diversion rate. With the continuation of those programs, the No Action/No Project Alternative would not conflict with solid waste policies and objectives intended to help achieve the requirements of AB 939.

Construction and demolition activities associated with the previously-approved projects under the No Action/No Project Alternative would generate limited quantities of solid waste requiring disposal.

**Table 4.19-3**, Summary of Construction and Demolition Solid Waste Generation, shows solid waste generation projections for this alternative. Overall solid waste due to demolition would total 247,085 tons by 2005. As all improvements are assumed to be complete by 2005 under the No Action/No Project Alternative, no additional solid waste would be generated by demolition between 2005 and 2015. Total solid waste due to new construction would be 10,736 tons by 2005 and 21,120 tons between 2005 and 2015. In the case of cargo buildings, the construction waste would consist primarily of masonry, concrete, and metal. These materials are fairly easily recycled and a sizable market for their recycling exists. These materials also tend to create fewer scraps during construction than do materials like wood or drywall. Construction and demolition activities would also require the removal of pavement. LAX uses recycled pavement as filler below new paving. To the extent possible, suitable materials would be reused at LAX.

**Table 4.19-3**

**Summary of Construction and Demolition Solid Waste Generation**

	Alternative							
	No Action/No Project		A		B		C	
	Start-2005	2006-2015	Start-2005	2006-2015	Start-2005	2006-2015	Start-2005	2006-2015
Total Construction Solid Waste (Tons)	10,736	21,120	178,932	33,088	177,674	24,000	28,090	18,004
Total Demolition Solid Waste (Tons)	247,085	N/A	520,417	65,556	560,823	114,516	359,204	36,468

Source: Camp Dresser & McKee Inc., 2000.

As indicated in Section 4.19.3, *Affected Environment/Environmental Baseline*, inert disposal capacity is anticipated to be available well beyond the 2015 planning horizon.

**4.19.6.2 Alternative A - Added Runway North**

Under Alternative A, both passenger and cargo activity would increase at LAX. Alternative A would also include development of Westchester Southside. Existing uses in the acquisition areas would be demolished. (Uses within the ANMP properties, Belford and Manchester Square, will be demolished as part of a separate action being undertaken by LAWA.) The land within the acquisition areas and Belford would be incorporated into the Master Plan.

**Table 4.19-2** shows that, under Alternative A, solid waste generation for airport-related land uses would decrease 8,306 tpy below the environmental baseline by 2005 (a 21 percent decrease). By 2015, solid waste generation would increase 3,500 tpy above the environmental baseline (a 9 percent increase). Westchester Southside solid waste generation would be 1,453 tpy by 2005 and 3,633 tpy by 2015.

Under Alternative A, solid waste generation for airport-related land uses would be the same as that of the No Action/No Project Alternative by 2005. By 2015, solid waste generation would increase 11,186 tpy above the No Action/No Project Alternative (a 34 percent increase).

Total solid waste generation within the Master Plan boundaries under Alternative A would decrease by 15,769 tpy below the environmental baseline (a 30 percent decrease) by 2005, and would decrease by 225 tpy below the environmental baseline by 2015 (a less than 1 percent decrease). In 2005, total solid waste generation within the Master Plan boundaries would be less than that under the No Action/No Project Alternative. However, by 2015, total solid waste generation under Alternative A would increase by 2,580 tpy (a 5 percent increase) above the No Action/No Project Alternative.

The decrease, as compared to the environmental baseline, is partly due to the ongoing acquisition and demolition of existing land uses within Belford and Manchester Square and the planned acquisition of

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additional land for Master Plan development, and partly due to compliance with AB 939 diversion requirements, including the LAX on-site recycling program and participation in the city's diversion program. The development of Westchester Southside and the increase in passengers and cargo tonnage would partially offset this decrease. Nevertheless, overall solid waste generation would decrease as compared to the environmental baseline. Because solid waste generation within the Master Plan boundaries is projected to decrease under Alternative A, the impact would be less than significant.

In addition to existing programs aimed at reducing waste generation, LAWA would implement Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, to enhance the current on-site recycling program, extend recycling requirements to tenants, and address the procurement of recycled materials. With the continuation of existing recycling programs and implementation of Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, Alternative A would not conflict with solid waste policies and objectives intended to help achieve the requirements of AB 939.

Construction and demolition activities for Alternative A would generate a substantial amount of solid waste requiring disposal. **Table 4.19-3** shows solid waste generation projections for this alternative. As indicated in the table, under Alternative A, overall solid waste due to demolition would total 520,417 tons by 2005 and 65,556 tons between 2006 and 2015. Total solid waste due to new construction would be 178,932 tons by 2005 and 33,088 tons between 2006 and 2015.

As with the No Action/No Project Alternative, in the case of cargo and terminal buildings, the construction waste would consist primarily of masonry, concrete, and metal. As indicated previously, these materials are fairly easily recycled and a sizable market for their recycling exists. These materials also tend to create fewer scraps during construction than do materials like wood or drywall. Construction and demolition activities would also require the removal of pavement. LAX uses recycled pavement as filler below new paving. To the extent possible, suitable materials would be reused at LAX. Additionally, Master Plan Commitments SW-2, Requirements for the Use of Recycled Materials during Construction, and SW-3, Requirements for the Recycling of Construction and Demolition Waste, would reduce the amount of demolition and construction waste requiring disposal by requiring contractors to use recycled construction materials and to recycle demolition and construction-related waste.

As indicated previously, inert disposal capacity is anticipated to be available well beyond the 2015 planning horizon. Therefore, impacts with respect to construction and demolition solid waste would be less than significant.

### 4.19.6.3 Alternative B - Added Runway South

As with Alternative A, both passenger and cargo activity would increase at LAX under Alternative B. Alternative B would also include development of Westchester Southside. Existing uses in the acquisition areas would be demolished. (Uses within the ANMP properties, Belford and Manchester Square, will be demolished as part of a separate action being undertaken by LAWA.) The land within these areas would be incorporated into the Master Plan. Alternative B would also include development of Westchester Southside.

**Table 4.19-2** shows that, under Alternative B, solid waste generation for airport-related land uses would decrease 8,306 tpy below the environmental baseline by 2005 (a 21 percent decrease). By 2015, solid waste generation would increase 3,500 tpy over the environmental baseline (a 9 percent increase). Westchester Southside solid waste generation would be 1,453 tpy by 2005 and 3,633 tpy by 2015. Solid waste generation at the off-site fuel farm would be negligible.

Total solid waste generation within the Master Plan boundaries under Alternative B would decrease by 19,007 tpy below the environmental baseline (a 36 percent decrease) by 2005, and would decrease by 5,021 tpy below the environmental baseline by 2015 (a 10 percent decrease). In both 2005 and 2015, total solid waste generation within the Master Plan boundaries would be less than that under the No Action/No Project Alternative.

Under Alternative B, solid waste generation for airport-related land uses would be the same as that of the No Action/No Project Alternative by 2005. By 2015, solid waste generation would increase 11,186 tpy above the No Action/No Project Alternative (a 34 percent increase).

Similar to Alternative A, the decrease in solid waste as compared to the environmental baseline is partly due to the ongoing acquisition and demolition of existing land uses within Belford and Manchester Square and the planned acquisition of additional land for Master Plan development. It is also partly due to compliance with AB 939 diversion requirements, including the LAX on-site recycling program and

participation in the city's diversion program. The development of Westchester Southside and the increase in passengers and cargo tonnage would partially offset this decrease. Overall solid waste generation would decrease as compared to baseline conditions. Because solid waste generation within the Master Plan boundaries is projected to decrease under Alternative B, the impact would be less than significant.

In addition to existing programs aimed at reducing waste generation, LAWA would implement Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, to enhance the current on-site recycling program, extend recycling requirements to tenants, and address the procurement of recycled materials. With the continuation of existing recycling programs and implementation of Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, Alternative B would not conflict with solid waste policies and objectives intended to help achieve the requirements of AB 939.

Construction and demolition activities for Alternative B would generate a substantial amount of solid waste requiring disposal. **Table 4.19-3** shows solid waste generation projections for this alternative. As indicated in the table, under Alternative B, overall solid waste generation due to demolition would total 560,823 tons by 2005 and 114,516 tons between 2006 and 2015. Total solid waste generation due to new construction would be 177,674 tons by 2005 and 24,000 tons between 2006 and 2015.

As inert disposal capacity is anticipated to be available well beyond the 2015 planning horizon, impacts with respect to construction and demolition solid waste would be less than significant.

#### **4.19.6.4 Alternative C - No Additional Runway**

As with Alternatives A and B, both passenger and cargo activity would increase at LAX under Alternative C. Alternative C would include development of Westchester Southside. Existing uses in the acquisition areas would be demolished. (Uses within the ANMP properties, Belford and Manchester Square, will be demolished as part of a separate action being undertaken by LAWA). The land within these areas would be incorporated into the Master Plan development of Alternative C and would also include development of Westchester Southside.

**Table 4.19-2** shows that, under Alternative C, solid waste generation for airport-related land uses would decrease 8,306 tpy below the environmental baseline by 2005 (a 21 percent decrease). By 2015, solid waste generation would increase 288 tpy over the environmental baseline (a less than 1 percent increase). Westchester Southside solid waste generation would be 1,453 tpy by 2005 and 3,633 tpy by 2015.

Total solid waste generation within the Master Plan boundaries under Alternative C would decrease by 14,524 tpy below the environmental baseline (a 28 percent decrease), and would decrease by 3,750 tpy below the environmental baseline by 2015 (a 7 percent decrease). In both 2005 and 2015, total solid waste generation within the Master Plan boundaries would be less than that under the No Action/No Project Alternative.

Under Alternative C, solid waste generation for airport-related land uses would be the same as that of the No Action/No Project Alternative by 2005. By 2015, solid waste generation would increase 7,974 tpy above the No Action/No Project Alternative (a 25 percent increase).

The decrease in solid waste generation as compared to the environmental baseline is partly due to the ongoing acquisition and demolition of existing land uses within Belford and Manchester Square and the planned acquisition of additional land for Master Plan development, and partly due to compliance with AB 939 diversion requirements, including the LAX on-site recycling program and participation in the city's diversion program. The development of Westchester Southside and the increase in passengers and cargo tonnage would partially offset this decrease. Overall solid waste generation would decrease as compared to baseline conditions. Because solid waste generation within the Master Plan boundaries is projected to decrease under Alternative C, the impact would be less than significant.

In addition to existing programs aimed at reducing waste generation, LAWA would implement Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, to enhance the current on-site recycling program, extend recycling requirements to tenants, and address the procurement of recycled materials. With the continuation of existing recycling programs and implementation of Master Plan Commitment SW-1, Implement an Enhanced Recycling Program, Alternative C would not conflict with solid waste policies and objectives intended to help achieve the requirements of AB 939.

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Construction and demolition activities for Alternative C would generate a substantial amount of solid waste requiring disposal. **Table 4.19-3** shows solid waste generation projections for this alternative. As indicated in the table, under Alternative C, overall solid waste generation due to demolition would total 359,204 tons by 2005 and 36,468 tons between 2006 and 2015. Total solid waste due to new construction would be 28,090 tons by 2005 and 18,004 tons between 2006 and 2015.

As inert disposal capacity is anticipated to be available well beyond the 2015 planning horizon, impacts with respect to construction and demolition solid waste would be less than significant.

### 4.19.7 Cumulative Impacts

As discussed under Section 4.19.3, *Affected Environment/Environmental Baseline*, solid waste generation at LAX results from a number of activities, including on-airport uses, passenger activities, LAWA uses, and tenant activities. Solid waste in the City of Los Angeles is disposed of at regional landfills. Many of these landfills are nearing capacity or the end of their permits. Extensions are being sought at several landfills, and the County of Los Angeles is pursuing development of rail-haul facilities outside the county. However, future capacity at these landfills is not assured and future permitted landfill capacity is severely constrained.

#### 4.19.7.1 **No Action/No Project Alternative**

Under the No Action/No Project Alternative, aircraft operations, passenger activity, and cargo handling would increase and LAX Northside and Continental City would be developed. However, due to compliance with AB 939, total solid waste generation for airport related land uses would decrease as compared to the environmental baseline. Additionally, on-going acquisition of properties by LAWA within the Manchester Square and Belford areas would further reduce solid waste generation in the immediate area with the displacement of 148 acres of residential uses.

The most sizable related project in the immediate vicinity of LAX is the Playa Vista Project, which, combined with development of LAX Northside, could result in cumulative impacts to regional landfills through increased solid waste generation. Other projects in the vicinity, relocated residents from Manchester Square, and overall forecast growth throughout the region would place an additional demand on regional landfills. As addressed in Section 4.19.3, *Affected Environment/Environmental Baseline*, plans are underway by several public entities and private companies for the development of landfills and rail haul facilities in remote areas outside Los Angeles County. Although the city and county are seeking other landfill options, future capacity at these landfills is not assured, and future permitted capacity is severely constrained.

#### 4.19.7.2 **Alternatives A, B, and C**

Although airport activities would increase under the build alternatives, with the acquisition and demolition of land uses within the Master Plan boundaries, and compliance with AB 939, total solid waste generated within the Master Plan boundaries would decrease as compared to the environmental baseline. As a result, impacts relative to solid waste generation would be less than significant.

The build alternatives would have indirect effects on solid waste due to project-related increases in population associated with direct employment. This population increase could range from 38,017 to 86,806 within the five county region, which would represent less than one percent of forecast growth from 1996 to 2015. Within a ten mile radius of LAX, population growth associated with new employment at LAX would represent two to five percent of forecast growth. A component of this growth would consist of residents and businesses that would be relocated within the region due to acquisition associated with the build alternatives. This increase in population, in combination with relocation of residents from Manchester Square and overall forecast growth, would increase regional solid waste generation. Because it is uncertain whether there would be enough landfill capacity to support this growth, the impact of increased population and resulting increases in solid waste generation would result in a potentially significant impact.

Impacts from other projects could also occur as a result of future development in the vicinity of LAX. As indicated above, the most notable major project in proximity to LAX is Playa Vista. Development of Playa Vista would exacerbate demands on constrained regional landfills. Other projects within the region, including the development of Manchester Square with light industrial uses under Alternative A, would have similar increases.

Projected direct and indirect population growth, in conjunction with other regional projects, would result in cumulative increases to solid waste generation within the Los Angeles region. As indicated in Section 4.19.7.1, *No Action/No Project Alternative*, it is uncertain whether there will be enough landfill capacity to support this growth through the year 2015. Therefore, impacts associated with cumulative increases in solid waste generation would be potentially significant.

#### **4.19.8 Mitigation Measures**

Although total solid waste generation within the Master Plan boundaries associated with Alternatives A, B, and C would be less than that under the environmental baseline, LAWA would implement Master Plan Commitments SW-1, SW-2, and SW-3 to reduce airport-related solid waste generation from these alternatives. As a result, Alternatives A, B, and C would not have any significant impacts relative to project-related solid waste generation, and no mitigation would be required.

The following Mitigation Measure is recommended to reduce cumulative solid waste impacts:

◆ **MM-SW-1. Provide Landfill Capacity.**

Additional landfill capacity in the Los Angeles region should be provided through the siting of new landfills, the expansion of existing landfills, or the extension of permits for existing facilities. As an alternative, or to augment regional landfill capacity, landfill capacity outside the region could be accessed by developing the necessary rail haul infrastructure. The responsibility for implementing this Mitigation Measure lies with state, county, and local solid waste planning authorities. The costs for implementing this Mitigation Measure would be passed on to LAX and other solid waste generators through increased solid waste disposal costs.

#### **4.19.9 Level of Significance After Mitigation**

Cumulative impacts from development of Alternatives A, B, and C could be mitigated through implementation of MM-SW-1, Provide Landfill Capacity. Implementation of this Mitigation Measure is the responsibility of another agency (or agencies). If this Mitigation Measure is not fully implemented, cumulative impacts associated with solid waste generation and disposal would remain significant.

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