Los Angeles World Airports

ENVIRONMENTAL PROGRAMS GROUP

LAX SPECIFIC PLAN AVIATION ACTIVITY ANALYSIS REPORT

CY 2018

Prepared May 2019

Los Angeles International Airport (LAX)
Specific Plan Compliance Review
Aviation Activity Analysis
January - December 2018

A. Purpose of this Report

Per Appendix A, Subsection 1(b) of the Los Angeles International Airport Specific Plan,[1] Los Angeles World Airports (LAWA) is required to prepare and submit an annual Aviation Activity Analysis Report to the Board of Airport Commissioners, the Department of City Planning, the Los Angeles Department of Transportation, and the Los Angeles City Council. The purpose of this report is: 1) to provide an analysis that identifies the current number of passengers, volume of air cargo and aircraft operations served at LAX; and 2) to compile aviation activity statistics for other airports in the Los Angeles region for monitoring and reporting purposes. This Aviation Activity Analysis Report has been updated for the calendar year 2018.

B. Summary and Conclusions

An analysis of LAX and regional air traffic activity for January through December 2018 led to the following conclusions:

- Preliminary data reported by individual airports indicates that LAX is the fourth busiest airport in the world by passenger volume and the second busiest in the United States.
- Passenger volume at LAX totaled approximately 87.53 million annual passengers (MAP) in 2018, a 3.52% increase compared to the previous year.
- Load factor for departures from LAX was 86.51% for international flights and 81.94% for domestic flights. This represents a decrease in load factor of 0.76% for international flights and an increase in 0.44% for domestic flights when compared to 2017.
- Load factor for arrivals at LAX was 86.04% for international flights and 82.62% for domestic flights. This represents a decrease in load factor of 0.75% for international flights and an increase in 1.30% for domestic flights when compared to 2017.
- Cargo volume at LAX totaled approximately 2.45 million tons in 2018, a 2.37% increase over 2017.
- Commercial aircraft operations (landings and takeoffs) at LAX increased by 1.07% in 2018 to 707,833 from 700,362 operations in 2017.
- LAX handled 76.26% of passenger traffic among the six major commercial Southern California Association of Governments (SCAG) region airports in 2018, a 0.51% decrease from 2017.

[1] City of Los Angeles, Department of City Planning, LAX Specific Plan, adopted January 20, 2005, last amended September 8, 2017.

C. LAX Global and National Ranking

Table 1. Top 20 World Airports Ranked by Passenger Volume
(preliminary rankings as reported by individual airports, April 9, 2019)

U.S. Rank	Global Rank	Airport	Location	Total Passengers
1	1	Hartsfield–Jackson Atlanta International	Atlanta, Georgia, U.S.A.	107,394,029
	2	Beijing Capital International	Beijing, China	100,983,290
	3	Dubai International	Dubai, U.A.E.	89,149,387
2	4	Los Angeles International	Los Angeles, California, U.S.A.	87,534,384
	5	Tokyo Haneda International	Tokyo, Japan	87,131,973
3	6	O'Hare International	Chicago, Illinois, U.S.A.	83,339,186
	7	London Heathrow	London, United Kingdom	80,126,320
	8	Hong Kong International	Hong Kong, China	74,517,402
	9	Shanghai Pudong International	Shanghai, China	74,006,331
	10	Paris-Charles de Gaulle	Paris, France	72,229,723
	11	Amsterdam Schiphol	Amsterdam, Netherlands	71,053,147
	12	Indira Gandhi International	New Delhi, India	69,900,938
	13	Guangzhou Bai Yun International	Guangzhou, China	69,769,497
	14	Frankfurt Airport	Frankfurt, Germany	69,510,269
4	15	Dallas/Fort Worth International	Dallas-Fort Worth, Texas, U.S.A.	69,112,607
	16	Seoul Incheon International	Incheon, Republic of Korea	68,350,784
	17	Istanbul Atatürk	Istanbul, Turkey	68,192,683
	18	Soekarno-Hatta International	Jakarta, Indonesia	66,908,159
	19	Singapore Changi Airport	Singapore	65,628,000
5	20	Denver International	Denver, Colorado, U.S.A.	64,494,613

Data Source: Airports Council International (ACI) – World

Table 2. Top 15 U.S. Airports Ranked by Passenger Volume
(preliminary rankings as reported by individual airports, April 9, 2019)

U.S. Rank	Global Rank	Airport	Location	Total Passengers
1	1	Hartsfield–Jackson Atlanta International	Atlanta, Georgia	107,394,029
2	4	Los Angeles International	Los Angeles, California	87,534,384
3	6	O'Hare International	Chicago, Illinois	83,339,186
4	15	Dallas/Fort Worth International	Dallas-Fort Worth, Texas	69,112,607
5	20	Denver International	Denver, Colorado	64,494,613
6	22	John F. Kennedy International	Queens, New York	61,623,756
7	25	San Francisco International	San Francisco, California	57,708,196
8	29	McCarran International	Las Vegas, Nevada	49,863,090
9	30	Seattle-Tacoma International	SeaTac, Washington	49,849,520
10	34	Orlando International	Orlando, Florida	47,694,573
11	37	Charlotte Douglas International	Charlotte, North Carolina	46,446,721
12	40	Newark Liberty International	Newark, New Jersey	46,065,175
13	42	Miami International	Miami, Florida	45,044,312
14	43	Phoenix Sky Harbor International	Phoenix, Arizona	44,943,686
15	47	George Bush Intercontinental	Houston, Texas	43,807,539

Data Source: Airports Council International (ACI) – World

D. LAX Air Traffic Activity

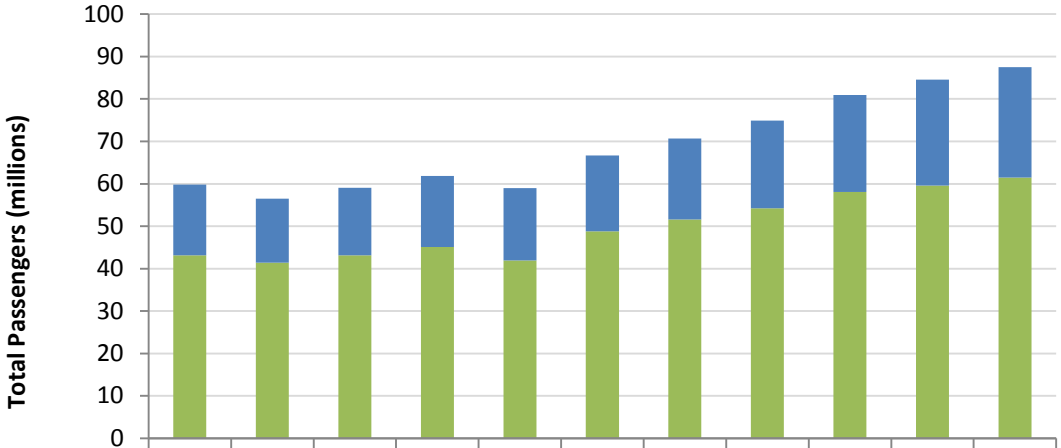
Los Angeles World Airports (LAWA) reports air traffic activity on a monthly basis, and keeps an archive of this activity online at https://www.lawa.org/en/lawa-investor-relations/statistics-for-lax. The subpages entitled "Air Traffic Ten Year Summary" and "Volume of Air Traffic" provides air passenger, air cargo and aircraft operations activity statistics for Los Angeles International Airport for the calendar year 2018.

E. LAX Passenger Volume

As shown below in Figure 1, LAX passenger volume totaled approximately 87.53 million annual passengers (MAP) in 2018, a 3.52% increase over 2017. [2]

International passenger volume was approximately 26.05 MAP for 2018, a 4.45% increase over the previous record high of 24.94 MAP in 2017. Domestic passenger volume is up 3.13% over 2017, from approximately 59.61 MAP in 2017 to 61.48 MAP in 2018.

Figure 1. LAX Annual Passengers 2008-2018



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International Passengers	16.69	15.10	15.94	16.73	17.10	17.85	19.11	20.74	22.85	24.94	26.05
Domestic Passengers	43.13	41.42	43.13	45.13	41.92	48.82	51.56	54.20	58.07	59.61	61.48

Data Source: LAWA, Financial Management Systems, *Revenue Agreement Management System (*aka PROPworks™).

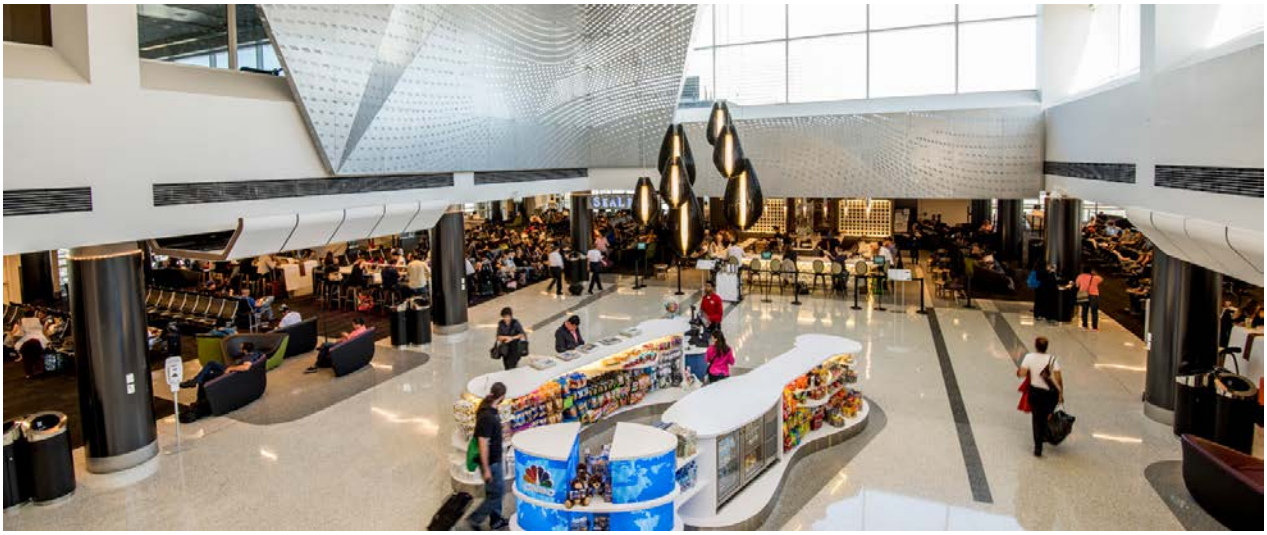


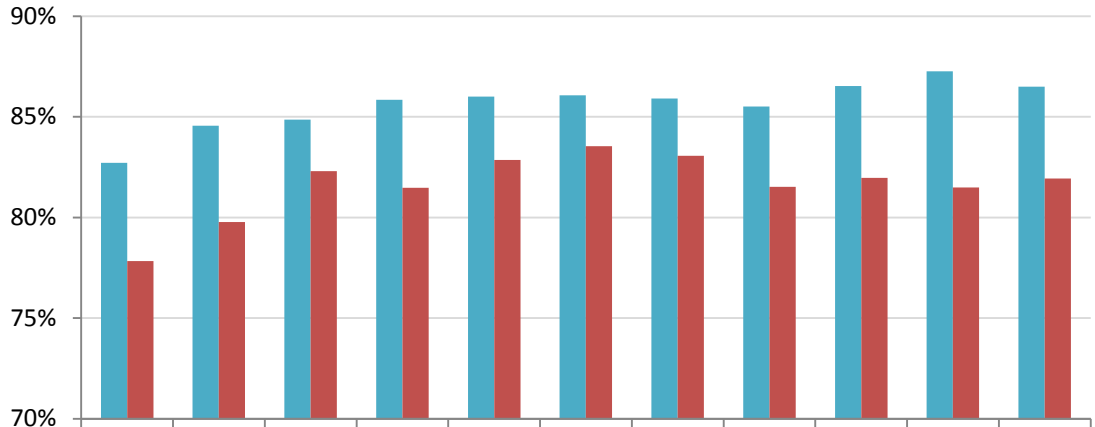
Photo Credit: Los Angeles World Airports (LAWA)

[2] The 2017 LAX passenger numbers were revised by Los Angeles World Airports (LAWA).

F. Load Factor

Load factor is the proportion of available seats filled per aircraft that measures how much passenger carrying capacity is used. Load factor is calculated by dividing Revenue Passenger Miles[3] by the Available Seat Miles.[4] Figure 2a below shows the change in load factor for aircraft departing LAX for the past decade, while Figure 2b shows the change in load factor for aircraft arriving at LAX for the same timeframe.[5] In 2018, load factor for departures from LAX decreased by 0.76% for international flights and increased by 0.44% for domestic flights. For arrivals at LAX load factor decreased by 0.75% for international flights and increased by 1.30% for domestic flights when compared to 2017.

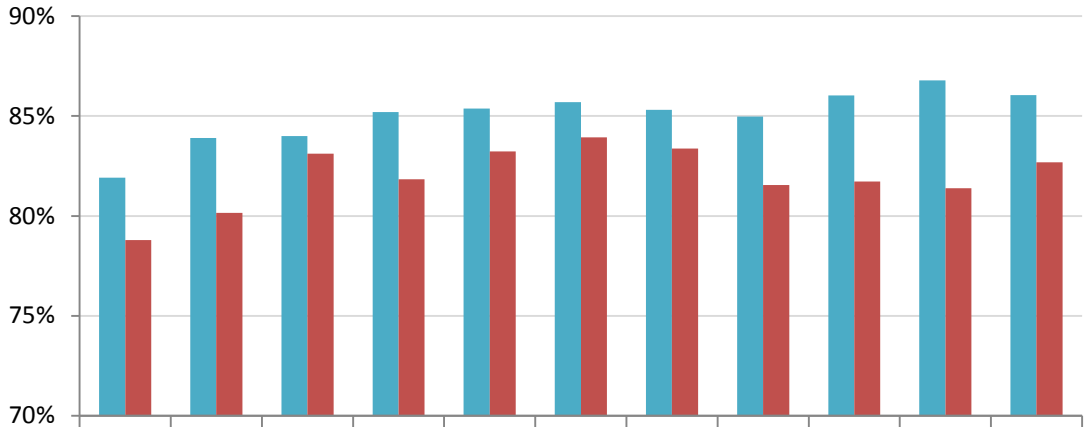
Figure 2a. Load Factor for Departures from LAX 2008-2018



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International	82.71%	84.56%	84.86%	85.85%	86.01%	86.07%	85.91%	85.51%	86.53%	87.27%	86.51%
Domestic	77.83%	79.77%	82.30%	81.48%	82.86%	83.54%	83.07%	81.52%	81.97%	81.50%	81.94%

Data Source: Bureau of Transportation Statistics T-100 Segment Data

Figure 2b. Load Factor for Arrivals to LAX 2008-2018



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International	81.92%	83.90%	83.99%	85.19%	85.38%	85.70%	85.31%	84.97%	86.03%	86.79%	86.04%
Domestic	78.80%	80.16%	83.11%	81.84%	83.23%	83.94%	83.38%	81.54%	81.72%	81.39%	82.69%

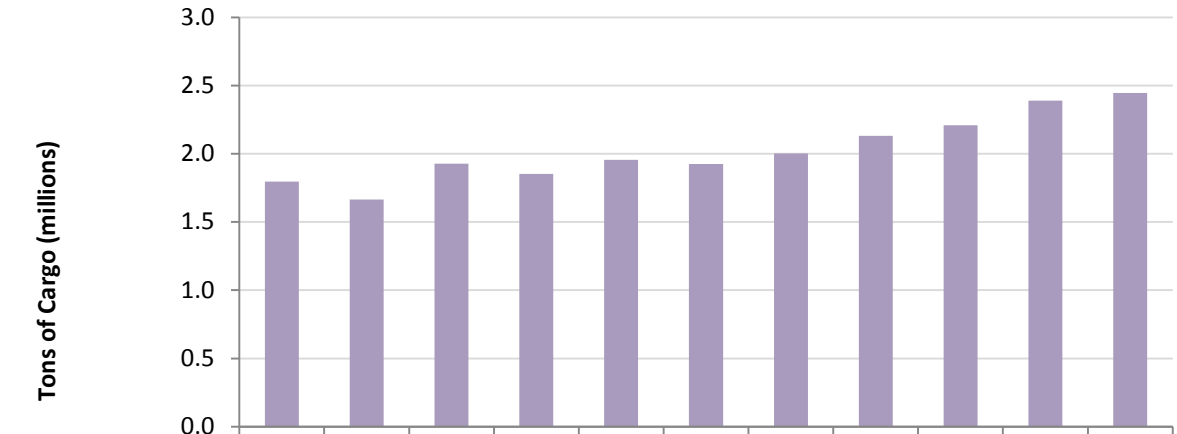
Data Source: Bureau of Transportation Statistics T-100 Segment Data

[3] Revenue Passenger Miles show the number of miles traveled by paying passengers. It is calculated as the number of paying passengers multiplied on a flight by the total distance traveled.
[4] Available Seat Miles is the total passenger capacity of an airline in miles and is captured by multiplying the total number of seats available on a flight and the total number of miles in which those seats were flown during scheduled flights.
[5] 2018 percentages are based on available data from January 2018 through September 2018.

G. LAX Cargo Volume

Cargo volume in 2018 totaled approximately 2.45 million tons, a 2.37% increase over 2017. Figure 3 below shows historical cargo volumes for LAX over the past ten years.

Figure 3. LAX Annual Cargo Tonnage 2008-2018



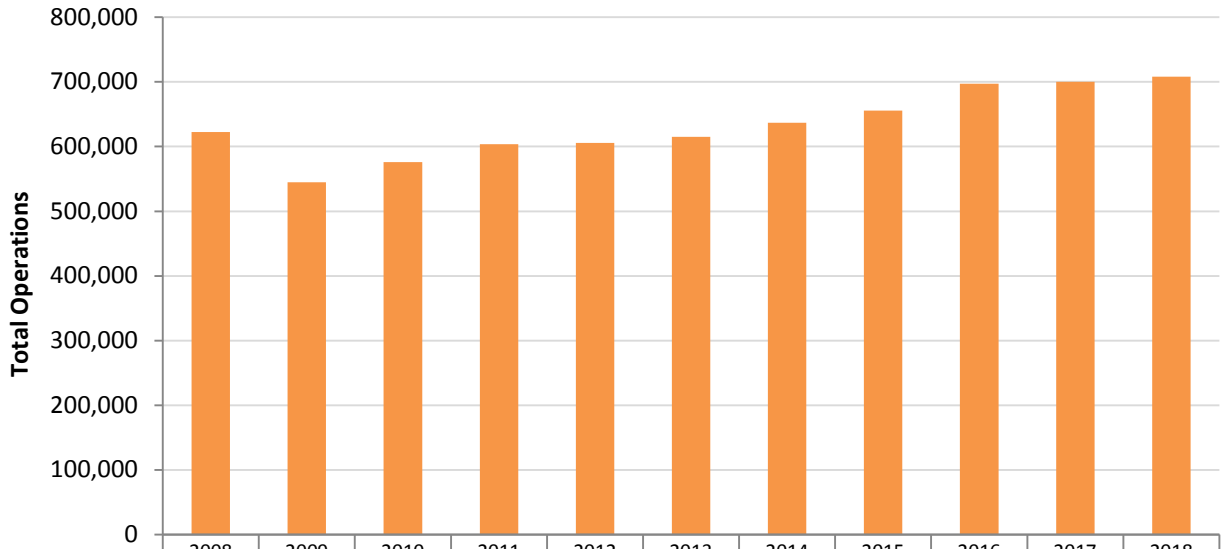
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Cargo Tonnage	1.80	1.66	1.93	1.85	1.96	1.93	2.00	2.13	2.21	2.39	2.45

Data Source: LAWA, Financial Management Systems, *Revenue Agreement Management System (*aka PROPworks™).

H. LAX Aircraft Operations

Figure 4 below shows the change in aircraft operations activity at LAX for the past decade. The number of aircraft operations (landings and takeoffs) totaled 707,833 in 2018, up 1.07% from 700,362 commercial operations in 2017.

Figure 4. LAX Annual Operations 2008-2018



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Operations	622,506	544,833	575,835	603,912	605,480	614,917	636,706	655,564	697,138	700,362	707,833

Data Source: LAWA, Financial Management Systems, *Revenue Agreement Management System (*aka PROPworks™).

I. Aviation Activity in the SCAG Metropolitan Planning Region

There are six major commercial airports in the Southern California Association of Governments (SCAG) metropolitan planning region:[6]

1) Hollywood Burbank Airport (BUR)
2) Los Angeles International Airport (LAX)
3) Long Beach Airport (LGB)
4) Ontario International Airport (ONT)
5) Palm Springs International Airport (PSP)
6) John Wayne Airport (SNA)

These airports served approximately 114.79 million annual passengers in 2018 (up 4.21% from 110.16 million annual passengers in 2017) and approximately 2.64 million tons of cargo/mail in 2018. The six major SCAG region airports had about 2.22 million aircraft operations in 2018. LAX handled approximately 76.26% of regional passenger volume among the six airports in 2018.

The tables below summarize 2017 and 2018 air passengers, cargo/mail tonnage, and aircraft operations totals by airport in absolute numbers (Table 3) and the percentage of total (Table 4). An aircraft operation is defined as an arrival or departure of one aircraft at an airport.

Table 3. 2017 and 2018 Aviation Activity at the Six Major SCAG Region Airports

Airport	2018			2017[7]		
	Passengers	Cargo/Mail (Tons)	Total Operations	Passengers	Cargo/Mail (Tons)	Total Operations
BUR	5,263,972	54,704	132,023	4,739,466	54,453	131,661
LAX	87,534,384	2,446,137	707,833	84,557,968	2,389,474	700,362
LGB	3,884,721	23,848	256,254	3,783,805	25,335	302,350
ONT	5,115,894	100,454	751,529	4,552,225	654,378	97,380
PSP	2,327,018	198	57,667	2,100,072	173	51,814
SNA	10,664,038	19,543	316,783	10,423,578	18,888	293,649
Total	**114,790,027**	**2,644,884**	**2,222,089**	**110,157,114**	**3,142,701**	**1,577,275**

Data Source: Individual airport's statistical reports and correspondence, FAA ATADS, and SCAG

Table 4. 2017 and 2018 Aviation Activity at the Six Major SCAG Region Airports (by percentage of total)

Airport	2018			2017[8]		
	Passengers	Cargo/Mail (Tons)	Total Operations	Passengers	Cargo/Mail (Tons)	Total Operations
BUR	4.59%	2.07%	5.94%	4.30%	1.73%	8.35%
LAX	76.26%	92.49%	31.85%	76.76%	76.03%	44.40%
LGB	3.38%	0.90%	11.53%	3.43%	0.81%	19.17%
ONT	4.46%	3.80%	33.82%	4.13%	20.82%	6.17%
PSP	2.03%	0.01%	2.60%	1.91%	0.01%	3.29%
SNA	9.29%	0.74%	14.26%	9.46%	0.60%	18.62%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Data Source: Individual airport's statistical reports and correspondence, FAA ATADS, and SCAG

[6] The SCAG region encompasses Los Angeles, Orange, Ventura, San Bernardino, Riverside, and Imperial Counties.
[7] The 2017 passenger and operations numbers in Table 3 were revised to reflect updated data published and/or provided by each airport, the FAA, and/or SCAG.
[8] The 2017 percentages in Table 4 were recalculated with the updated 2017 numbers in Table 3.

Table 5 below shows each airport's share of regional air passenger traffic from 1998 to 2018.

Table 5. Share of Passenger Activity at the Six Major SCAG Region Airports from 1998-2018 (by percentage of total)[9]

Year	LAX	ONT	LGB	SNA	BUR	PSP	Regional Total
1998	74.9%	7.9%	0.8%	9.1%	5.8%	1.5%	100%
1999	75.4%	7.7%	1.0%	8.8%	5.6%	1.5%	100%
2000	76.1%	7.6%	0.7%	8.8%	5.3%	1.4%	100%
2001	75.2%	8.2%	0.7%	8.9%	5.5%	1.4%	100%
2002	72.2%	8.4%	1.9%	10.2%	5.9%	1.4%	100%
2003	69.7%	8.3%	3.6%	10.8%	6.0%	1.6%	100%
2004	70.5%	8.1%	3.4%	10.8%	5.7%	1.6%	100%
2005	69.6%	8.2%	3.4%	10.9%	6.2%	1.6%	100%
2006	69.6%	8.0%	3.1%	11.0%	6.5%	1.7%	100%
2007	69.3%	8.0%	3.2%	11.1%	6.6%	1.8%	100%
2008	70.5%	7.3%	3.4%	10.6%	6.3%	1.8%	100%
2009	71.5%	6.2%	3.7%	11.0%	5.8%	1.9%	100%
2010	72.5%	5.9%	3.7%	10.6%	5.5%	1.8%	100%
2011	73.7%	5.4%	3.7%	10.3%	5.1%	1.8%	100%
2012	74.2%	5.0%	3.7%	10.3%	4.7%	2.0%	100%
2013	75.4%	4.5%	3.3%	10.4%	4.3%	2.0%	100%
2014	76.2%	4.4%	3.0%	10.1%	4.2%	2.1%	100%
2015	76.7%	4.3%	2.6%	10.4%	4.0%	1.9%	100%
2016	77.3%	4.1%	2.7%	10.0%	4.0%	1.9%	100%
2017[10]	76.8%	4.1%	3.4%	9.5%	4.3%	1.9%	100%
2018	76.3%	4.5%	3.4%	9.3%	4.6%	2.0%	100%

Data Source: Individual airport's statistical reports and correspondence, FAA ATADS, and SCAG

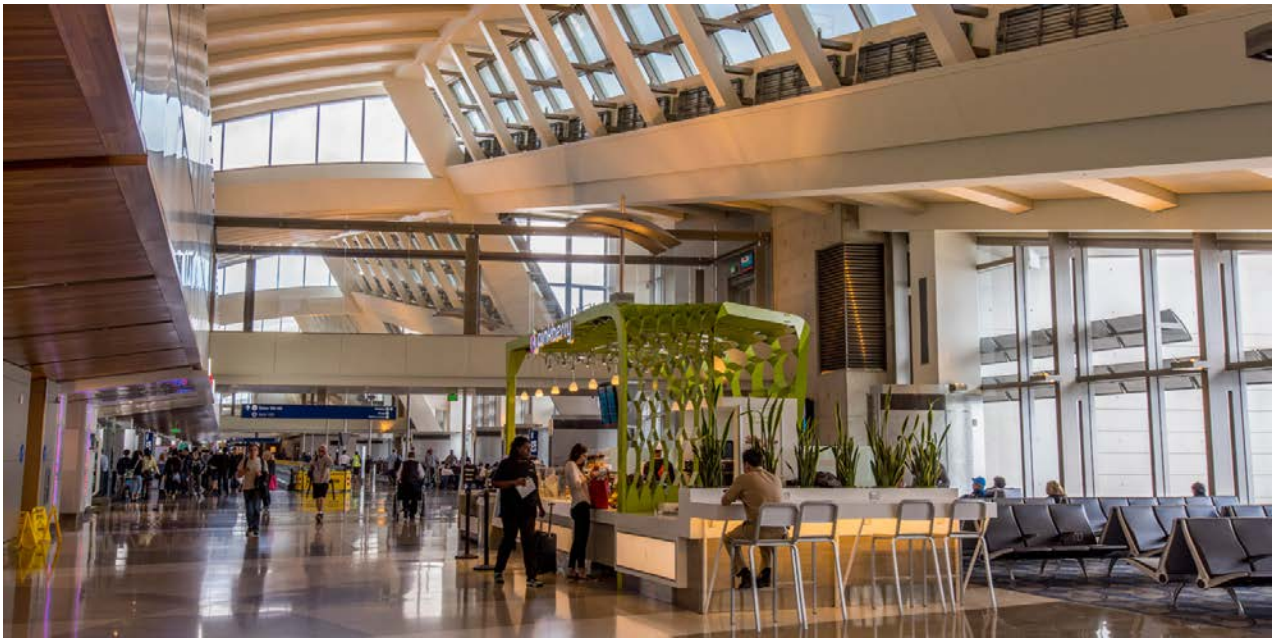


Photo Credit: Los Angeles World Airports (LAWA)

[9] Percentages are rounded to the nearest tenth.
[10] The 2017 percentages were recalculated with the updated passenger numbers in Table 3.