# ATTACHMENT 6

# AVIATION ACTIVITY REPORT

*Los Angeles World Airports*

# LAX SPECIFIC PLAN
# AVIATION ACTIVITY ANALYSIS
# REPORT
# CY 2016

**Prepared April 2017**

## Purpose of This Report

Per Section 7 Subsection G.1 (b), Monitoring and Reporting, of the Los Angeles International Specific Plan[1]. Los Angeles World Airports (LAWA) is required to prepare and submit an annual Aviation Activity Analysis Report to the Board of Commissioners, the Department of City Planning, Los Angeles Department of Transportation, and the City Council. This report is to include an "analysis that identifies the current number of passengers, volume of air cargo and aircraft operations served at LAX." The report is also 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 2016.

## Summary and Conclusions

An analysis of LAX and regional air traffic activity for January through December 2016 led to the following conclusions:

- Passenger volume at LAX totaled 80.92 Million Annual Passengers (MAP) in 2016, a 7.40% increase compared to the previous year.

- Cargo volume at LAX totaled 2.205 million tons in 2016, a 2.98% increase over 2015, with 2.141 million tons.

- Commercial aircraft operations (landings and takeoffs) at LAX increased by 6.34% in 2016 to 697,138 from 655,564 operations in 2015.

- LAX handled 77.3% of regional air passenger traffic in 2015, a 0.4% increase over 2015.

- Preliminary data reported by individual airports indicate LAX is the fourth busiest airport in the world by passenger volume and second busiest U.S. airport. See table, next page.



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[1] City of Los Angeles, Department of City Planning, LAX Specific Plan, adopted January 20, 2005, last amended June 16, 2016.

## Top 25 World Airports Ranked by Passenger Volume
(preliminary rankings as reported by individual airports, April 17, 2017)

| U.S. Rank | Global Rank | Airport | Location | Total Passengers |
|---|---|---|---|---|
| 1 | 1 | Hartsfield–Jackson Atlanta International | Atlanta, Georgia | 104,171,935 |
| | 2 | Beijing Capital International | Chaoyang-Shunyi, Beijing | 94,393,454 |
| | 3 | Dubai International | Garhoud, Dubai | 83,654,250 |
| 2 | 4 | Los Angeles International | Los Angeles, California | 80,921,527 |
| | 5 | Tokyo Haneda Airport | Ōta, Tokyo | 79,520,000 |
| 3 | 6 | O'Hare International Airport | Chicago, Illinois | 77,960,588 |
| | 7 | London Heathrow airport | London, England | 75,711,130 |
| | 8 | Hong Kong International | Chek Lap Kok, Hong Kong | 70,516,000 |
| | 9 | Shanghai Pudong International | Pudong, Shanghai | 66,002,414 |
| | 10 | Paris-Charles de Gaulle Airport | Roissy-en-France, France | 65,933,145 |
| 4 | 11 | Dallas/Fort Worth International | Dallas-Fort Worth, Texas | 65,670,697 |
| | 12 | Amsterdam Schiphol Airport | Amsterdam, Holland | 63,625,664 |
| | 13 | Frankfurt Airport | Frankfurt, Germany | 60,786,937 |
| | 14 | Istanbul Atatürk Airport | Yeşilköy, Istanbul | 60,119,215 |
| | 15 | Guangzhou Baiyun International | Baiyun-Huadu, Guangzhou, China | 59,732,147 |
| 5 | 16 | John F. Kennedy International | Queens, New York, New York | 58,956,288 |
| | 17 | Singapore Changi Airport | Changi, Singapore | 58,698,039 |
| 6 | 18 | Denver International | Denver, Colorado | 58,266,515 |
| | 19 | Seoul Incheon International | Incheon, South Korea | 57,765,397 |
| | 20 | Suvarnabhumi Airport | Bang Phli, Thailand | 55,892,428 |

## Top 15 U.S. Airports Ranked by Passenger Volume
(preliminary rankings as reported by individual airports, April 17, 2017)

| U.S. Rank | Global Rank | Airport | Location | Total Passengers |
|---|---|---|---|---|
| 1 | 1 | Hartsfield–Jackson Atlanta International | Atlanta, Georgia | 104,171,935 |
| 2 | 4 | Los Angeles International | Los Angeles, California | 80,921,527 |
| 3 | 6 | O'Hare International Airport | Chicago, Illinois | 77,960,588 |
| 4 | 11 | Dallas/Fort Worth International | Dallas-Fort Worth, Texas | 65,670,697 |
| 5 | 16 | John F. Kennedy International | Queens, New York, New York | 58,956,288 |
| 6 | 18 | Denver International | Denver, Colorado | 58,266,515 |
| 7 | 23 | San Francisco International | San Mateo County, California | 53,106,505 |
| 8 | 26 | McCarran International | Las Vegas, Nevada | 47,435,640 |
| 9 | 28 | Seattle-Tacoma International | SeaTac, Washington | 45,736,700 |
| 10 | 30 | Miami International | Miami-Dade County, Florida | 44,584,603 |
| 11 | 31 | Charlotte Douglas International | Charlotte, North Carolina | 44,422,022 |
| 12 | 34 | Phoenix Sky Harbor International | Phoenix, Arizona | 43,383,528 |
| 13 | 40 | Orlando International airport | Orlando, Florida | 41,923,399 |
| 14 | 44 | George Bush Intercontinental | Houston, Texas | 41,615,689 |
| 15 | 46 | Newark Liberty International | Newark, New Jersey | 40,351,331 |

## LAX Air Traffic Activity

Los Angeles World Airports (LAWA) reports air traffic activity on a monthly basis, and keeps an archive of activity online. The reports titled "Traffic Comparison Report (TCOM)" and the report titled "Volume of Air Traffic (VOAT)" provide air passenger, air cargo and aircraft operations activity statistics for Los Angeles International Airport for the Calendar Year 2016.
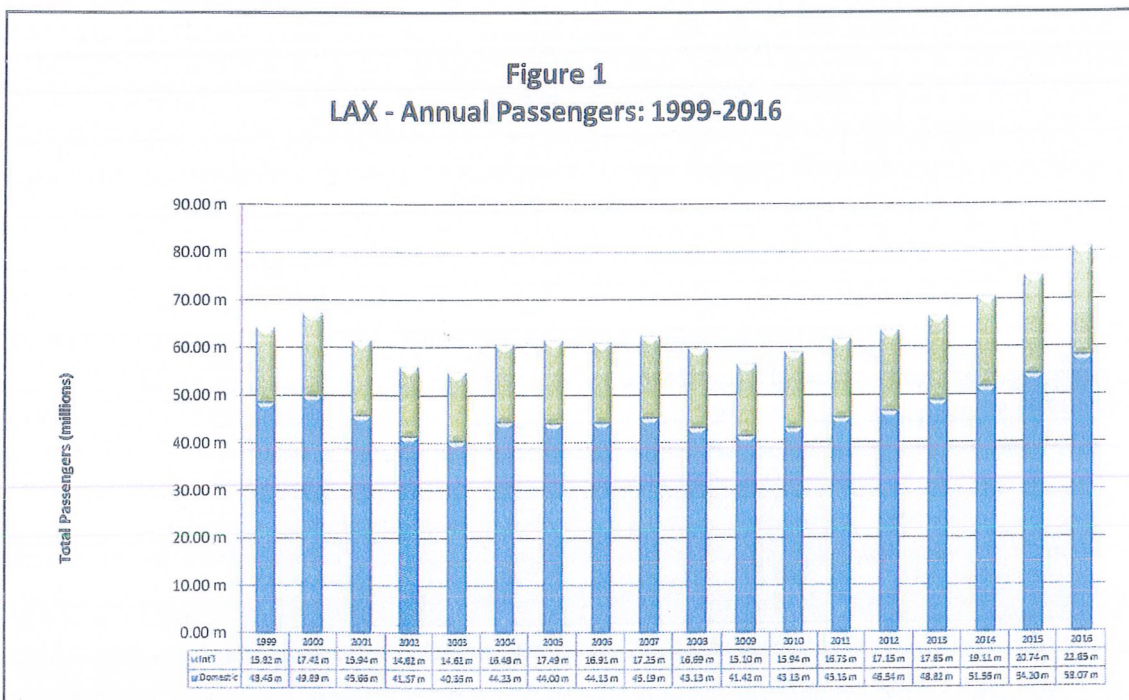
These reports are available on the LAWA website:
http://www.lawa.org/welcome_lax.aspx?id=798

## LAX Passenger Volume

As shown in Figure 1, LAX passenger volume totaled approximately 80.921 Million Annual Passengers (MAP) in 2016, a 7.40% increase over 2015.

In 2016, international passenger volume was 22,850,164 MAP. A 10.17% increase over the previous record high of 20,740,075 MAP in 2015. Domestic passenger volume is up 6.67% over calendar year 2015, from 54,196,181 air passengers in CY 2015 to 58,071,363 in CY2016.



**Figure 1**
**LAX - Annual Passengers: 1999-2016**

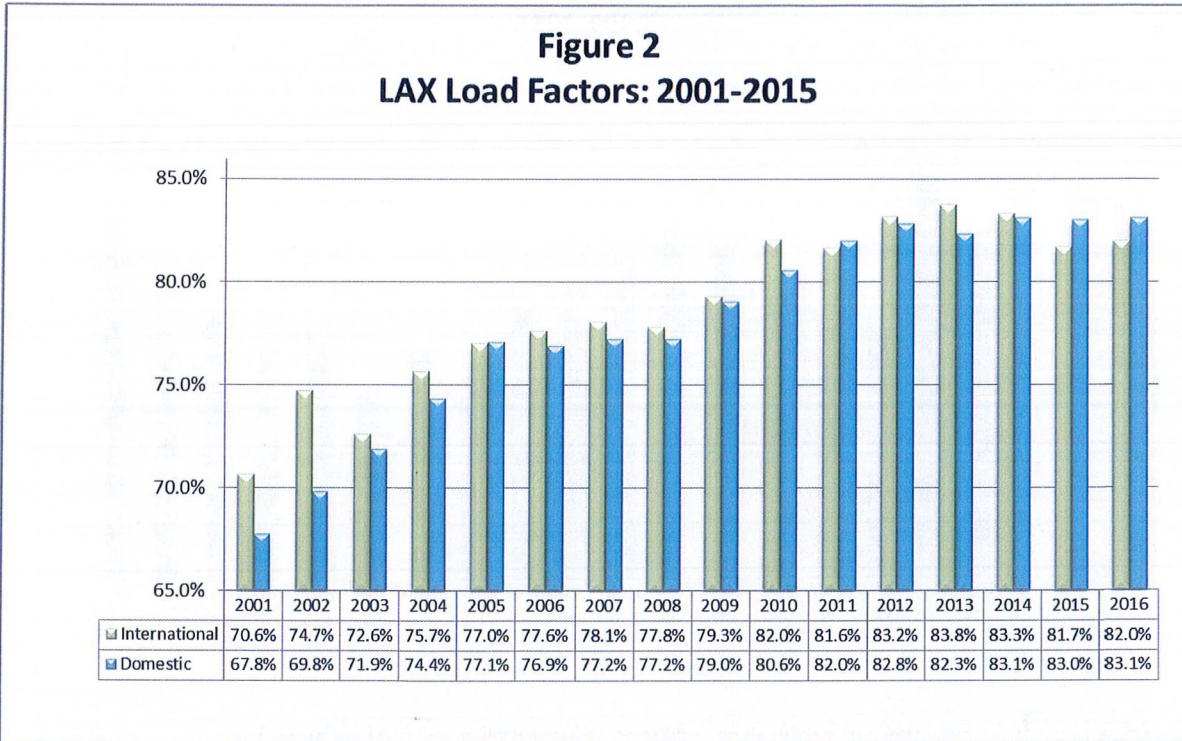| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Int'l | 15.82 m | 17.41 m | 15.94 m | 14.62 m | 14.61 m | 16.48 m | 17.49 m | 16.91 m | 17.25 m | 16.69 m | 15.10 m | 15.94 m | 16.73 m | 17.15 m | 17.85 m | 19.11 m | 20.74 m | 22.85 m |
| Domestic | 48.45 m | 49.89 m | 45.66 m | 41.57 m | 40.35 m | 44.33 m | 44.00 m | 44.13 m | 45.19 m | 43.13 m | 41.42 m | 43.13 m | 45.15 m | 46.54 m | 48.82 m | 51.56 m | 54.20 m | 58.07 m |

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

## LAX Average Load Factor

Load factor is the percentage of seats filled per aircraft. Average Load Factor is a calculation of the total number of air passengers at LAX divided by the total number of seats provided for all aircraft operations at LAX for the calendar year.

Below, Figure 2 - *"LAX Average Load Factor 2001-2016,"* shows the change in Average Load Factor at LAX since 2001.
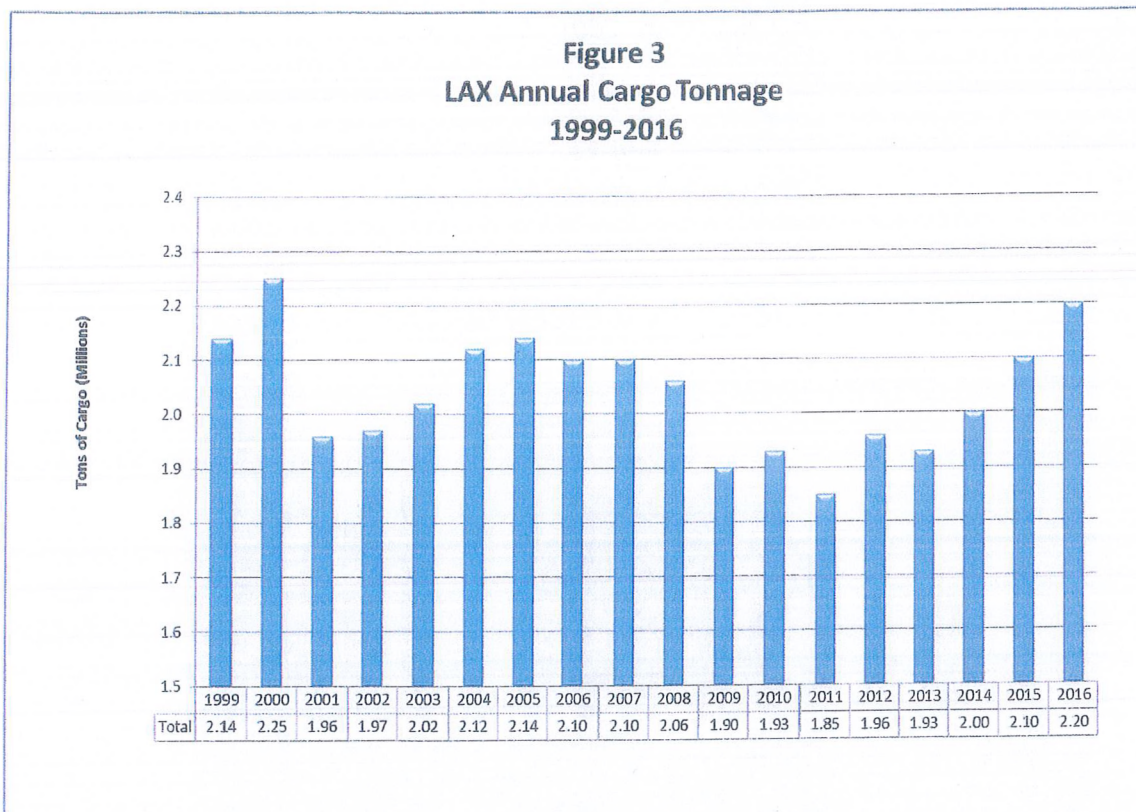
**Figure 2**
**LAX Load Factors: 2001-2015**

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| International | 70.6% | 74.7% | 72.6% | 75.7% | 77.0% | 77.6% | 78.1% | 77.8% | 79.3% | 82.0% | 81.6% | 83.2% | 83.8% | 83.3% | 81.7% | 82.0% |
| Domestic | 67.8% | 69.8% | 71.9% | 74.4% | 77.1% | 76.9% | 77.2% | 77.2% | 79.0% | 80.6% | 82.0% | 82.8% | 82.3% | 83.1% | 83.0% | 83.1% |

*\*Percentages are rounded up. Domestic passenger load factor based on available data through 9/2016 only.*
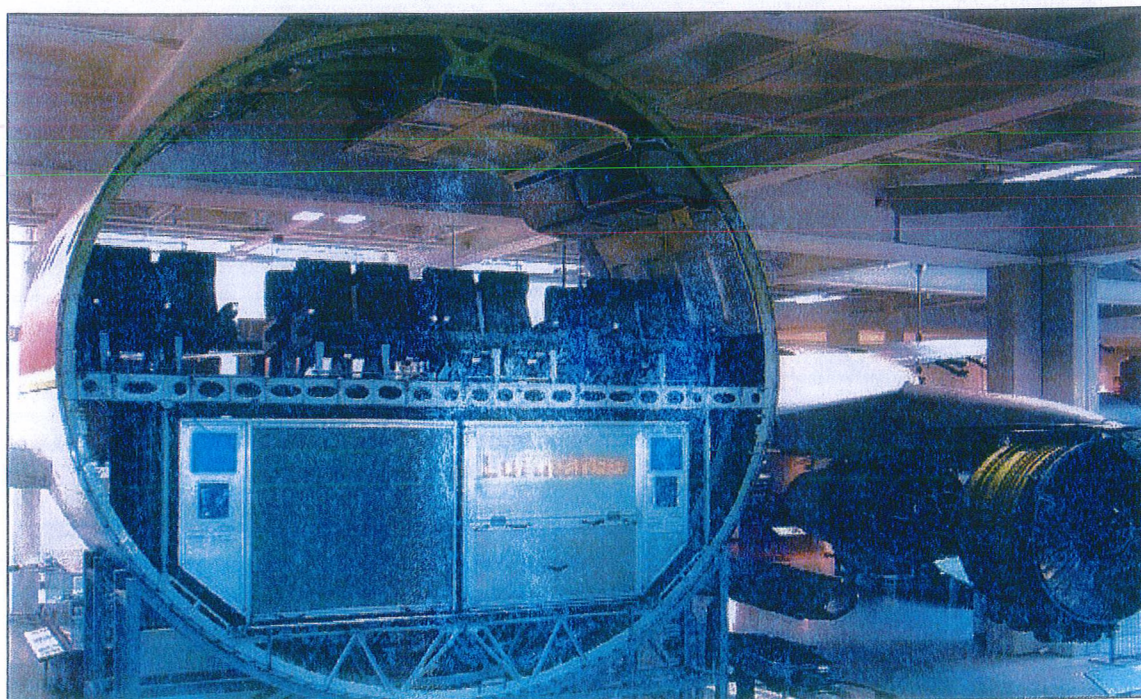*Data Source: USDOT T-100 Reports*

## LAX Cargo Volume

Total cargo volume in Calendar Year 2016 totaled 2,205,335 Million Annual Tons, a 2.98% increase over 2015. Figure 3 – "*LAX Annual Cargo Tonnage 1999-2016*" shows historical cargo volumes for LAX between 1999 and 2016.

**Figure 3**
**LAX Annual Cargo Tonnage**
**1999-2016**

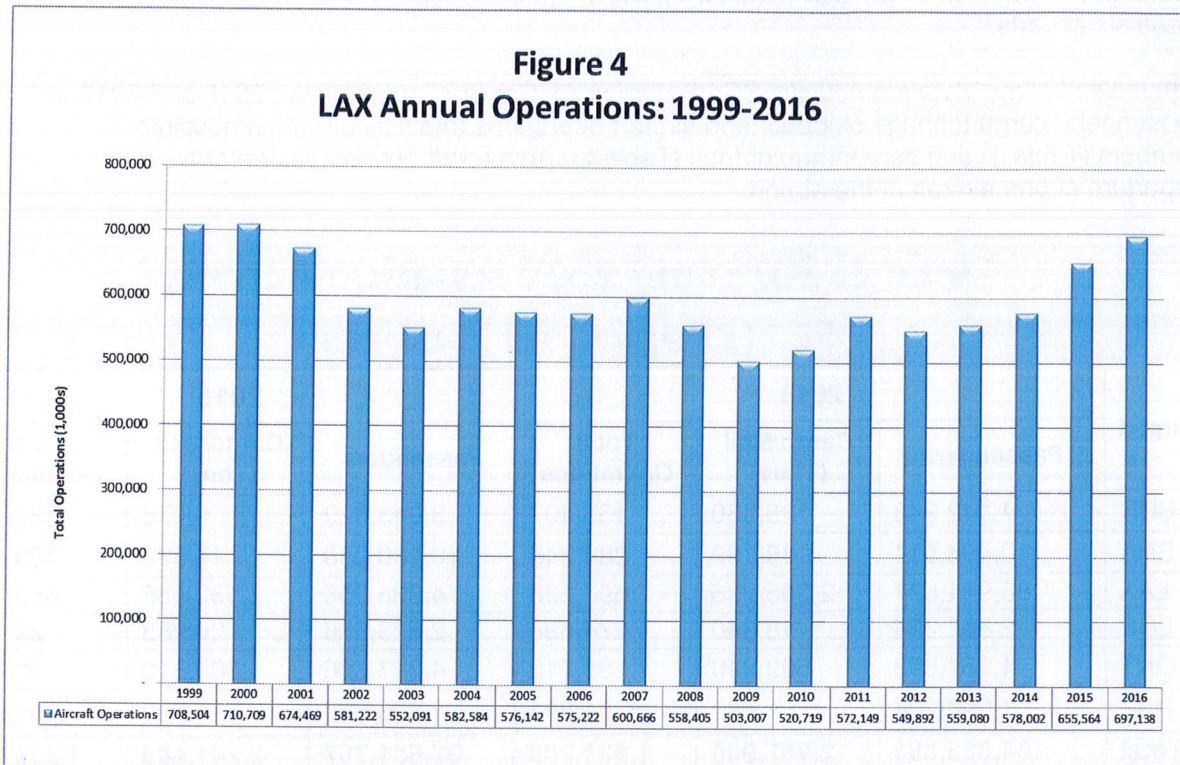| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 2.14 | 2.25 | 1.96 | 1.97 | 2.02 | 2.12 | 2.14 | 2.10 | 2.10 | 2.06 | 1.90 | 1.93 | 1.85 | 1.96 | 1.93 | 2.00 | 2.10 | 2.20 |

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

## LAX Commercial Aircraft Operations

*Figure 4 - "LAX Annual Operations 1999-2016"* shows the change in operations at LAX between 1999 and 2016. The number of aircraft operations (landings and takeoffs) totaled 697,138 in 2016, up from 655,564 commercial operations in 2015. A 6.34% increase.



**Figure 4**
**LAX Annual Operations: 1999-2016**

| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aircraft Operations | 708,504 | 710,709 | 674,469 | 581,222 | 552,091 | 582,584 | 576,142 | 575,222 | 600,666 | 558,405 | 503,007 | 520,719 | 572,149 | 549,892 | 559,080 | 578,002 | 655,564 | 697,138 |

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

## Aviation Activity in the Los Angeles Region

There are six primary commercial airports[2] in the Southern California region[3]. These airports in total served approximately 104,663,384 air passengers in 2016 (up 6.67% from the total of 97,681,797 air passengers in 2015) and approximately 2.8 million tons of air cargo in 2016. The six Southern California airports generated about 1.21 million commercial and private aircraft operations in 2016. In 2016, LAX handled 77.3% of the 2016 regional passenger volume at these six airports.

*The tables below, "Aviation Activity, SCAG Region Air Carriers"* summarizes 2015 and 2016 air passengers, cargo tonnage shipped, and aircraft operations totals by airport in absolute numbers (Table 1) and percentage of total (Table 2). An aircraft operation is an arrival or departure of one aircraft at the airport.

### Table 1: 2015 and 2016 Aviation Activity SCAG Region Air Carriers

| Airport | 2016 | | | 2015 | | |
|---|---|---|---|---|---|---|
| | Passengers | Cargo/Mail (Tons) | Total Operations | Passengers | Cargo/Mail (Tons) | Total Operations |
| BUR | 4,142,943 | 5,330 | 132,407 | 3,943,629 | 5,475 | 127,987 |
| SNA | 10,496,511 | 18,109 | 284,246 | 10,180,258 | 17,679 | 260,689 |
| LAX | 80,921,527 | 2,205,335 | 697,138 | 74,936,256 | 2,132,486 | 655,564 |
| LGB | 2,852,294 | 18,840 | 274,694 | 2,523,686 | 24,983 | 24,983 |
| ONT | 4,251,903 | 509,810 | 91,712 | 4,217,366 | 509,810 | 88,074 |
| PSP | 1,998,206 | 482 | 51,091 | 1,888,657 | 328 | 55,924 |
| Total | 104,663,384 | 2,757,906 | 1,531,288 | 97,681,797 | 2,741,483 | 1,213,274 |

Data Source: Individual airport's statistical reports

### Table 2: 2015 and 2016 Aviation Activity SCAG Region Air Carriers (by percentage of total)

| Airport | 2016 | | | 2015 | | |
|---|---|---|---|---|---|---|
| | Passengers | Cargo/Mail (Tons) | Total Operations | Passengers | Cargo/Mail (Tons) | Total Operations |
| BUR | 4.0% | 0.19% | 8.6% | 4.0% | 0.20% | 10.5% |
| SNA | 10.0% | 0.66% | 18.6% | 10.4% | 0.64% | 21.5% |
| LAX | 77.3% | 79.96% | 45.5% | 76.7% | 77.79% | 54.0% |
| LGB | 2.7% | 0.68% | 17.9% | 2.6% | 0.91% | 2.1% |
| ONT | 4.1% | 18.49% | 6.0% | 4.3% | 18.60% | 7.3% |
| PSP | 1.9% | 0.02% | 3.3% | 1.9% | 0.01% | 4.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 98.1% | 100.0% |

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[2] Los Angeles International Airport (LAX), Ontario International Airport (ONT), Long Beach Airport (LGB), Hollywood Burbank Airport (BUR), John Wayne Airport/Orange County (SNA), and Palm Springs International Airport (PSP).

[3] Los Angeles, Orange, Ventura, San Bernardino, Riverside, and Imperial Counties.

BUR: Burbank Bob Hope – Burbank, CA
SNA: John Wayne International – Orange County, Santa Ana, CA
LAX: Los Angeles International – Los Angeles, CA

LGB: Long Beach International – Long Beach, CA
ONT: Los Angeles/Ontario International – Ontario, CA
PSP: Palm Spring International – Palm Springs, CA

Table 3 - "Airport Share of Regional Passenger Traffic, SCAG Region Air Carriers 1996-2016" shows each airport's percentage share of regional air passenger traffic.

# Table 3: SCAG Region Air Carriers
# Passenger Activity: 2014 – 2016 (percentage of total)

| YEAR | Los Angeles (LAX) | Ontario (ONT) | Long Beach (LGB) | John Wayne (SNA) | Burbank (BUR) | Palm Springs (PSP) | Regional Total |
|------|------|------|------|------|------|------|------|
| 1996 | 74.4% | 8.0% | 0.6% | 9.4% | 6.2% | 1.4% | 100% |
| 1997 | 74.6% | 7.8% | 0.8% | 9.6% | 5.8% | 1.5% | 100% |
| 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% |

Data Source: Individual airport's statistical reports