LOS ANGELES WORLD AIRPORTS

**Los Angeles International Airport**

# Preferential Runway Use Policy Implementation Report Update

June 15, 2023

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## Introduction

Los Angeles World Airports (LAWA), as owner and operator of Los Angeles International Airport (LAX), must file quarterly noise reports that demonstrate LAWA's efforts to reduce noise impacts on surrounding communities pursuant to California Department of Transportation (Caltrans), Division of Aeronautics' Noise Standards[1]. In addition, LAWA is required to develop and implement programs to reduce the noise impact area associated with LAX operations over a reasonable period of time, and in the interim, LAWA must apply for a variance from the State's Noise Standards.

The current variance for LAX was issued to LAWA and went into effect on August 14, 2020. Order 6 of the variance imposes the following condition:

> *"Within three years from the effective date of the Order by Caltrans, LAX shall update its April 11, 2014 Report on Implementation of the Preferential Runway Use Policy at LAX to reevaluate conditions related to compliance with the policy, how the policy is implemented, and means for improving compliance. LAX will consult with operators, the FAA, and the LAX/Community Noise Roundtable as necessary in performing this analysis. LAX will draft an update to the 2014 report which may include recommendations for actions that may lead to better compliance and/or implementation."*

The LAX Preferential Runway Use Policy (herein Policy) was adopted in 1972 by LAWA's Board of Airport Commissioners (BOAC) under Resolution No. 7467. The purpose of the Policy is to reduce noise impacts from LAX operations on the communities surrounding the Airport, and LAWA holds that without this Policy in place, aircraft noise levels in the communities closest to LAX would, in fact, be higher. Historically, the loudest operations at the airport are from departing aircraft. Therefore, the Policy includes a preference for using the inboard runways (06R/24L and 07L/25R), or those runways farthest from the communities directly north and south of the Airport, for departures at all times. During the more noise sensitive nighttime hours, between 10 p.m. and 7 a.m., the preferential use of the inboard runways is further expanded to include both departures and arrivals. Finally, during the late-night hours between midnight and 6:30 a.m., the Policy utilizes a contra-flow operation, also known as the Over-Ocean Policy, which directs both arrival and departure operations over the ocean rather than over the communities east of the airport. The Over-Ocean Policy alone provides a substantial noise benefit to the communities east of the airport.

LAWA has been monitoring the implementation of this Policy as a routine part of its noise management program for decades, and during that time, overall adherence with the Preferential Runway Use Policy is high – well over 90% of all operations use the preferred runways. LAWA also works closely with the Federal Aviation Administration's (FAA's) Airport Traffic Control Tower (ATCT) personnel to ensure that they implement the Policy to the maximum extent possible,

[1] California Department of Transportation, Division of Aeronautics, Title 21, "Subchapter 6. Noise Standards", (Register 90, No. 10----3-10-90).

understanding that there are certain operational and safety considerations that make full observance infeasible.

The purpose of this update to the April 11, 2014, report (herein 2014 Report) is to satisfy the requirements of Order 6 of the variance as noted above. This report includes an updated description of existing operational and land use conditions at LAX; defines the Policy, how it's implemented, and quantifies its effectiveness using the most recent four years (2019-2022) of operational data; and lastly, identifies continuing efforts that may be utilized to further improve adherence rates.

The overall adherence to the Policy has remained high over the past four (4) years (2019-2022). The average percentage of departures occurring on the inboard runways of the North Airfield Complex was 99 percent and South Airfield Complex was 93 percent. Similarly, the average percentage of arrivals occurring on the outboard runways of the North Airfield Complex was 91 percent and South Airfield Complex was 95 percent. These adherence rates are consistent with those shown in the 2014 Report.

# Los Angeles International Airport (LAX)

## Location and Facilities

LAX is a primary commercial service airport located in Southern California. The Airport is located within the city limits of the City of Los Angeles and is bound by the communities of Westchester and Playa Del Rey (City of Los Angeles) to the north, the City of Inglewood and communities of Lennox and Athens to the east, the City of Hawthorne and the community of Del Aire to the southeast, the City of El Segundo to the south, and the Pacific Ocean to the west. Generalized land uses in the immediate vicinity of LAX include residential and commercial uses to the north; commercial, industrial, and residential uses to the east; and residential, industrial, and mixed uses to the south.

LAX's airside facilities are separated into two distinct areas: the North Airfield Complex and the South Airfield Complex. The North Airfield Complex is comprised of two parallel runways 8,926 feet (06L/24R) and 10,885 feet (06R/24L) in length, one parallel taxiway (E), and several exit taxiways. The South Airfield Complex consists of two parallel runways 12,923 feet (Runway 07L/25R) and 11,095 feet (Runway 07R/25L) in length, four parallel taxiways (A, B, C, and H), and numerous exit taxiways (see LAX Movement Area Map 2023 below). The two airfield complexes are generally separated by a variety of landside facilities, including vehicle access roads, parking lots, passenger terminals and gates, hangars, fuel storage facilities, and office buildings. A number of air cargo facilities and Fixed-Base Operators (FBOs) are also located south of Runway 07R/25L. Taxiing aircraft can gain access to either complex via cross field taxiways (P, N, L, K, and AA).


SOURCE: LAWA, 2023.

## Operations

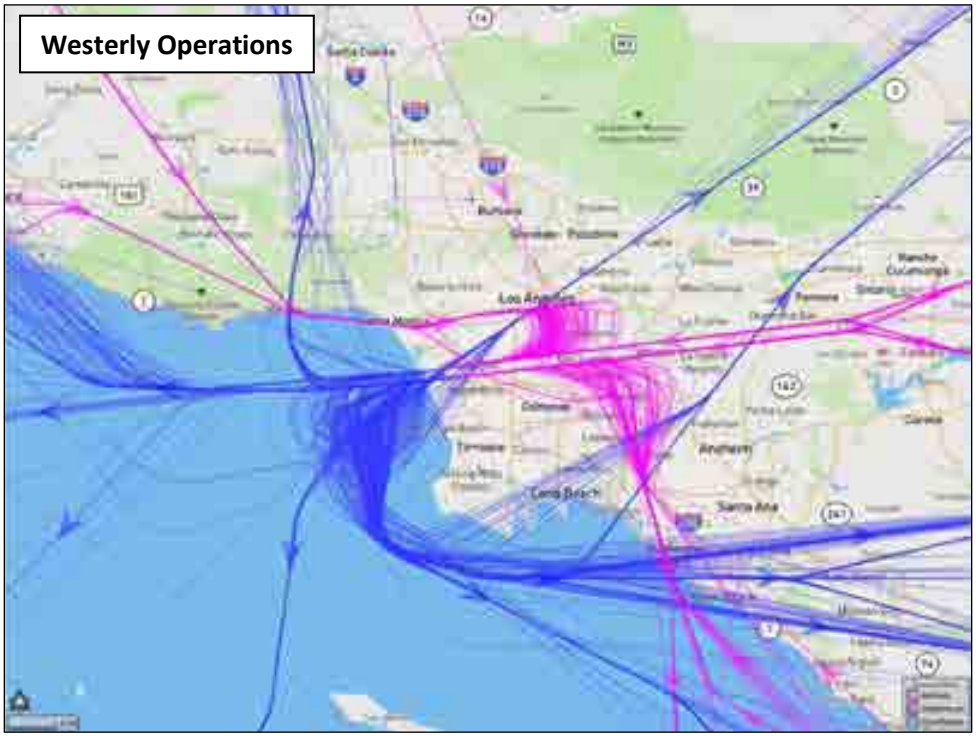
With 65.92 Million Annual Passengers (MAP), LAX was the fifth busiest airport in the United States and the sixth busiest in the world for passenger traffic in 2022.[2] Commercial aircraft operations (departure or arrival) at LAX increased by approximately 10 percent in 2022 to 541,986, as compared to 2021. LAX also handled 2.75 million tons of cargo in 2022.

## Air Traffic Flows

The following sections describe standard air traffic patterns at LAX.

### Westerly Operations

Westerly operations is the normal traffic pattern used at LAX during the daytime hours (6:30 a.m. to midnight) throughout the year. Aircraft approach the airport from the east and depart the Airport to the west due to the prevailing westerly wind. This procedure routes louder departing aircraft to the west over the ocean, while arriving aircraft fly from the east to the west over the communities on the eastside of LAX, including the Cities of Los Angeles and Inglewood, and the communities of Athens and Lennox.




SOURCE: LAWA, 2023.

[2] https://www.lawa.org/-/media/cd1ea274441845289429e3072e98b2cc.pdf

## Over-Ocean Operations

During the more noise-sensitive nighttime period between midnight and 6:30 a.m., aircraft normally operate in accordance with the Over-Ocean operations procedure. In this procedure, aircraft depart over the ocean to the west, as in normal Westerly operations, but arrive from the west over the ocean. This reduces the aircraft noise exposure for communities to the east of the Airport during the most noise-sensitive hours. Over-Ocean operations may be canceled and Westerly operations reinstituted if the FAA's ATCT determines that conditions are unsafe for these procedures. Such conditions may include fog and low clouds at the shoreline, winds from the east, runway maintenance and repairs, FAA equipment outages, and air traffic considerations.


SOURCE: LAWA, 2023.

### Easterly Operations

Easterly operations are implemented when wind conditions (generally during rainstorms and Santa Ana winds) require reversing the traffic flow of the Airport, so that aircraft arrive from the west and depart to the east. This routes the departing aircraft over the communities to the east, as well as areas to the north and south depending on an aircraft's destination. These operations are employed only when necessary for aviation safety considerations.


SOURCE: LAWA, 2023.

## Preferential Runway Use Policy

As described in the introduction to this report, LAWA's BOAC adopted the Policy in 1972. It went into effect on April 29, 1973, and was codified in Section 13 (Noise Abatement) of the LAX Rules and Regulations Manual[3]. Rules relevant to the implementation of the Policy are as follows:

13.2. Operational Responsibilities

13.2.1. FAA ATC Tower shall employ the noise abatement preferential runway and taxiway use procedures specified herein while recognizing that under certain conditions, deviations may be necessary due to aircraft emergencies, adverse weather, or field construction and maintenance work. Note: Nothing in these procedures shall limit the discretion of either FAA ATC Tower or a pilot regarding full use of airport facilities in an exigent or atypical situation.

13.4. Runway Use Procedures

13.4.1. Preferential runway use shall be determined as follows:

a. 2200-0700 (noise sensitive hours)

1) FAA ATC Tower shall maximize use of inboard Runways 06R/24L and 07L/25R and Taxiways C and E.

b. 0000-0630

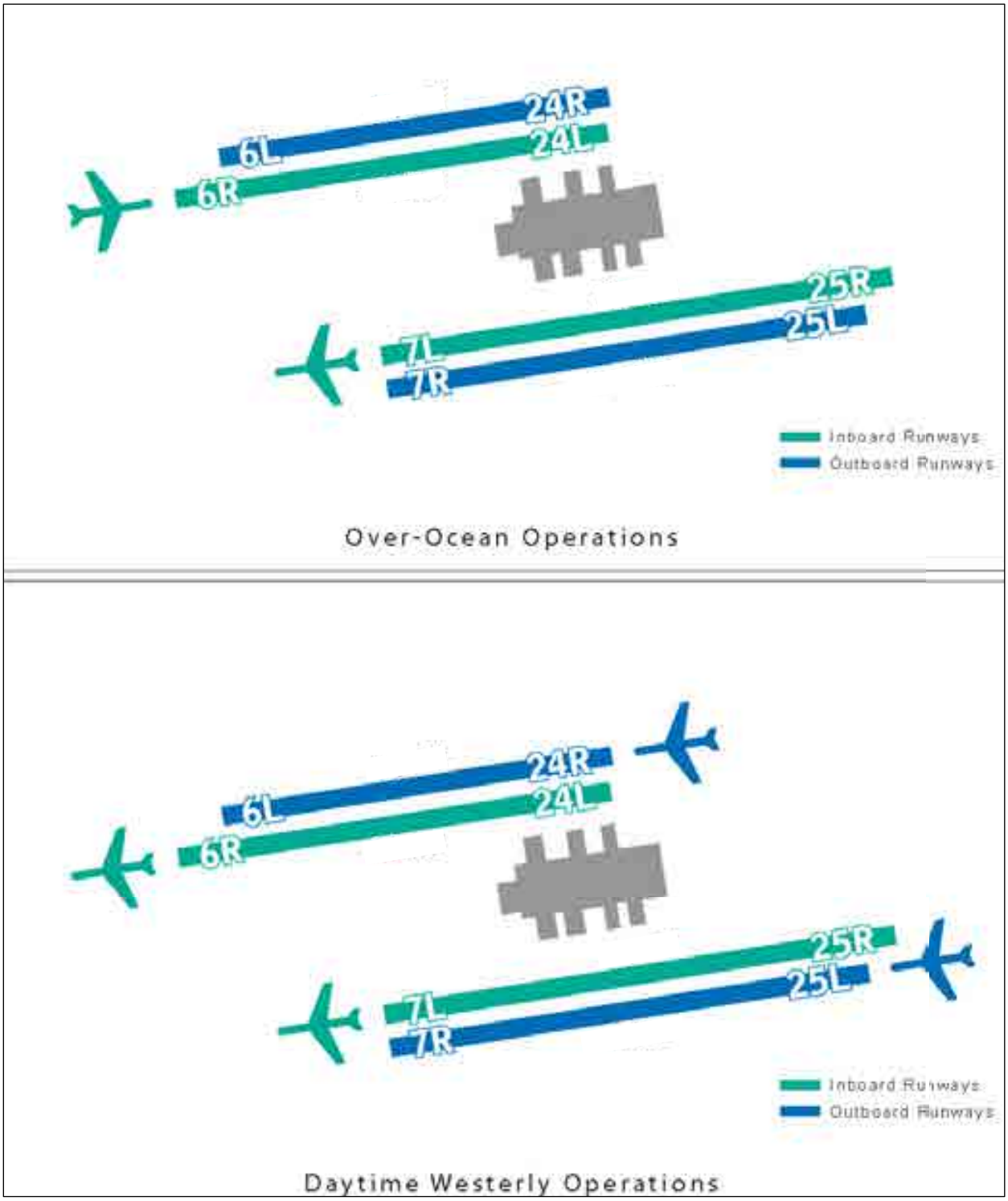
1) Over-ocean operation procedures shall be in effect between the hours of as provided in 13.5.

c. At all times

1) Inboard runways shall be preferred to the outboard runways for departures.

A diagram of the preferential runway use policy is shown below.

[3] https://www.lawa.org/-/media/lawa-web/lawa-rules-and-reg/lax-rules/section-13---noise-abatement.ashx




SOURCE: LAWA, 2023.

## Implementation of the Preferential Runway Use Policy

Implementation of the Policy involves three primary tasks: 1) informing/implementing, 2) tracking, and 3) reporting. While the Policy is an airport regulation set forth in LAX's standard operating procedures, FAA ATCT implements the policy. FAA ATCT personnel are responsible for assigning runways to aircraft departing and arriving at LAX. Therefore, LAWA works closely with FAA to ensure that ATCT's runway assignments adhere to the Policy whenever possible. However, pursuant to federal law, FAA ATCT personnel have discretion to utilize all four (4) runways as they deem necessary for the purposes of safety and air traffic efficiency. To ensure that FAA ATCT implements the Policy to the greatest extent feasible, LAWA will communicate with them on an as-needed basis including through the sharing of quarterly runway use reports. The Policy is incorporated into the FAA ATCT standard operating procedures for LAX.

LAWA tracks the implementation of the Policy as a routine part of its noise management program. The primary tool used to gather operational data at LAX is the Airport Noise and Operations Monitoring System (ANOMS). ANOMS gathers information about each operation that occurs at LAX and allows LAWA staff to query specific operations and filter operations data by a number of variables (e.g., runway use, time of day, aircraft type, etc.).

Lastly, LAWA reports on operations and runway usage in a quarterly report it prepares pursuant to its variance requirements. LAWA also provides a handout summarizing runway use statistics to the LAX/Community Noise Roundtable (herein Roundtable)[4], during which time Roundtable members can review and discuss during meetings.

[4] https://www.lawa.org/lawa-environment/noise-management/lawa-noise-management-lax/community-noise-roundtable

## Effectiveness of the Preferential Runway Use Policy

Overall adherence with the Policy in 2022 is high, with roughly 90 percent of all operations using the preferred runways on the North Airfield Complex and over 90 percent of all operations using the preferred runways on the South Airfield Complex. **Tables 1 and 2** provide a breakdown of runway use percentages by quarter in 2022 for the North and South Airfield Complexes, respectively. Adherence to the Policy was high last year; never dropping below 89 percent. This data is consistent with the 2014 Report, where adherence to the Policy in 2013 was also high; with roughly 90 percent of all operations using the preferred runways on the North Airfield Complex and over 90 percent of operations using the preferred runways on the South Airfield Complex.

| TABLE 1. 2022 OPERATIONS BY QUARTER – NORTH AIRFIELD COMPLEX | | | | |
|---|---|---|---|---|
| **ARRIVALS** | | | | |
| | **Q1** | **Q2** | **Q3** | **Q4** |
| **Total Operations** | 31,979 | 35,197 | 35,498 | 33,489 |
| **Inboard** | 9% | 11% | 9% | 11% |
| **Outboard** | 91% | 89% | 91% | 89% |
| | | | | |
| **DEPARTURES** | | | | |
| | **Q1** | **Q2** | **Q3** | **Q4** |
| **Total Operations** | 25,307 | 26,968 | 27,946 | 25,032 |
| **Inboard** | >99% | 98% | 99% | >99% |
| **Outboard** | <1% | 2% | 1% | <1% |
| **Source: LAWA ANOMS, 2023** | | | | |

| TABLE 2. 2022 OPERATIONS BY QUARTER – SOUTH AIRFIELD COMPLEX | | | | |
|---|---|---|---|---|
| **ARRIVALS** | | | | |
| | **Q1** | **Q2** | **Q3** | **Q4** |
| **Total Operations** | 33,848 | 35,300 | 36,209 | 34,447 |
| **Inboard** | 2% | 2% | 2% | 1% |
| **Outboard** | 98% | 98% | 98% | 99% |
| | | | | |
| **DEPARTURES** | | | | |
| | **Q1** | **Q2** | **Q3** | **Q4** |
| **Total Operations** | 40,701 | 43,673 | 43,766 | 42,905 |
| **Inboard** | 91% | 93% | 93% | 93% |
| **Outboard** | 9% | 7% | 7% | 7% |
| **Source: LAWA ANOMS, 2023** | | | | |

Adherence to the Policy remains historically high. As shown in **Table 3**, over the past four (4) years (2019-2022), the average percentage of departures occurring on the inboard runways of the North Airfield Complex was 99 percent and South Airfield Complex was 93 percent. Similarly, the average percentage of arrivals occurring on the outboard runways of the North Airfield Complex was 91 percent and South Airfield Complex was 95 percent.

**TABLE 3. 2019-2022 RUNWAY UTILIZATION – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Departures | | Arrivals | |
|---|---|---|---|---|
| **Calendar Year** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **2022** | 99% | 1% | 10% | 90% |
| **2021** | 99% | 1% | 9% | 91% |
| **2020** | 99% | 1% | 10% | 90% |
| **2019** | >99% | <1% | 7% | 93% |
| **Four Year Average** | 99% | 1% | 9% | 91% |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **2022** | 92% | 8% | 2% | 98% |
| **2021** | 93% | 7% | 15% | 85% |
| **2020** | 89% | 11% | 3% | 97% |
| **2019** | 96% | 4% | 2% | 98% |
| **Four Year Average** | 93% | 7% | 5% | 95% |

**Source: LAWA ANOMS, 2023**

LAX accommodates a variety of operation types, including commercial passenger, air cargo, general aviation, and military operations. LAX also accommodates, to a lesser degree, other types of operations such as medical flights and helicopter operations. Of the primary operation types, commercial passenger, air cargo, and general aviation operations are the most common.

**Table 4** identifies historic runway use for commercial passenger operations by North and South Airfield Complexes. Over 90 percent of all commercial passenger operations were adherent with the Policy between 2019 and 2022. The lower percentage for South Airfield Complex outboard arrivals in 2021 is a direct result of the outboard runway being closed for 68 days for rehabilitation. Outboard departures occurred with slightly higher frequency at the South Airfield Complex than the North Airfield Complex.

**TABLE 4. 2019-2022 COMMERCIAL PASSENGER OPERATIONS – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Departures | | Arrivals | |
|---|---|---|---|---|
| **Calendar Year** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **2022** | 99% | 1% | 8% | 92% |
| **2021** | 99% | 1% | 7% | 93% |
| **2020** | 99% | 1% | 7% | 93% |
| **2019** | >99% | <1% | 6% | 94% |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **2022** | 97% | 3% | 2% | 98% |
| **2021** | 97% | 3% | 15% | 85% |
| **2020** | 95% | 5% | 2% | 98% |
| **2019** | 98% | 2% | 2% | 98% |

**Source: LAWA ANOMS, 2023**

**Table 5** identifies historic runway use for air cargo operations by North and South Airfield Complexes. The majority of air cargo operations occurred on the South Airfield Complex due to the location of air cargo facilities. Adherence to the Policy for air cargo operations is much higher for the North Airfield Complex than the South Airfield Complex. This is primarily due to the location of air cargo facilities to the south of the South Airfield Complex runways which generally requires air cargo departures to taxi across two active runways in order to depart from inboard Runway 07L/25R. Due to safety concerns with crossing active runways, the FAA ATCT is unable to consistently assign air cargo departures to the inboard runway on the South Airfield Complex. The lower percentage for South Airfield Complex inboard departures in 2020 is a direct result of an increase in air cargo operations since the beginning of the COVID-19 pandemic. Additionally, during the height of the COVID-19 pandemic, the outboard runway of the South Airfield Complex was utilized at a higher frequency in order to get emergency supplies and vaccines out faster.

**TABLE 5. 2019-2022 AIR CARGO OPERATIONS – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Departures | | Arrivals | |
|---|---|---|---|---|
| **Calendar Year** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **2022** | 100% | 0% | 82%* | 18% |
| **2021** | 100% | 0% | 83%* | 17% |
| **2020** | 100% | 0% | 86%* | 14% |
| **2019** | 99% | 1% | 82%* | 18% |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **2022** | 70% | 30% | 4% | 96% |
| **2021** | 75% | 25% | 20% | 80% |
| **2020** | 63% | 37% | 5% | 95% |
| **2019** | 78% | 22% | 4% | 96% |

**Note: * = Majority arriving to inboard Runway 06R/24L in accordance with the Over-Ocean operations procedure.**
**Source: LAWA ANOMS, 2023**

**Table 6** identifies historic runway use for general aviation operations by North and South Airfield Complexes. The majority of general aviation operations occurred on the South Airfield Complex due to the location of general aviation facilities. Approximately 95 percent of all general aviation operations out of the North Airfield Complex have adhered to the Policy over the last four (4) years. In contrast only 82 percent of general aviation operations out of the South Airfield Complex have adhered to the Policy during this same period. Like air cargo operations, general aviation operations departing from South Airfield Complex would generally be required to cross two active runways in order to depart from inboard Runway 07L/25R. Due to safety concerns, this is not always feasible.

**TABLE 6. 2019–2022 GENERAL AVIATION OPERATIONS – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Departures | | Arrivals | |
|---|---|---|---|---|
| **Calendar Year** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **2022** | 98% | 2% | 8% | 92% |
| **2021** | 94% | 6% | 8% | 92% |
| **2020** | 98% | 2% | 11% | 89% |
| **2019** | 99% | 1% | 7% | 93% |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **2022** | 65% | 35% | 1% | 99% |
| **2021** | 73% | 27% | 14% | 86% |
| **2020** | 55% | 45% | 2% | 98% |
| **2019** | 80% | 20% | 1% | 99% |

**Source: LAWA, 2023**

An examination of Tables 4, 5, and 6 shows that adherence to the Policy on the North Airfield Complex remains historically strong. Meanwhile adherence rates on the South Airfield Complex dip for air cargo and general aviation operations, mainly due to the air traffic safety concerns noted above. In addition to air traffic safety, the difference in adherence rates between the North and South Airfield Complexes may be the result of other factors, including runway closures from construction activities and routine maintenance, and FAA ATCT overall management given traffic volume and runway availability for Design Group VI aircraft.

As described previously in this report, given their direct contact with aircraft operators, FAA ATCT is primarily responsible for ensuring adherence to LAX's standard operating procedures, and as data in Tables 1 through 3 indicate, they are very effective at implementing the Policy. With the exception of safety and air traffic efficiency, few reasons, in fact, exist for why FAA ATCT would direct aircraft in a manner other than what is specified by standard operating procedures. These variables, however, will influence FAA ATCT's decision-making process. For example, given the greater number of passenger gates, air cargo facilities, and FBOs on the South Airfield Complex side of LAX, Runways 07L/25R and 07R/25L generally experience a greater number of operations than the North Airfield Complex (see **Table 7**).

**TABLE 7. 2019–2022 TOTAL OPERATIONS BY AIRFIELD COMPLEX**

| | North Airfield Complex | | | South Airfield Complex | | |
|---|---|---|---|---|---|---|
| **Year** | **Departures** | **Arrivals** | **Total Ops** | **Departures** | **Arrivals** | **Total Ops** |
| **2022** | 105,253 | 136,163 | 241,416 | 171,045 | 139,804 | 310,849 |
| **2021** | 99,177 | 123,390 | 222,567 | 152,228 | 127,508 | 279,736 |
| **2020** | 69,601 | 88,524 | 158,125 | 118,793 | 99,758 | 218,551 |
| **2019** | 155,891 | 170,351 | 326,242 | 187,501 | 172,669 | 360,170 |

**Source: LAWA ANOMS, 2023**

Because of the larger number of operations on the South Airfield Complex, during high air traffic periods FAA ATCT may choose to instruct the aircraft to depart from the outboard runway, rather than have them cross two active runways to taxi to an inboard runway for departure, per LAX's standard operating procedures. Such decisions are usually the result of concerns over safety and efficiency and are most likely to occur during the daytime when air traffic volumes are greatest.

During daytime hours, arrivals typically occur on the outboard runways (see **Table 8**), although the inboard runways may also be used at the discretion of FAA ATCT and as air traffic permits (e.g., during periods of high air traffic volumes). During nighttime hours (10 p.m. to 7 a.m.), the Policy calls for maximizing the use of the inboard runways for both arrivals and departures. During conditions when LAX is experiencing higher traffic volume, arrival operations may continue on the outboard runways between 10 p.m. and midnight, and then again from 6:30 a.m. to 7:00 a.m., at which point the daytime period commences. From midnight to 6:30 a.m., LAX typically operates in Over-Ocean traffic configuration with arrivals occurring on the north complex and departures on the south complex. During this period when traffic volumes are lower, adherence to the Policy is expected to be high. As shown in Table 8 below, the percentage of departures on inboard runways during this timeframe remained high while the percentage of arrivals was lower than anticipated. The percentage of arrivals on the south outboard runway during this timeframe represents a very small number of arrivals (7 average daily arrivals as shown in Table 9). These few arrivals that occurred on the south outboard runway may have resulted from runway closures, limited runway availability for ADG VI aircraft, location of cargo and GA operator facilities on the south complex, and other factors.

**TABLE 8. 2022 RUNWAY UTILIZATION BY TIME OF DAY – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Arrivals | | Departures | |
|---|---|---|---|---|
| **Period** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **24 Hours** | 10% | 90% | 99% | 1% |
| **Day (7 a.m. - 10 p.m.)** | 1% | 99% | 99% | 1% |
| **Night (10 p.m. - 7 a.m.)** | 59% | 41% | 98% | 2% |
| **Over Ocean (Midnight - 6:30 a.m.)** | 84% | 16% | 95% | 5% |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **24 Hours** | 2% | 98% | 92% | 8% |
| **Day (7 a.m. - 10 p.m.)** | 1% | 99% | 91% | 9% |
| **Night (10 p.m. - 7 a.m.)** | 6% | 94% | 96% | 4% |
| **Over Ocean (Midnight - 6:30 a.m.)** | 18% | 82% | 95% | 5% |

**Source: LAWA ANOMS, 2023**

As noted, one of the factors that causes non-adherence with the Policy is runway closures. Runway closures can occur for a variety of reasons, including construction activities, routine maintenance activities (e.g., rubber removal, runway painting, lighting, and electrical work), pavement testing, and aircraft mechanical problems. In 2022, both the North and South Airfield Complexes experienced a total of 2,387 runway closures for periods of time ranging from one (1) minute to 24 hours.

Construction activities resulting in the closure of a runway may have a longer duration than the most common reason for closure, routine maintenance activities. Routine maintenance activities are usually performed at night when aircraft operations are low. While routine maintenance activities are generally short in duration, given the fact that they typically occur during the night

and Over-Ocean operation hours, when average daily operations are in low number, their effect on overall compliance rates is compounded. Runway closures and associated routine maintenance activities are necessary to ensure the safety of air operations. Adherence to the Policy may not be completely possible during runway closures.

As shown in **Table 9**, while the number of average daily departures off the outboard runways was at its lowest during the nighttime and Over-Ocean operation period, because total operations are vastly lower during this time frame the effect this has on Policy adherence rates between midnight and 6:30 a.m. is pronounced. The significance of outboard departures from midnight to 6:30 a.m. should not be understated; aircraft noise is generally more noticeable during this period due to the decrease in other background noise sources. It should also be noted, however, that the FAA will continue with Over-Ocean operations when possible with an inboard or outboard runway closed, which substantially lessens aircraft noise exposure on communities to the east of LAX.

**TABLE 9. 2022 DAILY AVERAGE TIME OF DAY RUNWAY UTILIZATION – NORTH AND SOUTH AIRFIELD COMPLEXES**

| | Average Daily Arrivals | | Average Daily Departures | |
|---|---|---|---|---|
| **Period** | **Inboard** | **Outboard** | **Inboard** | **Outboard** |
| **NORTH AIRFIELD COMPLEX** | | | | |
| **24 Hours** | 38 | 335 | 286 | 2 |
| **Day (7 a.m. - 10 p.m.)** | 4 | 312 | 265 | 2 |
| **Night (10 p.m. - 7 a.m.)** | 33 | 23 | 21 | <1 |
| **Over Ocean (Midnight - 6:30 a.m.)** | 33 | 6 | 7 | <1 |
| **SOUTH AIRFIELD COMPLEX** | | | | |
| **24 Hours** | 7 | 376 | 433 | 35 |
| **Day (7 a.m. - 10 p.m.)** | 5 | 345 | 333 | 31 |
| **Night (10 p.m. - 7 a.m.)** | 2 | 31 | 100 | 4 |
| **Over Ocean (Midnight - 6:30 a.m.)** | 2 | 7 | 69 | 4 |

Source: LAWA ANOMS, 2023

In addition to issues related to air traffic volumes, safety, and runway closures, aircraft design will also influence FAA ATCT's decision about how best to manage runway usage. For example, Group VI aircraft such as the Boeing 747-800 and the Airbus A380 that have an expanded wingspan, generally cannot depart from Runway 07L/25R due to insufficient spacing between Runway 07L/25R and Taxiway B. As a result, when Group VI aircraft are assigned to the South Airfield Complex for departure, these aircraft are regularly required to depart from Runway 07R/25L. Group VI aircraft can and do depart from the North Airfield Complex on Runway 06R/24L, which is available due to adequate spacing between Runway 06R/24L and Runway 06L/24R, and between Runway 06R/24L and Taxiway E.

However, it is worth noting that LAWA worked with FAA ATCT to obtain a Modification to Standards (MOS) (see **Appendix A**) in 2019 to allow Boeing 747-800 aircraft to depart on Runway 07L/25R on the South Airfield Complex, which minimizes the need to deviate from Over-Ocean operations whenever Runway 07R/25L is closed.

Despite the challenges in implementing the Policy described above, it's worth noting again that overall adherence to the Policy is high. As shown in Tables 1 through 3, FAA ATCT has been very effective in implementing LAX's standard operating procedures, including the Policy.

Regardless of this success, however, LAWA has made a concerted effort to find ways to improve adherence to the Policy.

## Conclusions

Overall adherence to the Policy remains high, with roughly 90% of North Airfield Complex operations using the preferred runways and over 90% of South Airfield Complex operations using the preferred runways. As stated previously, this high level of adherence is similar to what was previously seen in the 2014 Report.

It should be noted that overall adherence to the Policy remained high in 2020 and 2021 even though the total number of operations at LAX was lower than normal due to the COVID-19 pandemic. However, there was a lower percentage of air cargo operations utilizing the inboard runway of the South Airfield Complex for departures in 2020. This was due to 1) an increase in air cargo operations since the beginning of the COVID-19 pandemic and 2) the outboard runway of the South Airfield Complex being utilized at a higher frequency in order to get emergency supplies and vaccines out faster during the height of the COVID-19 pandemic.

In the opinion of LAWA, the Policy provides the communities surrounding LAX with significant and measurable relief from aircraft noise. Despite the success of the Policy several challenges remain. Issues related to air traffic volumes, safety considerations, and runway closures will continue to influence how and when FAA ATCT personnel implement the Policy. As described in this report, departures on outboard runways during the daytime, though a small percent of total operations, are predominately the result of periods of high air traffic volumes. Conversely, during the nighttime hours, the overall number of operations decrease, but use of the outboard runways for departures increases (as a percentage of total operations during this time period), primarily due to runway closures associated with routine maintenance activities.

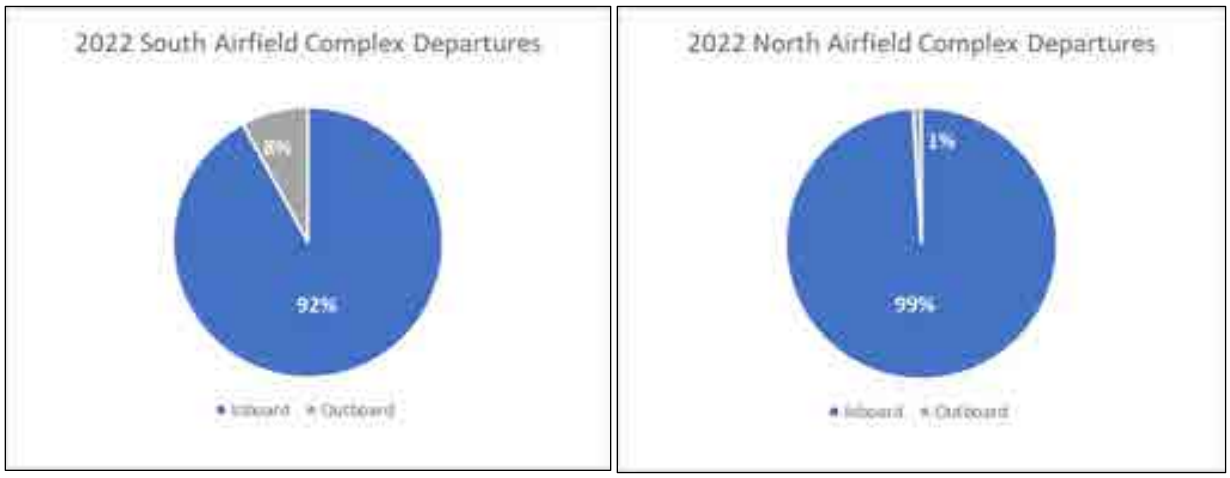
To a certain degree, these issues will remain constant at LAX. FAA ATCT must direct air traffic in a manner that is both safe and efficient, which sometimes requires use of the outboard runways for departures. Similarly, runway closures associated with routine maintenance activities will continue to occur during the nighttime hours when the volume of aircraft operations is lower. However, LAWA, in coordination with FAA ATCT and aircraft operators, will continue to seek ways to further improve Policy adherence rates.

As noted previously, as part of ongoing efforts to further improve adherence rates following the 2014 Report, LAWA worked with FAA ATCT to obtain a MoS in 2019 to allow Boeing 747-800 aircraft to departure on Runway 07L/25R on the South Airfield Complex which minimizes the need to deviate from Over-Ocean operations whenever Runway 07R/25L is closed.

In order to continue improving upon the already high adherence rate to LAX's standard operating procedures, LAWA has been examining a variety of ways in which to better inform, track, respond, and report on operations that are both adherent and non-adherent with the Policy. There are, however, a number of variables that must be considered when pursuing methods for improving adherence with the Policy. The Policy along with the rest of LAX's standard operating procedures

were established by LAWA, but they are implemented by FAA ATCT. As such, LAWA will continue to coordinate with FAA ATCT to ensure that aircraft are directed in a manner consistent with the Policy to the greatest extent feasible. Any suggested improvements must consider FAA ATCT's role in implementing the Policy. Furthermore, LAWA must weigh the cost of implementing a recommendation against the potential improvements that it seeks to make.

For example, as illustrated in the graphic below (and explained in more detail in Tables 1 and 2), LAX's South Airfield Complex experienced more departures on the outboard runway in 2022 than the outboard runway of the North Airfield Complex. As discussed in this report, there are a variety of reasons for this differential. Given the number of outboard departures on the South Airfield Complex, the best use of LAWA's time and resources may be to focus more of its efforts on improving Policy adherence on the South Airfield Complex.




## Continuing Efforts to Improve the Preferential Runway Use Policy

As described in the previous section, historical adherence to the Policy at LAX has been high. With increased dialogue and support from FAA ATCT, who formally implements the Policy, further improvements have been made to raise adherence rates.

Both LAWA and FAA ATCT have taken numerous actions to improve conformance with the Policy. It is essential that LAWA and FAA ATCT maintain the following efforts in order to assure continued conformance, and to make any possible improvements in the future.

Education and Outreach:

- Provide outreach to promote the Policy and its implementation.
- Engage stakeholders to solicit suggestions for improving Policy implementation.
- Distribute runway closure schedules by posting them on their Noise Management website[5] and emailing to their distribution list in order to notify communities around LAX when operations on outboard runways may increase or traffic flow may change.

[5] https://www.lawa.org/lawa-environment/noise-Management/

- Encourage operators who are familiar with the airport to routinely request inboard runways for departures.

Monitoring:

- Monitor implementation of the Policy and provide periodic updates to the Roundtable related to implementation of the Policy; runway utilization reports to be posted on the Roundtable website.
- Monitor Policy implementation for any abnormal increases in non-adherent operations.
- Focus efforts on tracking and investigating non-adherent operations that occur during the nighttime hours and on the South Airfield Complex.
- Utilize ANOMS to automate, to the greatest extent possible, the process of identifying and investigating abnormal increases in non-adherent operations.

Operational Measures:

- Minimize duration of Runway 07L/25R closures by consolidating all maintenance work during a planned closure and schedule routine maintenance for Runway 07L/25R during the lowest traffic period whenever practicable.
- Minimize duration of certain taxiway closures that may affect runway use or traffic flow by consolidating all maintenance work during a planned closure and schedule routine maintenance for key taxiways during the lowest traffic period whenever practicable.
- Work with FAA ATCT to assign South Airfield Complex air cargo and general aviation aircraft departures to the inboard runway as safety and workload allows.
- Work with FAA ATCT to conduct outboard runway departures between midnight and 6:30 a.m. only when absolutely necessary (e.g., when inboard runways or key taxiways are closed).
- Work with FAA ATCT to follow the Modification of Standards of 2019 to allow Boeing 747-800 aircraft to depart on Runway 07L/25R of the South Airfield Complex, which minimizes the need to deviate from Over-Ocean operations whenever Runway 07R/25L is closed.

LAWA recognizes that even small improvements to LAX operations can yield dividends to its neighbors and will continue to work with FAA ATCT and aircraft operators to implement the Policy to the greatest extent feasible.

Los Angeles World Airports

**MEMORANDUM**

Date: May 2, 2019

Memo To: Kendrick Okuda, Director of Environmental Programs Group
Environmental Programs Group

Jeff Mort, Airport Manager
Airport Operations Division

Greg Campbell, Chief Airports Engineer
Planning & Development Group

From: Robert Falcon, Chief Airports Engineer
Planning & Development Group

Subject: Conditional Approval of Modifications to Standards (MOS) for B747-8 Departures on Runway 25R

Attached for your reference and record is a copy of the above referenced documents to allow B747-8 aircraft to depart from Runway 25R when Over-Ocean Operations are in effect for night-time noise abatement purposes and when Runway 7R-25L is closed. Taxiway B would be restricted for all aircraft during a Boeing 747-8 departure from Runway 25R when Over-Ocean Operations are in effect and Runway 7R-25L is closed. The FAA has approved the following MOS to allow this operation:

1. To allow operation of B747-8 to depart Runway 25R with existing runway width of 150 feet and existing blast pad width of 220 feet.

2. To allow operation of B747-8 on Runway 25R by providing adequate runway to taxiway separation by closing Taxiway B and restricting Taxiway H to aircraft design group (ADG) V and lower while B747-8 aircraft depart Runway 25R.

If you have any questions, please contact Greg Nagy at (424) 646-5284.

CC: Cynthia Guidry
Samantha Bricker
Keith Wilschetz
Viji Prasad
Mark Vicelja
Tadesse Bezabeh
Kathryn Pantoja
Ryan Pang

Attachments:

1. Approval Letter from FAA Los Angeles Airports District Office to allow B747-8 departures on Runway 25R with existing runway width of 150 feet and existing blast pad width of 220 feet.

2. Conditional Approval Letter from FAA Los Angeles Airports District Office to allow B747-8 departures on Runway 25R by providing adequate runway to taxiway separation.

U.S. Department
of Transportation
**Federal Aviation Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

FAA LAX ADO
777 South Aviation Blvd., Suite 150
El Segundo, CA 90245

March 13, 2019

Robert Falcon
Chief Airports Engineer
Los Angeles World Airports
One World Way
Los Angeles, CA 90045

Dear Mr. Falcon:

Los Angeles International Airport (LAX), Los Angeles, CA.
Conditional Approval of Modifications to Standards (MOS)
LAX_2019_06094

The Federal Aviation Administration (FAA) has completed a review and analysis of your application dated October 16, 2018 for the Modification to Standards (MOS) at Los Angeles International (LAX). The MOS request is to allow the Boeing 747-8 departures from Runway 25R when Over-Ocean Operations are in effect for night-time noise abatement purposes and when Runway 7R-25L is closed. Taxiway B would be restricted for all aircraft during a Boeing 747-8 departure from Runway 25R when Over-Ocean Operations are in effect and Runway 7R-25L is closed. This would provide a minimum 617 feet of separation between Runway 7L-25R and Taxiway C, which is greater than the Airplane Design Group (ADG) VI runway-taxiway separation standard of 500 feet as specified in FAA AC 150/5300-13A. Taxiway H would remain in use for operations of ADG V and lower aircraft during Over-Ocean Operations when Runway 7R-25L is closed. ADG VI aircraft would continue to taxi via Taxiway A.

The MOS request has been conditionally approved, as described herein. They are as follow:

1. The "Proposed ADG VI Operation Plan" does not provide the conditions described on the MOS relating to the Boeing 747-8 departures from Runway 25R. This plan is to be updated to clearly annotate these conditions, or contained in some other referenced material (e.g. SOP).
2. Update the Air Traffic SOP to clearly identify the restrictions for safe Runway 25R departures.

The effective date of this conditionally approved MOS is January 28, 2019. This conditional approval is subject to review at any time if conditions originally justifying the modification changes, or if the FAA deems re-evaluation as being in the public's best interest. Furthermore, this MOS conditional approval will expire no later than 5 years from

the approved date. The airport must resubmit the MOS for review and approval if an extension is requested.

Please update the Airport Layout Plan (ALP) to reflect approved MOS. The airport must include in the ALP a table listing the approved MOS. The table must include the approval date and identify associated airspace review case number. This MOS was reviewed under airspace case number 2018-AWP-3822-NRA.

If you have any questions, please feel free to contact me at (424) 405-7267, or Mark Guan at (424) 405-7273.

Sincerely,

Al Richardson
Assistant Manager, Los Angeles Airports District Office

Enclosure: LAX_2019_06094

U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

FAA LAX ADO
777 South Aviation Blvd., Suite 150
El Segundo, CA 90245

March 13, 2019

Robert Falcon
Chief Airports Engineer
Los Angeles World Airports
One World Way
Los Angeles, CA 90045

Dear Mr. Falcon:

Los Angeles International Airport (LAX), Los Angeles, CA
Approval of Modifications to Standards (MOS)
LAX_2019_06814

The Federal Aviation Administration (FAA) has completed a review and analysis of your application dated December 20, 2018 for the Modification to Standards (MOS) at Los Angeles International Airport. The MOS request is to operate the Boeing 747-8 aircraft on Runway 7L/25R with the existing runway width of 150 feet and existing blast pad width of 220 feet (Runway 25R end only). FAA Engineering Brief No. 74A, dated August 12, 2011, found that the Boeing 747-8 could be safely operated on runways as narrow as 150 feet wide and determined that blast pad widths of 220 feet are acceptable.

The MOS request has been approved. This approval is subject to review at any time if conditions originally justifying the modification changes, or if the FAA deems re-evaluation as being in the public's best interest.

By accepting this MOS, the airport is certifying that this will provide an acceptable level of safety. The effective date of this approved MOS is December 21, 2018. Furthermore, this MOS approval will expire no later than 5 years from the approved date. The airport must resubmit the MOS for review and approval if an extension is requested.

Please update the Airport Layout Plan (ALP) to reflect approved MOS. The airport must include in the ALP a table listing the approved MOS. The table must include the approval date and identify associated airspace review case number. This MOS was reviewed under airspace case number 2018-AWP-3821-NRA.

If you have any questions, please feel free to contact me at (424) 405-7267, or Mark Guan at (424) 405-7273.

Sincerely,

Al Richardson
Assistant Manager, Los Angeles Airports District Office

Enclosure: LAX_2019_06814