

# LAX

## FLY QUIETER PROGRAM

2021 Annual Report

Recognizing  
Airlines  
and Their  
Commitment  
to Being  
Good Neighbors  
at LAX.

**LAWA**  
LOS ANGELES WORLD AIRPORTS





Justin Erbacci, CEO

*"LAX is committed to being a first-class neighbor, and we are proud to support new and innovative ways of connecting LAWA, the airlines and our community partners to collaboratively address noise concerns. The LAX Fly Quieter Program provides a framework for discussion, and we are excited that more airlines are participating in community conversations, educational opportunities and outreach efforts. As the Fly Quieter Program enters its third year, I want to thank everyone for their continued participation in the program, and I look forward to continuing this important partnership."*

Justin Erbacci, Chief Executive Officer, LAWA



LOS ANGELES WORLD AIRPORTS

Los Angeles International Airport  
One World Way  
Los Angeles, CA 90045

To learn more about the Fly Quieter Program  
at LAX, visit [www.lawa.org/LAXFQP](http://www.lawa.org/LAXFQP).

# PROGRAM OVERVIEW



The Los Angeles International Airport Fly Quieter Program (FQP) is an education and recognition program designed to encourage commercial air carriers operating at LAX to fly as quietly as possible for the benefit of our neighboring communities. Air carriers receive recognition in the FQP by complying with LAX noise abatement procedures, using quieter aircraft and implementing their own elective strategies to reduce noise. While airports cannot impose mandatory aircraft noise limits, the LAX Fly Quieter Program acknowledges air carriers for taking voluntary noise-reduction measures where feasible and evaluates them using a scoring system.

In addition to evaluating noise-reduction performance, the FQP offers an opportunity for LAX to increase outreach and education with air carriers. FQP can provide important feedback to air carriers, including expanding awareness of LAX Aircraft Noise Abatement Policies and Procedures to reduce noise for area residents. While aircraft noise reduction relies on many factors, including technological innovations and Federal Aviation Administration (FAA) procedures that are not directly under the air carriers' or pilots' control, operators can use this opportunity to demonstrate their commitment to exploring and pursuing feasible efforts to fly quieter, thereby demonstrating their commitment to being a good neighbor at LAX.

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## About LAX

Los Angeles International Airport (LAX) was the fifth-busiest airport in the world in 2021, serving more than 48 million passengers. It is one of two airports owned and operated by Los Angeles World Airports (LAWA), the City of Los Angeles department, which also owns and operates Van Nuys Airport (VNY). LAWA is committed to minimizing noise impacts in neighboring communities from aircraft operations. Since 1959, LAWA has developed and implemented noise abatement programs, sought partnership-based solutions and worked with stakeholders in a cooperative and collaborative manner.

# FQP AWARDS

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**AIR CARRIERS SCORING HIGHEST** in minimizing aircraft noise and engaging with the community receive an FQP Gold, Silver or Bronze award in each category, as well as public acknowledgement.

**SCORES FOR EACH CATEGORY** are calculated based on points earned in five scoring elements, plus any bonus points for voluntary efforts.

## FQP Recognition Categories for 2021:

Due to the large number of air carriers operating at LAX and the substantial differences in average daily operations\*, the FQP awards are divided into three categories:

**CATEGORY 1 = 100+ average daily operations**

**CATEGORY 2 = 5 to 99 average daily operations**

**CATEGORY 3 = 1 to 4 average daily operations**

Also, regional airlines operating smaller, regional jets are recognized separately in the FQP and are not grouped in the award categories for 2021 (please see the FQP Methodology for more information).

\*An "operation" is defined as one jet arrival or one jet departure.

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# FQP 2021 WINNERS!

## CATEGORY 1 WINNERS

100+ Operations Daily



American Airlines



UNITED  
AIRLINES



Southwest



## CATEGORY 2 WINNERS

5 to 99 Operations Daily



*spirit*



volaris



AIR CANADA

## CATEGORY 3 WINNERS

1 to 4 Operations Daily



volaris

(Volaris Costa Rica)



ASIA PACIFIC  
AIRLINES



Avianca

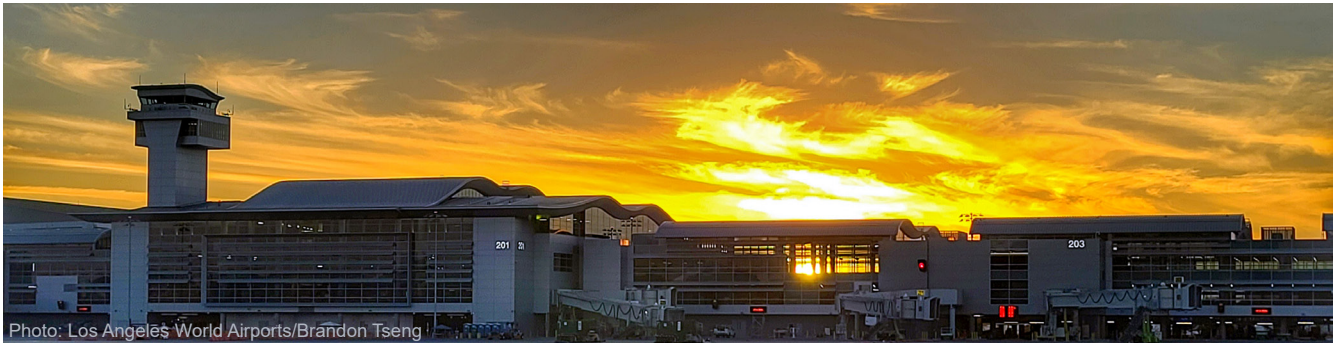


See end of report for a complete list of FQP scores.



# FQP SPECIAL RECOGNITION

The FQP recognizes air carriers that voluntarily make extra efforts to reduce aircraft noise and/or engage with the community. The FQP rewards these aircraft operators with bonus points, a unique feature of the program, as a way to improve their scores. The FQP also recognizes regional airlines operating jet aircraft that are smaller and quieter.



## CONGRATULATIONS TO AIRLINES WHO EARNED BONUS POINTS!

**NOISE REDUCTION EFFORTS** - These air carriers retrofitted A320 aircraft with noise-reducing technology specific to that aircraft model:

**AMERICAN AIRLINES**

**JET BLUE**

**SPIRIT AIRLINES**

**UNITED AIRLINES**

## STAKEHOLDER ENGAGEMENT EFFORTS

- These air carriers participated in LAX/Community Noise Roundtable meetings in 2021:

**AEROLOGIC**

**ALASKA AIRLINES**

**LOT POLISH AIRLINES**

**SPIRIT AIRLINES**

**UNITED AIRLINES**

## RECOGNITION OF REGIONAL AIRLINES!

### QUIETER AIRCRAFT ARRIVALS –

These regional carriers operated smaller jet aircraft that are notably quieter on arrival.

**HORIZON**

**SKYWEST**

# MEASURING PERFORMANCE

The LAX Fly Quieter Program (FQP) monitors aircraft noise levels and operations at LAX by scoring all air carriers operating a minimum of one jet arrival or departure operation at LAX per day based on five primary elements and two bonus elements.

These bonus elements are unique to LAX FQP and recognize air carriers for implementing elective strategies to further reduce aircraft noise and for directly engaging with the community. Examples of how air carriers earned “bonus points” during the program’s first year include participating in [LAX/Community Noise Roundtable Meetings](#) and installing new technologies onto aircraft to further reduce aircraft noise.

## FQP Scoring Elements:

- 1. Quietest Arrivals** – Scoring is based on measured noise levels from two monitors in residential communities.
- 2. Quietest Fleet** – Scoring is based on noise levels of aircraft operating at LAX as certified by the FAA.
- 3. Early Turns** – Air carriers having no or very few pilot-initiated early turns flying over communities will score higher on this element.
- 4. East Departures** – Air carriers having no or very few nonconforming east departures between midnight and 6:30 a.m. will score higher on this element.
- 5. Engine Run Ups** – Scoring is based on compliance with maintenance engine run-up restrictions, which are in effect between 11:00 p.m. and 6:00 a.m.

## Bonus scoring elements:

Noise Reduction Efforts  
Stakeholder Engagement Efforts

# 1. Quietest Arrivals



Based on measured noise levels at two monitors placed in residential communities neighboring LAX.

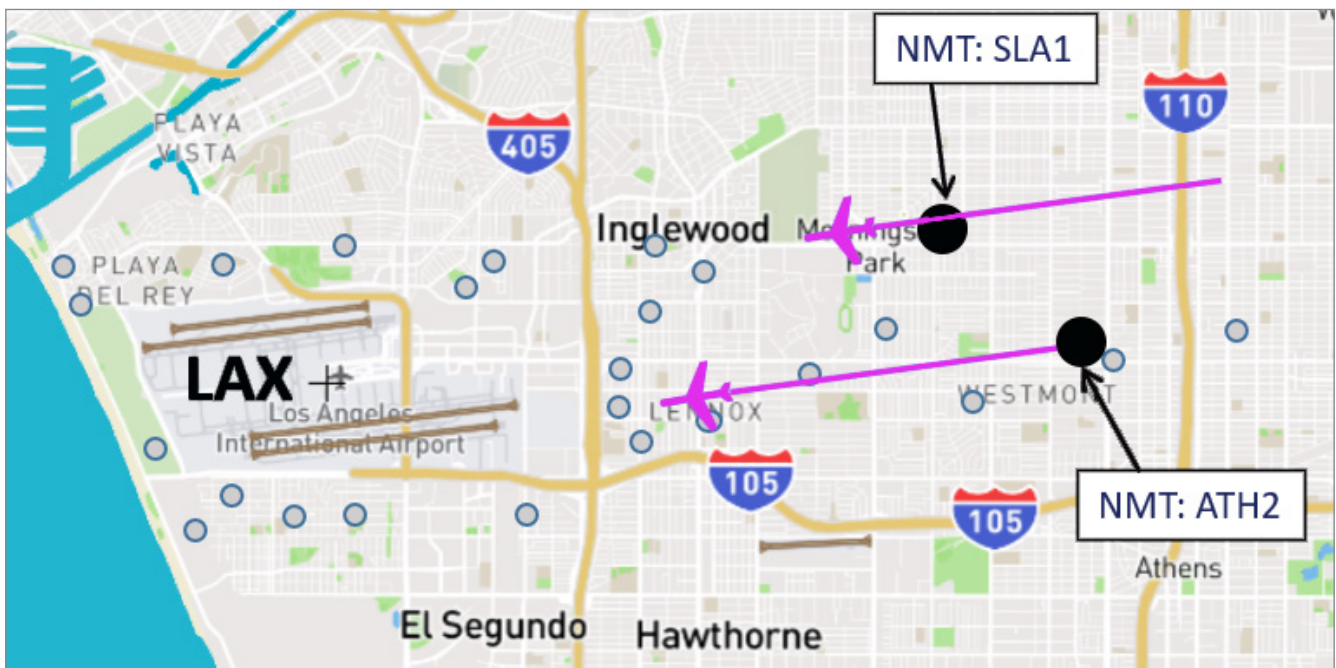


IMAGE: A MAP OF LAX NOISE MONITORING TERMINALS (NMTs), AS DENOTED IN GREY. THE QUIETEST ARRIVALS ELEMENT IS SCORED USING MEASUREMENTS FROM NMTs DENOTED IN BLACK.

The Quietest Arrivals element is scored based on noise levels measured by two noise monitors, twenty-four hours a day, seven days a week, as experienced by communities. They are optimally located to capture actual noise levels of approaching aircraft landing on either LAX's north or south runways during [Westerly Operations](#).

To determine the most appropriate monitors to use for this element, an acoustic consultant assisted with site evaluation. Various factors were considered in selecting the two monitors identified, including capturing aircraft noise while in a stable power configuration and reducing interference from other noise sources. For ease of data analysis, only two monitors were selected under LAX's final approach path at similar distances from the airport's runways to ensure a fair comparison of noise measurements.



## 2. Quietest Fleet



Based on FAA-certified noise levels of aircraft operating at LAX.



Photo: Los Angeles World Airports/Jacob Brosseau

IMAGE: AIRCRAFT PARKED AT LAX.

The Quietest Fleet element is based on FAA-certified noise levels of aircraft models that comprise a carrier's fleet operating at LAX. Air carriers serving LAX that operate using quieter aircraft will score better on this element than if they use their noisier planes. Each aircraft model's noise level is certified based on several factors. For more information, see FQP Methodology on the FQP web page.

*"We sincerely appreciate the recognition for Spirit's leadership in the area of noise abatement at LAX. As part of our overall corporate social responsibility, we are committed to integrating environmental, social, and governance (ESG) practices into our business model, increasing the sustainability and resiliency of our Company. Spirit operates one of the youngest and most fuel-efficient fleets in the industry with the latest engine technology to consistently generate lower noise levels across our network."*

Carl Stallone, Chief Base Pilot - LAS, Spirit

### 3. Early Turns



**Air carriers having no or very few pilot-initiated early turns flying over communities will score higher on this element.**

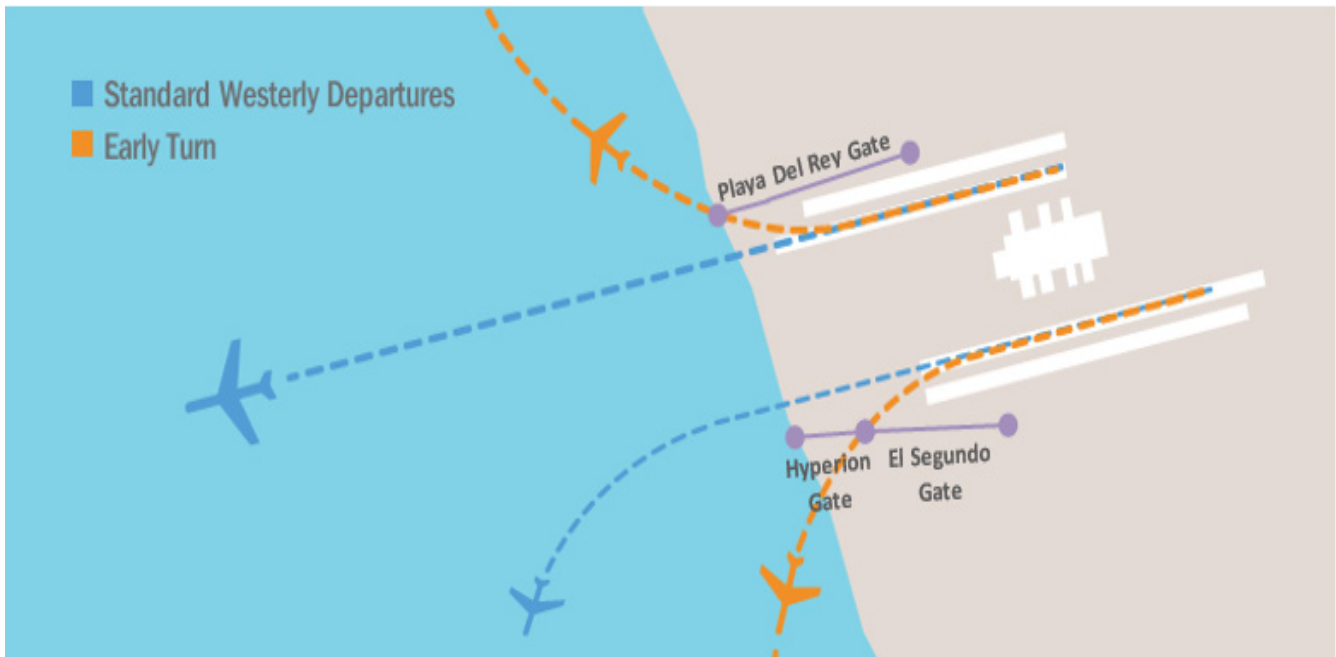


IMAGE: EARLY TURNS ARE MONITORED USING FAA RADAR FLIGHT TRACK DATA WHEN THEY CROSS THE VIRTUAL GATES (PURPLE LINES).

The Early Turns element is based on the number of pilot-initiated early turns flying over communities. Early Turns affect communities north and south of LAX when departing airplanes turn early before reaching the shoreline, thereby flying over communities instead of over the ocean.

Some early turns are unavoidable, like those instructed by the FAA Air Traffic Control Tower to ensure airspace safety. But other early turns can be avoided, and LAWA brings those to the attention of air carriers as part of its efforts to reduce noise disturbances in neighboring communities.

Airlines with zero or very few avoidable early turns score highest on this FQP element (see the [Early Turn Notification Program](#) for more information and monthly reports).

## 4. East Departures



**Air carriers having no or very few non-conforming east departures between midnight and 6:30 a.m. will score higher on this element.**



IMAGE: NONCONFORMING EAST DEPARTURES AT LAX ARE DENOTED IN PINK. THIS IS IN CONTRAST TO THE BLUE DEPARTURES, WHICH ARE IN A STANDARD WESTERLY DIRECTION.

The East Departures element is based on the number of nonconforming east departures occurring between midnight and 6:30 a.m. These are called nonconforming departures because these aircraft depart in an easterly direction when all other departures are taking off to the west over the ocean. Nonconforming east departures are usually conducted by very large, heavy aircraft that may need to depart east during mild easterly wind conditions. In this case, pilots of large, heavy aircraft will request permission from the FAA to make a nonconforming east departure for safety.

Nonconforming east departures are a relatively rare occurrence. Air carriers have an opportunity to avoid these operations by reducing weight, scheduling at a different time or using different aircraft. These operations are included in the FQP due to the noticeable nighttime disturbance they cause. East Departures reports can be [viewed here](#).

## 5. Engine Run-Ups



**Based on compliance with LAX's maintenance engine run-up restrictions, which prohibit running engines for maintenance purposes from 11:00 p.m. to 6:00 a.m.**



IMAGE: AIRPLANE DURING  
AN ENGINE RUN-UP AT LAX  
WITHIN THE ALLOWABLE TIME  
FRAME.

The Engine Run-Ups element is based on compliance with maintenance engine run-up restrictions, which have been in place for many years. An engine run-up occurs when an aircraft operator turns on an engine while keeping the aircraft parked, which is necessary after performing certain types of aircraft maintenance. The compliance rate is generally very high; however, as part of its efforts to further reduce night-time noise affecting adjacent communities, LAWA, which has control over these ground operations, recently implemented fines for maintenance run-up activities at LAX between 11:00 p.m. and 6:00 a.m. Airlines that comply with this noise abatement policy score highest on this element.

# Bonus Elements



Bonus elements, unique to LAX's FQP, are intended to provide air carriers with opportunities to engage with stakeholders and take proactive measures to reduce aircraft noise.

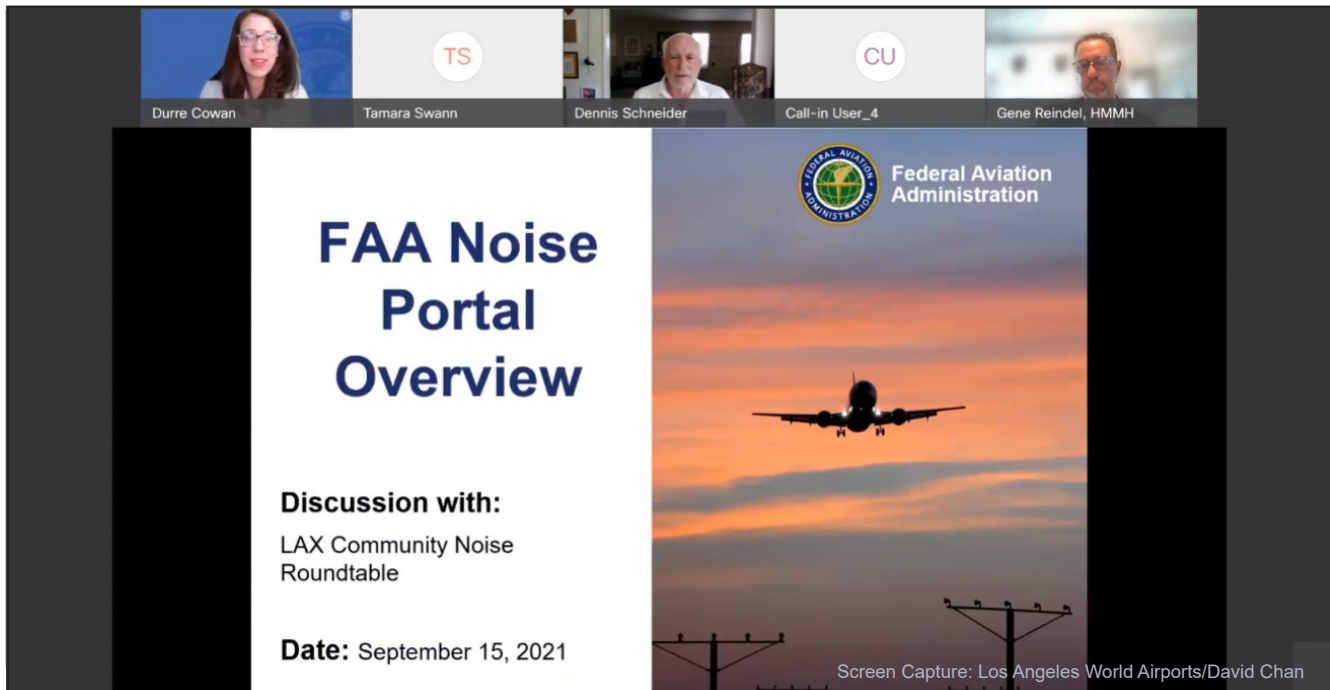


IMAGE: LAX/VIRTUAL MEETING OF THE LAX/COMMUNITY NOISE ROUNDTABLE.

**Noise Reduction Efforts** – implementing any equipment, technology, or procedural type effort to reduce aircraft noise; (e.g. retrofitting older A320 aircraft with vortex generators).

**Stakeholder Engagement Efforts** – implementing outreach and educational efforts with stakeholders; (e.g. establishing a noise abatement education program for pilots, attending LAX/Community Noise Roundtable meetings, or engaging with other stakeholders, including FAA).

***“The LAX Fly Quieter Program provides an opportunity for airlines to demonstrate their determination to reduce noise caused by aircraft flight operations. We appreciate the pilots’ perspective as they work with Roundtable members to reduce aircraft noise affecting the public.”***

**Denny Schneider, Noise Roundtable Chairman**



# 2021 Air Carrier FQP Scores

## A – K

AIR CARRIER	CATEGORY	ELEMENT 1 Arrivals	ELEMENT 2 Fleet	ELEMENT 3 Early Turns	ELEMENT 4 East Departures	ELEMENT 5 Engine Run Ups	Bonus	Total
Aeroflot Russian	3	3.38	17.85	10.00	10.00	10.00		51.23
Aerologic	3	5.55	18.26	10.00	10.00	10.00	1	54.81
Aeromexico	2	7.85	21.41	10.00	10.00	10.00		59.26
Aerotransporte De Carga Union	3	0.00	13.13	10.00	10.00	10.00		43.13
Air Canada	2	7.03	24.76	10.00	10.00	10.00		61.79
Air China	2	4.21	24.97	10.00	10.00	10.00		59.18
Air China Cargo Company	3	4.52	18.25	10.00	10.00	10.00		52.77
Air France	3	2.03	18.20	10.00	10.00	10.00		50.23
Air New Zealand	3	2.91	27.39	10.00	10.00	10.00		60.30
Air Tahiti Nui	3	4.43	30.56	10.00	10.00	10.00		64.99
Air Transport International	3	0.00	15.33	9.75	10.00	10.00		45.08
Alaska Airlines	2	7.39	16.59	9.25	10.00	10.00	4	57.23
All Nippon Airways	2	0.00	19.65	10.00	10.00	10.00		49.65
Allegiant Air	2	7.54	18.79	9.50	10.00	10.00		55.83
American Airlines	1	10.24	18.17	9.00	9.50	10.00	5	61.91
Asia Pacific Airlines	3	35.00	17.63	10.00	10.00	10.00		82.63
Asiana Airlines	2	3.07	28.16	9.75	10.00	10.00		60.98
Atlas Air	2	2.31	15.28	10.00	10.00	10.00		47.59
Avianca	3	26.67	19.17	9.50	10.00	10.00		75.34
British Airways	3	3.26	23.48	10.00	10.00	10.00		56.74
Cargolux Airlines	3	4.27	21.80	10.00	9.75	10.00		55.82
Cathay Pacific Airways	3	0.47	26.22	10.00	10.00	10.00		56.69
China Airlines	2	2.55	21.56	9.75	10.00	10.00		53.86
China Cargo Airlines	3	4.67	18.26	10.00	10.00	10.00		52.93
China Eastern Airlines	2	2.24	14.37	9.75	10.00	10.00		46.36
China Southern Airlines	2	3.05	21.51	10.00	10.00	10.00		54.56
Copa Airlines	3	11.10	24.86	10.00	10.00	10.00		65.96
Delta Airlines	1	4.39	15.35	9.00	9.75	10.00		48.49
Emirates	3	0.84	24.11	10.00	10.00	10.00		54.95
EVA Airways	2	1.84	18.06	10.00	10.00	10.00		49.90
Federal Express Corporation	2	3.01	14.21	10.00	10.00	10.00		47.22
Fiji Airways	3	2.99	31.99	10.00	10.00	10.00		64.98
Frontier Airlines	3	5.57	23.55	9.75	10.00	10.00		58.87
Hainan Airlines	3	0.00	27.57	10.00	10.00	10.00		57.57
Hawaiian Airlines	2	3.10	17.56	10.00	10.00	10.00		50.66
iAero Airways	3	2.84	13.24	10.00	10.00	10.00		46.08
Japan Airlines	2	0.37	21.44	10.00	10.00	10.00		51.81
JetBlue Airways	2	14.33	15.42	9.75	10.00	10.00	1	60.50
Kalitta Air	2	3.00	15.49	9.25	10.00	10.00		47.74
KLM Royal Dutch Airlines	3	2.54	22.29	10.00	10.00	10.00		54.83
Korean Airlines	2	1.14	20.62	10.00	10.00	10.00		51.76

Note: LOT Polish Airlines received special recognition for attending LAX/Community Noise Roundtable meetings but did not have the minimum number of operations to be considered for the 2021 FQP awards.

# 2021 Air Carrier FQP Scores

## L – Z

AIR CARRIER	CATEGORY	ELEMENT 1 Arrivals	ELEMENT 2 Fleet	ELEMENT 3 Early Turns	ELEMENT 4 East Departures	ELEMENT 5 Engine Run Ups	Bonus	Total
Lacsa Airlines	3	26.52	18.63	9.75	10.00	10.00		74.90
LAN Peru Airlines	3	0.00	15.33	10.00	10.00	10.00		45.33
Lufthansa German Airlines	3	2.62	32.22	10.00	10.00	10.00		64.84
Mas Air Cargo	3	3.11	15.17	10.00	10.00	10.00		48.28
Nippon Cargo Airlines	3	0.00	29.96	10.00	10.00	10.00		59.96
Philippine Airlines	3	0.00	20.67	10.00	10.00	10.00		50.67
Polar Air Cargo	3	1.14	22.97	10.00	9.50	10.00		53.61
Qantas Airways	3	1.25	27.85	10.00	10.00	10.00		59.10
Qatar Airways	3	1.50	27.05	10.00	10.00	10.00		58.55
Singapore Airlines	3	2.83	27.56	10.00	9.50	10.00		59.89
Southern Air, Inc.	3	0.00	18.26	10.00	10.00	10.00		48.26
Southwest Airlines	1	5.87	16.01	8.50	10.00	10.00		50.38
Spirit Airlines	2	16.62	22.11	8.25	10.00	10.00	7	73.98
Sun Country Airlines	3	2.47	13.71	10.00	10.00	10.00		46.18
Turkish Airlines	3	3.82	22.21	10.00	10.00	10.00		56.03
United Airlines	1	6.97	17.19	8.75	10.00	10.00	8	60.91
United Parcel Service	3	1.51	15.99	9.25	10.00	10.00		46.75
Virgin Atlantic Airways	3	1.49	32.49	10.00	10.00	10.00		63.98
VivaAerobus	3	18.76	24.56	9.75	10.00	10.00		73.07
Volaris Airlines	2	19.99	22.05	9.75	10.00	10.00		71.79
Volaris Costa Rica	3	35.00	19.29	10.00	10.00	10.00		84.29
Western Global Airlines	3	2.05	14.06	10.00	10.00	10.00		46.11
WestJet	3	3.74	15.60	10.00	10.00	10.00		49.34
Xiamen Airlines	3	0.00	30.68	10.00	10.00	10.00		60.68

## Regional Airlines Performance

AIR CARRIER	ELEMENT 1 Arrivals	ELEMENT 2 Fleet	ELEMENT 3 Early Turns	ELEMENT 4 East Departures	ELEMENT 5 Engine Run Ups	Total
Horizon Air	35.0	13.3	10.0	10.0	10.0	78.3
SkyWest	35.0	13.7	8.5	10.0	10.0	77.2



Photo: Los Angeles World Airports/Christopher Lord

# LAX

## FLY QUIETER PROGRAM

### 2021 Annual Report

LAWA thanks all aircraft operators at LAX who have worked to reduce noise and/or engage with stakeholders on noise issues.

Your efforts to Fly Quieter are appreciated.

To learn more about aircraft activity in your neighborhood, visit:  
[noiseportal.lawa.org/lax](https://noiseportal.lawa.org/lax)



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