



Portable Noise Monitor Report

Prepared by: Aircraft Noise Office
For: Milan St., San Diego, CA

August 15, 2025

Portable Noise Monitoring Summary

? WHEN WAS NOISE MEASURED

July 21 – August 1, 2025



Jul - Aug 2024	S	M	T	W	T	F	S
		21	22	23	24	25	26
	27	28	29	30	31	1	

- Partial measurement (setup / takedown) days.
- Full (24-hour) measurement days.

✈ HOW MANY NOISE EVENTS OCCURRED



MOST FREQUENT AIRCRAFT FLIGHTS DURING THE MEASUREMENT PERIOD		
Rank	Aircraft Type	Airport ID
1	A321	SAN
2	B737	SAN
3	E75L	SAN
4	B767	SAN

💡 CONCLUSION

During the 10 full (24-hour) day measurement period, the Community Noise Equivalent Level (CNEL) from aircraft noise* was 57.8 decibels (dB), while the CNEL from community noise was 54.9 dB.

The FAA and State of California’s threshold for land use compatibility is an aircraft CNEL of 65 dB.

*Aircraft CNEL only includes operations from SAN.

Aircraft CNEL	Community CNEL	Total CNEL
58	55	60

Introduction

Aircraft noise at the San Diego International Airport (SAN) has been monitored since the 1970s.

The Airport Noise and Operations Monitoring System (ANOMS) collects, analyzes, and processes data from several sources of information. These sources include noise events from 23 permanent Remote Monitoring Terminals (RMTs), Federal Aviation Administration (FAA) radar data, weather data, and noise complaints.

The purpose of the Portable Noise Monitoring program is to provide additional aircraft noise information beyond the Airport Authority's 23 RMTs. This information augments the overall ANOMS data collection.

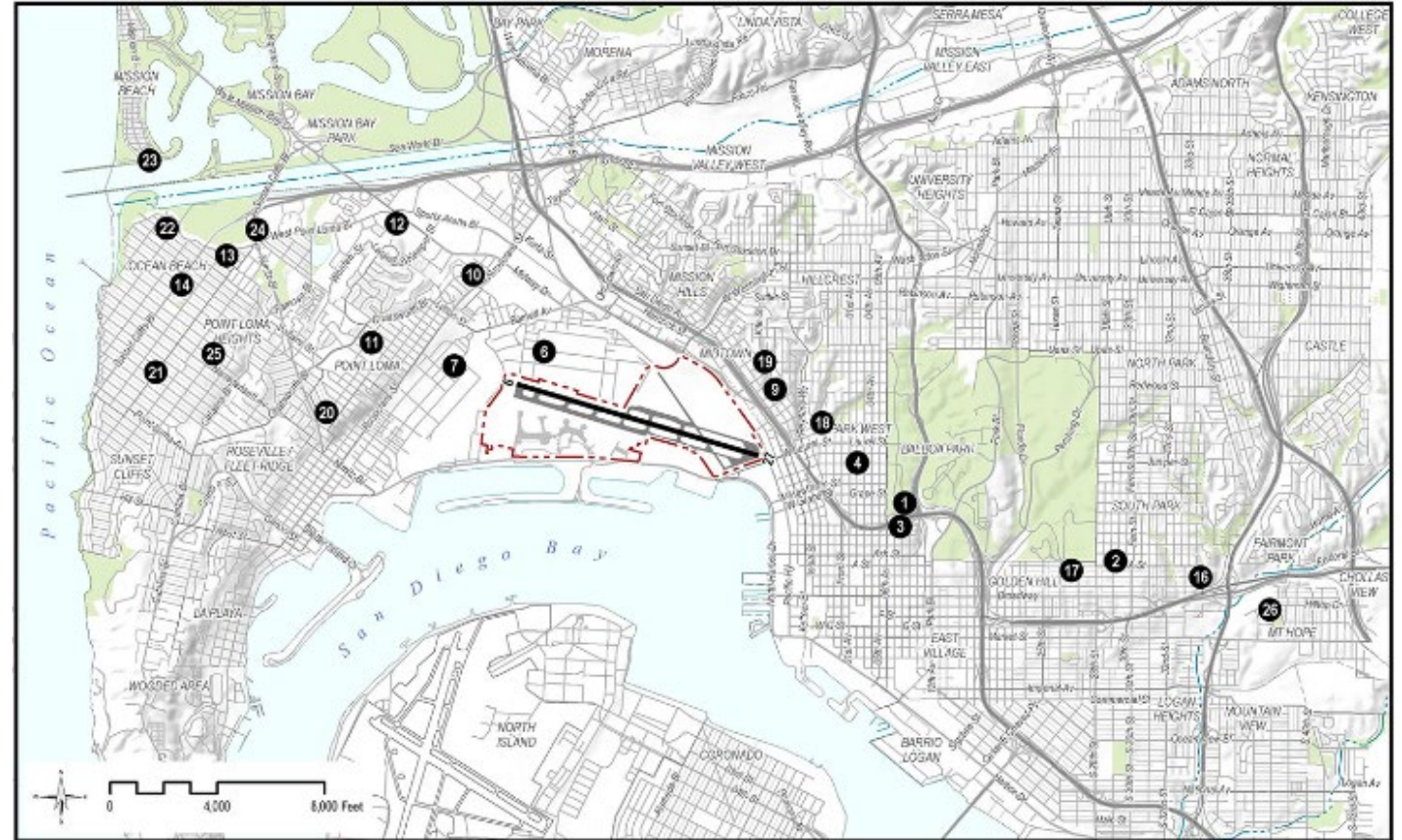


Figure 1. Map of the 23 permanent RMT locations at SAN, San Diego, CA.

Location

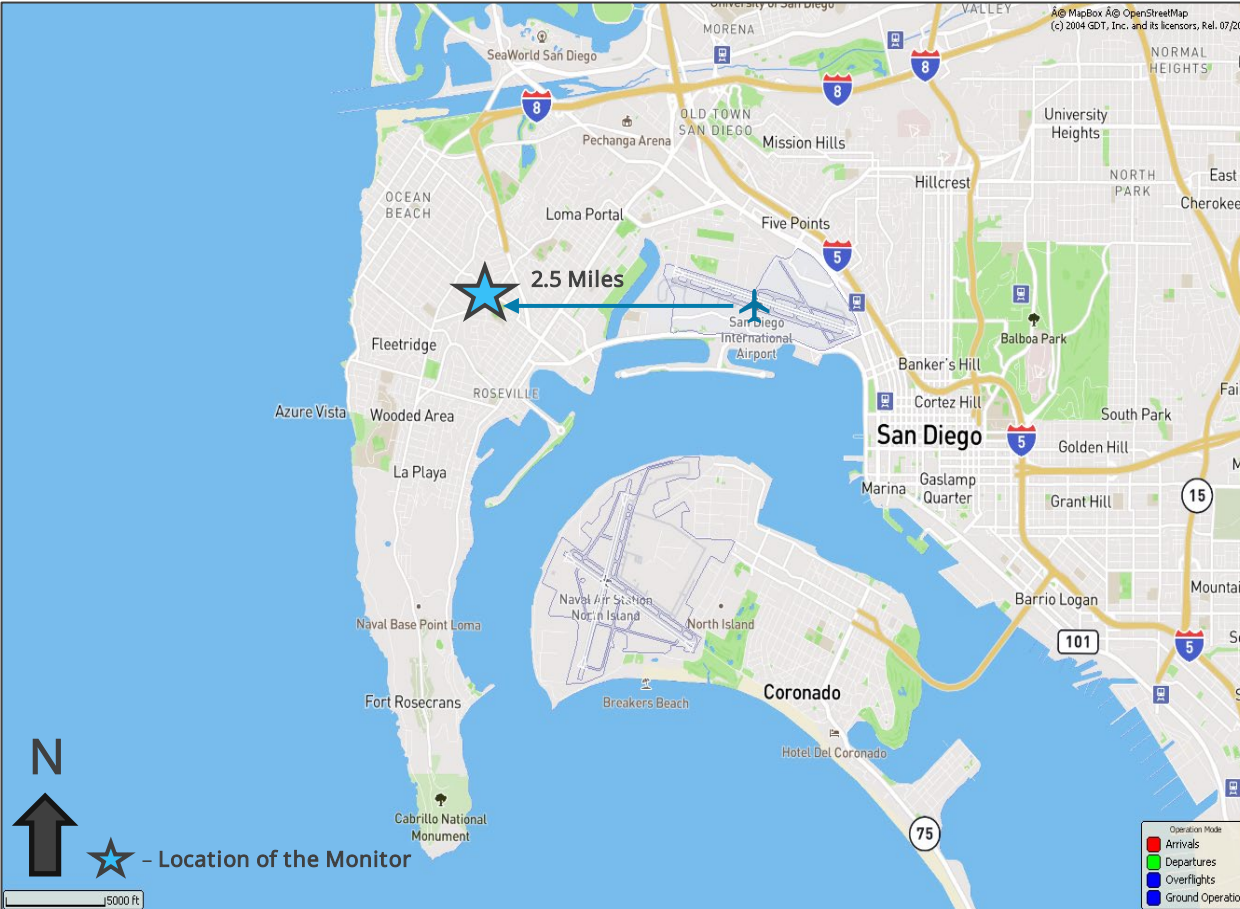


Figure 2. Map of the Portable Noise Monitoring location during July 21 – August 1, 2025 measurement.

Location: Milan Street, San Diego, CA 92107.

Dates of Monitoring: July 21 – August 1, 2025.

Distance from SAN: The monitor was located approximately 2.5 miles west from the center of the Airport.

On-Site Set Up: The noise monitor was placed on the patio of a private and secure property. The monitor operated continuously during the entire 12-day measurement period. The first and last days were partial measurement days, used for setup and take-down. The monitor was placed on a dry, solid surface, and the microphone was approximately six feet above the surface and was obstruction free.



Figure 3. Portable Monitor.

Methodology

Measurements were taken using a B&K Class I, 2250 Sound Level Meter.*
The meter is a 'precision' grade analyzer, which was calibrated prior to the test.

The following baseline thresholds were established: 62 dBA for Daytime (7:00 a.m. – 7:00 p.m.), 60 dBA for Evening (7:00 p.m. – 10:00 p.m.) and 58 dBA for Nighttime (10:00 p.m. – 7:00 a.m.).

The baseline threshold levels were established to match the nearest permanent RMT. For a sound event to register, the Equivalent Continuous Sound Level (LEQ) needed to exceed the corresponding threshold, and last for a predetermined minimum duration of time, which was 11 seconds for Daytime, 11 seconds for Evening, and 13 seconds for Nighttime. The maximum duration was 60 seconds, and an event would be discarded beyond that time.

For consistency, the portable monitor clock was synchronized to the same source used by ANOMS. The sound level meter recorded the following information about each noise event: date, time, duration, and noise levels.



Figure 4. B&K Class I, 2250 Sound Level Meter and associated field equipment.

Note: <https://www.bksv.com/en/instruments/handheld/sound-level-meters/2250-series/type-2250-i>

* This meter meets Class I American National Institute Standards, Inc. (ANSI) S1.4:2014

Noise Definitions

Noise, by definition, is unwanted sound. There are many ways to describe noise (metrics); however, the most commonly relied-on metric is the **decibel (dB)**.

A-weighting (dBA) is used to adjust (filter) for frequency range of human hearing.

A number of factors affect sound, including weather, ground effects, as well as human reaction to the noise source.

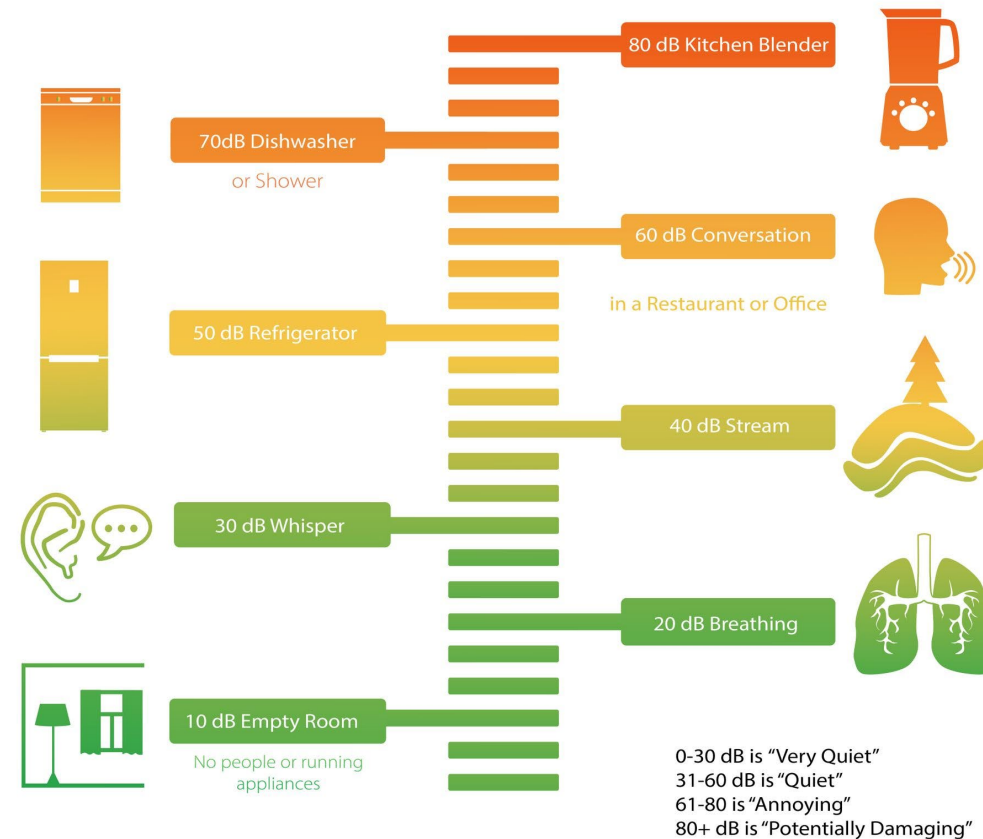


Figure 5. Common Sound Levels
Source: <https://www.sylvane.com/blog/how-loud-is-a-decibel>

Noise Definitions (cont.)

SEL – most common measure of cumulative noise exposure for a single aircraft flyover is the Sound Exposure Level (SEL).

Mathematically, it represents the sum of sound energy over the duration of a noise event.

Conceptually, it equates to an equivalent noise event with a one-second duration.

Lmax – Maximum Sound Level is a measurement of the peak level of a sound event.

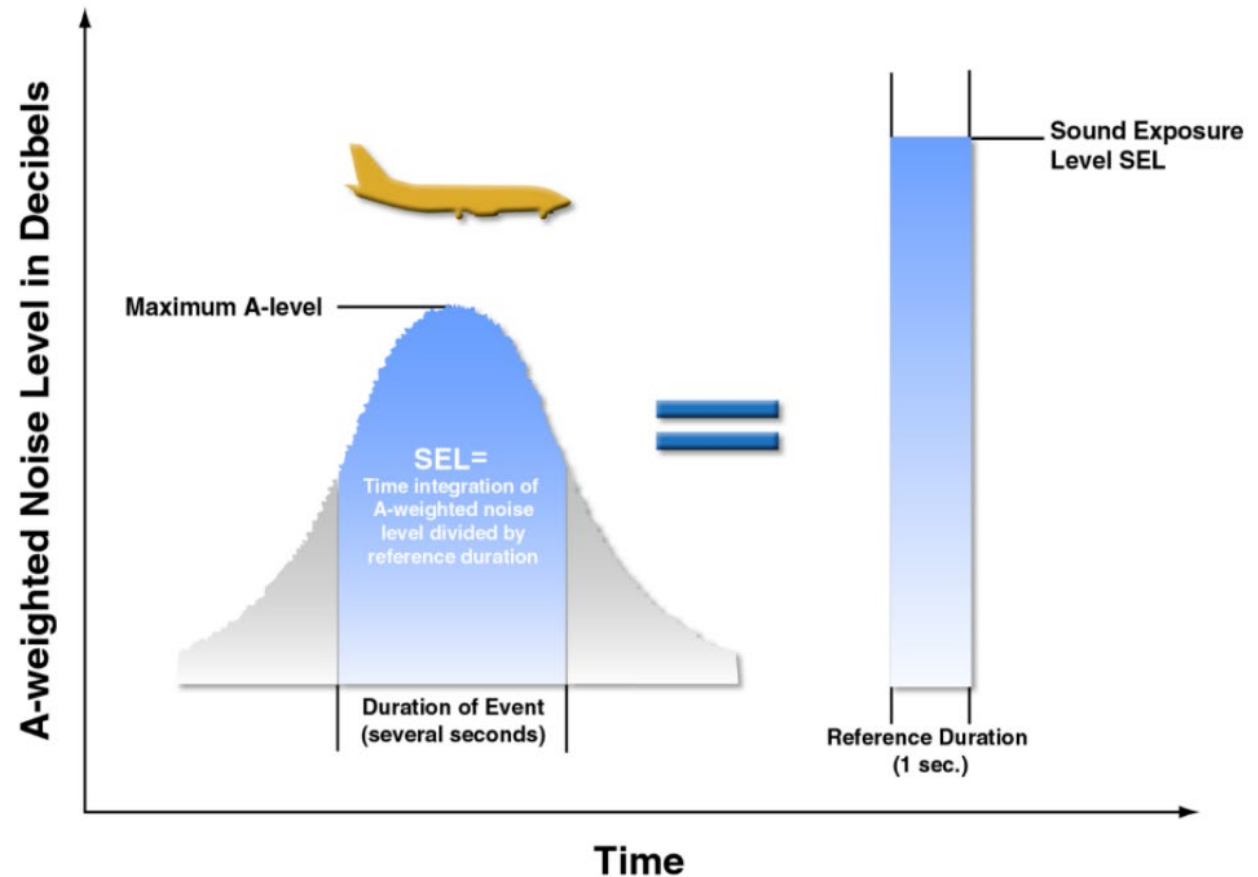


Figure 6. Sound Exposure Level and Maximum Sound Level.
Source: Brown-Buntin Associates, Inc.

Metrics

The FAA and other federal agencies have established land use compatibility guidelines based on the Community Noise Equivalent Level (CNEL). CNEL is a weighted average of noise level over a 24-hour period. For CNEL calculation, a penalty of 5 dBA is added between 7 p.m. – 10 p.m. for evening hours, and a penalty of 10 dBA is added for the nighttime hours of 10 p.m. – 7 a.m.

The logic behind these applied penalties is that residents are usually more sensitive to noise at night and during evening hours. CNEL is frequently used in regulations of airport noise impact on the surrounding community. A CNEL (for aircraft noise) exceeding 65 dBA is generally considered a threshold for land use compatibility.

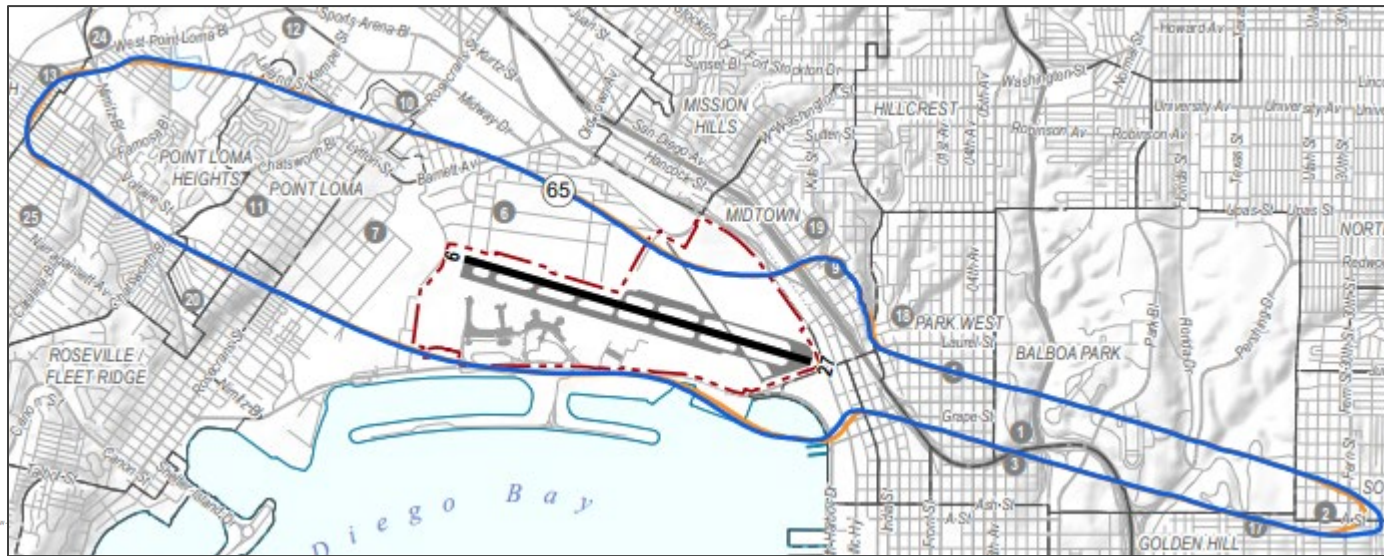


Figure 7. Example of CNEL contour; Source: 1st Quarter 2025, State of California Quarterly Noise Report for SAN.

Figure 8. Flight Tracks during an average day in the testing period.
Location: Milan St., San Diego, CA.
Source: ANOMS.

Aircraft at SAN typically operate in a "west flow" pattern, where they arrive from the east and depart to the west. During inclement weather or high wind conditions, aircraft might operate in a reverse flow, departing to the east and arriving from the west. However, this "east flow" pattern is infrequent and represents approximately 2% – 5% of the total annual operations.

During the full 10-day measurement period, there were 6,768 total SAN operations: 3,377 Arrivals, and 3,386 Departures. Five flights diverted due to inclement weather conditions. The average number of flights per day was 677 (rounded whole number).

Flight tracks in Figure 8 are a sample of a "typical" day taken from July 30, 2025, and represent 672 flights.

Daily Noise Event Data

Date	SAN Aircraft			Community		
	Noise Events (Quantity)	Average SEL (dB)	Average Lmax (dB)	Noise Events (Quantity)	Average SEL (dB)	Average Lmax (dB)
7/22/2024	169	82	72	5	95	83
7/23/2024	164	81	72	1	82	71
7/24/2024	156	81	72	2	89	78
7/25/2024	186	81	71	7	80	70
7/26/2024	169	81	71	12	78	69
7/27/2024	173	81	72	6	80	69
7/28/2024	183	81	72	8	79	70
7/29/2024	140	81	72	17	82	71
7/30/2024	158	81	72	7	92	80
7/31/2024	168	81	71	3	80	72

Figure 9. Daily noise events averages.
Location: Milan St., San Diego, CA.
Source: ANOMS.

Note: Full 24-hour days of measurements are displayed.
Partial measurement (setup/takedown) days are not shown.
Quantity "zero" noise events and average levels indicate that those were not registered by the Sound Level Meter.

Loudest Aircraft Noise Events

Aircraft Type	Airline	Event Date / Time	Airport	SEL (dB)	Lmax (dB)	Altitude ¹ at Lmax (Feet MSL ²)
A321	jetBlue Airways	7/28/25 2:33 PM	San Diego International Airport	86.7	77.4	1,979
A321	Delta Air Lines	7/26/25 2:44 PM	San Diego International Airport	86.5	76.5	1,867
B763	DHL Airlines	7/22/25 6:31 PM	San Diego International Airport	85.9	75.5	2,483
B763	DHL Airlines	7/25/25 6:04 PM	San Diego International Airport	85.9	76.2	2,641
A321	Frontier Airlines	7/24/25 10:01 AM	San Diego International Airport	85.6	75.0	1,738
B763	DHL Airlines	7/29/25 6:02 PM	San Diego International Airport	85.3	74.7	2,539
B738	Southwest Airlines	7/27/25 10:13 AM	San Diego International Airport	85.2	79.0	1,820
B763	DHL Airlines	7/30/25 6:05 PM	San Diego International Airport	85.2	75.0	2,700
A321	jetBlue Airways	7/23/25 11:35 AM	San Diego International Airport	85.1	75.8	1,890
A332	Hawaiian Airlines	7/26/25 9:51 AM	San Diego International Airport	85.0	75.5	1,616

Figure 10. Loudest aircraft noise events July 21 – August 1, 2025.

Location: Milan St., San Diego, CA.

Altitude¹ – at which Lmax was registered.

MSL² – Above Mean Sea Level.

Source: ANOMS.

Noise Summary

In general, there are three sources of emitted energy, as it relates to sound measurements.

SAN Aircraft – sound solely attributed to aircraft operating at SAN.

Non-SAN Aircraft – sound is measured for all “other” aircraft that do not operate in or out of SAN.

Community – sound, also known as Ambient, includes sound events from all other sources such as vehicular traffic, landscaping activities, conversations, construction activities, kids playing, etc.

Noise Event Breakdown	
SAN Aircraft	1,666
Community Events	68

Figure 13. Registered Noise Events for Milan St., San Diego, CA.
Source: ANOMS.

Date	Daily SAN Aircraft CNEL (dB)
7/22/2025	59
7/23/2025	59
7/24/2025	57
7/25/2025	59
7/26/2025	58
7/27/2025	58
7/28/2025	58
7/29/2025	57
7/30/2025	57
7/31/2025	58

Figure 11. Daily Aircraft CNEL Levels for Milan St., San Diego, CA.
Source: ANOMS.

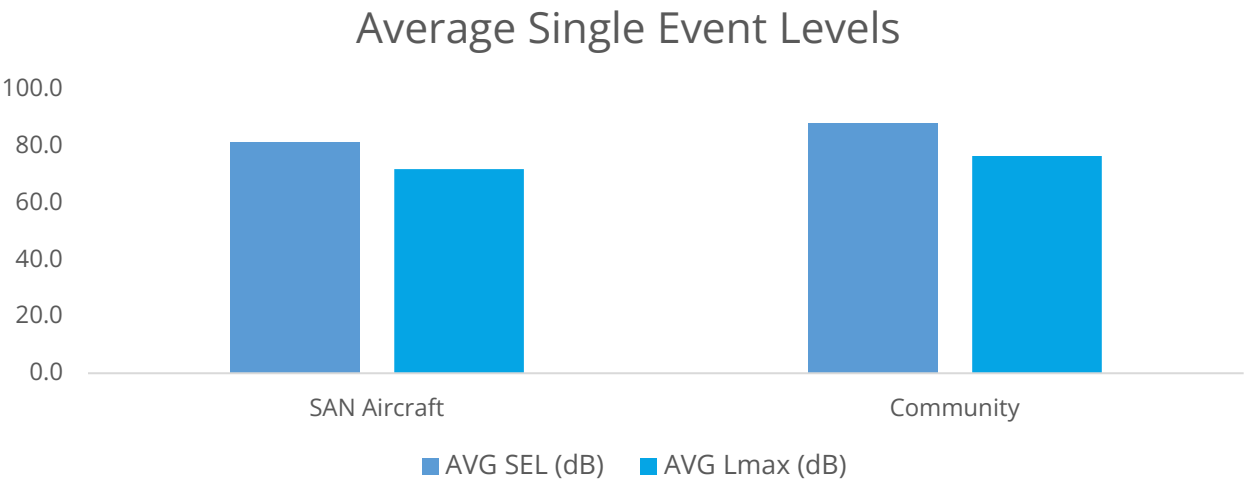
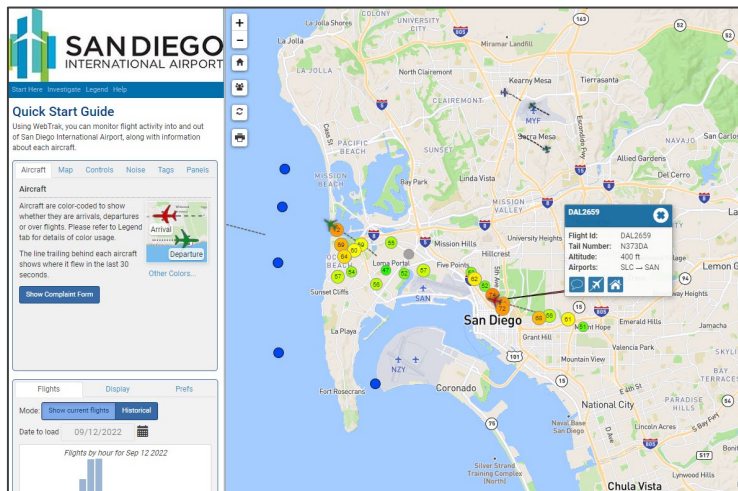


Figure 12. Average Single Event Levels for Milan St., San Diego, CA.
Source: ANOMS.

Additional Resources

If you have any additional questions about the information in this report, or any other aircraft noise related concerns, please contact our Aircraft Noise Office at (619) 400 – 2660 and ask for a Noise Specialist.

For additional information you can review aircraft flight tracks, file a noise complaint, or attend an Airport Noise Advisory Committee (ANAC) meeting.



If you want to research an aircraft, you can view the near-real time flight tracks on our website:

<https://webtrak.emsbk.com/san>



Three ways to file a complaint:

1. On the Web:
<https://webtrak.emsbk.com/san>
2. Through the Mobile App:
<https://viewpoint-app.emsbk.com/san4/login>
3. By telephone: (619) 400 – 2799

Learn more about what efforts have been done to reduce aircraft noise in the community or voice a concern about aircraft noise by attending a quarterly **Airport Noise Advisory Committee meeting**.

More information can be found on our website:

<https://www.san.org/Aircraft-Noise/Initiatives>