



Portable Noise Monitor Report

Prepared by: Aircraft Noise Office

For: Barnard St., San Diego, CA

September 16, 2025

Portable Noise Monitoring Summary

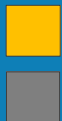
? WHEN WAS NOISE MEASURED

August 12 – 27, 2025



16
Days

	S	M	T	W	T	F	S
August 2025			12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27			



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	Aircraft Image	Airport ID
1	B737		SAN
2	E75L		SAN
3	A321		SAN
4	B763		SAN

💡 CONCLUSION

During the 14 full (24-hour) day measurement period, the Community Noise Equivalent Level (CNEL) from aircraft noise* was 65.5 decibels (dB), while the CNEL from community noise was 54.6 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
66	55	66

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.

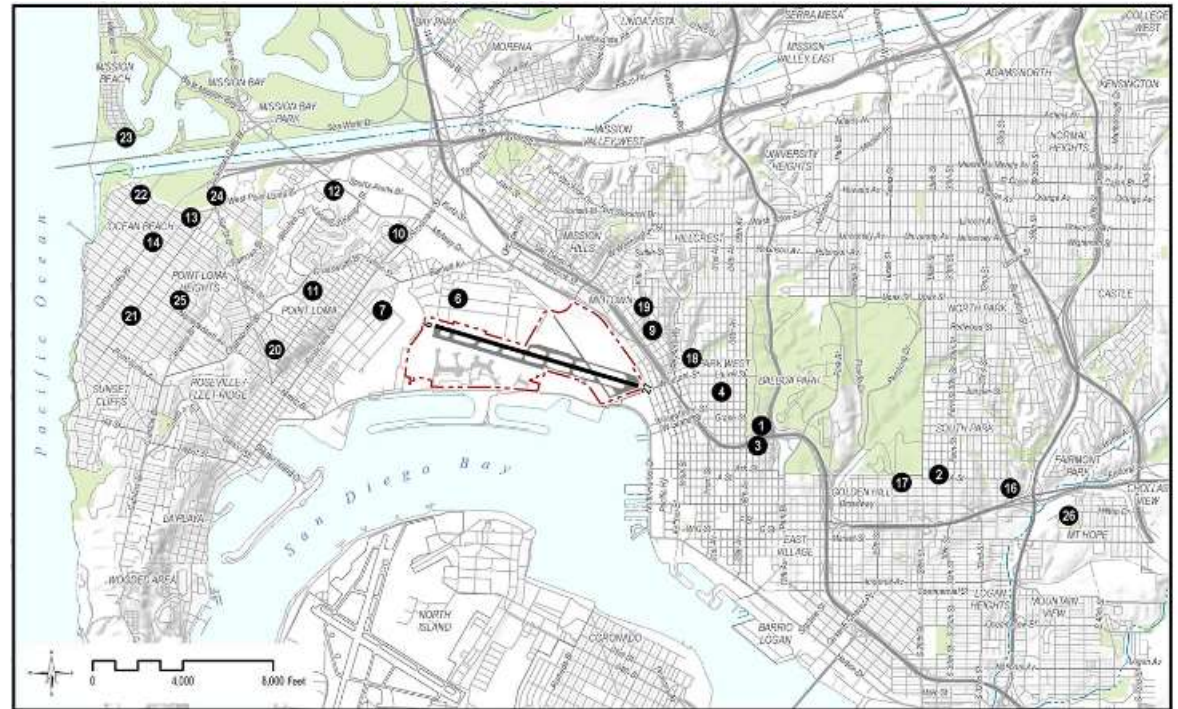


Figure 1. Map of the 23 permanent RMT locations at SAN, San Diego, CA.

Location

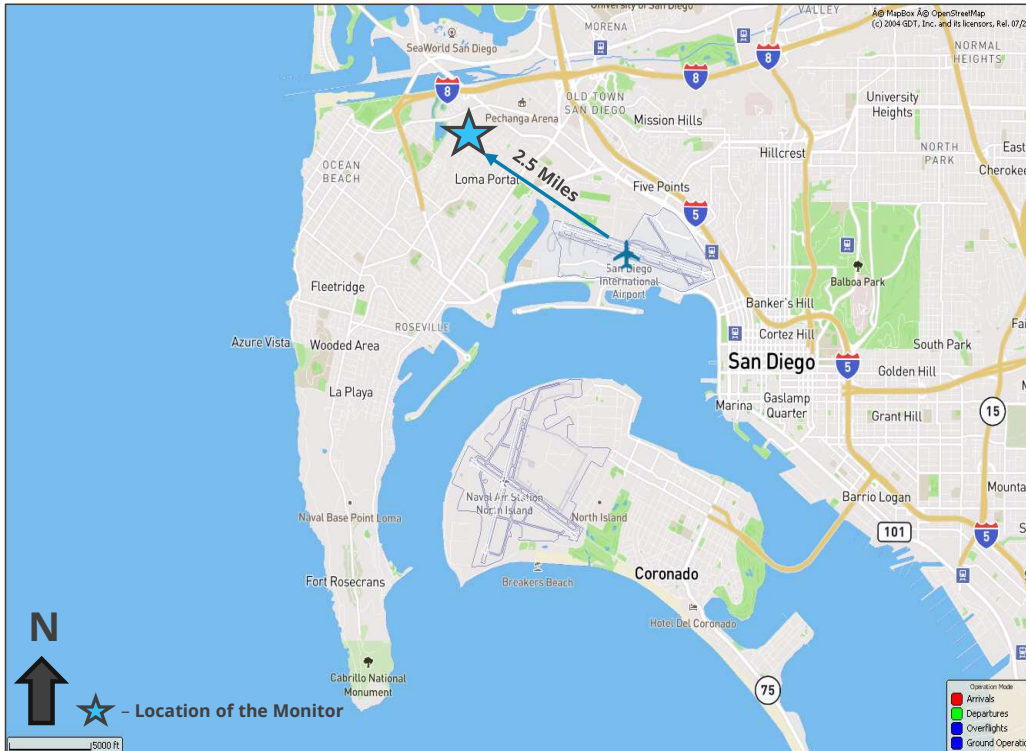


Figure 2. Map of the Portable Noise Monitoring location during August 12 – 27, 2025 measurement.

Location: Barnard Street, San Diego, CA 92110.

Dates of Monitoring: August 12 – 27, 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 16-day measurement period. The first and last days were partial measurement days, used for set-up 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 (5:00 a.m. – 7:00 p.m.), 60 dBA for Evening (7:00 p.m. – 10:00 p.m.) and 60 dBA for Nighttime (10:00 p.m. – 5:00 a.m.).

The baseline threshold levels were established to match the nearest permanent NMT. 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, 12 seconds for Evening, and 14 seconds for Nighttime. The maximum duration was 60 seconds for daytime and evening. While the maximum duration was 66 seconds for night, 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.

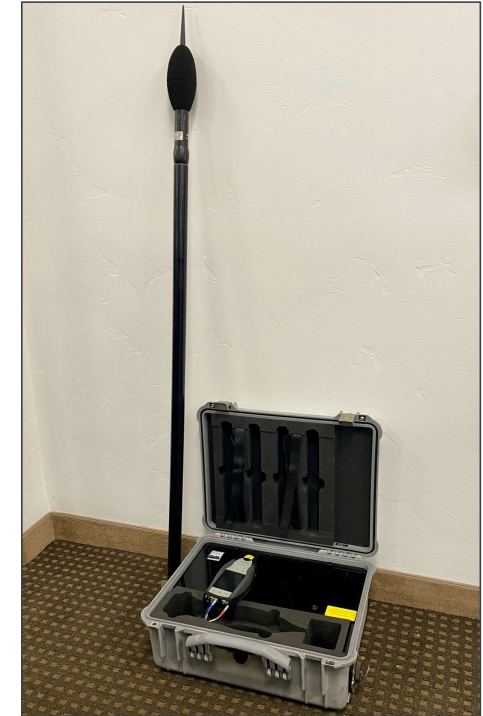


Figure 4. B&K Class I, 2250 Sound Level Meter and associated field equipment.

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

* 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.

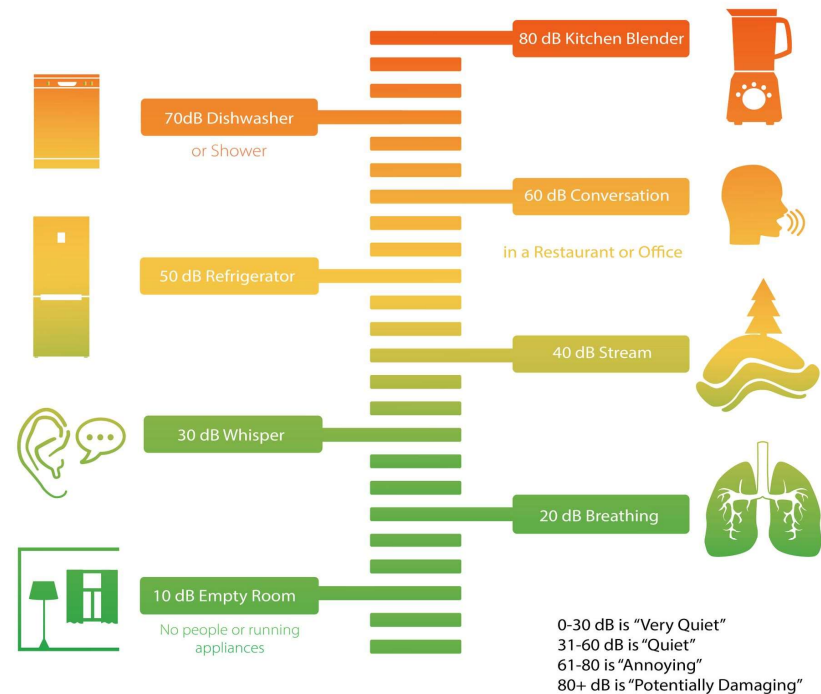


Figure 5. Common Sound Levels
Source: <https://www.sylvane.com/blog/how-loud-is-a-decibel>

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.

L_{max} – Maximum Sound Level is a measurement of the peak level of a sound event.

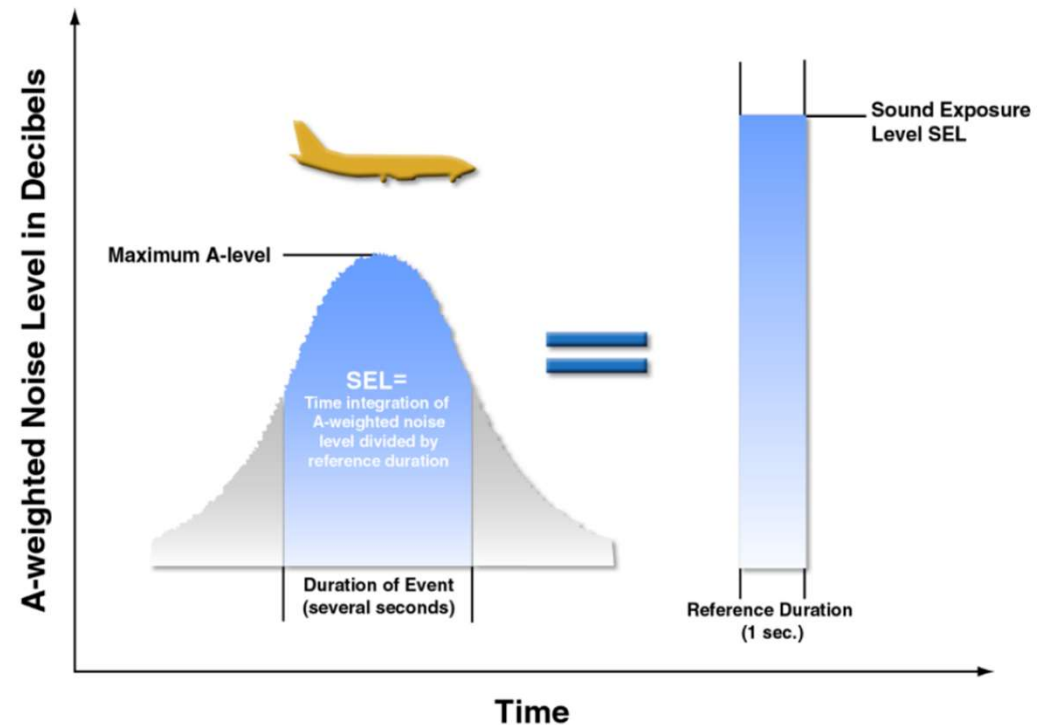


Figure 6. Sound Exposure Level and Maximum Sound Level.
Source: Brown-Buntin Associates, Inc.

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.

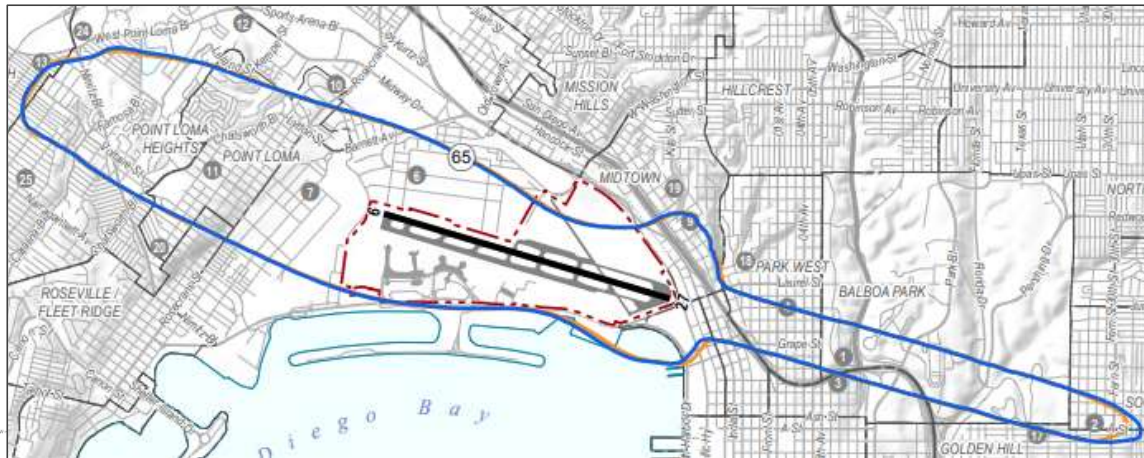
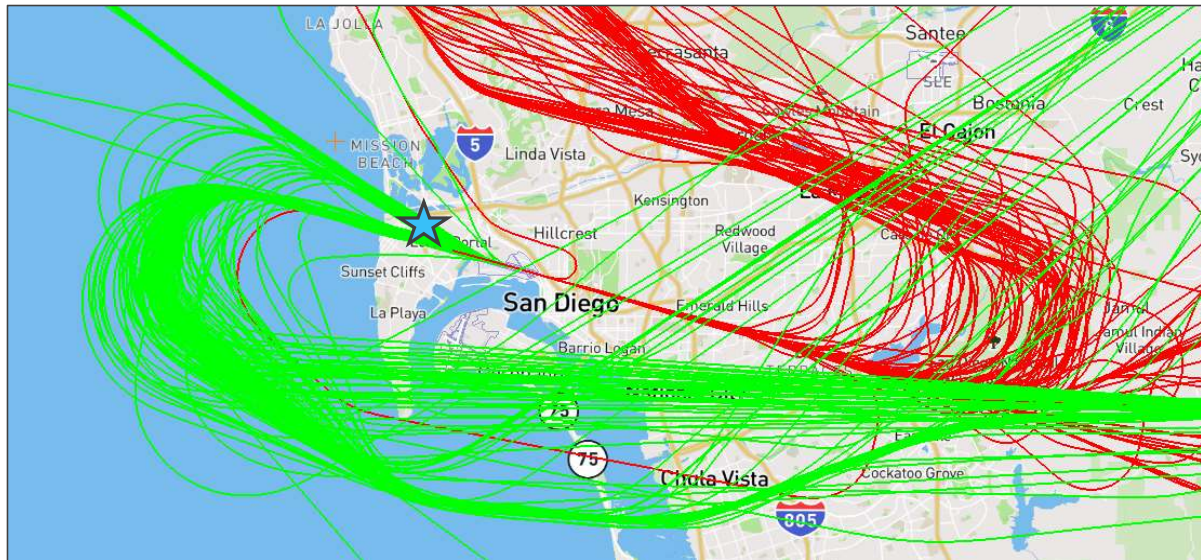


Figure 7. Example of CNEL contour; Source: 1st Quarter 2025, State of California Quarterly Noise Report for SAN.

Aircraft Operations



N
↑ ★ - Location of the Monitor

Figure 8. Flight Tracks during an average day in the testing period.
Location: Barnard 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 14-day measurement period, there were 9,104 total SAN operations: 4,553 Arrivals, and 4,551 Departures. The average number of flights per day was 650 (rounded whole number).

Flight tracks in Figure 8 are a sample of a "typical" day taken from August 17, 2025, and represent 692 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)
8/13/2025	265	86	77	7	88	77
8/14/2025	312	86	77	2	80	72
8/15/2025	324	87	78	2	88	79
8/16/2025	254	87	78	3	84	75
8/17/2025	313	87	78	0	0	0
8/18/2025	317	86	77	28	83	72
8/19/2025	233	86	77	11	82	70
8/20/2025	249	86	77	14	92	81
8/21/2025	321	86	76	0	0	0
8/22/2025	268	86	77	0	0	0
8/23/2025	233	86	77	3	79	70
8/24/2025	311	86	77	3	81	72
8/25/2025	305	87	78	2	85	73
8/26/2025	247	86	77	3	85	78

Figure 9. Daily noise events averages.
Location: Barnard 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)
A332	Hawaiian Airlines	8/15/25 9:40 AM	San Diego International Airport	94.8	86.2	1,511
A332	Hawaiian Airlines	8/24/25 11:41 AM	San Diego International Airport	93.3	85.5	1,626
A321	Delta Air Lines	8/23/25 10:46 PM	San Diego International Airport	93.2	83.9	1,721
A332	Hawaiian Airlines	8/17/25 9:44 AM	San Diego International Airport	92.3	83.5	1,467
B738	Alaska Airlines	8/16/25 5:54 PM	San Diego International Airport	92.2	83.2	1,653
A321	American Airlines	8/17/25 10:55 PM	San Diego International Airport	92.0	83.8	1,479
B737	Southwest Airlines	8/24/25 9:24 PM	San Diego International Airport	91.9	82.0	1,871
A321	Delta Air Lines	8/17/25 10:57 PM	San Diego International Airport	91.7	83.2	1,703
B738	Delta Air Lines	8/15/25 2:12 PM	San Diego International Airport	91.6	84.0	1,601
A332	Hawaiian Airlines	8/21/25 9:35 AM	San Diego International Airport	91.6	81.2	1,850

Figure 10. Loudest aircraft noise events August 13 – 26, 2025.

Location: Barnard 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	3,952
Community Events	78

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

Date	Daily SAN Aircraft CNEL (dB)
8/13/2025	65
8/14/2025	66
8/15/2025	67
8/16/2025	66
8/17/2025	67
8/18/2025	66
8/19/2025	65
8/20/2025	65
8/21/2025	65
8/22/2025	65
8/23/2025	65
8/24/2025	66
8/25/2025	66
8/26/2025	64

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

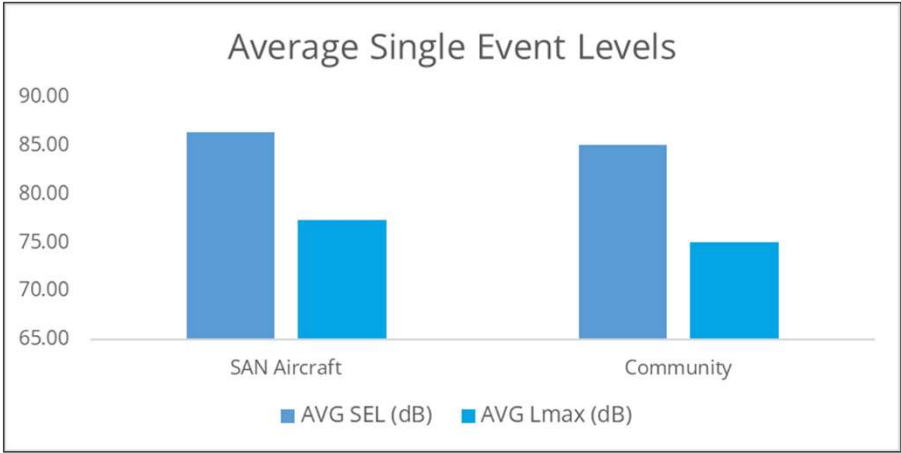
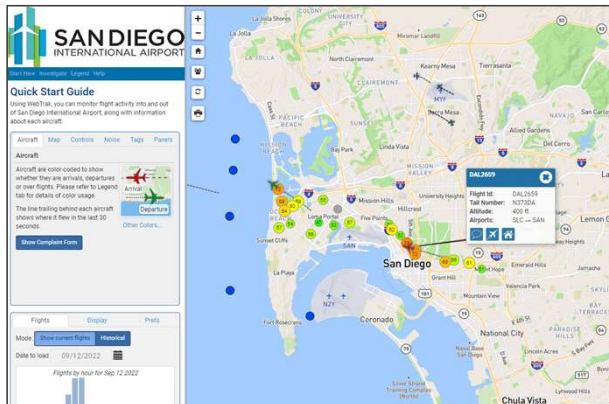


Figure 12. Average Single Event Levels for Barnard St., San Diego, CA.
Source: ANOMS.

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>