

**JOHN WAYNE AIRPORT  
ORANGE COUNTY**



# **NOISE ABATEMENT PROGRAM QUARTERLY REPORT**

**For the period:  
January 1, 2023 through March 31, 2023**

**Prepared in accordance with:**

**AIRPORT NOISE STANDARD  
STATE OF CALIFORNIA**

**California Code of Regulations  
Airport Noise Standards  
Title 21: Public Works  
Division of Aeronautics (Department of Transportation)  
Chapter 6. Noise Standards**

**Submitted by:**

DocuSigned by:

*Charlene Reynolds*

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**Charlene V. Reynolds  
Airport Director  
John Wayne Airport, Orange County**

## **INTRODUCTION**

This is the 201<sup>st</sup> Quarterly Report submitted by the County of Orange in accordance with the requirements of the California Airport Noise Standards (California Code of Regulations, Title 21: Public Works, Division 2.5, Division of Aeronautics (Department of Transportation), Chapter 6. Noise Standards). Effective January 1, 1986, the criteria for defining "Noise Impact Area" was changed from 70 dB to 65 dB Community Noise Equivalent Level (CNEL). Under this criteria, John Wayne Airport currently has a "Noise Impact Area."

## **NOISE IMPACT SUMMARY**

Caltrans' Aeronautics Program has established guidelines in the California State Noise Standard to control residential area noise levels produced by aircraft operations using the State's airports. Under those guidelines, residential noise sensitive areas exposed to an average Community Noise Equivalent Level (CNEL) of more than 65 dB define the "Noise Impact Area." John Wayne Airport uses ten permanent remote noise monitoring stations (NMS) located in Newport Beach, Santa Ana, Tustin and Irvine to measure noise levels, at the following locations:

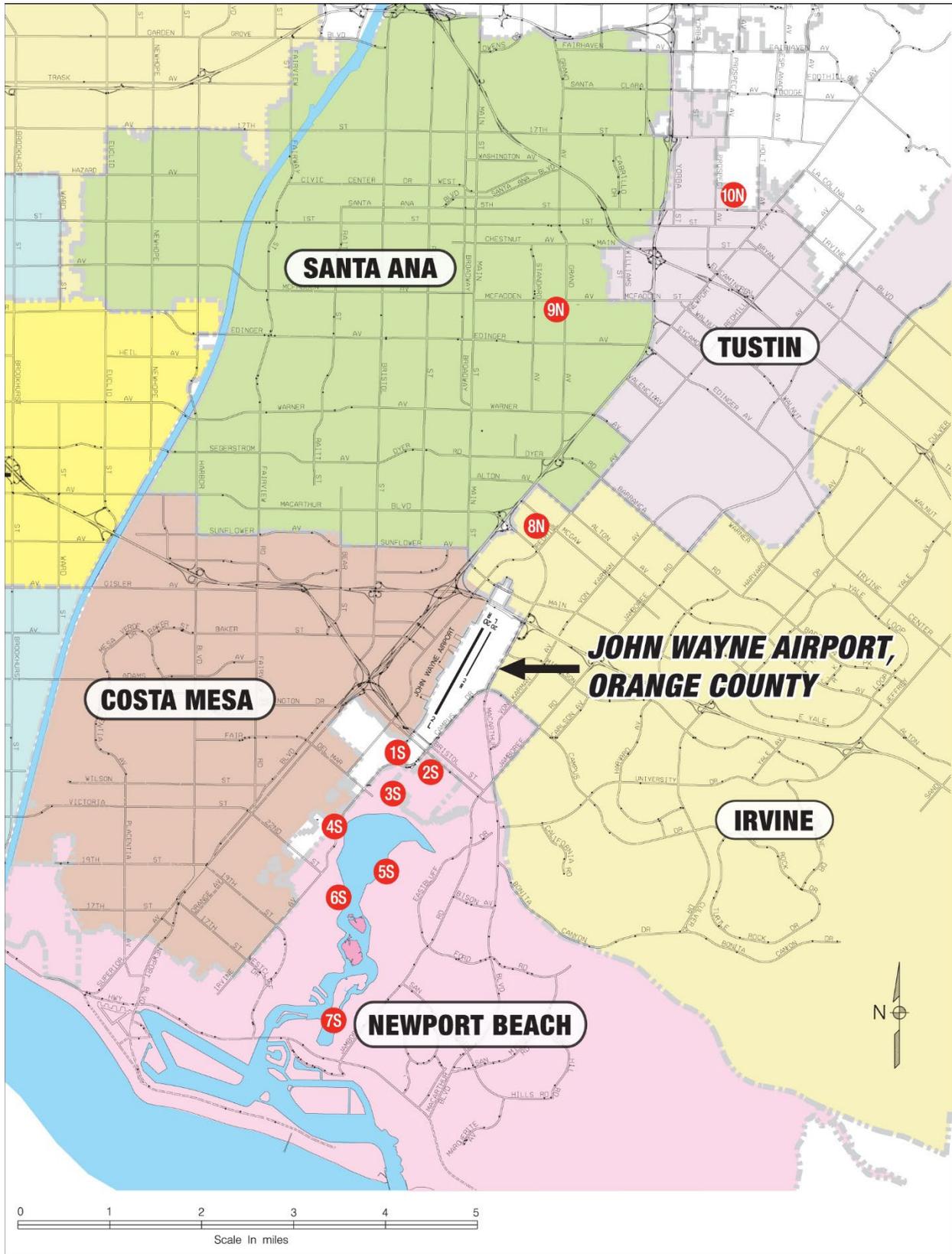
### MONITOR STATIONS

NMS-1S: Golf Course, 3100 Irvine Ave., Newport Beach  
NMS-2S: 20162 S.W. Birch St., Newport Beach  
NMS-3S: 2139 Anniversary Lane, Newport Beach  
NMS-4S: 2338 Tustin Ave., Newport Beach  
NMS-5S: 324 ½ Vista Madera, Newport Beach  
NMS-6S: 1912 Santiago, Newport Beach  
NMS-7S: 1131 Back Bay Drive, Newport Beach  
NMS-8N: 17372 Eastman Street, Irvine  
NMS-9N: 1300 S. Grand Avenue, Santa Ana  
NMS-10N: 17952 Beneta Way, Tustin

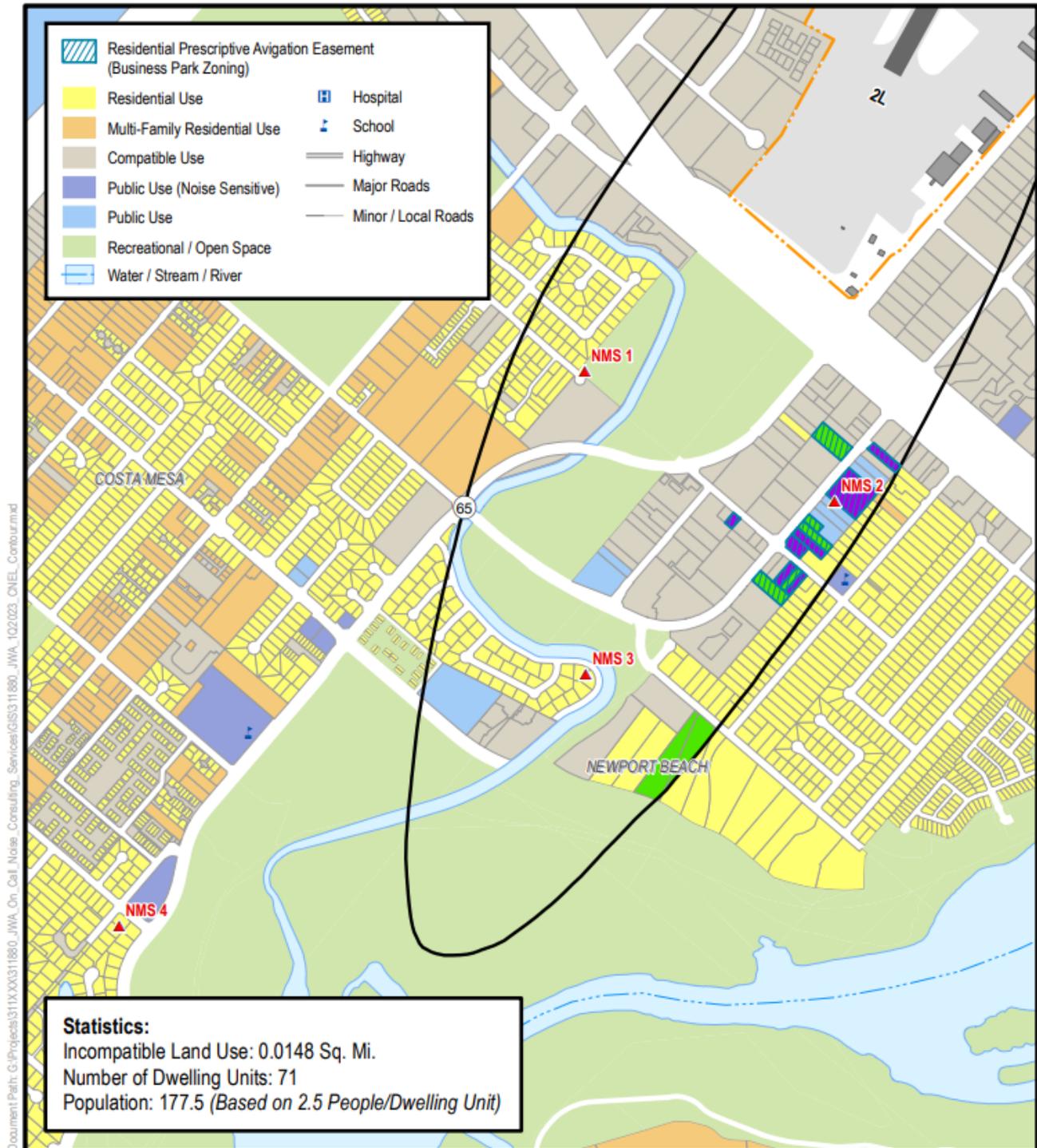
The map in Figure 1 shows the general location of each permanent remote monitor station.

Figure 2 shows the Airport's "Noise Impact Area" for the previous year (April 1, 2022 - March 31, 2023). The Figure 2 information was developed by Harris Miller Miller and Hanson Inc., in consultation with John Wayne Airport. CNEL values measured for the period and current digitized land use information were utilized to calculate the land area acreages, number of residences and estimated number of people within the "Noise Impact Area".

**FIGURE 1  
NOISE MONITORING STATIONS (NMS)  
LOCATION MAP**



**FIGURE 2  
2023 FIRST QUARTER**



Document Path: G:\Projects\311X\311880\_JWA\_On\_Call\_Noise\_Consulting\_Services\GIS\311880\_JWA\_1021023\_CNEL\_Contour.mxd

- ▲ RMT Location
- 2023 First Quarter 65 dB CNEL Contour
- Incompatible Single Family Residential
- Incompatible Multi-Family Residential
- Airport Property (Approx.)
- Runways / Taxiways
- Airport Buildings

0 1,000 2,000 Feet

**JOHN WAYNE AIRPORT  
ORANGE COUNTY**



**2023 First Quarter 65 dB  
Community Noise Equivalent Level  
(CNEL) Contour**



**AIRCRAFT TRAFFIC SUMMARY**

The Airport traffic summary for this quarter is shown in Table 1 below. Air Carrier operational count histories and average daily departure counts are illustrated in Tables 9 & 11.

TABLE 1  
 LANDING AND TAKEOFF OPERATIONS  
 January - March 2023

| Period                               | Carriers |      | GA Jet (1) | Total Operations (2) | Average Daily Jet Operations |
|--------------------------------------|----------|------|------------|----------------------|------------------------------|
|                                      | Jet      | Prop |            |                      |                              |
| January                              | 8,138    | 0    | 3,211      | 20,413               | 366                          |
| February                             | 7,400    | 0    | 3,444      | 19,166               | 387                          |
| March                                | 8,412    | 0    | 3,854      | 21,118               | 396                          |
| First Quarter                        | 23,950   | 0    | 10,509     | 60,697               | 383                          |
| Twelve Months<br>04/01/22 - 03/31/23 | 101,840  | 0    | 46,293     | 291,496              | 406                          |

**NOTE:** (1) GA Jet figures include a 5% factor for operations not identified by the JWA noise monitor stations.  
 (2) Counts in this column are based upon records provided by the local FAA representatives.

**COMMUNITY NOISE EQUIVALENT LEVELS**

The monthly, quarterly and twelve-month Community Noise Equivalent Level (CNEL) average values for each monitor station are shown in Table 2, while daily CNEL values are shown in Tables 3 through 5. Insufficient data is indicated by "#N/A" entries in each table. Also, "\*#N/A" entries in each table indicate there were no aircraft related noise events.

Average Single Event Noise Exposure Level (SENEL) values for Air Carrier and General Aviation Jet aircraft are shown in Tables 6 through 8.

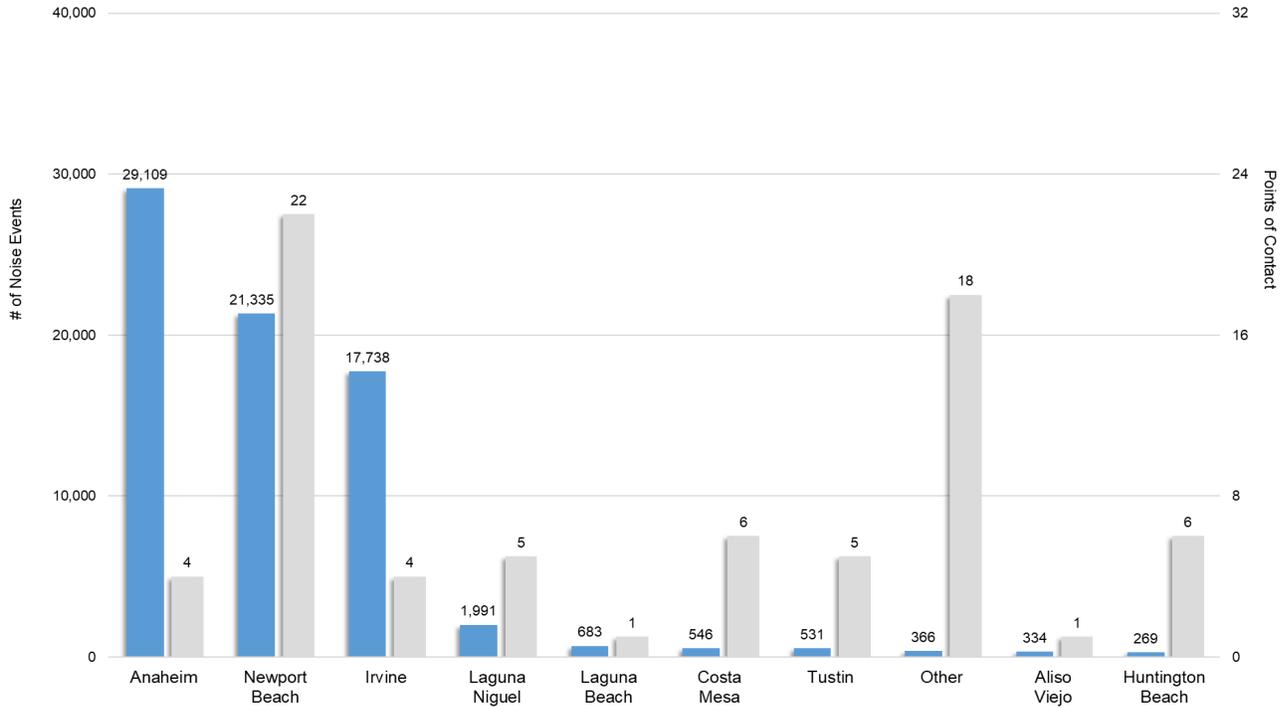
**ACOUSTICAL INSULATION PROGRAM**

Four hundred eighteen residences in the Santa Ana Heights area have been sound attenuated and an avigation easement reserved through the County's Acoustical Insulation Program, which closed in December 2009. The County has also acquired 46 residences as part of the Purchase Assurance Program, many of which were acoustically insulated, an avigation easement reserved and then resold. Among these County acquired homes, those located within areas designated for Business Park uses were razed, avigation easements were reserved, and the land resold for compatible Business Park uses. A total of 464 residences in the Santa Ana Heights area have been purchased or otherwise made compatible through the County's Purchase Assurance and Acoustical Insulation Programs. Seventy-one dwelling units in Santa Ana Heights remain in the "Noise Impacted Area" (within 65 dB CNEL contour).

**COMPLAINT TOTALS (January 1, 2023 - March 31, 2023)**

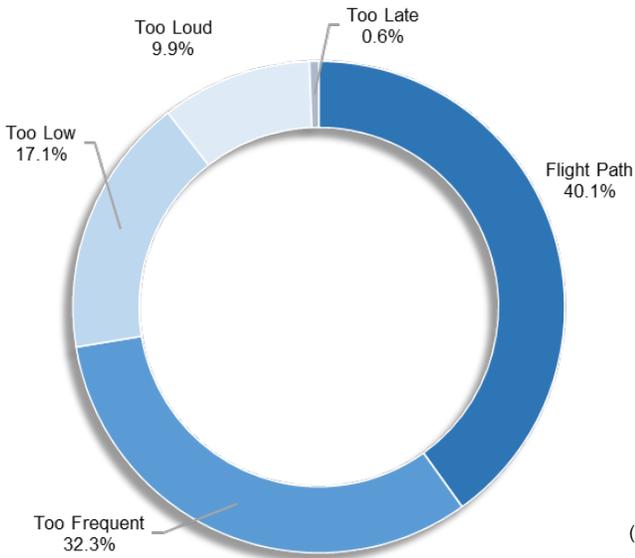
The Airport's Access and Noise Office receives and investigates noise complaints (noise events) from local citizens and all other sources. Figures 3.1, 3.2, and 3.3 illustrate the distribution of reported noise events from local communities, the nature of disturbance, and the method of how the noise events were reported to the Airport.

**FIGURE 3.1  
REPORTED NOISE EVENTS**  
72,902 Noise Events | 72 Points of Contact  
January 1, 2023 to March 31, 2023

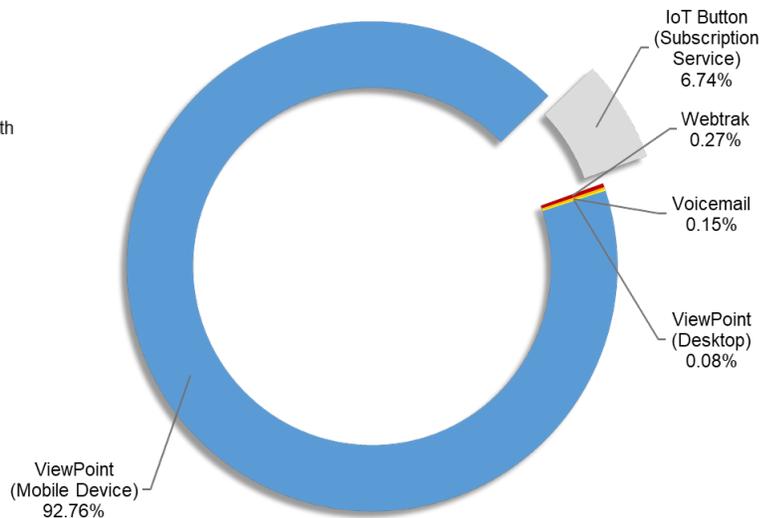


NOTE: The 72,902 Noise Events was a 31.5% decrease for the 106,481 Noise Events from last quarter, and a 17.2% decrease from the 88,075 Noise Events from the same quarter last year.

**FIGURE 3.2  
NATURE OF DISTURBANCES**



**FIGURE 3.3  
ENQUIRY METHOD**



**TABLE 2**  
**LONG TERM MEASURED LEVELS**  
Aircraft CNEL from 04/01/22 through 03/31/23  
Values in dB at Each Site

| Period  | NMS Site    |             |             |             |             |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|   | 1S          | 2S          | 3S          | 4S          | 5S          | 6S          | 7S          | 8N          | 9N          | 10N         |
| Apr 2022  | 67.6        | 66.3        | 66.8        | 59.8        | 59.4        | 60.1        | 56.7        | 68.1        | 42.8        | 57.5        |
| # Days  | 30          | 30          | 30          | 30          | 30          | 30          | 30          | 29          | 25          | 30          |
| May 2022  | 68.0        | 66.5        | 67.1        | 60.5        | 59.6        | 60.2        | 57.1        | 68.3        | 41.9        | 57.9        |
| # Days  | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 23          | 31          |
| Jun 2022  | 68.1        | 66.8        | 67.3        | 60.0        | 58.9        | 60.0        | 56.2        | 68.8        | 40.8        | 57.5        |
| # Days  | 30          | 28          | 30          | 30          | 30          | 30          | 30          | 30          | 21          | 30          |
| <b>Q-2 2022</b>                                     | <b>67.9</b> | <b>66.5</b> | <b>67.1</b> | <b>60.1</b> | <b>59.3</b> | <b>60.1</b> | <b>56.7</b> | <b>68.4</b> | <b>42.0</b> | <b>57.7</b> |
| <b># Days</b>                                       | <b>91</b>   | <b>89</b>   | <b>91</b>   | <b>91</b>   | <b>91</b>   | <b>91</b>   | <b>91</b>   | <b>90</b>   | <b>69</b>   | <b>91</b>   |
| Jul 2022  | 68.0        | 66.7        | 67.1        | 60.1        | 59.3        | 60.4        | 56.1        | 68.7        | 41.9        | 57.4        |
| # Days  | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 30          | 26          | 31          |
| Aug 2022  | 68.0        | 66.9        | 67.2        | 59.8        | 59.2        | 60.2        | 56.0        | 68.3        | 41.5        | 57.2        |
| # Days  | 31          | 31          | 31          | 26          | 31          | 31          | 31          | 31          | 26          | 31          |
| Sep 2022  | 67.9        | 66.9        | 67.1        | 59.2        | 59.0        | 60.2        | 56.3        | 68.4        | 43.1        | 57.2        |
| # Days  | 30          | 30          | 30          | 30          | 30          | 30          | 30          | 27          | 21          | 30          |
| <b>Q-3 2022</b>                                     | <b>68.0</b> | <b>66.8</b> | <b>67.1</b> | <b>59.7</b> | <b>59.2</b> | <b>60.3</b> | <b>56.1</b> | <b>68.5</b> | <b>42.2</b> | <b>57.3</b> |
| <b># Days</b>                                       | <b>92</b>   | <b>92</b>   | <b>92</b>   | <b>87</b>   | <b>92</b>   | <b>92</b>   | <b>92</b>   | <b>88</b>   | <b>73</b>   | <b>92</b>   |
| Oct 2022  | 68.4        | 67.6        | 67.4        | 60.0        | 59.7        | 60.7        | 56.6        | 68.5        | 44.3        | 57.8        |
| # Days  | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 24          | 31          |
| Nov 2022  | 67.7        | 66.6        | 66.8        | 59.8        | 58.4        | 60.6        | 56.5        | 68.2        | 41.7        | 57.7        |
| # Days  | 30          | 30          | 30          | 29          | 27          | 30          | 29          | 29          | 26          | 28          |
| Dec 2022  | 68.2        | 66.9        | 67.4        | 60.3        | 59.8        | 60.7        | 57.4        | 67.4        | 42.8        | 58.3        |
| # Days  | 31          | 31          | 20          | 31          | 31          | 30          | 31          | 27          | 17          | 30          |
| <b>Q-4 2022</b>                                     | <b>68.1</b> | <b>67.1</b> | <b>67.2</b> | <b>60.1</b> | <b>59.4</b> | <b>60.6</b> | <b>56.9</b> | <b>68.1</b> | <b>43.1</b> | <b>57.9</b> |
| <b># Days</b>                                       | <b>92</b>   | <b>92</b>   | <b>81</b>   | <b>91</b>   | <b>89</b>   | <b>91</b>   | <b>91</b>   | <b>87</b>   | <b>67</b>   | <b>89</b>   |
| Jan 2023  | 67.7        | 66.0        | 66.8        | 59.9        | 59.2        | 61.0        | 57.2        | 67.4        | #N/A        | 58.3        |
| # Days  | 31          | 31          | 31          | 31          | 28          | 31          | 30          | 31          | 0           | 31          |
| Feb 2023  | 67.6        | 66.1        | 66.4        | 59.8        | 59.0        | 59.9        | 56.6        | 68.0        | #N/A        | 57.8        |
| # Days  | 28          | 28          | 28          | 28          | 28          | 28          | 28          | 28          | 0           | 28          |
| Mar 2023  | 68.6        | 66.9        | 67.3        | 60.8        | 60.3        | 61.0        | 58.2        | 68.7        | 44.4        | 58.7        |
| # Days  | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 31          | 15          | 31          |
| <b>Q-1 2023</b>                                     | <b>68.0</b> | <b>66.3</b> | <b>66.9</b> | <b>60.2</b> | <b>59.6</b> | <b>60.7</b> | <b>57.4</b> | <b>68.0</b> | <b>44.4</b> | <b>58.3</b> |
| <b># Days</b>                                       | <b>90</b>   | <b>90</b>   | <b>90</b>   | <b>90</b>   | <b>87</b>   | <b>90</b>   | <b>89</b>   | <b>90</b>   | <b>15</b>   | <b>90</b>   |
| <b>Q-2 2022 thru Q-1 2023</b>                       |             |             |             |             |             |             |             |             |             |             |
| <b>Total</b>  | <b>68.0</b> | <b>66.7</b> | <b>67.1</b> | <b>60.0</b> | <b>59.4</b> | <b>60.4</b> | <b>56.8</b> | <b>68.3</b> | <b>42.6</b> | <b>57.8</b> |
| <b># Days</b>                                       | <b>365</b>  | <b>363</b>  | <b>354</b>  | <b>359</b>  | <b>359</b>  | <b>364</b>  | <b>363</b>  | <b>355</b>  | <b>224</b>  | <b>362</b>  |
| <b>Q-1 2022 thru Q-4 2022 (Previous 4 Quarters)</b> |             |             |             |             |             |             |             |             |             |             |
| <b>Total</b>  | <b>67.8</b> | <b>66.6</b> | <b>66.9</b> | <b>59.8</b> | <b>59.2</b> | <b>60.3</b> | <b>56.5</b> | <b>68.0</b> | <b>42.6</b> | <b>57.4</b> |
| <b># Days</b>                                       | <b>365</b>  | <b>363</b>  | <b>354</b>  | <b>358</b>  | <b>362</b>  | <b>364</b>  | <b>362</b>  | <b>355</b>  | <b>279</b>  | <b>360</b>  |
| <b>Change from Previous 4 Quarters</b>              |             |             |             |             |             |             |             |             |             |             |
|   | <b>0.2</b>  | <b>0.1</b>  | <b>0.2</b>  | <b>0.2</b>  | <b>0.2</b>  | <b>0.1</b>  | <b>0.3</b>  | <b>0.3</b>  | <b>0.0</b>  | <b>0.4</b>  |

**TABLE 3**  
**DAILY CNEL VALUES AT EACH MONITOR STATION**  
 January 2023

| Date    | NMS Site |      |      |      |      |      |      |      |      |      |
|---------|----------|------|------|------|------|------|------|------|------|------|
|         | 1S       | 2S   | 3S   | 4S   | 5S   | 6S   | 7S   | 8N   | 9N   | 10N  |
| 1       | 67.9     | 67.3 | 66.6 | 58.8 | #N/A | 60.6 | 56.4 | 68.7 | #N/A | 60.5 |
| 2       | 69.1     | 67.3 | 67.8 | 61.6 | #N/A | 61.6 | 59.3 | 69.4 | #N/A | 62.8 |
| 3       | 69.0     | 66.4 | 67.3 | 61.2 | #N/A | 60.5 | 58.1 | 68.8 | #N/A | 61.6 |
| 4       | 68.2     | 66.2 | 66.4 | 60.5 | 56.7 | 60.1 | 58.0 | 69.2 | #N/A | 61.3 |
| 5       | 68.0     | 66.2 | 66.4 | 60.0 | 58.1 | 59.8 | 57.4 | 68.4 | #N/A | 60.2 |
| 6       | 68.4     | 67.2 | 67.1 | 60.8 | 60.5 | 61.0 | 57.8 | 67.6 | #N/A | 58.2 |
| 7       | 67.2     | 65.5 | 66.4 | 59.8 | 58.6 | 59.4 | 55.4 | 66.9 | #N/A | 56.5 |
| 8       | 68.6     | 67.2 | 67.1 | 60.6 | 59.6 | 60.4 | 56.7 | 67.5 | #N/A | 57.7 |
| 9       | 67.1     | 65.1 | 65.4 | 60.1 | 58.2 | 59.5 | 57.5 | 69.0 | #N/A | 59.7 |
| 10      | 68.2     | 66.2 | 66.5 | 59.9 | 60.1 | 60.2 | 57.4 | 67.6 | #N/A | 58.2 |
| 11      | 68.4     | 67.2 | 67.3 | 60.6 | 60.1 | 61.0 | 57.9 | 66.5 | #N/A | 57.5 |
| 12      | 68.0     | 66.0 | 67.2 | 60.6 | 59.7 | 60.5 | 57.2 | 66.8 | #N/A | 57.2 |
| 13      | 68.7     | 67.5 | 67.4 | 61.0 | 59.9 | 60.7 | 57.4 | 67.7 | #N/A | 58.1 |
| 14      | 67.2     | 64.7 | 65.5 | 59.6 | 58.6 | 58.9 | 56.6 | 66.5 | #N/A | 57.8 |
| 15      | 68.4     | 66.7 | 66.8 | 61.0 | 60.5 | 61.2 | 58.5 | 68.3 | #N/A | 59.6 |
| 16      | 68.6     | 67.9 | 66.8 | 60.5 | 61.9 | 61.7 | 59.5 | 68.6 | #N/A | 59.6 |
| 17      | 67.9     | 66.1 | 66.3 | 59.7 | 59.4 | 60.1 | 57.1 | 66.6 | #N/A | 57.2 |
| 18      | 67.8     | 66.0 | 66.5 | 60.3 | 60.0 | 60.5 | 57.5 | 66.6 | #N/A | 57.6 |
| 19      | 68.5     | 66.6 | 67.2 | 61.1 | 60.8 | 61.2 | 58.4 | 67.8 | #N/A | 58.6 |
| 20      | 66.9     | 64.8 | 66.8 | 58.9 | 58.9 | 61.5 | 55.8 | 66.4 | #N/A | 56.5 |
| 21      | 66.3     | 64.8 | 64.9 | 58.4 | 58.0 | 58.6 | 55.3 | 64.8 | #N/A | 55.2 |
| 22      | 69.0     | 66.8 | 69.4 | 61.2 | 60.5 | 64.5 | 58.2 | 65.4 | #N/A | 55.8 |
| 23      | 58.3     | 55.1 | 67.0 | 44.7 | 50.1 | 63.3 | 39.5 | 63.3 | #N/A | 42.7 |
| 24      | 66.7     | 65.6 | 65.5 | 58.4 | 58.6 | 58.6 | 55.9 | 66.4 | #N/A | 56.7 |
| 25      | 66.6     | 64.9 | 68.6 | 58.9 | 58.3 | 63.7 | 55.5 | 63.2 | #N/A | 51.1 |
| 26      | 60.4     | 58.2 | 65.8 | 51.1 | 50.8 | 61.3 | 48.9 | 65.9 | #N/A | 52.1 |
| 27      | 67.8     | 66.4 | 66.9 | 59.9 | 59.3 | 60.2 | 56.7 | 67.8 | #N/A | 57.1 |
| 28      | 66.9     | 64.9 | 65.3 | 60.2 | 58.9 | 59.7 | 56.6 | 67.0 | #N/A | 57.0 |
| 29      | 68.6     | 67.1 | 67.1 | 61.3 | 60.7 | 61.5 | 58.9 | 69.9 | #N/A | 60.1 |
| 30      | 69.2     | 67.0 | 67.6 | 61.5 | 60.6 | 61.8 | 58.9 | 67.6 | #N/A | 58.3 |
| 31      | 57.1     | 52.5 | 65.6 | 48.0 | 42.5 | 61.6 | #N/A | 62.2 | #N/A | 32.6 |
| Days    | 31       | 31   | 31   | 31   | 28   | 31   | 30   | 31   | 0    | 31   |
| En. Avg | 67.7     | 66.0 | 66.8 | 59.9 | 59.2 | 61.0 | 57.2 | 67.4 | #N/A | 58.3 |

#N/A indicates insufficient data.

\*#N/A indicates no aircraft-related noise events.

**TABLE 4**  
**DAILY CNEL VALUES AT EACH MONITOR STATION**  
 February 2023

| Date    | NMS Site |      |      |      |      |      |      |      |      |      |
|---------|----------|------|------|------|------|------|------|------|------|------|
|         | 1S       | 2S   | 3S   | 4S   | 5S   | 6S   | 7S   | 8N   | 9N   | 10N  |
| 1       | 66.1     | 65.0 | 65.1 | 57.5 | 56.8 | 57.4 | 53.8 | 66.0 | #N/A | 53.3 |
| 2       | 67.6     | 66.1 | 66.6 | 59.3 | 58.3 | 58.9 | 55.6 | 67.6 | #N/A | 56.9 |
| 3       | 67.7     | 66.7 | 66.1 | 59.6 | 59.1 | 59.7 | 56.4 | 67.7 | #N/A | 57.1 |
| 4       | 66.6     | 65.6 | 65.3 | 59.1 | 58.3 | 59.0 | 55.7 | 66.2 | #N/A | 56.1 |
| 5       | 68.4     | 67.4 | 67.0 | 60.1 | 60.5 | 60.7 | 57.5 | 69.2 | #N/A | 59.3 |
| 6       | 68.0     | 66.6 | 67.0 | 59.7 | 59.5 | 60.4 | 57.2 | 67.1 | #N/A | 56.1 |
| 7       | 64.9     | 64.3 | 64.4 | 57.2 | 56.9 | 59.1 | 54.0 | 66.8 | #N/A | 54.8 |
| 8       | 67.4     | 66.4 | 66.2 | 59.4 | 58.9 | 59.1 | 55.9 | 67.2 | #N/A | 56.0 |
| 9       | 67.2     | 65.7 | 67.0 | 58.6 | 57.4 | 60.5 | 55.5 | 66.4 | #N/A | 52.4 |
| 10      | 65.9     | 65.2 | 65.1 | 56.7 | 56.7 | 58.3 | 53.4 | 66.5 | #N/A | 53.7 |
| 11      | 66.5     | 65.0 | 65.2 | 59.6 | 58.8 | 58.7 | 55.9 | 66.9 | #N/A | 56.8 |
| 12      | 68.0     | 66.7 | 66.6 | 60.3 | 59.9 | 60.5 | 57.6 | 68.6 | #N/A | 58.6 |
| 13      | 68.6     | 66.6 | 67.1 | 62.0 | 60.3 | 61.4 | 58.5 | 69.0 | #N/A | 58.7 |
| 14      | 66.5     | 65.9 | 65.1 | 59.1 | 59.3 | 59.8 | 57.3 | 67.2 | #N/A | 56.8 |
| 15      | 64.8     | 63.0 | 65.5 | 56.2 | 55.9 | 60.0 | 52.5 | 66.8 | #N/A | 55.2 |
| 16      | 65.6     | 64.6 | 65.2 | 56.5 | 56.3 | 58.7 | 53.4 | 66.7 | #N/A | 53.9 |
| 17      | 67.1     | 65.9 | 65.8 | 57.9 | 57.5 | 58.8 | 55.5 | 67.0 | #N/A | 53.9 |
| 18      | 66.4     | 64.8 | 64.8 | 58.3 | 57.2 | 57.2 | 54.0 | 66.0 | #N/A | 57.2 |
| 19      | 67.8     | 66.2 | 66.4 | 60.2 | 58.8 | 59.7 | 57.1 | 68.1 | #N/A | 57.3 |
| 20      | 68.9     | 67.3 | 67.6 | 60.1 | 59.7 | 60.4 | 57.2 | 67.9 | #N/A | 57.4 |
| 21      | 68.8     | 66.8 | 67.5 | 61.5 | 59.7 | 61.1 | 57.1 | 69.3 | #N/A | 60.2 |
| 22      | 66.8     | 66.0 | 65.8 | 58.4 | 57.3 | 59.0 | 54.0 | 69.1 | #N/A | 59.2 |
| 23      | 68.7     | 67.1 | 67.4 | 61.5 | 61.3 | 61.4 | 59.2 | 69.6 | #N/A | 60.4 |
| 24      | 69.3     | 66.3 | 67.0 | 61.3 | 59.3 | 59.6 | 56.0 | 69.8 | #N/A | 62.0 |
| 25      | 68.0     | 65.4 | 66.7 | 61.3 | 59.8 | 61.3 | 57.5 | 68.0 | #N/A | 58.5 |
| 26      | 69.0     | 67.1 | 67.6 | 61.3 | 60.8 | 61.1 | 58.8 | 69.3 | #N/A | 59.3 |
| 27      | 69.2     | 66.7 | 67.4 | 61.6 | 61.0 | 61.5 | 59.3 | 69.2 | #N/A | 59.9 |
| 28      | 68.0     | 66.3 | 66.9 | 60.6 | 60.6 | 60.6 | 58.8 | 68.9 | #N/A | 59.3 |
| Days    | 28       | 28   | 28   | 28   | 28   | 28   | 28   | 28   | 0    | 28   |
| En. Avg | 67.6     | 66.1 | 66.4 | 59.8 | 59.0 | 59.9 | 56.6 | 68.0 | #N/A | 57.8 |

#N/A indicates insufficient data.

\*#N/A indicates no aircraft-related noise events.

**TABLE 5**  
**DAILY CNEL VALUES AT EACH MONITOR STATION**  
 March 2023

| Date    | NMS Site |      |      |      |      |      |      |      |      |      |
|---------|----------|------|------|------|------|------|------|------|------|------|
|         | 1S       | 2S   | 3S   | 4S   | 5S   | 6S   | 7S   | 8N   | 9N   | 10N  |
| 1       | 67.2     | 65.2 | 68.4 | 57.2 | 57.2 | 63.6 | 52.9 | 65.4 | #N/A | 55.2 |
| 2       | 68.3     | 66.3 | 67.1 | 61.2 | 60.1 | 60.8 | 58.0 | 68.3 | #N/A | 58.4 |
| 3       | 68.7     | 66.7 | 67.3 | 61.2 | 60.7 | 61.5 | 58.1 | 68.5 | #N/A | 58.8 |
| 4       | 67.6     | 65.6 | 66.1 | 60.5 | 59.6 | 60.4 | 57.7 | 67.2 | #N/A | 57.3 |
| 5       | 68.7     | 66.9 | 67.2 | 61.3 | 60.5 | 61.4 | 58.8 | 69.6 | #N/A | 60.1 |
| 6       | 68.0     | 66.7 | 67.0 | 60.7 | 60.6 | 61.0 | 57.7 | 68.9 | #N/A | 58.7 |
| 7       | 67.6     | 65.8 | 66.1 | 60.3 | 59.5 | 60.4 | 57.7 | 68.2 | #N/A | 58.3 |
| 8       | 67.9     | 66.0 | 66.6 | 61.0 | 60.2 | 61.0 | 58.0 | 68.8 | #N/A | 59.1 |
| 9       | 68.9     | 67.4 | 67.9 | 61.1 | 60.8 | 61.6 | 57.5 | 68.7 | #N/A | 58.6 |
| 10      | 70.3     | 67.5 | 68.6 | 62.6 | 60.8 | 62.2 | 59.7 | 69.9 | #N/A | 59.8 |
| 11      | 68.4     | 66.3 | 66.9 | 60.5 | 59.6 | 60.3 | 57.8 | 68.7 | #N/A | 58.1 |
| 12      | 69.1     | 67.3 | 67.9 | 60.2 | 60.7 | 61.8 | 58.6 | 70.1 | #N/A | 58.6 |
| 13      | 68.7     | 66.8 | 67.4 | 60.7 | 60.7 | 60.6 | 58.2 | 68.9 | #N/A | 58.5 |
| 14      | 68.9     | 66.4 | 67.4 | 61.6 | 60.1 | 59.8 | 58.3 | 68.7 | #N/A | 59.6 |
| 15      | 68.6     | 66.9 | 67.3 | 60.7 | 60.4 | 60.5 | 58.0 | 69.5 | #N/A | 59.1 |
| 16      | 69.1     | 67.4 | 67.9 | 62.0 | 61.1 | 61.4 | 59.4 | 68.4 | 30.9 | 58.2 |
| 17      | 68.9     | 67.7 | 67.9 | 60.8 | 60.8 | 61.2 | 58.4 | 68.3 | 47.5 | 58.2 |
| 18      | 67.3     | 66.1 | 66.2 | 59.6 | 58.3 | 58.7 | 55.9 | 66.8 | 35.5 | 55.7 |
| 19      | 69.5     | 67.2 | 67.9 | 61.7 | 59.8 | 61.4 | 58.4 | 69.0 | 37.5 | 59.4 |
| 20      | 69.2     | 67.4 | 67.8 | 61.6 | 61.2 | 61.1 | 59.0 | 68.8 | #N/A | 59.0 |
| 21      | 68.0     | 66.2 | 66.0 | 60.6 | 60.0 | 58.9 | 57.9 | 69.8 | 48.3 | 60.6 |
| 22      | 68.3     | 66.5 | 67.0 | 61.2 | 60.5 | 60.8 | 58.5 | 68.5 | 36.7 | 59.1 |
| 23      | 68.8     | 67.5 | 67.6 | 61.0 | 61.8 | 61.4 | 59.5 | 69.2 | 47.9 | 59.3 |
| 24      | 69.1     | 67.2 | 67.8 | 60.7 | 60.9 | 61.0 | 58.6 | 69.0 | 48.1 | 59.1 |
| 25      | 67.7     | 66.3 | 66.1 | 59.9 | 59.4 | 59.9 | 57.3 | 67.9 | 48.0 | 57.7 |
| 26      | 68.5     | 67.3 | 67.2 | 60.5 | 60.3 | 60.8 | 57.9 | 69.1 | 39.3 | 58.8 |
| 27      | 68.2     | 67.1 | 67.0 | 59.9 | 59.4 | 59.8 | 57.0 | 67.6 | 41.8 | 57.1 |
| 28      | 68.2     | 67.1 | 66.5 | 58.7 | 59.4 | 59.9 | 56.9 | 68.2 | 38.4 | 58.1 |
| 29      | 68.4     | 67.1 | 67.0 | 61.0 | 61.0 | 61.2 | 58.4 | 68.8 | 28.8 | 59.5 |
| 30      | 69.2     | 67.5 | 67.8 | 61.3 | 61.0 | 61.8 | 59.0 | 69.0 | 45.4 | 59.3 |
| 31      | 69.6     | 68.3 | 68.6 | 61.4 | 61.5 | 61.9 | 59.3 | 68.1 | 43.4 | 57.9 |
| Days    | 31       | 31   | 31   | 31   | 31   | 31   | 31   | 31   | 15   | 31   |
| En. Avg | 68.6     | 66.9 | 67.3 | 60.8 | 60.3 | 61.0 | 58.2 | 68.7 | 44.4 | 58.7 |

#N/A indicates insufficient data.

\*#N/A indicates no aircraft-related noise events.

**TABLE 6  
MEASURED AVERAGE SINGLE EVENT NOISE EXPOSURE LEVELS  
Commercial Class A  
January - March 2023**

| Carrier    | AC Type | # Deps |               | NMS Site    |             |             |             |             |             |             |            |          |           |
|------------|---------|--------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|----------|-----------|
|            |         |        |               | 1S          | 2S          | 3S          | 4S          | 5S          | 6S          | 7S          | 8N         | 9N       | 10N       |
| Air Canada | B38M    | 90     | Average Count | 92.4 (82)   | 91.1 (80)   | 92.1 (84)   | 85.0 (85)   | 84.0 (79)   | 84.6 (74)   | 81.2 (65)   | 85.1 (3)   | #N/A (0) | #N/A (0)  |
| Alaska     | A320    | 35     | Average Count | 96.4 (35)   | 94.7 (34)   | 95.5 (35)   | 88.5 (33)   | 86.4 (19)   | 87.6 (35)   | 85.8 (33)   | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | B737    | 23     | Average Count | 95.2 (23)   | 93.7 (21)   | 94.1 (23)   | 88.7 (23)   | 88.5 (22)   | 89.0 (22)   | 85.5 (22)   | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | B738    | 794    | Average Count | 98.2 (722)  | 96.3 (675)  | 95.7 (721)  | 89.7 (717)  | 89.5 (693)  | 90.3 (677)  | 87.4 (698)  | 92.2 (51)  | 94.7 (1) | 83.7 (14) |
| Allegiant  | A319    | 50     | Average Count | 94.1 (50)   | 92.1 (46)   | 92.7 (49)   | 87.7 (47)   | 86.4 (42)   | 87.3 (45)   | 83.5 (42)   | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | A320    | 179    | Average Count | 95.3 (166)  | 93.8 (164)  | 92.6 (162)  | 87.7 (162)  | 86.5 (153)  | 87.6 (155)  | 83.9 (158)  | 88.5 (9)   | #N/A (0) | 78.0 (1)  |
| American   | A21N    | 27     | Average Count | 90.9 (22)   | 90.0 (21)   | 90.0 (22)   | 83.6 (20)   | 81.7 (20)   | 82.1 (22)   | 80.0 (5)    | 87.1 (5)   | #N/A (0) | #N/A (0)  |
|            | A319    | 166    | Average Count | 94.7 (155)  | 93.0 (141)  | 93.8 (151)  | 87.6 (148)  | 86.2 (148)  | 86.4 (144)  | 82.6 (141)  | 89.8 (11)  | 85.0 (1) | #N/A (0)  |
|            | A320    | 147    | Average Count | 95.3 (139)  | 94.0 (131)  | 94.0 (137)  | 86.9 (132)  | 85.6 (132)  | 86.0 (126)  | 82.7 (131)  | 90.1 (6)   | #N/A (0) | #N/A (0)  |
|            | A321    | 152    | Average Count | 99.2 (136)  | 98.2 (122)  | 98.4 (139)  | 91.3 (127)  | 89.3 (126)  | 88.9 (123)  | 85.2 (131)  | 92.7 (8)   | #N/A (0) | #N/A (0)  |
|            | B38M    | 268    | Average Count | 92.8 (252)  | 91.5 (240)  | 91.8 (251)  | 85.1 (244)  | 84.7 (233)  | 85.7 (231)  | 82.2 (210)  | 86.9 (14)  | #N/A (0) | #N/A (0)  |
|            | B738    | 886    | Average Count | 98.9 (788)  | 97.3 (733)  | 97.2 (801)  | 90.5 (766)  | 90.1 (739)  | 90.7 (706)  | 87.9 (751)  | 93.6 (57)  | 90.2 (3) | 82.4 (23) |
| Breeze     | A223    | 81     | Average Count | 89.0 (78)   | 88.3 (73)   | 87.6 (79)   | 82.4 (74)   | 81.7 (73)   | 82.5 (65)   | 79.0 (38)   | 83.2 (2)   | #N/A (0) | #N/A (0)  |
|            | E195    | 5      | Average Count | 92.5 (5)    | 91.7 (5)    | 91.8 (5)    | 85.3 (5)    | 86.7 (5)    | 89.3 (4)    | 86.5 (5)    | #N/A (0)   | #N/A (0) | #N/A (0)  |
| Delta      | A220    | 110    | Average Count | 88.9 (106)  | 88.3 (104)  | 88.1 (107)  | 81.3 (99)   | 79.8 (66)   | 80.6 (84)   | 77.9 (16)   | 84.6 (3)   | #N/A (0) | #N/A (0)  |
|            | A223    | 210    | Average Count | 89.6 (193)  | 89.2 (186)  | 88.5 (193)  | 81.6 (174)  | 80.7 (154)  | 81.3 (153)  | 78.4 (52)   | 84.8 (11)  | #N/A (0) | #N/A (0)  |
|            | A319    | 43     | Average Count | 96.3 (37)   | 94.5 (38)   | 95.2 (39)   | 89.4 (37)   | 87.6 (30)   | 88.1 (36)   | 83.9 (33)   | 88.5 (3)   | #N/A (0) | #N/A (0)  |
|            | A320    | 6      | Average Count | 97.4 (6)    | 96.2 (5)    | 96.0 (6)    | 89.7 (6)    | 88.6 (4)    | 88.8 (6)    | 84.9 (4)    | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | B738    | 6      | Average Count | 99.1 (6)    | 97.3 (6)    | 97.7 (6)    | 89.4 (6)    | 88.8 (2)    | 89.6 (6)    | 88.1 (5)    | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | B752    | 304    | Average Count | 96.1 (270)  | 95.0 (261)  | 95.4 (271)  | 88.7 (258)  | 87.8 (256)  | 88.0 (246)  | 84.4 (252)  | 92.2 (23)  | #N/A (0) | 83.1 (7)  |
| FedEx      | A306    | 59     | Average Count | 97.8 (54)   | 96.6 (54)   | 94.8 (52)   | 88.9 (51)   | 88.5 (52)   | 89.5 (53)   | 86.1 (53)   | 91.1 (5)   | #N/A (0) | 80.9 (1)  |
| Frontier   | A20N    | 319    | Average Count | 88.7 (296)  | 87.7 (277)  | 87.6 (297)  | 82.0 (263)  | 80.3 (180)  | 82.3 (251)  | 79.7 (110)  | 82.5 (18)  | #N/A (0) | #N/A (0)  |
|            | A320    | 27     | Average Count | 94.4 (25)   | 93.1 (23)   | 91.7 (25)   | 86.7 (25)   | 85.1 (22)   | 86.7 (25)   | 84.4 (23)   | 86.4 (2)   | #N/A (0) | #N/A (0)  |
| Horizon    | E175    | 88     | Average Count | 94.1 (86)   | 92.4 (84)   | 91.1 (86)   | 85.8 (82)   | 85.6 (80)   | 87.2 (78)   | 84.6 (83)   | 90.3 (2)   | #N/A (0) | #N/A (0)  |
| Southwest  | B38M    | 34     | Average Count | 89.6 (33)   | 88.2 (33)   | 88.0 (32)   | 82.3 (29)   | 81.0 (8)    | 83.3 (32)   | 81.5 (28)   | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | B737    | 1764   | Average Count | 93.7 (1599) | 92.4 (1524) | 91.3 (1578) | 86.1 (1577) | 86.1 (1544) | 86.9 (1497) | 85.0 (1470) | 91.0 (116) | #N/A (0) | 80.1 (10) |
|            | B738    | 4      | Average Count | 94.9 (4)    | 92.1 (3)    | 91.4 (4)    | 85.2 (4)    | #N/A (0)    | 87.1 (4)    | 85.3 (4)    | #N/A (0)   | #N/A (0) | #N/A (0)  |
| Spirit     | A20N    | 171    | Average Count | 88.9 (158)  | 87.6 (154)  | 88.2 (163)  | 83.5 (156)  | 81.5 (139)  | 83.6 (143)  | 80.0 (126)  | 84.5 (4)   | #N/A (0) | #N/A (0)  |
|            | A319    | 1      | Average Count | 91.1 (1)    | #N/A (0)    | 89.6 (1)    | 87.0 (1)    | 84.7 (1)    | #N/A (0)    | 81.1 (1)    | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | A320    | 177    | Average Count | 92.7 (158)  | 92.0 (145)  | 90.5 (160)  | 85.9 (144)  | 84.5 (144)  | 85.7 (146)  | 82.4 (146)  | 85.1 (15)  | #N/A (0) | #N/A (0)  |
| United     | A319    | 31     | Average Count | 95.0 (31)   | 93.1 (29)   | 93.7 (31)   | 87.4 (30)   | 86.3 (23)   | 86.8 (28)   | 83.2 (30)   | #N/A (0)   | #N/A (0) | #N/A (0)  |
|            | A320    | 121    | Average Count | 95.5 (96)   | 93.9 (91)   | 94.0 (105)  | 87.5 (102)  | 85.8 (95)   | 86.5 (90)   | 83.3 (99)   | 88.5 (11)  | 89.2 (1) | 76.9 (1)  |
|            | B737    | 344    | Average Count | 97.4 (313)  | 95.2 (305)  | 97.0 (322)  | 90.9 (317)  | 90.7 (298)  | 91.1 (282)  | 87.6 (297)  | 93.1 (14)  | #N/A (0) | 79.8 (1)  |
|            | B738    | 1010   | Average Count | 99.0 (906)  | 97.1 (842)  | 98.0 (912)  | 90.5 (881)  | 90.1 (834)  | 90.6 (775)  | 88.0 (836)  | 93.2 (78)  | 88.3 (2) | 82.8 (23) |
| UPS        | B752    | 51     | Average Count | 94.8 (46)   | 93.8 (46)   | 93.0 (46)   | 86.5 (46)   | 86.3 (44)   | 86.5 (46)   | 82.3 (42)   | 86.9 (5)   | #N/A (0) | #N/A (0)  |
| WestJet    | B737    | 89     | Average Count | 96.2 (84)   | 94.7 (81)   | 95.4 (83)   | 90.1 (82)   | 89.8 (77)   | 90.5 (75)   | 86.0 (73)   | 90.5 (4)   | #N/A (0) | 79.1 (1)  |

**TABLE 7**  
**MEASURED AVERAGE SINGLE EVENT NOISE EXPOSURE LEVELS**  
**Commercial Class E**  
**January - March 2023**

| Carrier       | AC Type | # Deps |                  | NMS Site       |                |                |                |                |                |                |               |             |             |
|---------------|---------|--------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------------|-------------|
|               |         |        |                  | 1S             | 2S             | 3S             | 4S             | 5S             | 6S             | 7S             | 8N            | 9N          | 10N         |
| Delta         | A220    | 107    | Average<br>Count | 88.9<br>(92)   | 87.9<br>(91)   | 88.2<br>(94)   | 81.6<br>(88)   | 79.8<br>(63)   | 80.8<br>(73)   | 80.7<br>(16)   | 84.4<br>(11)  | #N/A<br>(0) | 84.0<br>(1) |
|               | A223    | 276    | Average<br>Count | 89.9<br>(244)  | 89.3<br>(233)  | 89.1<br>(246)  | 82.1<br>(228)  | 80.7<br>(212)  | 81.4<br>(197)  | 78.3<br>(89)   | 85.6<br>(21)  | 82.1<br>(1) | #N/A<br>(0) |
| SkyWest Coml. | E175    | 781    | Average<br>Count | 91.5<br>(722)  | 90.4<br>(685)  | 89.7<br>(712)  | 85.4<br>(706)  | 84.8<br>(678)  | 86.3<br>(675)  | 84.1<br>(688)  | 88.9<br>(43)  | #N/A<br>(0) | 80.0<br>(3) |
| Southwest     | B38M    | 6      | Average<br>Count | 88.0<br>(6)    | 86.8<br>(6)    | 86.5<br>(6)    | 80.6<br>(5)    | 81.1<br>(2)    | 81.8<br>(6)    | 81.2<br>(1)    | #N/A<br>(0)   | #N/A<br>(0) | #N/A<br>(0) |
|               | B737    | 2196   | Average<br>Count | 92.2<br>(2017) | 91.3<br>(1891) | 90.1<br>(1973) | 85.4<br>(1990) | 85.2<br>(1866) | 85.9<br>(1872) | 84.4<br>(1856) | 90.3<br>(133) | #N/A<br>(0) | 80.7<br>(8) |
|               | B738    | 4      | Average<br>Count | 91.6<br>(4)    | 90.7<br>(3)    | 89.2<br>(4)    | 84.4<br>(4)    | 84.7<br>(3)    | 84.9<br>(4)    | 84.7<br>(4)    | #N/A<br>(0)   | #N/A<br>(0) | #N/A<br>(0) |

**TABLE 8**  
**MEASURED AVERAGE SINGLE EVENT NOISE EXPOSURE LEVELS**  
**Commuter**  
**January - March 2023**

| Carrier               | AC Type | # Deps |                  | NMS Site      |               |               |               |               |               |              |              |             |             |
|-----------------------|---------|--------|------------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|-------------|-------------|
|                       |         |        |                  | 1S            | 2S            | 3S            | 4S            | 5S            | 6S            | 7S           | 8N           | 9N          | 10N         |
| Delux Public Charters | E135    | 324    | Average<br>Count | 85.9<br>(298) | 85.3<br>(285) | 86.8<br>(298) | 80.2<br>(256) | 79.1<br>(106) | 80.5<br>(250) | 76.9<br>(14) | 82.5<br>(21) | #N/A<br>(0) | #N/A<br>(0) |
|                       | E145    | 269    | Average<br>Count | 87.3<br>(258) | 86.8<br>(250) | 88.0<br>(253) | 80.6<br>(211) | 79.3<br>(103) | 80.9<br>(219) | 77.7<br>(14) | 83.3<br>(9)  | #N/A<br>(0) | #N/A<br>(0) |
| SkyWest               | CRJ7    | 83     | Average<br>Count | 88.4<br>(78)  | 87.9<br>(77)  | 87.5<br>(78)  | 81.4<br>(43)  | 81.5<br>(63)  | 82.6<br>(65)  | 81.2<br>(69) | 88.3<br>(4)  | #N/A<br>(0) | #N/A<br>(0) |
|                       | E175    | 7      | Average<br>Count | 90.5<br>(6)   | 90.0<br>(6)   | 89.1<br>(6)   | 84.2<br>(6)   | 84.3<br>(6)   | 85.7<br>(6)   | 83.7<br>(5)  | #N/A<br>(0)  | #N/A<br>(0) | #N/A<br>(0) |

**TABLE 8-GA**  
**MEASURED AVERAGE SINGLE EVENT NOISE EXPOSURE LEVELS**  
**General Aviation**  
**January - March 2023**

| Carrier          | AC Type | # Deps |                  | NMS Site       |                |                |                |                |                |                |               |             |             |
|------------------|---------|--------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|-------------|-------------|
|                  |         |        |                  | 1S             | 2S             | 3S             | 4S             | 5S             | 6S             | 7S             | 8N            | 9N          | 10N         |
| General Aviation | Jet     | 5004   | Average<br>Count | 88.3<br>(4556) | 87.3<br>(4255) | 89.0<br>(4514) | 82.8<br>(2850) | 82.5<br>(2087) | 83.5<br>(2915) | 81.9<br>(1314) | 85.7<br>(232) | 83.0<br>(2) | 81.7<br>(6) |

**TABLE 9**  
**AIR CARRIER OPERATIONAL HISTORY**

| Carrier       | AC Type | Year |        |        |        |        |        |
|---------------|---------|------|--------|--------|--------|--------|--------|
|               |         | 2019 | 2020   | 2021   | 2022   | 2023   |        |
| Air Canada    | AC      | A223 |        |        | 102    | 192    |        |
|               |         | B38M |        |        | 6      | 494    | 180    |
| Alaska        | AS      | A319 | 244    | 314    |        |        |        |
|               |         | A320 | 3,403  | 1,733  | 4,038  | 3,888  | 70     |
|               |         | B737 | 160    | 14     | 24     | 116    | 46     |
|               |         | B738 | 5,247  | 767    | 1,327  | 2,728  | 1,594  |
| Allegiant     | G4      | A319 |        |        | 1,076  | 676    | 100    |
|               |         | A320 |        |        | 488    | 1,399  | 367    |
| American      | AA      | A21N | 2      | 2      | 88     | 51     | 54     |
|               |         | A319 | 432    | 474    | 220    | 498    | 332    |
|               |         | A320 | 634    | 488    | 783    | 478    | 294    |
|               |         | A321 | 214    | 571    | 1,035  | 1,099  | 304    |
|               |         | B38M |        |        | 17     | 1,755  | 536    |
|               |         | B738 | 10,972 | 5,201  | 8,144  | 8,517  | 1,777  |
|               |         | B752 | 36     |        |        |        |        |
| Breeze        | MX      | A223 |        |        |        |        | 172    |
|               |         | E195 |        |        |        |        | 10     |
| Compass       | CP      | E175 | 3,150  | 656    |        |        |        |
| Delta         | DL      | A220 | 851    | 1,954  | 4,036  | 3,048  | 436    |
|               |         | A223 |        |        | 4      | 1,934  | 976    |
|               |         | A319 | 1,987  | 828    | 952    | 2,071  | 84     |
|               |         | A320 | 11     | 8      | 3      | 532    | 12     |
|               |         | B712 | 2,495  |        |        |        |        |
|               |         | B737 | 8      | 24     |        |        |        |
|               |         | B738 | 40     | 2      | 12     | 58     | 12     |
|               |         | B752 | 2,889  | 1,065  | 1,423  | 2,010  | 612    |
| FedEx         | FM      | A306 | 510    | 512    | 502    | 498    | 118    |
| Frontier      | F9      | A20N | 900    | 550    | 1,363  | 1,818  | 642    |
|               |         | A319 | 100    | 2      | 88     |        |        |
|               |         | A320 | 428    | 392    | 361    | 310    | 54     |
| Horizon       | QX      | DH8D | 12     |        |        |        |        |
|               |         | E175 | 4,257  | 2,986  | 3,293  | 1,256  | 178    |
| SkyWest Coml. | SC      | CRJ9 |        | 2      |        |        |        |
|               |         | E175 | 7,686  | 3,535  | 3,711  | 5,446  | 1,566  |
| Southwest     | WN      | B38M | 10     |        | 683    | 4,038  | 78     |
|               |         | B737 | 29,360 | 14,268 | 22,212 | 31,166 | 7,939  |
|               |         | B738 | 134    | 3,780  | 7,738  | 1,720  | 18     |
| Spirit        | NK      | A20N |        | 180    | 1,735  | 2,220  | 345    |
|               |         | A319 |        |        | 250    | 158    | 2      |
|               |         | A320 |        | 19     | 346    | 1,132  | 354    |
| Sun Country   | SY      | B737 |        |        | 238    | 8      |        |
|               |         | B738 |        |        | 24     | 2      |        |
| United        | UA      | A319 | 1,216  | 590    | 819    | 1,047  | 61     |
|               |         | A320 | 3,151  | 1,227  | 1,020  | 2,054  | 242    |
|               |         | B737 | 2,816  | 999    | 2,622  | 4,116  | 688    |
|               |         | B738 | 5,627  | 2,645  | 2,946  | 5,685  | 2,022  |
|               |         | B752 |        |        | 2      |        |        |
| UPS           | 5X      | A306 | 12     | 18     | 18     | 48     |        |
|               |         | B752 | 404    | 404    | 392    | 362    | 102    |
| WestJet       | WS      | B736 | 58     | 34     |        |        |        |
|               |         | B737 | 618    | 126    | 112    | 632    | 178    |
| Total         |         |      | 90,074 | 46,370 | 74,253 | 95,260 | 22,555 |

**TABLE 10**  
**AIRCRAFT OPERATIONAL HISTORY**

| Aircraft | Year   |        |        |        |        |
|----------|--------|--------|--------|--------|--------|
|          | 2019   | 2020   | 2021   | 2022   | 2023   |
| A20N     | 900    | 730    | 3,098  | 4,038  | 987    |
| A21N     | 2      | 2      | 88     | 51     | 54     |
| A220     | 851    | 1,954  | 4,036  | 3,048  | 436    |
| A223     |        |        | 106    | 2,126  | 1,148  |
| A306     | 522    | 530    | 520    | 546    | 118    |
| A319     | 3,979  | 2,208  | 3,405  | 4,450  | 579    |
| A320     | 7,627  | 3,867  | 7,039  | 9,793  | 1,393  |
| A321     | 214    | 571    | 1,035  | 1,099  | 304    |
| B38M     | 10     |        | 706    | 6,287  | 794    |
| B712     | 2,495  |        |        |        |        |
| B736     | 58     | 34     |        |        |        |
| B737     | 32,962 | 15,431 | 25,208 | 36,038 | 8,851  |
| B738     | 22,020 | 12,395 | 20,191 | 18,710 | 5,423  |
| B752     | 3,329  | 1,469  | 1,817  | 2,372  | 714    |
| CRJ9     |        | 2      |        |        |        |
| DH8D     | 12     |        |        |        |        |
| E175     | 15,093 | 7,177  | 7,004  | 6,702  | 1,744  |
| E195     |        |        |        |        | 10     |
| Total    | 90,074 | 46,370 | 74,253 | 95,260 | 22,555 |

**TABLE 11**  
**AIRCRAFT TYPE DESIGNATORS**

| AC Type | Manufacturer | Model/Series | AC Type | Manufacturer          | Model/Series |
|---------|--------------|--------------|---------|-----------------------|--------------|
| A20N    | Airbus       | 320-200 Neo  | B737    | Boeing                | 737-700      |
| A21N    | Airbus       | 320-100 Neo  | B738    | Boeing                | 737-800      |
| A220    | Airbus       | 220-100      | B752    | Boeing                | 757-200      |
| A223    | Airbus       | 220-300      | CRJ7    | Canadair Regional Jet | 700          |
| A306    | Airbus       | 300-600      | CRJ9    | Canadair Regional Jet | 900          |
| A319    | Airbus       | 319          | DH8D    | Bombardier            | Dash 8       |
| A320    | Airbus       | 320          | E135    | Embraer               | 135          |
| A321    | Airbus       | 321          | E145    | Embraer               | 145          |
| B38M    | Boeing       | 737-800 Max  | E175    | Embraer               | 175          |
| B712    | Boeing       | 717-200      | E195    | Embraer               | 195          |
| B736    | Boeing       | 737-600      |         |                       |              |

**TABLE 12  
AIR CARRIER AVERAGE DAILY DEPARTURE HISTORY**

| Carrier       |    | AC Type | Year    |        |         |         |        |
|---------------|----|---------|---------|--------|---------|---------|--------|
|               |    |         | 2019    | 2020   | 2021    | 2022    | 2023   |
| Air Canada    | AC | A223    |         |        | .140    | .263    |        |
|               |    | B38M    |         |        | .008    | .677    | .247   |
| Alaska        | AS | A319    | .334    | .432   |         |         |        |
|               |    | A320    | 4.660   | 2.363  | 5.534   | 5.326   | .096   |
|               |    | B737    | .219    | .022   | .033    | .159    | .063   |
|               |    | B738    | 7.189   | 1.046  | 1.816   | 3.734   | 2.186  |
| Allegiant     | G4 | A319    |         |        | 1.474   | .926    | .137   |
|               |    | A320    |         |        | .668    | 1.915   | .504   |
| American      | AA | A21N    | .003    | .003   | .121    | .068    | .074   |
|               |    | A319    | .592    | .648   | .296    | .682    | .455   |
|               |    | A320    | .868    | .664   | 1.082   | .655    | .403   |
|               |    | A321    | .293    | .779   | 1.414   | 1.507   | .416   |
|               |    | B38M    |         |        | .022    | 2.403   | .740   |
|               |    | B738    | 15.030  | 7.107  | 11.156  | 11.666  | 2.430  |
|               |    | B752    | .049    |        |         |         |        |
| Breeze        | MX | A223    |         |        |         |         | .236   |
|               |    | E195    |         |        |         |         | .014   |
| Compass       | CP | E175    | 4.315   | .896   |         |         |        |
| Delta         | DL | A220    | 1.164   | 2.667  | 5.529   | 4.175   | .597   |
|               |    | A223    |         |        | .005    | 2.649   | 1.334  |
|               |    | A319    | 2.723   | 1.131  | 1.304   | 2.836   | .118   |
|               |    | A320    | .014    | .014   | .003    | .729    | .016   |
|               |    | B712    | 3.419   |        |         |         |        |
|               |    | B737    | .011    | .033   |         |         |        |
|               |    | B738    | .055    | .003   | .016    | .079    | .016   |
|               |    | B752    | 3.956   | 1.454  | 1.948   | 2.753   | .841   |
| FedEx         | FM | A306    | .699    | .699   | .688    | .682    | .162   |
| Frontier      | F9 | A20N    | 1.233   | .751   | 1.866   | 2.490   | .879   |
|               |    | A319    | .137    | .003   | .121    |         |        |
|               |    | A320    | .586    | .536   | .496    | .425    | .074   |
| Horizon       | QX | DH8D    | .016    |        |         |         |        |
|               |    | E175    | 5.830   | 4.079  | 4.512   | 1.721   | .244   |
| SkyWest Coml. | SC | CRJ9    |         | .003   |         |         |        |
|               |    | E175    | 10.529  | 4.833  | 5.085   | 7.460   | 2.142  |
| Southwest     | WN | B38M    | .014    |        | .937    | 5.532   | .110   |
|               |    | B737    | 40.216  | 19.497 | 30.416  | 42.693  | 10.874 |
|               |    | B738    | .184    | 5.161  | 10.605  | 2.353   | .025   |
| Spirit        | NK | A20N    |         | .246   | 2.381   | 3.041   | .471   |
|               |    | A319    |         |        | .342    | .216    | .003   |
|               |    | A320    |         | .025   | .471    | 1.551   | .485   |
| Sun Country   | SY | B737    |         |        | .326    | .011    |        |
|               |    | B738    |         |        | .033    | .003    |        |
| United        | UA | A319    | 1.666   | .806   | 1.123   | 1.433   | .085   |
|               |    | A320    | 4.315   | 1.675  | 1.397   | 2.814   | .332   |
|               |    | B737    | 3.855   | 1.366  | 3.589   | 5.644   | .942   |
|               |    | B738    | 7.712   | 3.612  | 4.036   | 7.786   | 2.767  |
|               |    | B752    |         |        | .003    |         |        |
| UPS           | 5X | A306    | .016    | .025   | .025    | .066    |        |
|               |    | B752    | .553    | .552   | .537    | .496    | .140   |
| WestJet       | WS | B736    | .079    | .046   |         |         |        |
|               |    | B737    | .847    | .172   | .153    | .866    | .244   |
| Total         |    |         | 123.384 | 63.347 | 101.712 | 130.485 | 30.901 |

## **QUARTERLY NOISE MEETING**

Date: March 28, 2023

Time: 2:00 pm

Place: Virtual (Zoom)

### ITEMS DISCUSSED

A summary of the John Wayne Airport (JWA) December 2022 Airport statistics was provided by Ms. Beatrice Siercke, Access and Noise Office (ANO) Specialist. Ms. Siercke also provided a general overview of the Airport's Quarterly Noise Report for Q4 2022.

Newport Beach resident, Mr. Dennis Bress, asked if noise increased or decreased when comparing Q4 2022 to Q3 2022 values. Mr. Nikolas Gaskins, Access and Noise Manager, replied that the Long Term Measured Levels on Page 6 of the report indicate a slight increase at some noise monitoring stations (NMS) when comparing the two quarters.

Newport Beach resident, Dr. Jim Mosher, asked if there was a reason NMS 3S and NMS 9N were not functioning for several days in December. Mr. Gaskins explained that JWA's current contract for the noise monitoring system provides one spare microphone (mic). Mr. Gaskins added that the spare is utilized when a mic goes down, and the broken mic is sent to Denmark for repairs. Mr. Gaskins went on to say that two NMS locations went down during December, so the spare mic was used at NMS 3S, and the mic at NMS 9N was used to replace the nonfunctioning mic at NMS 8N since the daily generated noise levels at NMS 9N is limited. Mr. Gaskins mentioned the Airport's current mic is no longer manufactured and sold by the vendor. Still, the Airport obtained three additional mics from other airports, in the rare case multiple mics malfunction simultaneously in the future. When asked by Dr. Mosher about reciprocity between the new and old mics, Mr. Gaskins explained that side-by-side noise testing of NMS locations in 2015 was a result of the Airport installing an entirely new airport noise monitoring system, whereas, currently, the Airport had replaced two mics that are the same model as original mics.

Dr. Mosher asked about the timeliness of providing the January 2023 and February 2023 Airport statistics to the public and the cause of the delay. Mr. Gaskins explained several factors, including the two NMS locations being inoperable for an extended time and an issue with the Federal Aviation Administration's (FAA) radar data that resulted in a delay for the ANO.

Mr. Gaskins mentioned that the Fly Friendly Program data on the Airport's website shows January 2022 through November 2022. Mr. Gaskins stated that the Airport was awaiting direction from Fifth District on the announcement of 2022 Fly Friendly Program winners before publishing December 2022 Fly Friendly data.

Mr. Bress asked if the JWA Quarterly Report was in compliance. Mr. Gaskins confirmed the report was in compliance. Mr. Bress said he did not see the "excluded noise events" in the report and wanted to know the total number of noise events not included in the Quarterly Noise Report. Mr. Gaskins stated the State of California does not mandate it. Mr. Gaskins added that the ANO had brought Mr. Bress' request to JWA's Executive Management. Mr. Bress expressed that the JWA Quarterly Report is inaccurate because it does not contain "all" noise events and affects FAA's decision on noise abatement departure procedures at JWA. Mr. Gaskins reiterated that the FAA and the State of California have standards for reporting, and JWA abides by those standards. Mr. Bress disagreed that JWA was compliant and suggested the ANO be audited.

Mr. Joe August informed our office that at NMS 5S, during the curfew hours of 3 am and 5 am, the NMS appears to be registering 10 decibels (dB) less than other NMS. Mr. August stated he could send our office screenshots to show NMS 5S is registering at 35 dB while other NMS along the departure corridor are registering in the mid-40 dB range. Mr. August is concerned that this issue could affect the 24-hour Community Noise Equivalent Level (CNEL) average at NMS 5S. Mr. Gaskins stated the ANO was unaware of any issue and requested Mr. August send his information to the ANO.

Mr. Gaskins discussed the aircraft noise qualification test for Breeze Airway's (Breeze) Airbus A220-300 for Class A operations. In addition, Mr. Gaskins added that Breeze recently completed a successful noise test for the Embraer E195 for Class A operations and are waiting for further analysis to determine an administrative qualification for Class E operations.

Mr. Gaskins informed the group that JWA will begin the Airport's annual capacity allocation process for Plan Year 2024 on April 7, 2023, with an Airport Commission date in June and a tentative Board date in July. Mr. Gaskins emphasized that we are beginning the process early this year to give the ANO and airlines more time to work through requests and address any issues that may arise.

Mr. Gaskins mentioned that the Airport submitted the Fly Friendly Report final draft to Fifth District and plans to meet with Supervisor Foley later this month to address any questions she might have regarding the report.

When asked by Dr. Mosher when Breeze conducted their aircraft noise test for the E195, Mr. Gaskins stated it was on March 13, 2023. Dr. Mosher assumed any high noise readings for the Breeze A223 noise test were due to being fully loaded. Dr. Mosher asked how Breeze tends to operate the A223 as Class E. Mr. Gaskins explained Breeze's noise test was conducted at maximum projected gross takeoff weight (GTOW) for their long-haul routes. However, Breeze's GTOW for short-haul flights is comparable to the Delta Air Lines' A223 aircraft with similar GTOWs.

Dr. Mosher asked if the Airport receives GTOW data for general aviation (GA) jets. Mr. Gaskins stated we do not receive GA GTOW data. Dr. Mosher also asked if the GA GTOW data is reported to the FAA. Mr. Gaskins noted that the Fixed Base Operators (FBO) might have that information but could not confirm if GA GTOW data was reported to the FAA. Dr. Mosher asked why some GA jet operators, such as Regency Air, operate at lower dB levels during the curfew hours relative to daytime operations. Mr. Gaskins presumed it was probably due to different weights and departure procedures utilized by the pilots.

Mr. Bress asked if the ANO knows the metrics associated with the noise from Alaska Airlines departures. Mr. Bress said he has publicly stated that "Alaska is bad" and "Alaska is not a good neighbor" and that Alaska typically operates faster, lower, and registers four decibels louder than the other airlines. Mr. Bress added that in previous discussions with Airport Director, Ms. Charlene Reynolds, she stated there would be some opportunities to contact Alaska to discuss the issue. Mr. Gaskins stated the ANO is currently working on an analysis comparing the year-to-year altitudes of each of the carriers. Mr. Gaskins added that over the past several weeks, the ANO has met with corporate executives from each airline at JWA to present an Access Plan overview. However, the Airport does not have the authority to demand a carrier to fly a particular aircraft or how to fly a specific departure procedure. Mr. Gaskins emphasized that the Airport can only recommend those items, which the Airport has previously done numerous times.

Airport Commissioner, Ms. Sue Dvorak, asked if the Fly Friendly program can determine if GA jet operators are flying quieter in the nighttime hours and apply those metrics to the program for other GA operators. Mr. Gaskins stated point values had already been determined for the program but added it is something the Airport may look at in the future since some GA jet operators appear to operate differently between the daytime/nighttime hours.

Mr. Gaskins introduced Mr. Kyle Gorny, JWA's new ANO Specialist, and briefly discussed his qualifications and previous experience.

Dr. Mosher asked about the flight data on the City of Newport Beach's dashboard. Dr. Mosher questioned whether the delay was an Airport or City issue. Mr. Gaskins explained the Airport typically sends the information to the City of Newport Beach three weeks after the end of the month reported. However, the recent delay was due to the issues mentioned earlier.

Mr. Bress expressed that the Airport continues to have non-compliant departures with FAA 14 CFR 91.117(a) & 14 CFR 91.117(b) and that JWA is Class C airspace. Mr. Bress also inquired if JWA has made any progress on his previous requests to post information to pilots on JWA's website stating the Airport is in Class C airspace, as well as include a reference to what that means in regards to being compliant with FAA 14 CFR 91.117(a) & 14 CFR 91.117(b). Mr. Gaskins mentioned that pilots use other resources to obtain FAA FAR information, so the Airport does not intend to post FAA FARs on the website. Mr. Gaskins stated he would bring the request to the Airport Director for direction.

Mr. Bress also expressed that in the Zoom meeting hosted by the Airport Director, the FAA said they do not want any non-compliance with FAA 14 CFR 91.117(a) & 14 CFR 91.117(b). Mr. Bress said he has screenshots of non-compliance and wanted to know if the Airport would agree in general that a departure that was "faster and thrusting" and in non-compliance with FAA 14 CFR 91.117(a) & 14 CFR 91.117(b) would be louder than one that was compliant. Mr. Gaskins stated it would depend on certain variables and would like to see how Mr. Bress came to that conclusion. Mr. Gaskins reiterated what the FAA said in the previously mentioned FAA Community Workshop webinar, which was that airspeed values on public websites are based on the "ground speed" of the aircraft and not the criteria used for enforcement, which is "indicated airspeed."

Mr. Bress asked who oversaw the Airport's social media posts and if that person was receiving notifications, specifically on Twitter and Facebook. Mr. Bress stated he forwarded communication through those platforms and wanted to ensure JWA had seen those posts. Mr. Gaskins confirmed JWA has a dedicated person who monitors all social media platforms and responds accordingly.

**QUARTERLY NOISE MEETING ROSTER**  
**March 28, 2023**

**NAME**

**ORGANIZATION**

|                   |                                      |
|-------------------|--------------------------------------|
| Joe August        | Resident – Newport Beach             |
| Jim Mosher        | Resident – Newport Beach             |
| Dennis Bress      | Resident – Newport Beach             |
| Sue Dvorak        | Airport Commissioner, Fifth District |
| Tara Finnigan     | City of Newport Beach                |
| Kristen Hauptli   | City of San Juan Capistrano          |
| John Criezis      | Unknown                              |
| Unknown Caller    | Unknown                              |
| Nikolas Gaskins   | John Wayne Airport                   |
| Anthony Cangey    | John Wayne Airport                   |
| Beatrice Siercke  | John Wayne Airport                   |
| Cristina Magaña   | John Wayne Airport                   |
| Cassandra Linares | John Wayne Airport                   |
| Kyle Gorny        | John Wayne Airport                   |

SUMMARY OF STATISTICAL INFORMATION  
FOR  
CALIFORNIA DEPARTMENT OF TRANSPORTATION

1. Size of Noise Impact Area as defined in the Noise Standards (California Code of Regulations, Title 21, chapter 2.5, Subchapter 6):  
0.0148 Sq. Mi.
2. Estimated Number of dwelling units included in the Noise Impact Area as defined in the Noise Standards:  
71
3. Estimated number of people residing within the Noise Impact Area as defined in the Noise Standards:  
177.5 (Based on 2.5 People/Dwelling Unit)
4. Identification of aircraft of type having highest takeoff noise level operating at this Airport together with estimated number of operations by this aircraft type during the calendar quarter reporting period:  
Gulfstream 3 – 2 (Arrivals + Departures)
5. Total number of aircraft operations during the calendar quarter:  
60,697
6. Number of Air Carrier operations during the calendar quarter:  
(Not mandatory)  
23,950
7. Percentage of Air Carrier operations by aircraft certified under Federal Aviation Regulation (FAR) Part 36, Stage III:  
(Not mandatory)  
100%
8. Estimated number of operations by General Aviation aircraft during the calendar quarter:  
(Not mandatory)  
36,654
9. Estimated number of operations by Military aircraft during the calendar quarter:  
(Not mandatory)  
93