



7. Noise

This chapter describes the 2023 and 2024 noise levels associated with **aircraft operations** at Boston Logan International Airport (Logan Airport) in the areas surrounding the Airport and Massport's efforts to reduce the Airport's noise. Noise levels depend on the type of aircraft and engine, as well as landing and takeoff (LTO) activity, runway use, and the routes taken by aircraft during arrival and departure. Massport models annual noise levels surrounding the Airport using the Federal Aviation Administration's (FAA's) **Aviation Environmental Design Tool (AEDT)**. Noise model inputs are summarized here with further details provided in Appendix I, *Noise Supporting Documentation*. Massport's overall Noise Abatement Management Plan goals and Massport's Noise Abatement Program activities and achievements in 2023 and 2024 are also reviewed in this chapter.

Background supporting information on noise model inputs, noise calculations, and the federal regulatory framework is provided in the **User's Guide, Section U7.2**. More details on Massport's extensive programs, studies, tools, and other efforts to minimize or abate aviation noise from Logan Airport are also provided in the **User's Guide, Section U7.5**.

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2023 Noise Key Findings

The following details key findings on the noise environment at the Airport in 2023:

- The 2023 **Day-Night Average Sound Level (DNL)** contours are slightly larger in area than the 2022 DNL contours; primarily because more aircraft operations occurred in 2023.
- The number of people residing within the 2023 DNL 65 dB contour (8,797 people) was 7 percent above the 2022 level (8,158 people). The populated area within the 2023 DNL 65 dB contour is in Revere, Winthrop (Point Shirley), and Boston (Orient Heights).
- Nighttime aircraft operations represented approximately 15 percent of total operations. Eighty-two percent of nighttime operations occurred either before midnight or after 5:00 AM. The 165.7 average total nighttime flights (commercial and cargo) is a 15 percent increase over 2022's 143.5 average nighttime flights.

- Massport restarted the **Residential Sound Insulation Program (RSIP)** in late 2022 and began a pilot phase of sound insulation treatments with a group of 10 homes in Revere and Winthrop in 2023. To date, Massport has invested over \$170 million and provided sound insulation for 36 schools and 11,515 residential units.

2024 Noise Key Findings

The following details key findings about the Airport noise environment in 2024:

- The 2024 DNL contours are similar in area to the 2023 contours, but the contour shape changed slightly due to differences in runway use.
- Nighttime aircraft operations accounted for 15 percent of total operations, with 83 percent occurring either before midnight or after 5:00 AM. The average total nighttime flights (171 commercial and cargo) was more than in prior years, but a slightly smaller proportion of overall flights than in 2023.
- Massport's collaborative noise reduction efforts were recognized with the 2025 Jay Hollingsworth Speas Airport Award. Recipients of the Jay Hollingsworth Speas Airport Award are considered to have made significant contributions in recent years to enhancing relationships between airports or heliports and their surrounding environments through exemplary innovation that can be replicated elsewhere.¹

7.1 Noise Regulatory Framework and Metrics

The regulatory framework guiding **Environmental Status and Planning Report (ESPR)** and **Environmental Data Report (EDR)** noise analysis focuses on Logan Airport's Noise Abatement rules and several Federal Aviation Regulations (FAR). It relies on industry-standard key noise metrics, adopted by the FAA, to assess the impacts of noise exposure on humans.

7.1.1 Regulatory Framework

The **User's Guide, Section U7.2** provides the noise regulatory framework that guides the noise analysis. Regulations discussed include:

- *Logan Airport Noise Abatement Rules and Regulations (Noise Rules):*² Massport's Noise Rules have been in effect since 1986. The Noise Rules impose restrictions on specific aircraft and ground operations based on the time of day and runway, subject to implementation by the FAA for the purpose of airport and airspace safety.
- *FAR Part 36:* The regulation specifies the metrics, methods, and reporting required for aircraft noise certification.

¹ Aviation Pros. 2025. <https://www.aviationpros.com/airports/press-release/55266745/boston-logan-international-airport-wins-prestigious-2025-jay-hollingsworth-speas-airport-award>

² Massachusetts Port Authority, Logan International Airport Noise Abatement Rules and Regulations, effective July 1, 1986, codified at 740 Code of Massachusetts Regulations (CMR) 24.01 et seq.

- *FAR Part 150*: The regulation provides a process and guidance for voluntary FAA-sponsored noise assessment and abatement programs at airports.
- *FAR Parts 91 and 161*: These regulations address noise-related restrictions on aircraft operations.

7.1.2 Noise Metrics

The following metrics are used to describe and evaluate aircraft noise:

- **Decibel (dB)** and **“A”-weighted decibel (dBA)**;
- Day-Night Average Sound Level (DNL);
- **Cumulative noise index (CNI)**;
- **Dwell and Persistence**; and
- **Time Above (TA)**.

For a more in-depth description of noise metrics, refer to the **User’s Guide, Section U7.1**.

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The DNL metric is the primary means for evaluating the annual noise environment around Logan Airport, presented as a series of contours of equal sound levels over a map. This EDR presents annual **noise contours** in 5 dB intervals between 60 and 75 dB and counts the populations in the areas within those contour intervals.

Noise at night can be more impactful than noise in the daytime. Hence, the calculation of DNL weights the noise associated with each nighttime operation (between 10 PM and 7 AM) by a factor of ten to adjust for more sensitivity during nighttime hours. As required by the *FAA Reauthorization Act of 2018*, the FAA evaluated alternative metrics to the DNL standard and reported the findings to Congress in 2020.³ The report concluded the DNL metric still provides the most comprehensive way to consider the range of factors influencing exposure to aircraft noise. Still, it noted that using supplemental metrics is both encouraged and supported to disclose the extent of community noise impacts further.

Following the FAA’s conclusions and guidance, Massport provides noise analysis results using DNL along with various supplemental metrics, such as CNI and TA, in this EDR and prior EDRs and ESPRs. More information on these supplemental metrics and the FAA’s DNL standard evaluation studies is available in the **User’s Guide, Section U7.1.2**.

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3 U.S. Department of Transportation, Federal Aviation Administration. Report to Congress: FAA Reauthorization Act of 2018 (Pub. L. 115-254). Sec. 188 and Sec 173. April 14, 2020. <https://www.congress.gov/115/plaws/publ254/PLAW-115publ254.pdf>

7.2 Noise Model Inputs

The 2023/2024 EDR noise assessment utilized the most recent release of the FAA-required noise model, AEDT version 3g, which was released on August 28, 2024. The noise exposure contour shapes represent the DNL, which show an average annual day's (AAD) cumulative noise events over 24 hours. Changes to any one of these factors, or inputs, can change the noise metric values and alter the noise contour shapes. These model inputs include:

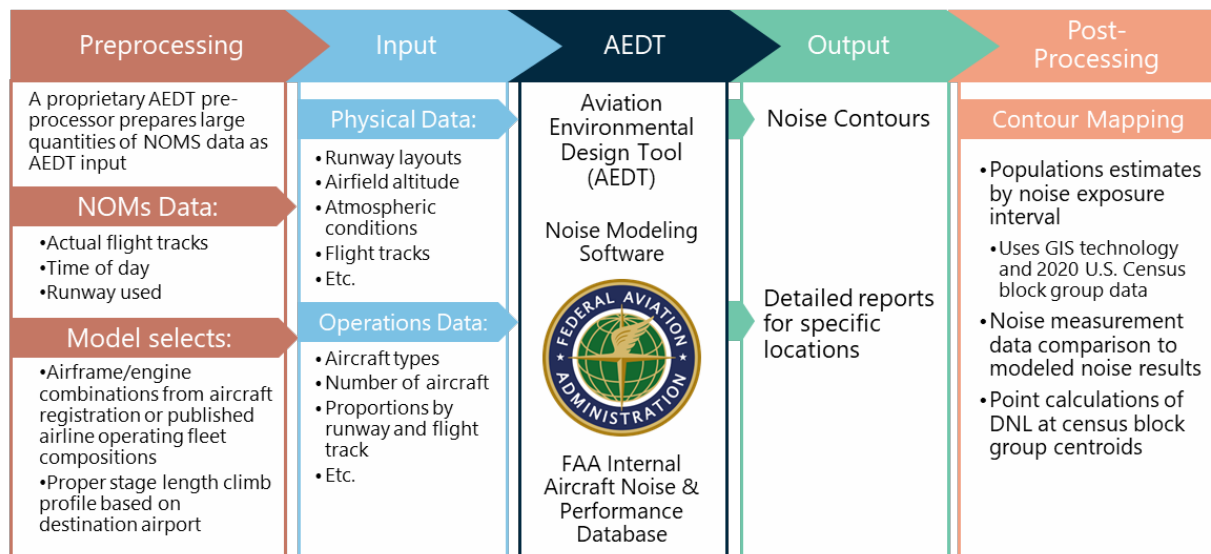
- fleet mix and day-night split of operations;
- runway use; and
- the location and frequency of aircraft flight paths to and from the Airport.

The 2023/2024 EDR noise analysis methodology is consistent with previous years and as described in the **User's Guide, Section U7.3**. **Figure 7-1** provides a graphical summary of the process.

The following sections summarize the 2023 and 2024 noise model input data and compare these inputs to corresponding data from 2022 and 1998, the historical high year for noise which serves as the benchmark reference year. Appendix I, Section I.1.1 contains more detail on the 2023 and 2024 AEDT data inputs.

Additional information about the noise modeling process is provided in the **User's Guide, Section U7.3**.

Figure 7-1 Noise Analysis Methodology



The AEDT model accesses digital terrain data to evaluate each noise receptor location at its specific elevation.

Source: HMMH, 2025.

7.2.1 Fleet Mix and Operations Data

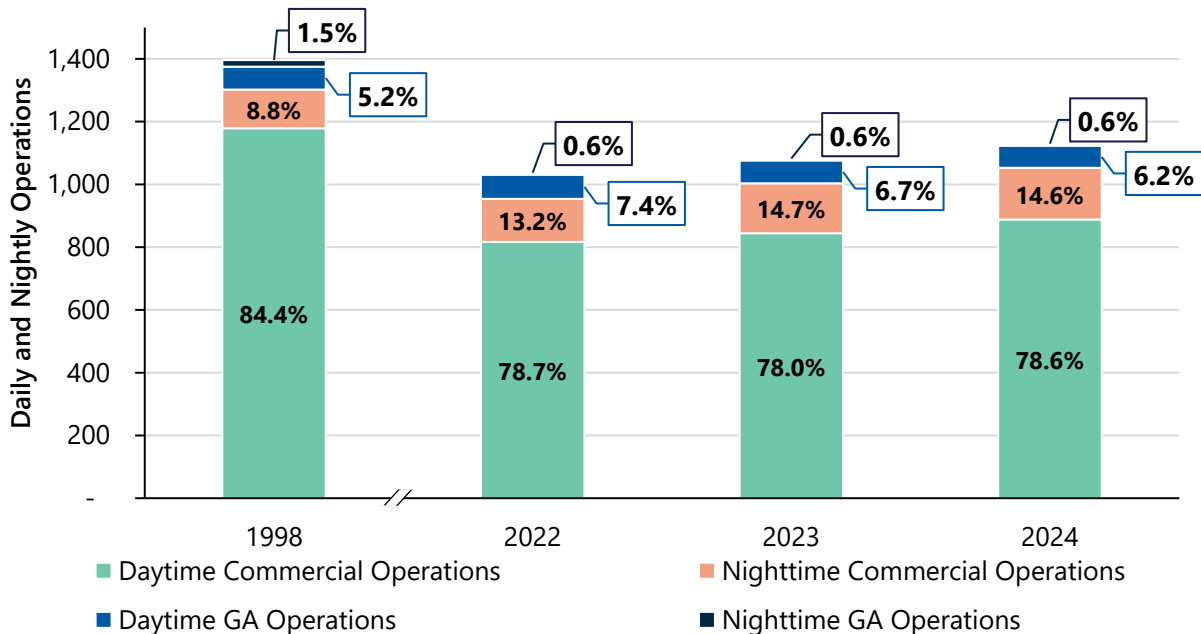
Massport relies on detailed flight track and operations data from its **Noise and Operations Monitoring System (NOMS)** as a basis for noise calculations. The NOMS can detect and distinguish between many unique aircraft types, including large passenger and cargo jets, as well as small corporate and propeller aircraft. The NOMS-generated list of aircraft types detected was matched to the AEDT 3g database for noise modeling, as detailed in the **User’s Guide, Section U7.3**. Aircraft operations are categorized in different ways for reporting, including:

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- commercial and **general aviation (GA)** operations;
- noise certification categories (for jets); and
- daytime vs. nighttime operations.

Massport tracks the number of operations occurring during the DNL nighttime period of 10:00 PM to 7:00 AM, when each modeled flight is weighted tenfold in calculations of noise exposure. **Figure 7-2** shows the split of daytime and nighttime activity of commercial and GA operations at Logan Airport in 2023 and 2024, in comparison to 2022 and 1998. The fleet mix of daily operations is presented in further detail in Appendix I, Table I-4.

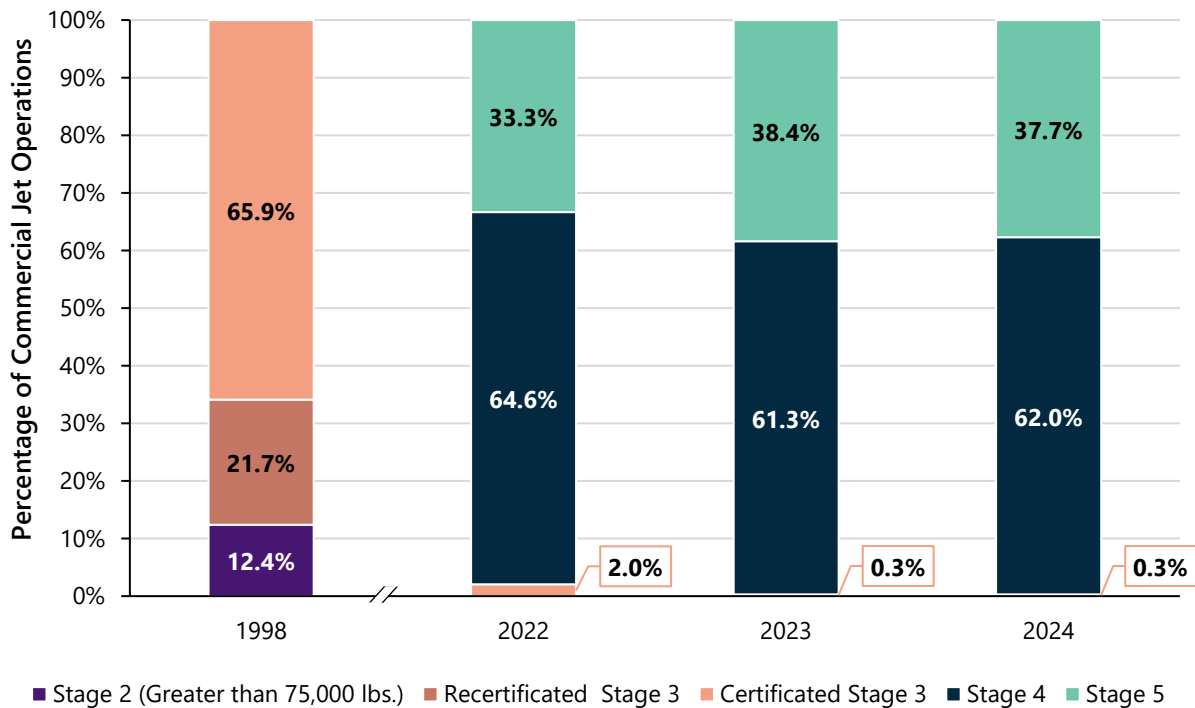
Figure 7-2 Modeled Average Daily and Nightly Operations, 1998, 2022-2024



Source: HMMH, 2025.
Notes: Commercial Operations encompasses both passenger and cargo operations on air carrier jets, regional jets, and non-jet commercial aircraft. GA operations include jets and non-jets, including helicopters.
Nighttime operations are from 10:00 PM to 7:00 AM.

Aircraft noise standards for civilian jet aircraft in the U.S. are defined in 14 Code of Federal Regulations (CFR) Part 36, categorizing them into Stage 1, Stage 2, Stage 3, Stage 4, or Stage 5 based on *FAA Advisory Circular (AC) 36-1H*, where Stage 5 is the quietest classification. The noisiest categories, Stage 1 and Stage 2, no longer fly in the United States. Further definition on aircraft stages and examples of aircraft belonging to different categories can be found in the [User's Guide, Section U7.2](#). The commercial jet operations at Logan Airport are categorized into noise certification stages, as shown in **Figure 7-3**.

Figure 7-3 Commercial Jet Operations by 14 CFR Part 36 Stage Category, 1998, 2022-2024



Source: Massport's Noise Monitoring System, Revenue Office, and HMMH 2025.

Notes: Totals and percentages may not add exactly due to rounding. Data beginning in 1998 is available in past EDRs and ESRs.

Aircraft counted as Stage 4 are aircraft that are actually certificated Stage 4 or would qualify if recertificated. Stage 4 certification became available in 2006; however, the number of aircraft meeting Stage 4 requirements at Logan Airport was not determined until 2009.

Recertificated Stage 3 aircraft are aircraft manufactured initially as a certificated Stage 1 or 2 aircraft under Federal Aviation Regulation (FAR) Part 36 that either were retrofitted with hush kits or were re-engined to meet Stage 3 requirements.

Aircraft counted as Stage 5 are aircraft that are actually certificated Stage 5 or would qualify if recertificated. Stage 5 aircraft certification became available in 2018 for aircraft with a maximum certificated takeoff weight exceeding 121,254 pounds. The number of aircraft that meet Stage 5 requirements at Logan Airport was not determined before 2016.

The 2022 data presented does not match the values shown in Table 7-3 of the *2022 ESR* because these values have been recalculated for Figure 7-3.

Figure 7-3 only includes commercial airlines that operated more than 100 jets in the reported year.

7.2.1.1 2023 Commercial Operations

Total operations in 2023 increased by approximately 4 percent over 2022. As shown in **Figure 7-2**, Logan Airport's operations primarily consist of commercial passenger and cargo flights, with commercial operations accounting for approximately 93 percent of total operations in 2023. Flights by GA aircraft made up the remaining portion. The share of commercial **regional jet (RJ)** operations declined from the high level seen in 2022, as shown in Appendix I, Table I-4, as the fleet has shifted to larger 90-seat jets from the 50-seat models have been used previously in recent years. Non-jet commercial operations represented a slightly smaller proportion of traffic in 2023 than in preceding years.

7.2.1.2 2024 Commercial Operations

The total number of 2024 operations, including both day and night shifts, increased by approximately 5 percent over 2023. Consistent with 2023 and previous years, the majority of operations at Logan Airport were commercial flights, accounting for roughly 93 percent of total operations in 2024. Flights by GA aircraft made up the remaining 7 percent of operations. Between 2022 and 2024, the number of commercial operations increased from 2023 while GA operations decreased each year. In 2024, the share of RJ operations increased over the previous year. Additionally, non-jet commercial operations represented a larger proportion of traffic in 2024 over 2023, due to a 15 percent increase in Cape Air operations. A more granular breakdown of the commercial fleet mix is shown in Appendix I, Table I-4.

7.2.1.3 2023 FAA Jet Aircraft Noise Categories

The number of operations by aircraft meeting Stage 5 requirements increased by 20 percent from 106,115 operations in 2022 to 126,939 operations in 2023. The number of Stage 3 aircraft operations decreased by 84 percent compared to 2022, comprising less than 1 percent of commercial jet operations in 2023. The observed changes in operations demonstrate industry-wide trends as airlines are increasingly purchasing, retrofitting, and operating quieter aircraft.

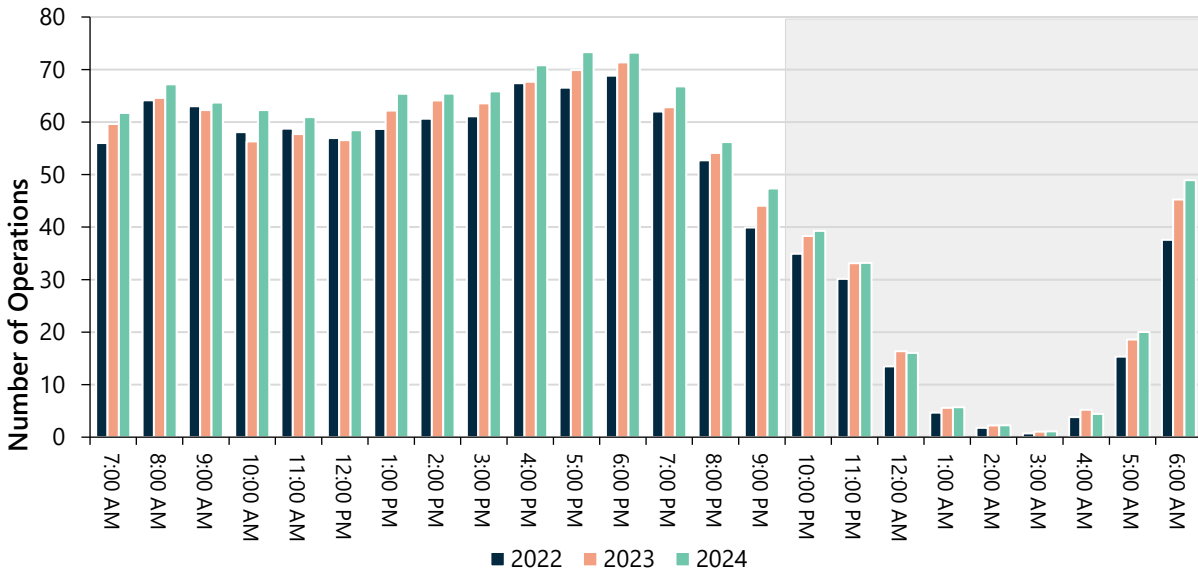
7.2.1.4 2024 FAA Jet Aircraft Noise Categories

In 2024, the number of aircraft operating out of Logan Airport meeting Stage 5 requirements increased by 2 percent over the previous year. The prevalence of Stage 3 aircraft continued to decrease from the previous year in 2024, while Stage 4 aircraft increased 6 percent over 2023.

7.2.1.5 2023 Nighttime Operations

In 2023, approximately 15 percent of operations occurred during nighttime hours, between 10:00 PM and 7:00 AM, representing a slight increase from the 14 percent share of nighttime operations in 2022. Approximately 82 percent of 2023 nighttime operations, between 10:00 PM and 7:00 AM, occurred either before midnight or after 5:00 AM, as shown in **Figure 7-4**, to accommodate connecting flights and international time zones.

Figure 7-4 Logan Airport Average Hourly Operations, 2022-2024



Source: HMMH, 2025.

Notes: The grey highlighted area represents nighttime hours, from 10:00 PM to 7:00 AM.

Hour labels in between tick marks represent the start of the hour (e.g. Columns labeled 7:00 AM represent the average daily operations for each year between 7:00 AM and 7:59 AM).

7.2.1.6 2024 Nighttime Operations

Annual nighttime operations increased by 2,086 operations in 2024 compared to 2023, representing a 3 percent increase. However, in 2024, the share of total operations at night compared to daytime operations decreased slightly from 2023. Most nighttime operations, 83 percent, occur before midnight or after 5:00 AM.

7.2.2 Runway Use

Figure 7-5 shows Logan Airport's runways. Runway use data tracks the number of times aircraft takeoff or land on a runway over a year. The choice of runway can depend on wind, weather, and the aircraft type and performance requirements. Runway selection can also depend on which runways are operational or available, current airport activity, and the discretion of air traffic control for safety reasons.



Figure 7-5 Logan Airport Runways

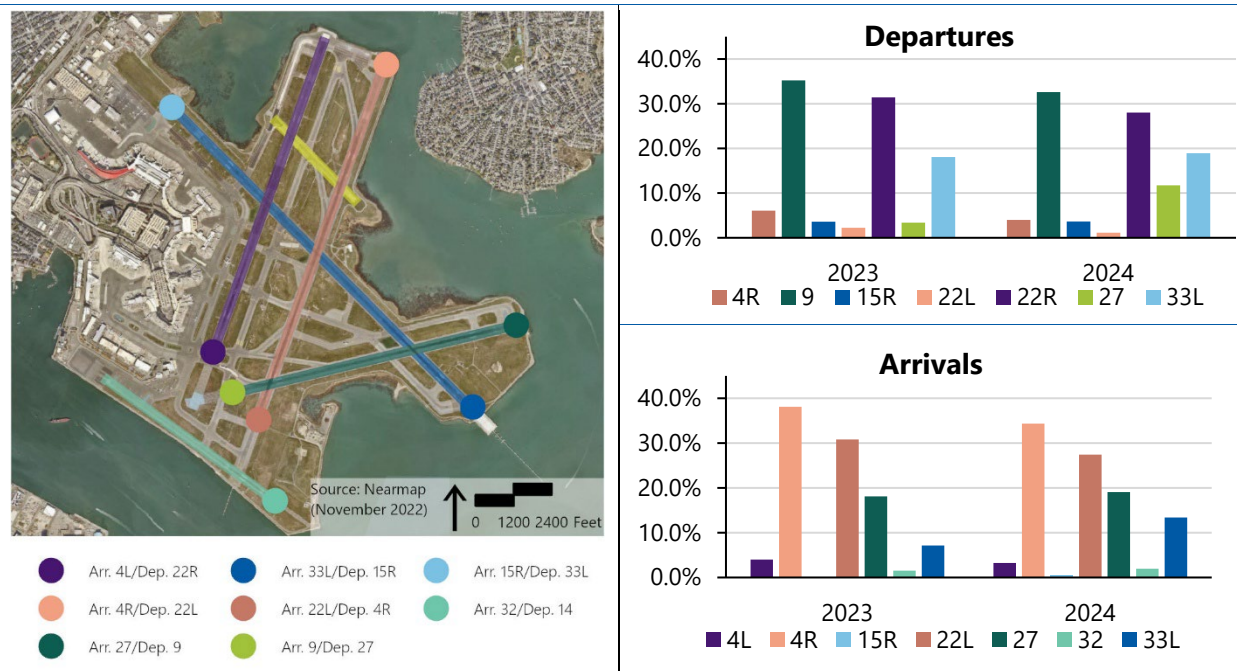
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- Runway 14-32
- Runway 4L-22R
- Runway 15L-33R
- Runway 4R-22L
- Runway 15R-33L
- Runway 9-27



Figure 7-6 summarizes runway use in 1998 and 2022-2024 for each departure and arrivals configuration. Detailed runway usage data, including arrival and departure information by aircraft type for Logan Airport from 2022 to 2024, is provided in Appendix I, Table I-7 to I-9.

Figure 7-6 Jet Aircraft Runway Use at Each Runway End, 1998, 2022-2024



Source: Massport L3Harris NOMS data and HMMH, 2025.

Notes: These data reflect actual percentages of jet aircraft operations on each runway. They should not be confused with effective runway use, which incorporates the 10 dB nighttime weighting.

7.2.3 Flight Tracks

AEDT flight tracks are modeled using NOMS data. The AEDT modeling incorporated 393,363 flight tracks to calculate the noise levels surrounding Logan Airport for the calendar year 2023. For calendar year 2024, a total of 410,507 flight tracks were input to AEDT. **Figure 7-7** provides samples of the flight tracks used in AEDT to develop the DNL contours.⁴ The figures below show a ten percent random sample of the annual flight tracks recorded, representing arrivals and departures throughout 2023 and 2024 for each of three aircraft categories: air carrier jets, RJs, and non-jets. In addition, these figures also illustrate how flight paths are constrained by FAA **Area Navigation (RNAV)** procedures, which limit an aircraft's flight path area to a certain proximity to navigational aids. The **User's Guide, Section U7.3**, discusses AEDT flight tracks and RNAV procedures.

⁴ The flight tracks shown in these figures are a representative sample, selected uniformly from the complete track set to match the overall annual runway use.

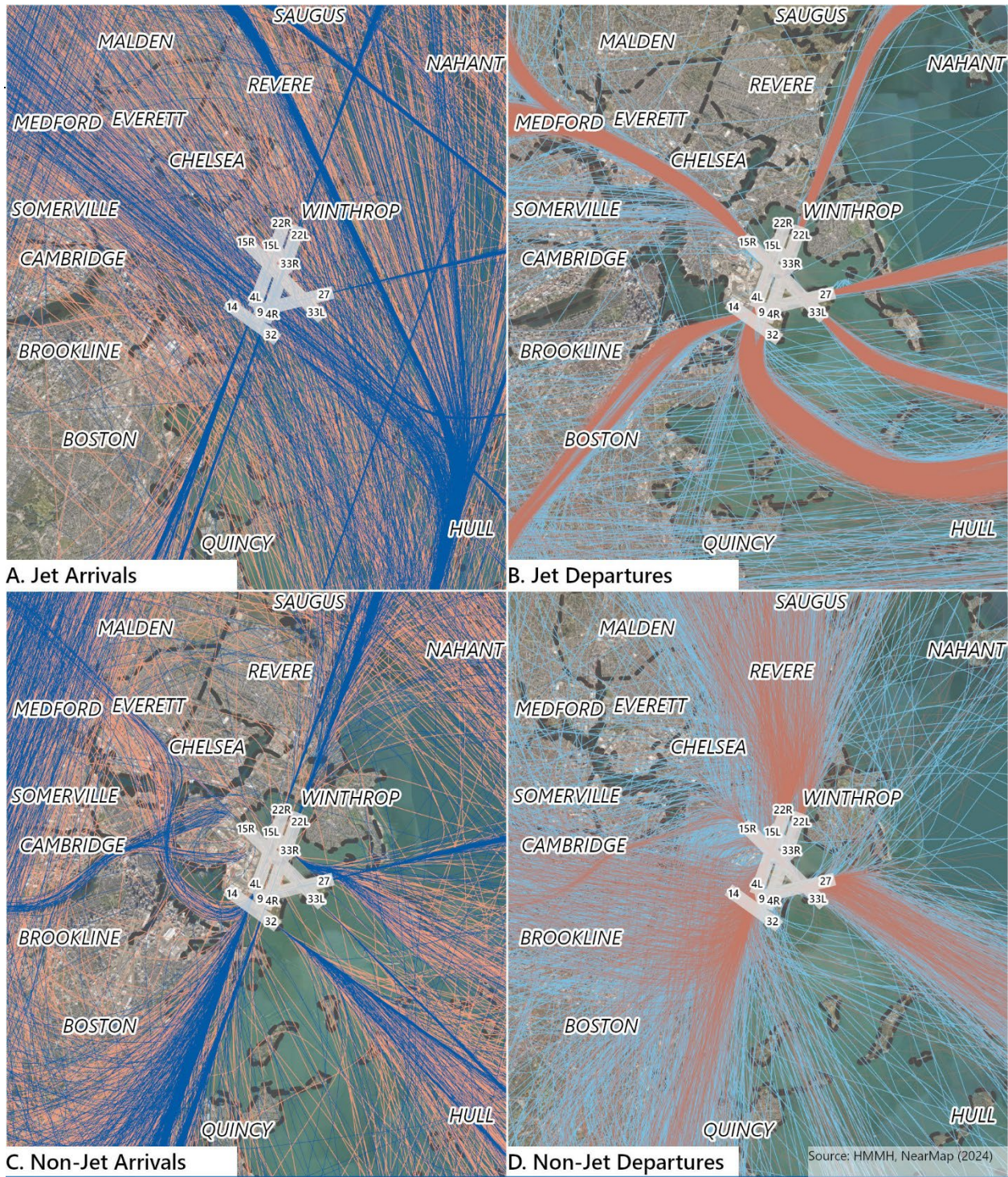


Figure 7-7 2023 and 2024 Arrivals and Departures Flight Tracks

2023/2024 Environmental
Data Report

- 2023 Arrivals Flight Tracks
- 2023 Departures Flight Tracks
- 2024 Arrivals Flight Tracks
- 2024 Departures Flight Tracks
- Municipalities



7.3 Noise Environment

This section describes the results of AEDT noise modeling for 2023 and 2024 and presents noise measurement data from Massport's permanent noise monitors around Logan Airport. The DNL contours are presented graphically, and the population living within the contour intervals is tabulated. DNL values computed by the model for the specific noise monitor locations are then compared to the measured noise levels. Historical data are also provided for context. DNL 65 dB is the focus of much noise analysis, as it represents the threshold for noise incompatibility with residential land use.^{5,6} Under guidance from both the FAA and the U.S. Department of Housing and Urban Development (HUD), Massport's supplemental noise metric analyses data, including CNI, dwell, persistence, and TA, are provided in Appendix I, Section I.2.

7.3.1 DNL Contours

There is a demonstrated long-term trend of noise level reduction at Logan Airport, attributed to efforts by Massport, airlines, the FAA, and advancements in engine technologies. **Figure 7-8** and **Figure 7-9** display the DNL contour sets (DNL 60-, 65-, 70-, and 75-dB contours) for 2023 and 2024, with the outermost contours representing DNL 60 dB. **Figure 7-10** shows the DNL 65 dB contours for 2023 and 2024, superimposed with the previously published DNL 65 dB contours for 1998 and 2022, calculated with the FAA's noise modeling software.⁷ The areas of particular interest are where the contour shows change, especially where contour lobes extend over the populated land.

5 14 Code of Federal Regulations Part 150, Appendix A to Part 150 Noise Exposure Maps, Sec. A150.101(d)).

6 24 Code of Federal Regulations Part 51, Subpart B Noise Abatement and Control, Sec. 51.103(c)).

7 The 2022 contours were calculated with AEDT version 3e. The differences between AEDT versions 3e and 3g for noise calculations are minimal, as those updates focused on air pollutant emission methodology rather than noise. The 1998 contours used the FAA's Integrated Noise Model (INM) version 5.0, with adjustments for purposes of Massport's noise analyses. There are significant noise algorithm differences between INM and AEDT, despite AEDT incorporating INM.



Figure 7-8 60-75 DNL Contours for 2023 Operations Using AEDT 3g

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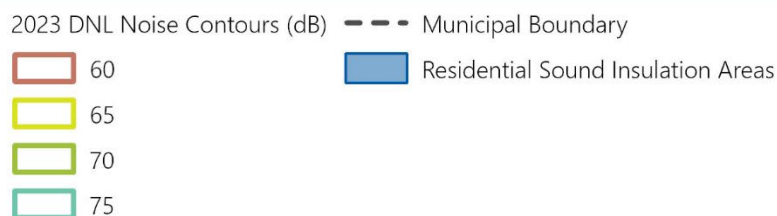
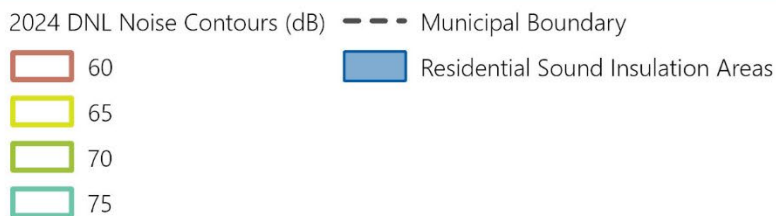




Figure 7-9 60-75 DNL Contours for 2024 Operations Using AEDT 3g

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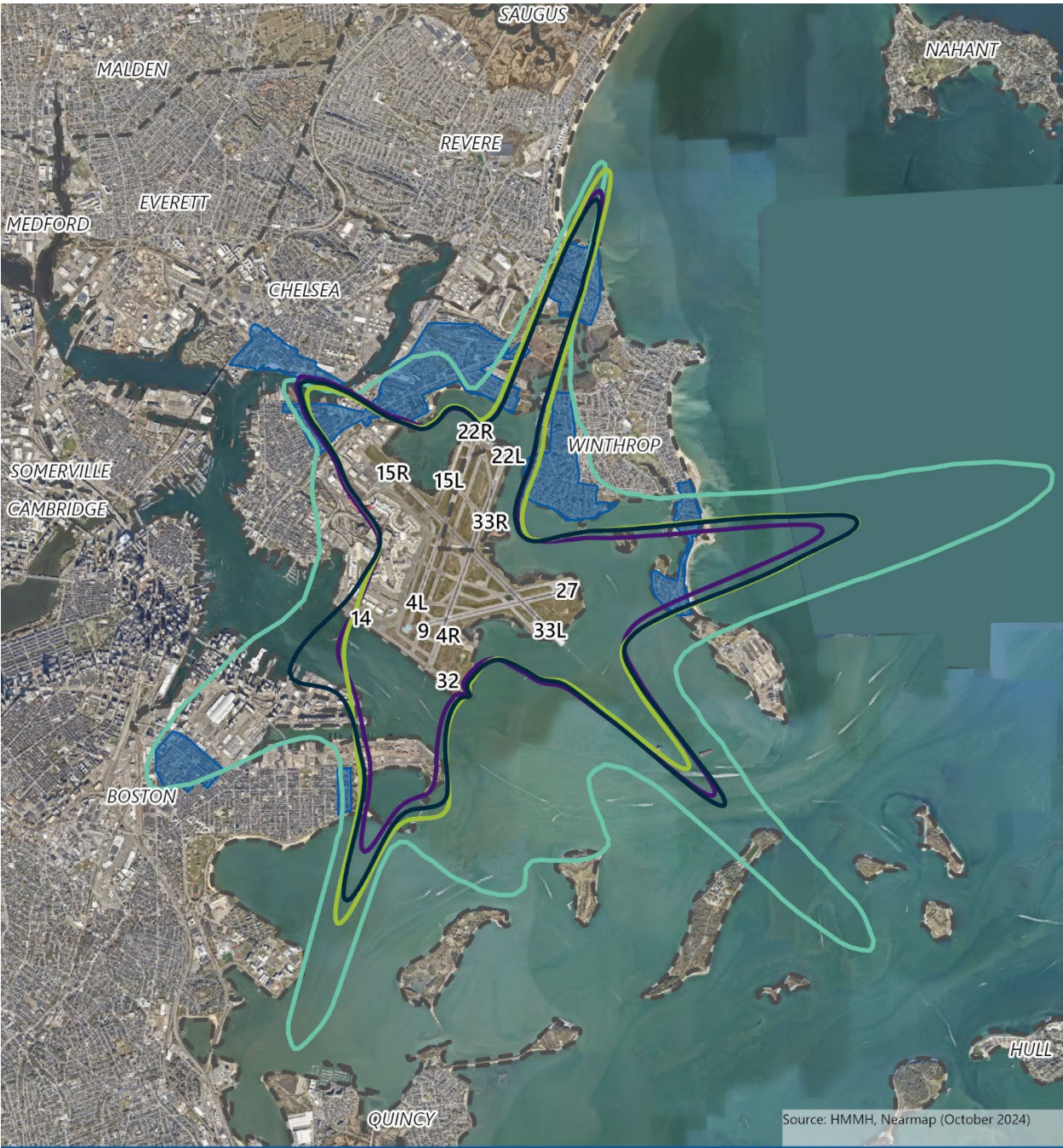


Figure 7-10 Comparison Between 1998 and 2022-2024 DNL 65 dB Contours

2023/2024 Environmental Data Report

- 65 dB Contour by Year
- 1998
 - 2022
 - 2023
 - 2024
- Municipal Boundary
- Residential Sound Insulation Areas

0 0.6 1.2 2.4 Miles

7.3.2 Population within Noise Contours

Each year, the EDRs and ESPRs report on population counts within 5 dB increments of noise exposure.

Table 7-1 shows population counts for 1998, 2022, 2023, and 2024 by noise level and by community, based on U.S. Census data. Comparisons between consecutive years' DNL 65 dB contours are discussed below. **Figure 7-11** illustrates the contour changes over the populated areas exposed to DNL 65 dB or greater, and the population changes seen in **Table 7-1** reflect those contour changes.

Table 7-1 Population Exposed to DNL 65 dB or Greater, by Community, 1998, 2022-2024

Year	> 75 DNL	70-75 DNL	65-70 DNL	Total (65+) DNL	Year	> 75 DNL	70-75 DNL	65-70 DNL	Total (65+) DNL
Boston					Revere				
1998	58	580	10,877	11,515	1998	0	0	3,168	3,168
2022	0	0	3,862	3,862	2022	0	0	3,416	3,416
2023	0	7	3,215	3,222	2023	0	0	4,000	4,000
2024	0	0	3,373	3,373	2024	0	0	3,371	3,371
Chelsea					Winthrop				
1998	0	0	0	0	1998	519	1,522	6,572	8,613
2022	0	0	0	0	2022	0	27	880	907
2023	0	0	0	0	2023	0	205	1,370	1,575
2024	0	0	0	0	2024	0	192	1,044	1,236
Everett					All Communities				
1998	0	0	0	0	1998	577	2,102	20,617	23,296
2022	0	0	0	0	2022	0	27	8,158	8,185
2023	0	0	0	0	2023	0	212	8,585	8,797
2024	0	0	0	0	2024	0	192	7,788	7,980

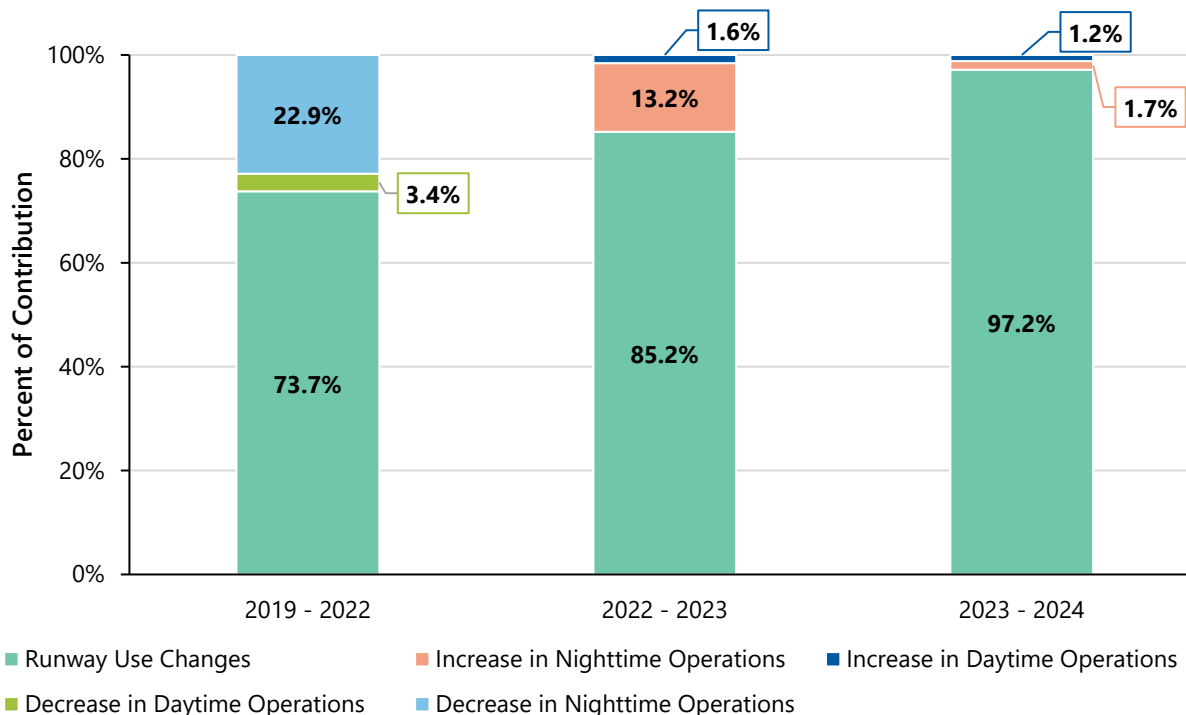
Source: Massport and HMMH, 2025.

Notes: Population counts for 2020 and later used the 2020 U.S. Census data; counts from 1998 used the 1990 U.S. Census data.

The then-current version of the FAA's noise model was used for each analysis: the 1998 contours utilized the FAA's Integrated Noise Model (INM) version 5.0, the 2022 contours were calculated with AEDT version 3e, and the 2023 and 2024 contours were calculated with AEDT version 3g. Specific model versions and data for years not shown here are available in past EDRs and ESPRs.

The Day-Night Average Sound Level (DNL) of 65 dB is the federally defined noise criterion used as a guideline to identify when residential land use is considered incompatible with aircraft noise.

Figure 7-11 Reason for Changes in Number of People Exposed to Day-Night Average Sound Level (DNL) Values Greater than or Equal to 65 dB, 2022-2024



Source: HMMH, 2025

7.3.2.1 2023 Population Counts within Noise Contours

The estimated population within the DNL 65 dB contour increased by approximately 7 percent from 2022 to 2023, rising from 8,185 to 8,797. This increase in the exposed population occurred in the communities of Revere and Winthrop and is attributable to shifts in runway use and an increase in nighttime operations, which are weighted tenfold in noise exposure calculations.

7.3.2.2 2024 Population Counts within Noise Contours

The estimated population within the DNL 65 dB contour decreased approximately 9 percent from 2023 to 2024, from 8,797 to 7,980, and remained lower than the population within the 2019 contour. The number of people within the 2024 DNL 70 dB also decreased compared to 2023. The reasoning behind the estimated changes is attributed to runway use shifts as described in the prior sections, and changes to contours over the previous year are summarized in **Figure 7-10**.

7.3.3 Noise Measurement Data



Massport Noise Monitor

Massport's permanent noise monitoring system consists of 30 noise monitors located in the communities around the Airport, as shown in **Figure 7-12**. During regular operation, the noise monitors continuously measure noise exposure levels as well as a variety of metrics associated with individual noise events that exceed preset threshold sound levels.

Noise monitoring data are transmitted back to Massport's Noise Office, where daily DNL values and other noise metrics are computed for each location and are summarized in various reports. Noise monitors collect sound data not only from aircraft noise events but also from the surrounding community, including roadway traffic and construction noise. Software algorithms identify aircraft noise events, which allows Massport to separately calculate total DNL, community noise DNL, and aircraft-only DNL. **Table 7-2** compares the measured 2022, 2023, and 2024 aircraft noise DNL values at each monitor location.

Table 7-2 Comparison of Measured Aircraft Noise Levels (DNL), 2022-2024

Site ID ¹	Location	Distance from Airport (miles) ²	Measured Aircraft Noise Level (DNL)				
			2022	2023	2024	2022-2023	2023-2024
1 ³	South End – Union Park Street Playground	3.7	N/A	53.0	58.2	-	5.2
2	South Boston – B and Bolton	2.9	55.5	57.7	59.3	2.2	1.6
3	South Boston – Day Blvd. near Farragut	2.5	61.0	63.2	62.2	2.2	-1.0
4	Winthrop – Bayview and Grandview	1.6	72.5	73.1	73.1	0.6	0.0
5	Winthrop – Harborview and Faun Bar	1.9	64.8	66.3	65.7	1.5	-0.6
6	Winthrop – Somerset near Johnson	0.8	65.7	65.7	65.8	0.0	0.1
7	Winthrop – Loring Road near Court	1.0	66.7	67.4	66.0	0.7	-1.4
8	Winthrop – Morton and Amelia	1.6	60.7	63.0	61.0	2.3	-2.0
9	East Boston – Bayswater near Annavoy	1.3	68.2	69.5	68.0	1.3	-1.5
10 ⁴	East Boston – Bayswater near Shawsheen	1.3	65.9	66.8	64.6	0.9	-2.2
11 ⁴	East Boston – Selma and Orient	1.8	65.6	60.7	57.0	-4.9	-3.7
12 ⁴	Coleridge Street, East Boston	1.2	64.4	64.2	63.8	-0.2	-0.4

Table 7-2 Comparison of Measured Aircraft Noise Levels (DNL), 2022-2024

Site ID ¹	Location	Distance from Airport (miles) ²	Measured Aircraft Noise Level (DNL)				
			2022	2023	2024	2022-2023	2023-2024
13 ⁴	East Boston High School	1.9	62.9	62.2	63.2	-0.7	1.0
14 ⁴	East Boston – Jeffries Point Yacht Club	1.2	57.6	56.0	58.8	-1.6	2.8
15	Chelsea – Admiral’s Hill	2.8	62.6	61.6	61.6	-1.0	0.0
16	Revere – Bradstreet and Sales	2.4	70.3	70.3	69.7	0.0	-0.6
17	Revere – Carey Circle	5.3	62.2	62.6	62.0	0.4	-0.6
18	Nahant – U.S.C.G. Recreational Facility	5.9	39.8	41.2	43.4	1.4	2.2
19 ⁴	Swampscott – Smith Lane	8.7	40.0	42.8	40.7	2.8	-2.1
20	Lynn – Pond and Towns Court	8.4	55.0	55.3	55.6	0.3	0.3
21	Everett – Tremont near Prescott	4.5	55.6	54.5	53.4	-1.1	-1.1
22	Medford – Magoun near Thatcher	6.0	54.1	53.2	53.1	-0.9	-0.1
23	Dorchester – Myrtlebank near Hilltop	6.3	53.8	58.2	58.0	4.4	-0.2
24	Milton – Cunningham Park near Fullers	8.1	49.7	52.9	51.6	3.2	-1.3
25 ⁵	Quincy – Squaw Rock Park	4.2	52.5	39.2	36.5	-13.3	-2.7
26 ⁴	Hull – Hull High School near Channel St.	6.0	59.5	59.1	58.4	-0.4	-0.7
27	Roxbury – Boston Latin Academy	5.3	51.3	50.4	55.4	-0.9	5.0
28	Jamaica Plain – Southbourne Road	7.7	46.2	44.9	50.3	-1.3	5.4
29	Mattapan – Lewenburg School	7.3	39.0	40.1	40.7	1.1	0.6
30	East Boston – Piers Park	1.5	50.2	52.2	55.3	2.0	3.1
Arithmetic Average			57.7	58.2	58.5	0.5	0.3

Source: HMMH, 2025.

Notes: DNL means Day-Night Average Sound Level; N/A means data not available.

Negative values represent a decrease in the measured noise level.

1 Site numbers correlate with the Figure 7-12 map.

2 Distance from Logan Airport calculated from the Airport Reference Point, which is located along Runway 4L-22R near its intersection with Runway 15R-33L. This location is shown in Figure 7-12.

3 The monitor at Site 1 was removed in May 2017; In collaboration with the South End community, Massport relocated Site 1 to the Union Park Street Playground in April 2023.

4 The data collected from Sites 10, 11, and 26 showed signs of equipment malfunction for some of the days in 2022; Massport investigated and recalculated DNL manually. Similar adjustments were made for Sites 10, 14, and 19 for days in 2023 and for Sites 12 and 13 for days in 2024.

5 Site 25's noise event identification threshold was set too high for 2023 and 2024; a lower threshold was implemented as of Jan. 1, 2025. The site's data, which appear artificially low, are not included in the averaging.



Figure 7-12 Noise Monitor Locations

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- ▲ Airport Reference Point
- Noise Monitors
- Municipal Boundary



7.3.3.1 2023 Noise Measurement Data

For 2023, 18 locations had measured average annual DNL values equal to or greater than the corresponding 2022 value, and 11 sites had lower values. The most considerable difference of -13.3 dB at site 25 was due to an error in the site's noise event identification threshold and, therefore, was not included in the averages for 2023 or 2024. Sites 19, 23, and 24 showed the following most significant increases over the previous year: 2.8, 4.4, and 3.2 dB, respectively. The 11 sites with a decrease in measured noise levels as compared to 2022 ranged from a difference of -0.2 dB to -4.9 dB.

7.3.3.2 2024 Noise Measurement Data

For 2024, 13 locations had measured average annual DNL values greater than the corresponding 2023 value, and 17 sites had lower annual DNL values. The largest increase of 5.4 was observed at site 28. Sites 1 and 27 also showed notable increases of 5.2 dB and 5.0 dB, respectively. The 17 sites with a decrease in measured noise levels as compared to 2023 ranged from a difference of -0.1 dB to -3.7 dB.

7.3.4 Comparing Measured and Modeled Noise Levels

On an annual basis, Massport reports a comparison of measured noise levels to the computer model results for the specific monitor locations, as shown in **Table 7-3**. Differences between measured and modeled values have narrowed over the years as both the noise monitoring and modeling processes have been refined.

Table 7-3 Comparison of Measured Aircraft DNL Values to AEDT Modeled DNL Values, 2022-2024

Site ID ¹	2022		2023		2024		Difference: Modeled minus Measured		
	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL			
							2022	2023	2024
1 ²	N/A	52.4	53.0	51.7	58.2	55.2	N/A	-1.3	-3.0
2	55.5	56.2	57.7	54.8	59.3	59.5	0.6	-2.9	0.2
3	61.0	60.5	63.2	62.4	62.2	61.8	-0.5	-0.8	-0.4
4	72.5	71.2	73.1	72.2	73.1	72.2	-1.3	-0.9	-0.9
5	64.8	64.6	66.3	66.2	65.7	66.0	-0.2	-0.1	0.3
6	65.7	61.7	65.7	62.4	65.8	61.9	-4.0	-3.3	-3.9
7	66.7	65.4	67.4	67.0	66.0	65.2	-1.3	-0.4	-0.8
8	60.7	61.2	63.0	62.9	61.0	61.4	0.5	-0.1	0.4
9	68.2	67.9	69.5	68.9	68.0	67.9	-0.3	-0.6	-0.2
10 ³	65.9	61.8	66.8	63.1	64.6	61.7	-4.1	-3.7	-2.9
11 ³	65.6	56.7	60.7	57.8	57.0	56.7	-8.9	-2.9	-0.3

Table 7-3 Comparison of Measured Aircraft DNL Values to AEDT Modeled DNL Values, 2022-2024

Site ID ¹	2022		2023		2024		Difference: Modeled minus Measured		
	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL			
							2022	2023	2024
12 ³	64.4	64.7	64.2	64.7	63.8	64.5	0.3	0.5	0.7
13 ³	62.9	64.2	62.2	63.7	63.2	63.9	1.3	1.5	0.6
14 ³	57.6	60.2	56.0	60.1	58.8	60.8	2.6	4.1	2.0
15	62.6	61.1	61.6	60.6	61.6	61.0	-1.5	-1.0	-0.6
16	70.3	68.7	70.3	69.2	69.7	68.6	-1.6	-1.1	-1.2
17	62.2	61.0	62.6	61.5	62.0	60.9	-1.2	-1.1	-1.1
18	39.8	45.0	41.2	46.8	43.4	45.0	5.2	5.6	1.6
19 ³	40.0	44.7	42.8	46.4	40.7	44.4	4.7	3.6	3.7
20	55.0	55.5	55.3	55.9	55.6	55.5	0.5	0.6	-0.1
21	55.6	54.8	54.5	54.1	53.4	54.0	-0.8	-0.4	0.6
22	54.1	53.8	53.2	53.1	53.1	53.1	-0.3	-0.1	0.0
23	53.8	54.7	58.2	57.0	58.0	56.4	0.9	-1.3	-1.6
24	49.7	52.9	52.9	55.0	51.6	54.5	3.2	2.1	2.9
25 ⁴	52.5	48.9	39.2	50.1	36.5	49.4	-3.6	10.9	12.9
26 ³	59.5	58.3	59.1	57.3	58.4	58.0	-1.2	-1.8	-0.4
27	51.3	50.9	50.4	49.2	55.4	54.2	-0.4	-1.2	-1.2
28	46.2	47.9	44.9	46.2	50.3	51.3	1.7	1.3	1.0
29	39.0	45.4	40.1	44.5	40.7	49.0	6.4	4.4	8.3
30	50.2	57.3	52.2	57.0	55.3	57.8	7.1	4.8	2.5
Avg	57.7	57.8	58.2	58.3	57.7	58.4	0.1	0.1	0.2

Source: HMMH, 2025.

Notes: Modeled results were computed for the whole year

DNL – Day-Night Average Sound Level

N/A – not available.

- 1 Site numbers correlate with the Figure 7-12 map and the addresses and distance from Logan Airport listed in Table 7-2.
- 2 The monitor at Site 1 was removed in May 2017; In collaboration with the South End community, Massport relocated Site 1 to the Union Park Street Playground in April 2023.
- 3 The data collected from Sites 10, 11, and 26 showed signs of equipment malfunction for some of the days in 2022; Massport investigated and recalculated DNL manually. Similar adjustments were made for Sites 10, 14, and 19 for days in 2023 and for Sites 12 and 13 for days in 2024.
- 4 Site 25's noise event identification threshold was set too high for 2023 and 2024; a lower threshold was implemented as of Jan. 1, 2025. The data from this site are not included in the averaging for those years.

7.3.4.1 2023 Comparison of Measured and Modeled

For 2023, the average difference between the measured and modeled DNL was 0.1 dB. Of the 30 monitor locations, 19 of the sites recorded higher measured noise levels than the corresponding model-computed noise levels. The agreement between measured and modeled DNL is within 1 dB at 11 of the sites for 2023. It is not unusual to experience larger differences between measured and modeled levels at the locations with measured DNL below 60 dB. At those locations, the monitor system's identification of aircraft noise events becomes more difficult to differentiate from other noise sources, and long-distance noise attenuation effects can reduce actual aircraft noise levels in a way that the model cannot duplicate.

7.3.4.2 2024 Comparison of Measured and Modeled

For 2024, the difference between the average measured and modeled DNL was 0.2 dB. Of the 30 monitor locations, 15 of the sites recorded higher measured noise levels than the corresponding model-computed noise levels. The agreement between measured and modeled DNL is within 1 dB at 16 of the sites for 2024. As with 2023, larger differences occurred primarily at locations where the measured DNL was below 60 dB, for the same reasons as described in the previous section.

7.4 Noise Abatement Management Plan

Massport achieves its noise abatement goals through the implementation of multiple noise abatement measures. **Table 7-4** reports on progress toward achieving these goals. A complete list of the Noise Abatement Management Plan goals is included within the **User's Guide, Section U7.5**. Massport's noise abatement program continues to play a crucial role in mitigating and monitoring noise impacts. Massport's emphasis on noise abatement has focused on the benefits of better analysis tools, involvement in noise research projects, and improved modeling techniques to identify the causes of noise problems. Massport continues to coordinate with the FAA and the **Massport Community Advisory Committee (Massport CAC)** on matters related to runway use and the completion of the RNAV Pilot project. The Logan Airport Noise Mitigation Program includes operational restrictions on certain runways, limits to engine runup locations, late-night runway preference, and noise-abatement turns. Other continuing elements of Massport's Noise Mitigation Program are discussed in the following sections.

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Table 7-4 Noise Abatement Management Plan, 2023 & 2024 Updates

Noise Abatement Goal	Plan Elements	2023 and 2024 Progress Report
Limit total aircraft noise	Limit on Cumulative Noise Index (CNI)	As discussed in Appendix I, Section I.2.2, the CNI value for 2023 was 151.8 Effective Perceived Noise in Decibels (EPNdB) and increased to 152.8 EPNdB in 2024, which is well below the cap of 156.5 EPNdB.
	Stage 3 Percentage Requirement in Noise Rules	In 2023 and 2024, 100 percent of Logan Airport's total commercial jet traffic satisfied Stage 3 noise criteria or better. The newest Stage 5 category comprised approximately 38 percent of jet operations in 2023 and 2024.
Mitigate noise impacts	Residential Sound Insulation Program (RSIP)	In 2023, acoustic pre-testing was conducted for the 10 homes included in a pilot study group. Following the pilot study group, construction designs were developed for eligible structures in 2024. Bid set engineering design drawings were completed by January 2024, and Massport began soliciting bids for contractors to support the RSIP's implementation in 2024. A community meeting was held in 2024 for expanding the pilot in East Boston.
	School Sound Insulation Program	Massport has sound-insulated thirty-six eligible schools since this program began.
	Noise Abatement Arrival and Departure Procedures	Flight track monitoring and data analysis continued to be used in 2023 and 2024 to verify adherence to noise-abatement flight procedures.
	Runway Restrictions	Noise-based use restrictions 24 hours per day on departures from Runway 4L and arrivals on Runway 22R were continued through 2023 and 2024.
	Reduced-Engine Taxiing	Voluntary use of reduced-engine taxiing (shutting one engine off) is encouraged when appropriate and safe.
Continue to improve the Noise Monitoring System	Evaluate the current system and update the system as needed	All 30 permanent noise monitors were replaced in recent years. In 2024, at the end of the current support contract, Massport selected a contractor for system upgrade and on-going support.
Minimize nighttime noise	Nighttime Stage 2 Aircraft Prohibition	With the FAA's ban on all Stage 2 operations after December 31, 2015, this prohibition is no longer necessary.
	Nighttime Runway Restrictions	Prohibitions on the use of Runway 4L for departures and Runway 22R for arrivals between 11:00 PM and 6:00 AM continued through 2023 and 2024.
	Maximization of Late-Night Over-Water Operation	Efforts to maximize late-night over-water operations were continued. Preferential use of Runway 15R for departures and Runway 33L for arrivals continued through 2023 and 2024.
Minimize nighttime noise (continued)	Nighttime Engine Run-up and Auxiliary Power Unit (APU) Restrictions	Restriction on nighttime engine run-ups and use of APUs was continued through 2023 and 2024.

Table 7-4 Noise Abatement Management Plan, 2023 & 2024 Updates

Noise Abatement Goal	Plan Elements	2023 and 2024 Progress Report
Address/respond to noise issues and complaints	Noise Office	Massport's Noise Office was established in 1977. Noise Office staff participate in all elements of Logan Airport's noise abatement efforts.
	Noise Complaint Line and website	Massport continued operation of its Noise Complaint Line, (617) 561-3333 and website (https://www.massport.com/logan-airport/about-logan/noise-abatement/complaints/).
	Special Studies	Massport continues to provide technical assistance and analysis using noise monitoring systems to support the FAA and others in monitoring jet departure tracks from Runway 27 and Runway 33L. Massport is collaborating with the Aviation Sustainability Center (ASCENT) on two research projects focused on aircraft noise and flight procedures. Massport continues to support research at the federal level, including Boston University/Tufts University FAA ASCENT research.

Source: Massport, 2025.

Notes: Massport continues to report on effective runway use and these goals are discussed in the [User's Guide, Section U7.5.1](#).

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7.4.1 RNAV Procedures

Massport, the FAA, the Massport CAC, and the Massachusetts Institute of Technology (MIT) have continued to collaborate on designing and implementing RNAV procedures that comply with the 2016 Memorandum of Understanding (MOU) between Massport and the FAA, implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use.

The FAA completed a Noise Screening Analysis Report for Logan Airport's Runway 27 RNAV Standard Instrument Departure (SID) update in May 2024. This Report concluded that there were no reportable or significant noise impacts, and the RNAV SID update meets [National Environmental Policy Act \(NEPA\)](#) compliance requirements. In a presentation to the Massport CAC in August 2024, the FAA also confirmed that the Runway 27 SID update, resulting from the implementation of Block 1 and 2 community-requested procedures, has achieved the MOU goal of confining at least 68 percent of flight tracks to within a defined noise-abatement corridor area with more compatible land use. See Appendix I, Section I.7 for materials from the August coordination.

In December 2021, Block 1 [performance-based navigation \(PBN\)](#) procedures for Runway 33L RNAV were published, along with changes to relocate the Runway 15R departure flight path north of Hull Peninsula. Block 2 departure procedures were published on November 30, 2023, following FAA-required changes to accommodate minimum distance requirements. These procedures modified the RNAV departures to include a speed restriction, which enables aircraft to turn to the east earlier in their

departures and shifts aircraft tracks to the north and away from Hull. The Block 2 procedures also included implementing a new overwater RNAV approach for Runway 22L, which crosses the Nahant Causeway from the east before beginning the final approach for landing.

In 2025, Massport won the 2025 Jay Hollingsworth Speas Airport Award for Logan Airport for, “excellent collaborative work by MIT and Massport to reduce aircraft noise for residents under Boston Logan International Airport approach paths while simultaneously reducing fuel burn and distance traveled”. The award recognizes the collaborative effort between the FAA, Massport, and MIT to identify potential modifications to RNAV procedures, conduct outreach with community groups and operational stakeholders, and implement the procedures following FAA review.⁸

7.4.2 Residential Sound Insulation Program (RSIP)

To date, Massport has installed sound insulation in 5,479 residences, including 11,535 dwelling units, and 36 schools in East Boston, Roxbury, Dorchester, Winthrop, Revere, Chelsea, and South Boston.

Massport has one of the most extensive residential and school sound insulation programs in the nation. Historically, the percentage of eligible homeowners who have responded and whose dwellings are treated varies significantly by community, from a high of approximately 90 percent in Revere to a low of approximately 50 percent in South Boston. Approximately 80 to 85 percent of homeowners in East Boston and Winthrop have historically participated. Approximately 8 percent of applicants also choose the Room of Preference option, which allows the owner to identify a specific room (usually a bedroom or living room) for extra acoustic treatment.

In 2022, Massport restarted its RSIP, with the primary goals of achieving interior noise levels of less than 45 DNL and reducing the existing interior noise levels by 5 dB for homes within the program areas. The RSIP will provide sound insulation treatments for each eligible home with no direct costs for the homeowner, which could include the following, based on the site conditions:

- Door and window replacements;
- New heating, ventilation, and air circulation (HVAC) or air refurbishment system installations;
- Sheetrock installation;
- Hazardous materials abatement; or
- Finish carpentry and painting.

The RSIP has been funded through an FAA Airport Improvement Program (AIP) grant, which covers 80 percent of the program’s costs, with the remaining 20 percent of the necessary funds provided by Massport. Massport submits annual **Noise Exposure Maps (NEMs)** to the FAA based on the DNL

⁸ Aviation Pros, 2025. <https://www.aviationpros.com/airport-business/airport-infrastructure-operations/press-release/55266745/boston-logan-international-airport-wins-prestigious-2025-jay-hollingsworth-speas-airport-award>

contours produced during the EDR and ESPR process. The maps inform the prioritization of homes to be treated.

Massport initiated a pilot phase of the sound insulation treatments in 2023, involving a group of 10 homes in Revere and Winthrop. This pilot phase involved conducting acoustic pre-testing to determine the eligibility and effectiveness of the proposed sound insulation treatment against noise reduction performance standards, developing bid set engineering design drawings, and soliciting contractors to support the RSIP’s implementation. Following the pilot testing, construction designs were created for eligible structures in 2024. Bid set engineering design drawings were completed by January 2024, and Massport began soliciting bids for contractors to support the RSIP’s implementation in 2024. Construction began on ten pilot homes in February 2025.



Sound insulation acoustic testing around Logan Airport

In November 2024, a preliminary community meeting for RSIP was held during the Eagle Hill Neighborhood Association Meeting. The meeting announced the restarting of RSIP. An additional 11 homes in East Boston will be selected for soundproofing design in 2025.

7.4.3 Massport Noise Complaint Line

Table 7-5 presents a summary of noise complaints received by the Massport Noise Abatement Office. The summary table presents the 18 communities with the most significant number of complaints for the years 2022, 2023, and 2024. Massport is a Partnering Airport with the FAA’s Noise Portal⁹, and has a link to that portal on the noise complaint section of the Massport website.¹⁰ For more data on noise complaints received, refer to Appendix I, Section I.3.2.

Table 7-5 Noise Complaint Line Average Complaints per Complainant, 2022-2024

Town	2022	2023		2024	
	Average Complaints per Complainant	Average Complaints per Complainant	2022-2023 Percent Change	Average Complaints per Complainant	2023-2024 Percent Change
Winthrop	823	962	17.0%	1,311	36.3%
Somerville	260	330	26.7%	438	32.7%
South End	478	1,581	230.7%	4,157	163.0%
Medford	350	198	-43.4%	163	-17.8%

9 Federal Aviation Administration. FAA Noise Portal. <https://noise.faa.gov/noise>.
10 Massport. Noise Complaints. <https://www.massport.com/logan-airport/about-logan/noise-abatement/complaints/>.

Table 7-5 Noise Complaint Line Average Complaints per Complainant, 2022-2024

Town	2022	2023		2024	
	Average Complaints per Complainant	Average Complaints per Complainant	2022-2023 Percent Change	Average Complaints per Complainant	2023-2024 Percent Change
Milton	158	217	37.0%	247	14.0%
Arlington	194	248	27.7%	279	12.2%
Winchester	941	1,008	7.2%	325	-67.8%
Chelmsford	1,093	1,982	81.3%	3,521	77.6%
Belmont	20	23	18.1%	108	368.0%
Cambridge	18	65	264.8%	53	-18.8%
Woburn	269	200	-25.6%	504	151.7%
Watertown	131	101	-23.1%	245	143.9%
Malden	363	242	-33.3%	139	-42.7%
Boston	15	19	28.8%	110	476.1%
Roxbury	264	71	-73.2%	40	-43.2%
Marblehead	468	196	-58.1%	67	-65.7%
Melrose	504	408	-19.0%	123	-69.9%
Revere	378	3	-99.2%	3	3.1%
Total Complaints (from top 15 towns listed above)	267,071	215,896	-24.1%	208,860	-3.3%
Total Complaints from other towns	5,872	2,934	-50.0%	3,563	21.4%
Overall Total Complaints	272,943	218,830	-19.8%	212,423	-2.9%

Source: Massport, 2025.

Notes: Negative percentages represent a decrease over the previous year.

The 18 towns listed in the table represent the top 15 communities with the most noise complaints each year from 2022 to 2024. The complete list of complaints is in Appendix I, Section I.3.2.

In late 2018, Massport added the option to submit complaints through the Airnoise Button, which has dramatically increased complaints logged in the system.

7.4.3.1 2023 Noise Complaint Line Summary

In 2023, Massport received 218,830 noise complaints from 71 communities, a 20 percent decrease from the 272,943 complaints received from 80 communities in 2022. The community of Winthrop generated the largest share of complaints, with 90,458 complaints, or approximately 41 percent of all complaints in 2023. The community of Medford had the most individual complainants in 2023, with 143 distinct individuals logging complaints, followed by Somerville, which had 113 complainants. Overall, 1,108 individuals submitted complaints in 2023, representing a decrease from 1,301 complainants in 2022.

7.4.3.2 2024 Noise Complaint Line Summary

In 2024, Massport received 212,423 noise complaints from 70 communities, a decrease of about 22 percent from the prior year. The community of Winthrop continued to account for the highest number of complaints in 2024, generating about 34 percent of the total. Medford had the most individual complainants in 2024, accounting for approximately 13 percent of the total complainants, but fewer total complaints than Somerville and the South End.

7.4.4 Other Noise Initiatives

Massport stays current with noise-related studies and requirements established by the FAA, academia, and other relevant entities. For background on these studies, see the **User's Guide, Section U7.5.8**. The *FAA Reauthorization Act of 2024*¹¹ was signed into law in May 2024, superseding the *FAA Reauthorization Act of 2018*. In each reauthorization act, the FAA was directed to address issues related to aviation noise research. Specifically, the 2024 FAA Reauthorization Act included the following directives:

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- **Sec. 786. Part 150 Noise Standards Update:** The FAA is to review and revise Parts 150 and 161 of Title 14 CFR. The FAA is required to seek feedback from airports, airport users, and individuals living in the vicinity of airports and in airport-adjacent communities before implementing any changes to any noise policies or standards.
- **Sec. 787. Reducing Community Aircraft Noise Exposure:** The FAA must take actions to mitigate undesirable aircraft noise when implementing or revising flight procedures, and it must collaborate with airport sponsors and impacted communities to address noise.
- **Sec. 792. Aircraft Noise Advisory Committee:** The FAA is required to establish an Aircraft Noise Advisory Committee to advise the FAA on issues facing the aviation community related to aircraft noise exposure.
- **Sec. 795. Mechanisms to Reduce Helicopter Noise:** The Comptroller General is required to initiate a study to examine ways in which a State, territorial, or local government may mitigate the negative impacts of commercial helicopter noise.

The FAA has several on-going research studies to support policymaking around aviation noise:

¹¹ FAA Reauthorization Act of 2024 (Public Law 118-63). May 13, 2024. <https://www.congress.gov/bill/118th-congress/house-bill/3935/text>

- The Neighborhood Environmental Survey:¹² This is the study referenced in Section 187 of the FAA Reauthorization.
- ASCENT research on sleep disturbance:¹³ This project's researchers are investigating the use of actigraphy and electrocardiography as a cost-effective tool for studying large cohorts of people.
- Review the Civilian Aviation Noise Policy:¹⁴ Massport responded to the FAA's request for comments seeking input regarding its review of four key considerations of its civil aviation noise policy, in the context of noise metrics and noise thresholds.

In addition to tracking FAA-related studies, Massport is also closely following international research on the state of the science around effects of aircraft noise on people, including:

- The International Civil Aviation Organization's (ICAO) Committee on Aviation Environmental Protection (CAEP). Massport is reviewing on-going research and information as part of each CAEP cycle, including the ICAO Guidance Document on *Operational Opportunities to Reduce Aircraft Noise*.
- The United Kingdom Civil Aviation Authority publishes periodic update documents following on-going research into aircraft noise.

12 Federal Aviation Administration. Neighborhood Environmental Survey. https://www.faa.gov/regulations_policies/policy_guidance/noise/survey.

13 Ascent. Pilot Study on Aircraft Noise and Sleep Disturbance. <https://ascent.aero/project/noise-exposure-response-sleep-disturbance/>.

14 The comment period to the request for comments published on May 1, 2023, was extended to September 29, 2023. <https://www.federalregister.gov/documents/2023/07/11/2023-14597/request-for-comments-on-the-federal-aviation-administrations-review-the-civil-aviation-noise-policy>