MAA's Portable Noise Monitoring

Process and Results Overview

Date: March 4, 2025

Bruce Rineer, Manager, Noise Section

Agenda:

- **Section 1:** MAA's Portable Noise Monitoring Service
- **Section 2:** Application Process
- **Section 3:** Equipment and Set Up Overview
- **Section 4:** Portable Noise Monitoring Results

Section 1

MAA's Portable Noise Monitoring Service

MAA's Portable Noise Monitoring Service

MAA offers homeowners the opportunity to set up a temporary noise monitor for a period of two weeks.

The report is used for informational purposes only, not for determination of noise contours or eligibility in any MAA mitigation program.

The service is offered at no cost to the homeowner

MAA and its technical consultant set up, monitor and compile a detailed technical report providing:

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Section 2

Application Process

Application Process

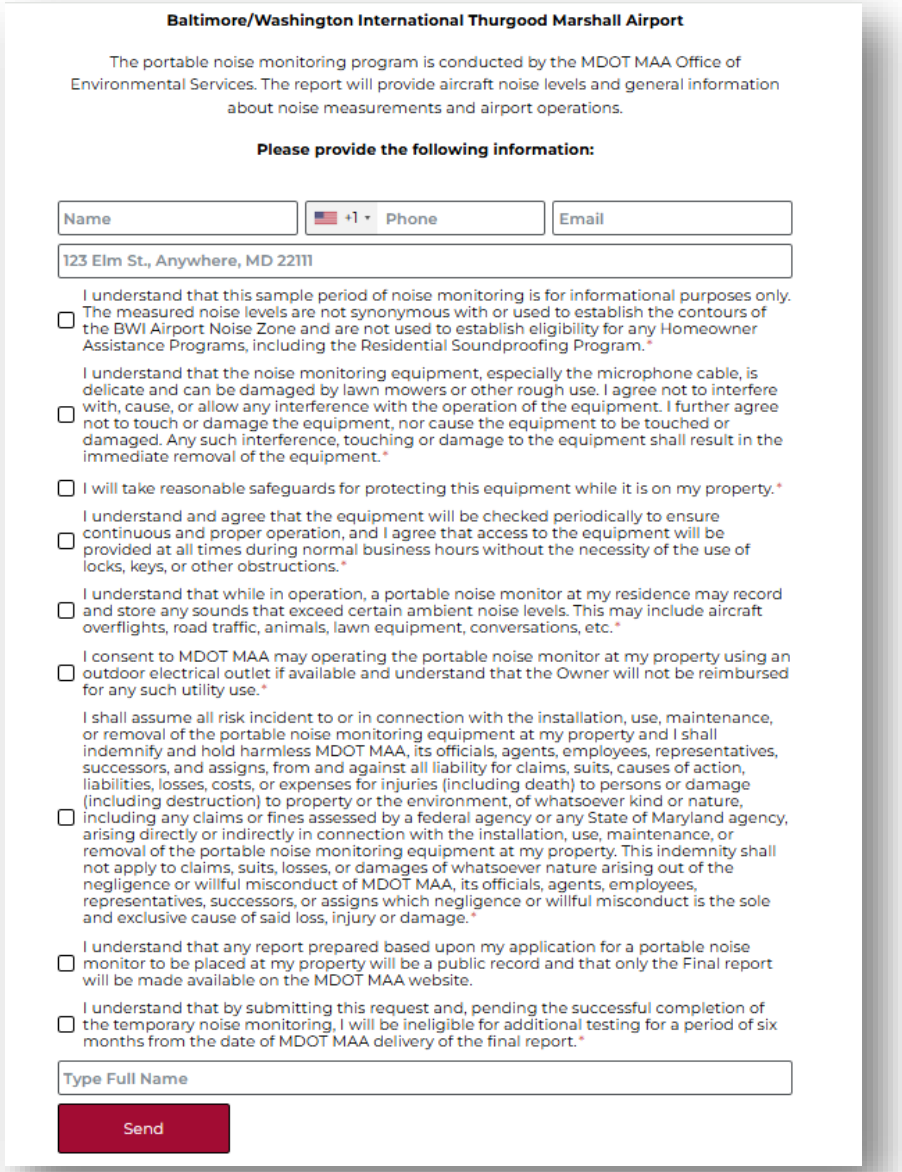
Any homeowner may apply by filling out an on-line application – available at https://marylandaviation.com/application-for-portable-noise-monitoring/

Not every home fits the bill – there are some requirements in terms of other noise sources, distances from structures, etc.

Funding limitations on the number of tests

In some cases, MAA may determine a recent test at another address is suitable and a new test wouldn't provide any new information.

MAA allows for repeat tests after six months



Baltimore/Washington International Thurgood Marshall Airport

The portable noise monitoring program is conducted by the MDOT MAA Office of Environmental Services. The report will provide aircraft noise levels and general information about noise measurements and airport operations.

Please provide the following information:

Name | +1 Phone | Email

123 Elm St., Anywhere, MD 22111

- [ ] I understand that this sample period of noise monitoring is for informational purposes only. The measured noise levels are not synonymous with or used to establish the contours of the BWI Airport Noise Zone and are not used to establish eligibility for any Homeowner Assistance Programs, including the Residential Soundproofing Program.*
- [ ] I understand that the noise monitoring equipment, especially the microphone cable, is delicate and can be damaged by lawn mowers or other rough use. I agree not to interfere with, cause, or allow any interference with the operation of the equipment. I further agree not to touch or damage the equipment, nor cause the equipment to be touched or damaged. Any such interference, touching or damage to the equipment shall result in the immediate removal of the equipment.*
- [ ] I will take reasonable safeguards for protecting this equipment while it is on my property.*
- [ ] I understand and agree that the equipment will be checked periodically to ensure continuous and proper operation, and I agree that access to the equipment will be provided at all times during normal business hours without the necessity of the use of locks, keys, or other obstructions.*
- [ ] I understand that while in operation, a portable noise monitor at my residence may record and store any sounds that exceed certain ambient noise levels. This may include aircraft overflights, road traffic, animals, lawn equipment, conversations, etc.*
- [ ] I consent to MDOT MAA may operating the portable noise monitor at my property using an outdoor electrical outlet if available and understand that the Owner will not be reimbursed for any such utility use.*
- [ ] I shall assume all risk incident to or in connection with the installation, use, maintenance, or removal of the portable noise monitoring equipment at my property and I shall indemnify and hold harmless MDOT MAA, its officials, agents, employees, representatives, successors, and assigns, from and against all liability for claims, suits, causes of action, liabilities, losses, costs, or expenses for injuries (including death) to persons or damage (including destruction) to property or the environment, of whatsoever kind or nature, including any claims or fines assessed by a federal agency or any State of Maryland agency, arising directly or indirectly in connection with the installation, use, maintenance, or removal of the portable noise monitoring equipment at my property. This indemnity shall not apply to claims, suits, losses, or damages of whatsoever nature arising out of the negligence or willful misconduct of MDOT MAA, its officials, agents, employees, representatives, successors, or assigns which negligence or willful misconduct is the sole and exclusive cause of said loss, injury or damage.*
- [ ] I understand that any report prepared based upon my application for a portable noise monitor to be placed at my property will be a public record and that only the Final report will be made available on the MDOT MAA website.
- [ ] I understand that by submitting this request and, pending the successful completion of the temporary noise monitoring, I will be ineligible for additional testing for a period of six months from the date of MDOT MAA delivery of the final report.*

Type Full Name

Send

Section 3

Equipment and Set Up Overview

Equipment and Set Up Overview

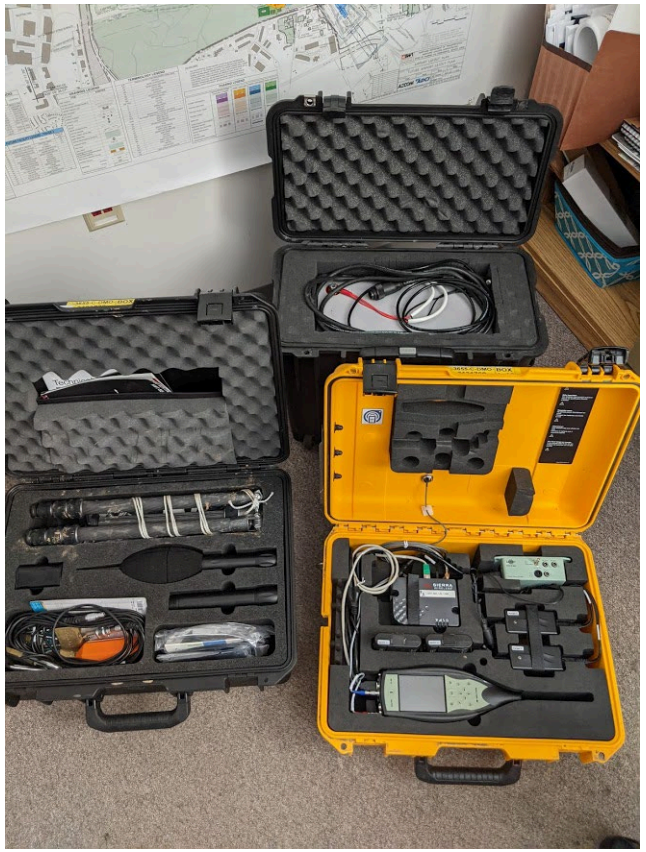
Once MAA approves the test, we coordinate with our Acoustic Services consultant team.

Acoustic Services contractor will contact the homeowner to confirm a set-up date and time

- Not necessary for the homeowner to be present, but they usually are
- Equipment can be powered by on-site batteries or a homeowner's electric outlet.

Noise event threshold is established, based on ambient noise conditions at the site.

Equipment is monitored remotely and on-site visits occur every 2-3 days during the monitoring period.



Equipment and Set Up Overview

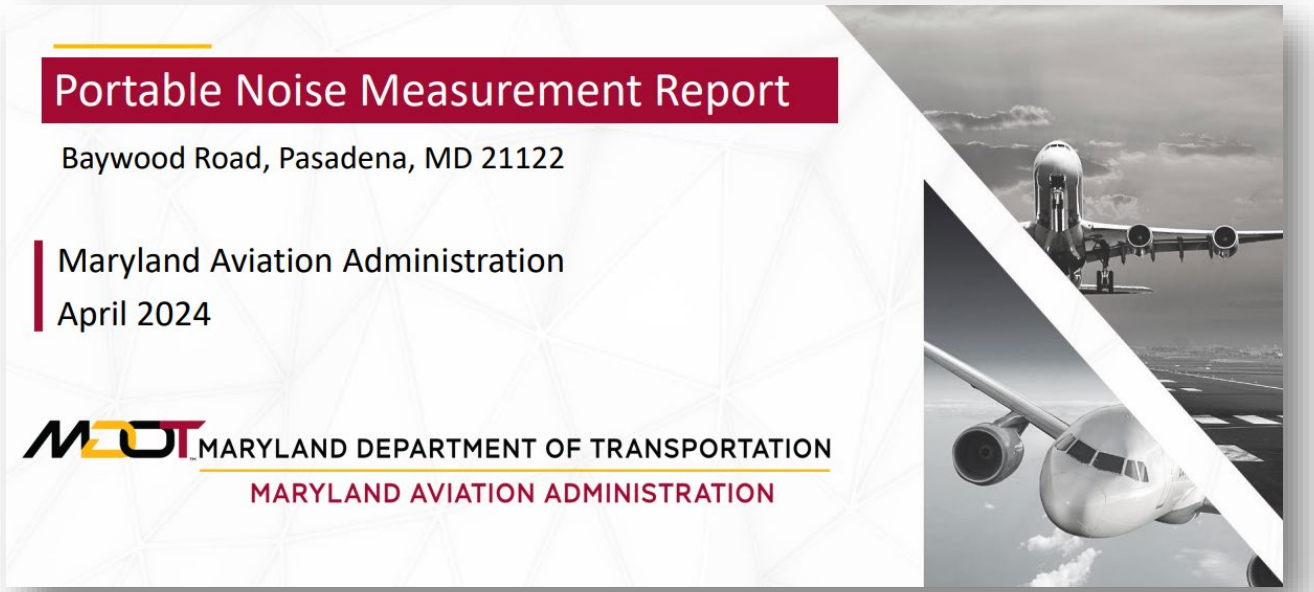
Section 4

Portable Noise Monitoring Results

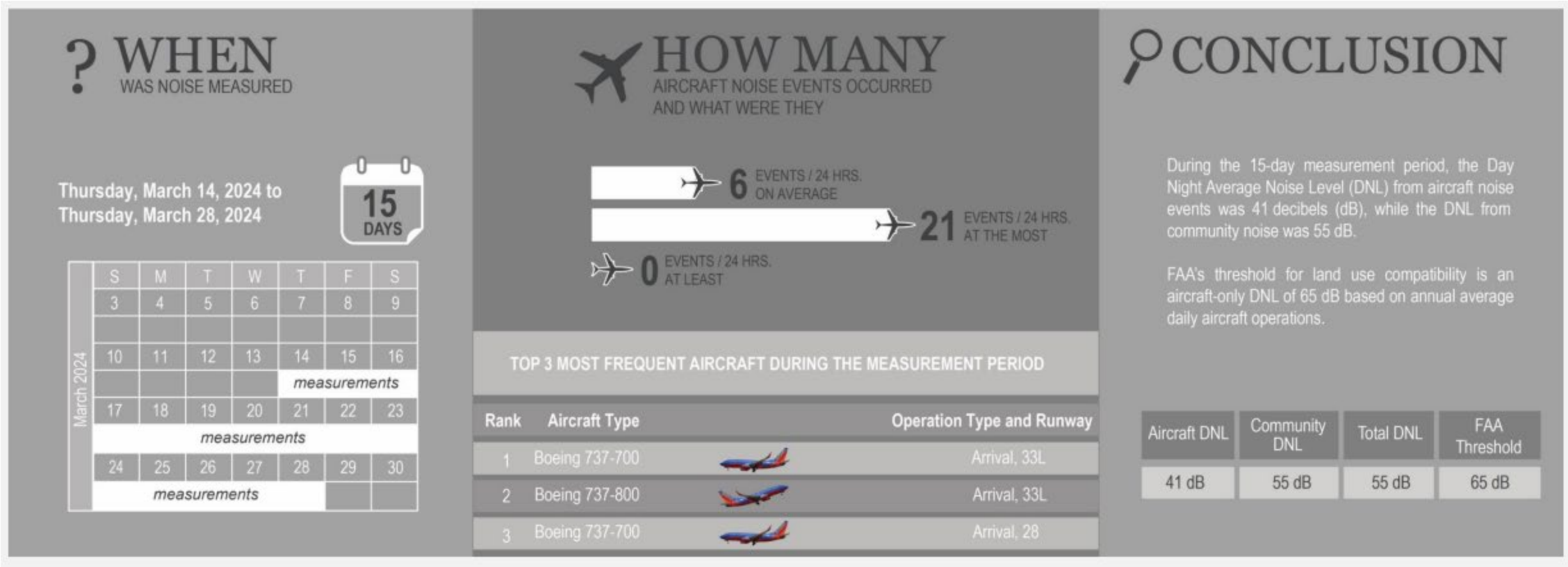
Portable Noise Monitoring Results

MAA provides a Noise Measurement Report that provides the following:

- Monitoring time and location
- Site Summary
- Aircraft Operations Information
- Methodology
- Arrival and Departure information (correlated noise events)
- Measured Noise Levels, including loudest aircraft events
- Cumulative DNL Exposure
- Technical Appendix



Portable Noise Monitoring Results



Portable Noise Monitoring Results

Resulting noise levels are primarily impacted by the runways in use and number of operations.

- Each report provides the total number of operations at BWI Marshall, plus the range of daily operations.
- Each report describes the time in east and west flow, compared to historic averages.
- The type (runway and arrival or departure) that most impacts the site is identified.

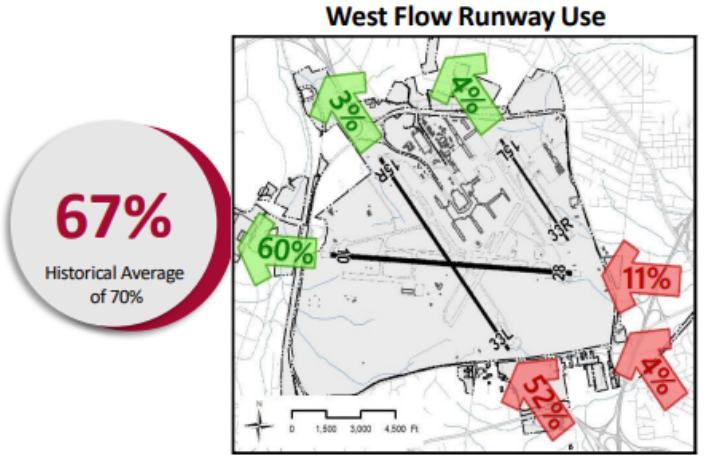


Figure 2. West Flow Runway Use During Measurement Period

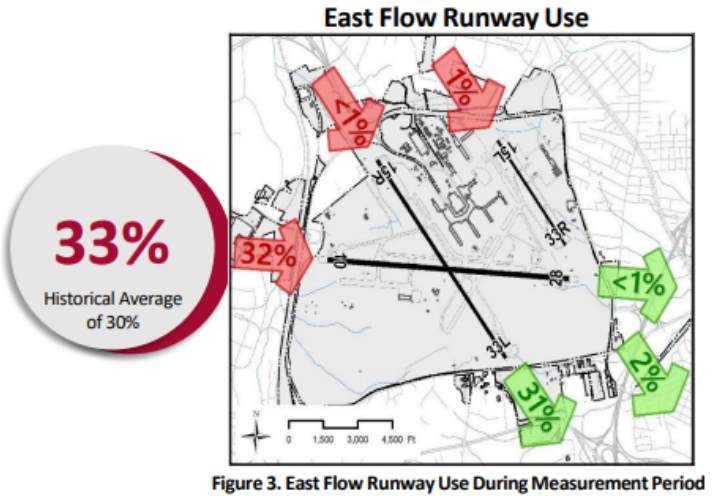


Figure 3. East Flow Runway Use During Measurement Period

Portable Noise Monitoring Results

Figure 4 presents all operations during the monitoring period.

Figure 5 presents only those operations that caused a noise event during the monitoring period.

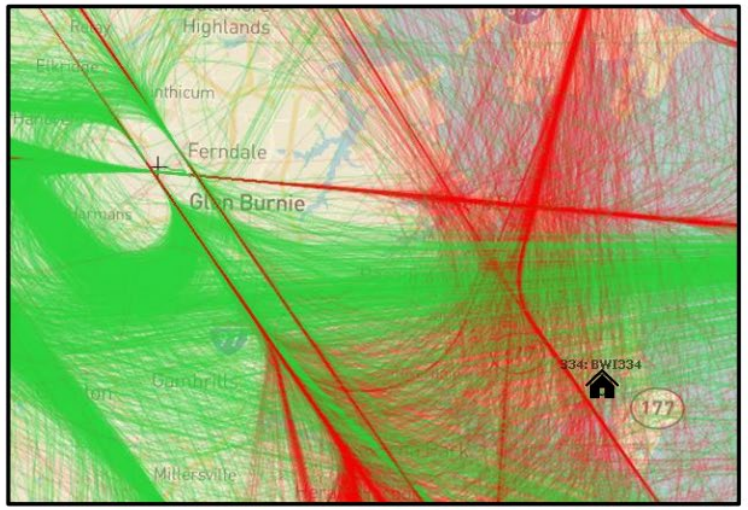


Figure 4. All BWI Marshall Arrivals and Departures During the Measurement Period
Note: Green = Departures, Red = Arrivals

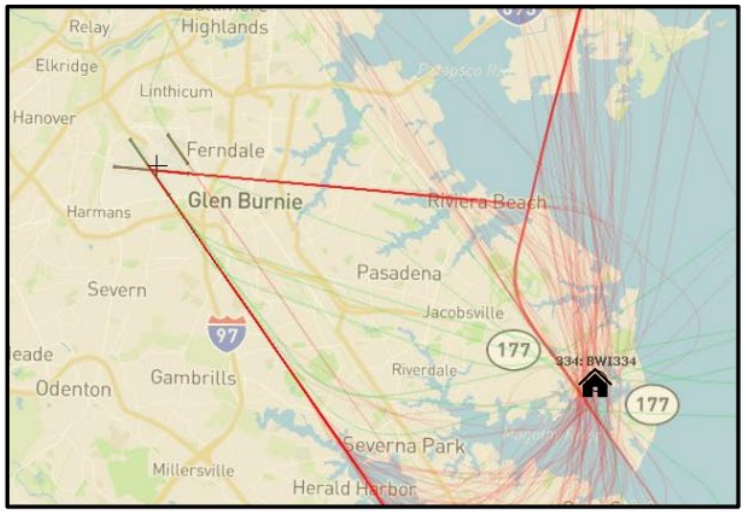
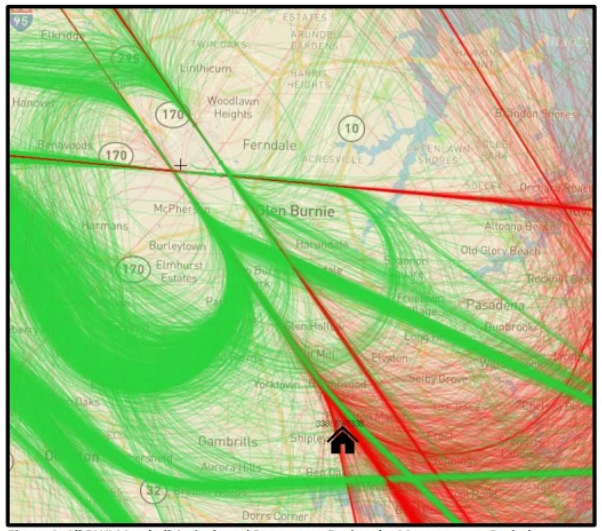


Figure 5. BWI Marshall Arrivals and Departures Correlated to Aircraft Noise Events During the Measurement Period
Note: Green = Departures, Red = Arrivals



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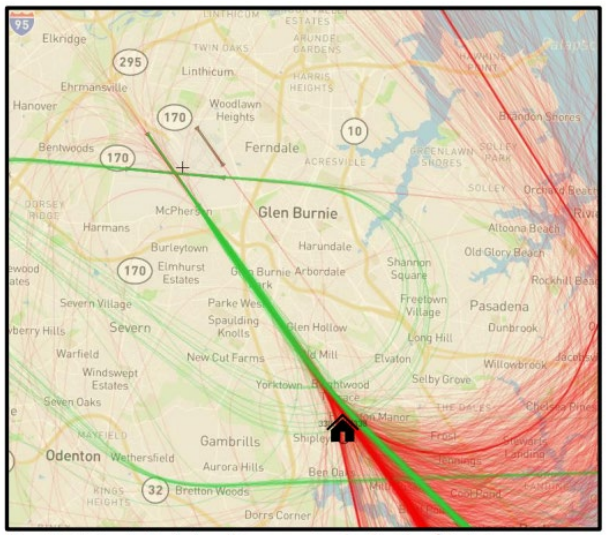

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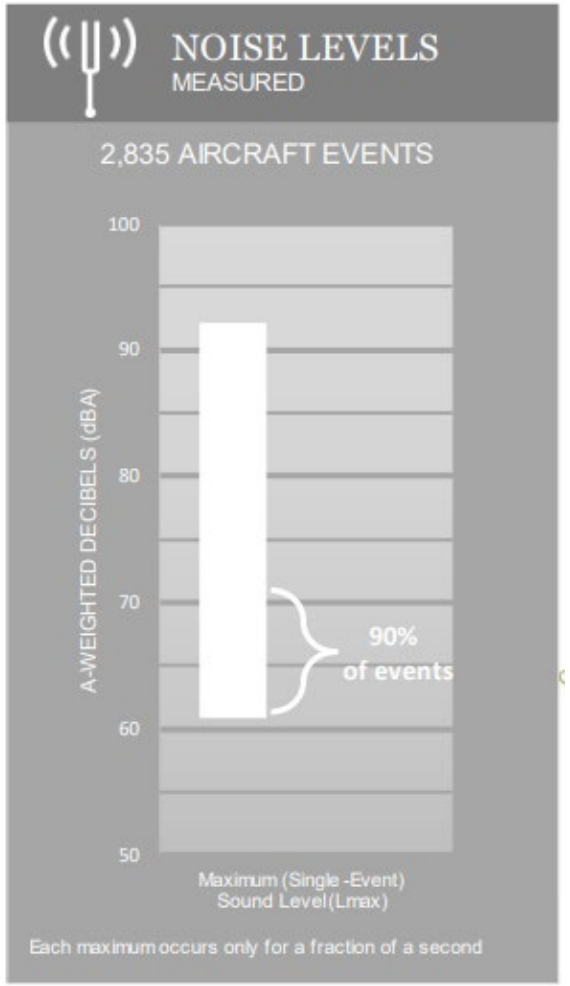
Portable Noise Monitoring Results

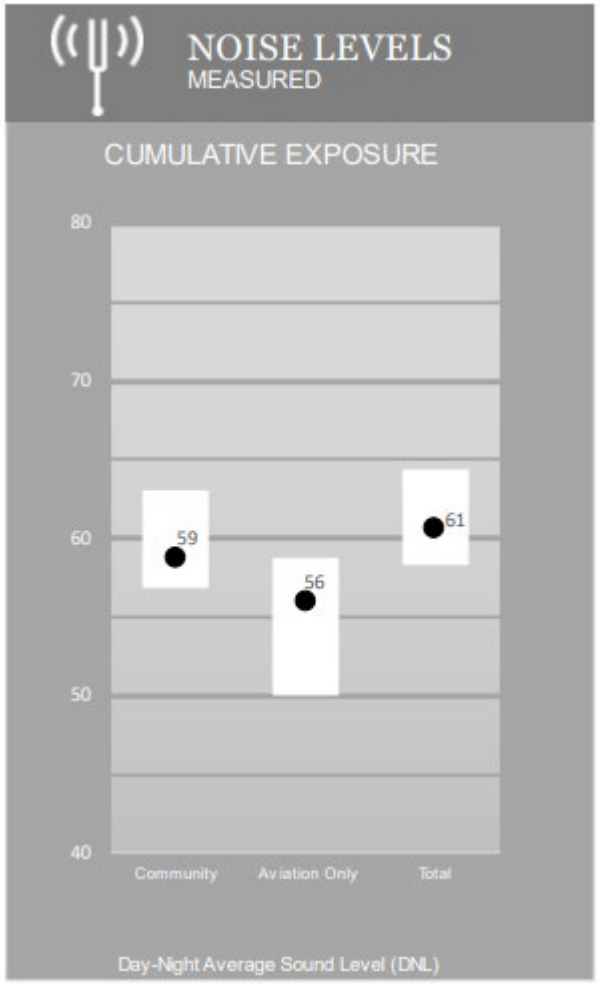


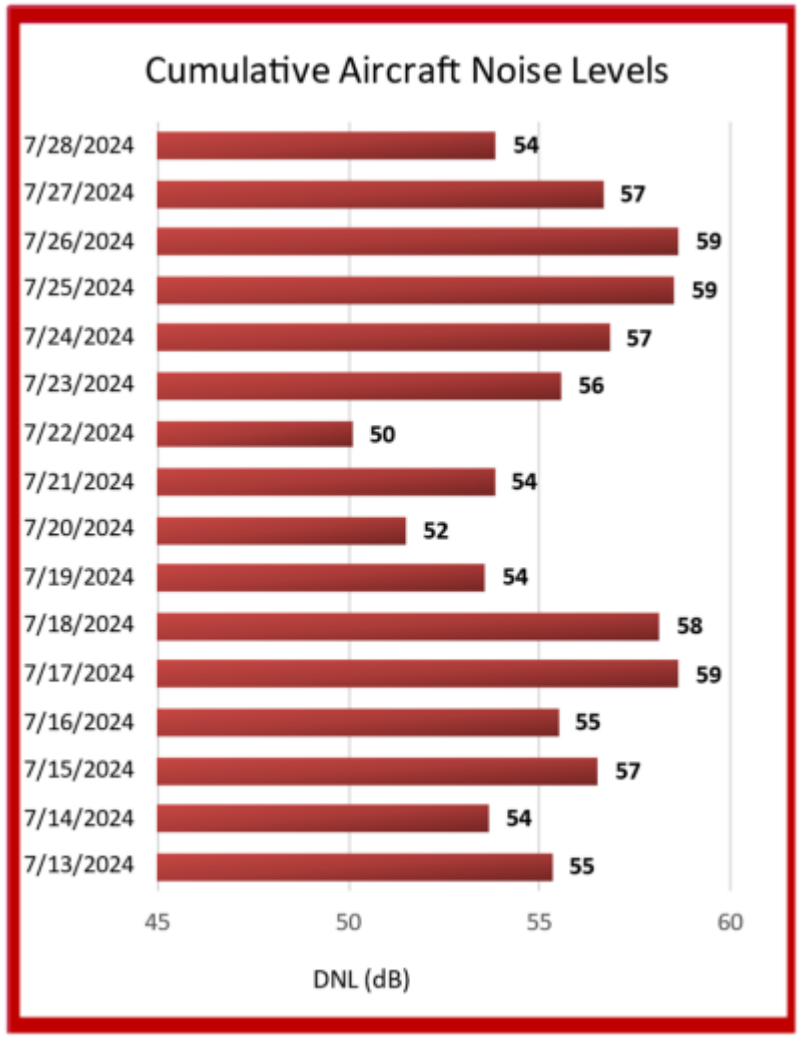
MAA reports the range of single-event aircraft overflights, and the top 15 loudest aircraft overflights (in terms of Lmax).

Rank	Flight Time	Airline	Aircraft Type	Operation Type	Runway	Altitude (ft. AGL)	Slant Range (ft.)	Maximum Sound Level (dBA)
1	7/26/2024 18:04	Southwest	Boeing 737-800	Arrival	33L	1,639	2,336	92
2	7/18/2024 17:43	Southwest	Boeing 737-700	Arrival	33L	2,052	2,290	80
3	7/24/2024 22:15	spirit	Airbus A320 Neo	Arrival	33L	1,471	2,874	79
4	7/16/2024 10:11	ATI	Boeing 767-300	Arrival	33L	1,506	1,545	79
5	7/28/2024 13:20	Southwest	Boeing 737-800	Arrival	33L	1,299	5,223	79
6	7/25/2024 17:14	Southwest	Boeing 737-700	Arrival	33L	2,141	3,038	78
7	7/23/2024 16:07	Southwest	Boeing 737-800	Arrival	33L	1,357	1,388	78
8	7/24/2024 9:52	FRONTIER	Airbus A320 Neo	Arrival	33L	1,655	2,415	78
9	7/26/2024 22:47	ATI	Boeing 737-800 Max	Arrival	33L	1,413	1,476	77
10	7/21/2024 8:18	Southwest	Boeing 737-700	Arrival	33L	2,028	2,054	77
11	7/27/2024 10:36	Southwest	Boeing 767-300	Arrival	33L	1,401	2,277	77
12	7/26/2024 17:58	spirit	Airbus A320 Neo	Arrival	33L	1,537	2,133	77
13	7/24/2024 9:48	ups	Airbus 321 Neo	Arrival	33L	1,519	2,822	77
14	7/16/2024 5:31	FRONTIER	McDonnell-Douglas MD-11	Arrival	33L	1,453	3,077	77
15	7/18/2024 21:13	Southwest	Boeing 737-700	Arrival	33L	1,372	1,470	76

Portable Noise Monitoring Results

MAA reports total Aircraft, Community, and combined DNL, as well as aircraft DNL values for each day.





Thank You.

BWI Airport