Permanent Monitoring System
SEA Noise Monitoring System

- 24 permanent monitors located in close-in communities surrounding SEA, or in locations generally north and south of the runways near a departure or arrival flight path.
  - System was upgraded in 2015
  - Larson Davis 831
- Close-in monitors are sited north and south to capture noise events to and from each of the 3 runways.
- Aircraft noise event data is gathered and shared on a monthly basis via the Port’s Noise Programs website.
Monitor Locations

Seattle - Tacoma International Airport
Noise Monitor Locations

Legend:
- SeaTac Airport
- Water
- Port of Seattle Noise Monitor Locations (numbers are not sequential)

1. #4b Catherine Blaine School
   2550 34th Ave West, Seattle

2. #6 Hamilton Viewpoint Park
   1531 California Way SW, Seattle

3. #3 Maple Leaf Reservoir, Seattle

4. #7 Central Area Senior Center
   500 30th Ave S, Seattle

5. #5 Medina Elementary
   8001 NE 8th St, Medina

6. #9 Mercer View Community Center
   8236 SE 24th St, Mercer Island

7. #10 Brighton Playfield
   6000 30th Ave S, Seattle

8. #12 2226 S 126th St, Burien

9. #11 Beverly Park School
   1201 S 104th St, Burien

10. #13 Cedarhurst Elementary
    611 S 132nd St, Burien

11. #15 Sylvester Middle School
    16222 Sylvester Rd, Burien

12. #17 1217 S 207th St, SeaTac

13. #18 1205 S 228th St, Des Moines

14. #20 Parkside Elementary, 2104 S 247th, Des Moines

15. #22 Sosua Area Jr High, 1105 Dash Point Rd, Federal Way

16. #28 Woodmont Elementary
    26404 18th Ave S, Des Moines

17. #29 Twin Lakes Elementary
    4400 42nd Pl SW, Federal Way

18. #25 Mark Twain Elementary
    2450 Star Lake Rd, Federal Way

19. #21 Meredith Hills School
    5830 S 300th St, Auburn
Flight Tracking System – EnvironmentalVue

- Record of all flights that occurred at SEA
- Same radar data feed the FAA uses
- Historic record of flight details
  - Altitude
  - Aircraft Type
  - Location
  - Speed
  - Airline
- Flight tracks are correlated with likely noise events
- Non-correlated noise is identified as community
Noise Monitoring Data

The purpose of the SEA’s noise monitoring system is to identify aircraft overflights and correlate probable noise events.

Noise Metrics Supplied by the Port

SEL – Sound Exposure Level

- metric represents all the acoustic energy of an individual noise event as if that event had occurred within a one-second time period.

LEQ - equivalent sound level

- measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events

1 second Leq Data / non-correlated

- Available through public disclosure

https://www.portseattle.org/page/aircraft-noise-monitoring-system
Aircraft Noise Monitoring System

The Port of Seattle operates a system of 24 noise monitors located throughout the greater Seattle area. The majority of the monitors are placed in close-in communities within 5 miles of the airport. Other monitors are placed farther out to capture aircraft overflight noise for various arrival and departure flight paths. Data from the noise monitoring system provides a general perspective on aircraft noise and is not intended to be inclusive of every community. Noise monitors are just one component of a very comprehensive suite of tools the Port uses to understand aircraft noise impacts. Other tools include monitoring and tracking flight paths, types of aircraft being flown, winds, runway usage and periodically performing sophisticated modeling of the impacts.
Online Noise Monitoring Data

### Daily LEQ Noise (Equivalent Noise Level): Aircraft, Community and Total

Select NMT by number/location: (All)

Select date(s):
- 10/1/2020
- 10/15/2020

To download data as a comma-separated value (CSV) file, click anywhere in the table below and then select Crosstab from the Download button on the top right in Tableau Server or the bottom right on Tableau Public.

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<th>Date</th>
<th>NMT and Location</th>
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<th>LEQ Community Noise</th>
<th>LEQ Total Noise</th>
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Noise Monitor Data Utilization

• Airport providing aircraft noise event information to the public along with aircraft type, airline, flight number and time/date.

• Airport incentive programs such as Fly Quiet and Late Night Noise Limitation programs utilizing 4 close-in permanent monitors.

• FAA does not use data from noise monitors as the basis for air traffic or flight procedure decisions.
• FAA does not use data from noise monitors as the basis for determining the sound insulation boundary area. FAA mandates that only noise modelling be used.

• Noise monitors do not provide an accurate depiction of annual DNL compared to modelling.

• Noise monitoring is not a perfect science and can be corrupted with other community noise interferences
Temporary Monitoring Program
Portable Noise Monitors for Temporary Deployment

- 2 monitors acquired in early 2020
- Same Larson Davis 831 models as the permanent system
- Noise data in the same standard metrics (SEL and LEQ)
- Resulting data will be shown along side the permanent monitor data at the same website location
SEA’s Temporary Noise Monitoring Program Procedures

• Portable noise monitoring will be considered if requested through a local jurisdiction such as city council or city administrators. Due to the volume of inquiries for temporary noise monitoring, we are unable to accept requests from individual citizens.

• Placement of portable noise monitors will be on public land and buildings when feasible. Private property may be considered when no public alternatives are available.

• A standardized report will be provided to the requesting jurisdiction consisting of the following information:
  • Sound Exposure Level (SEL)
  • Equivalent Sound Level (LEQ)
  • number and type of aircraft noise events correlated
Site Selection Criteria

• Distance from permanent monitoring sites – preferably not within 2 miles
• Proximity to established flight paths and airfield noise
• Availability of electric power
• Site accessibility for Port and vendor staff
• Site security
• Acoustically feasible
• Neighborhood equity and diversity is considered
Deployment Status – first monitor

- Received requests for monitor placement from the cities of Burien, Federal Way and Normandy Park
- Using the placement criteria, Burien was selected for the first placement but deferred to a later date
- Federal Way was contacted and accepted placement at Nautilus Elementary School – 2 months
- Normandy Park will have the next monitor placement
Deployment Status – second monitor

- Port Commission directed placement of monitor on Vashon Island for 12 months
- Siting decision nearly complete
- Monitor will be used for shorter terms in local region when 12 month deployment is complete
Noise Monitor Data Utilization

Temporary and permanent monitor data have the same usage limitations

- Airport providing aircraft noise event information to the public along with aircraft type, airline, flight number and time/date.
- FAA does not use data from noise monitors as the basis for air traffic or flight procedure decisions, or for determining the sound insulation boundary area.
- Noise monitors do not provide an accurate depiction of annual DNL compared to FAA required modelling.
- Noise monitoring is not a perfect science and can be corrupted with other community noise interferences