

Noise Programs Portable Noise Monitor Report

Vashon Island Monitor A003

Data collected from March 4, 2021, to March 4, 2022

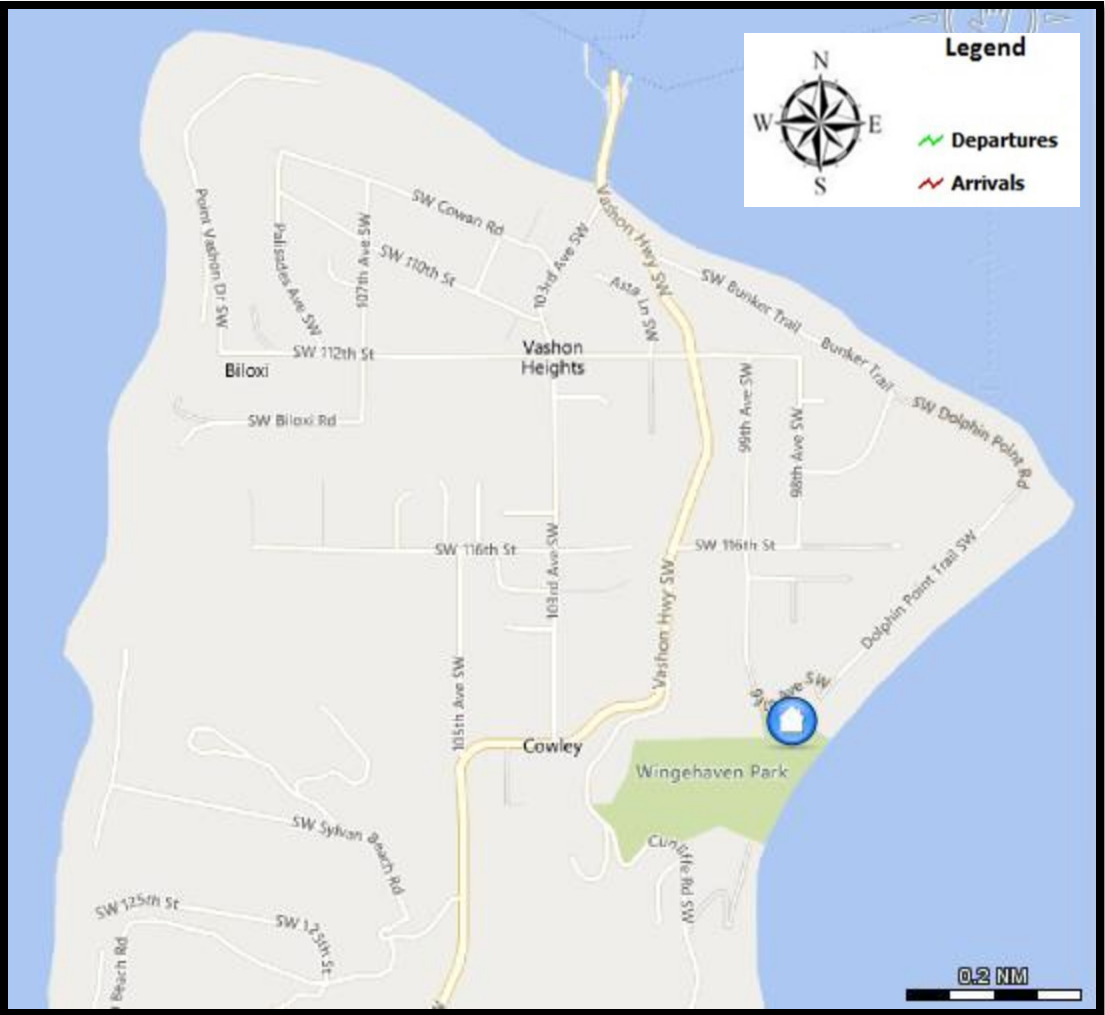


Table of Contents

Summary

Portable Monitor Location

- Location Details
- Installment of Portable

SEA Flight Paths and Traffic Flow Direction

- North Flow Sample Flight Track Map: July 24, 2021
- North Flow Sample Flight Track Map: Sept 24, 2021
- South Flow Sample Flight Track Map: Aug 8, 2021
- South Flow Sample Flight Track Map: Sept 30, 2021
- Traffic Flow (monthly overview)
- Traffic Flow (year overview – March 4, 2021, to March 4, 2022)

Appendix

- Resource Links for Port of Seattle and FAA
- Traffic Flow: Daily Overview with daily operations count at Sea-Tac Airport
- Noise Metrics: Daily LEQ at Vashon
- Basic Noise Metrics
- SEL Reports Available Online

Summary

The Port of Seattle Airport Noise Programs Office installed a portable noise monitor to temporarily measure aircraft and community noise on Vashon Island for a period of 13 months. It was located within a rural area on the northern portion of the island, near the eastern shoreline. Vashon Island is in unincorporated King County. The monitor was placed on Vashon for a one year deployment at the request of the Port of Seattle Commission.

The Port reached out to the Vashon-Maury Island Community Council (VMICC) regarding the site selection for the monitor and subsequently attended their public meeting to discuss further with their membership in August 2020. Through the VMICC, it was communicated that the monitoring site should be placed at a location to maximize the ability to capture noise events from aircraft in the arrival approach pattern to Seattle-Tacoma International Airport (SEA) during south-flow operations. The VMICC suggested a site on public land almost directly under the intended flight path. Port staff chose a site that was approximately 360 feet north of this site on private land. This site offered electrical power and improved access for Port staff to maintain the monitor and was similarly positioned under the flight path.

Noise data collection at the Vashon site began on March 4, 2021 and is anticipated to end late April 2022. During this 13-month time period, SEA operated in south-flow 72% of the time and north-flow 28%. Due to the prevalence of southerly winds in the Puget Sound region, SEA is most often operating in a south-flow condition, and these percentages are within the typical range over the course of a year.

LEQ and SEL noise levels were recorded at the Vashon location. The SEL, or Sound Exposure Level, metric represents the acoustic energy of an individual aircraft noise event as if it occurred over a 1 second time period. LEQ is the Equivalent Continuous Sound Pressure Level, the constant noise level that would result in the same total sound energy being produced over a given period, in this case a 24-hour day. LEQ depicts daily aircraft and community noise levels. Data for both noise metrics can be viewed and downloaded on the Port's [Tableau Noise](#) data site

Basic Noise Metrics

Sound Exposure Level (SEL)

The Sound Exposure Level (SEL) metric represents all the acoustical energy (sound pressure) of an individual noise event as if that event had occurred within a one-second time period. SEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by “squeezing” all the noise energy from an event into one second. This provides a uniform way to make comparisons among noise events of various durations.

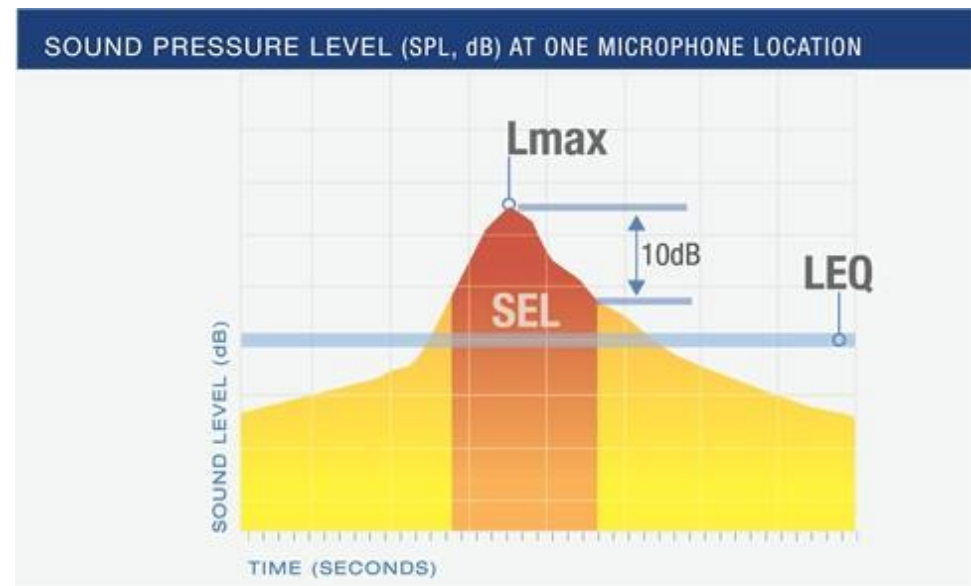
Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

Maximum Sound Level (Lmax)

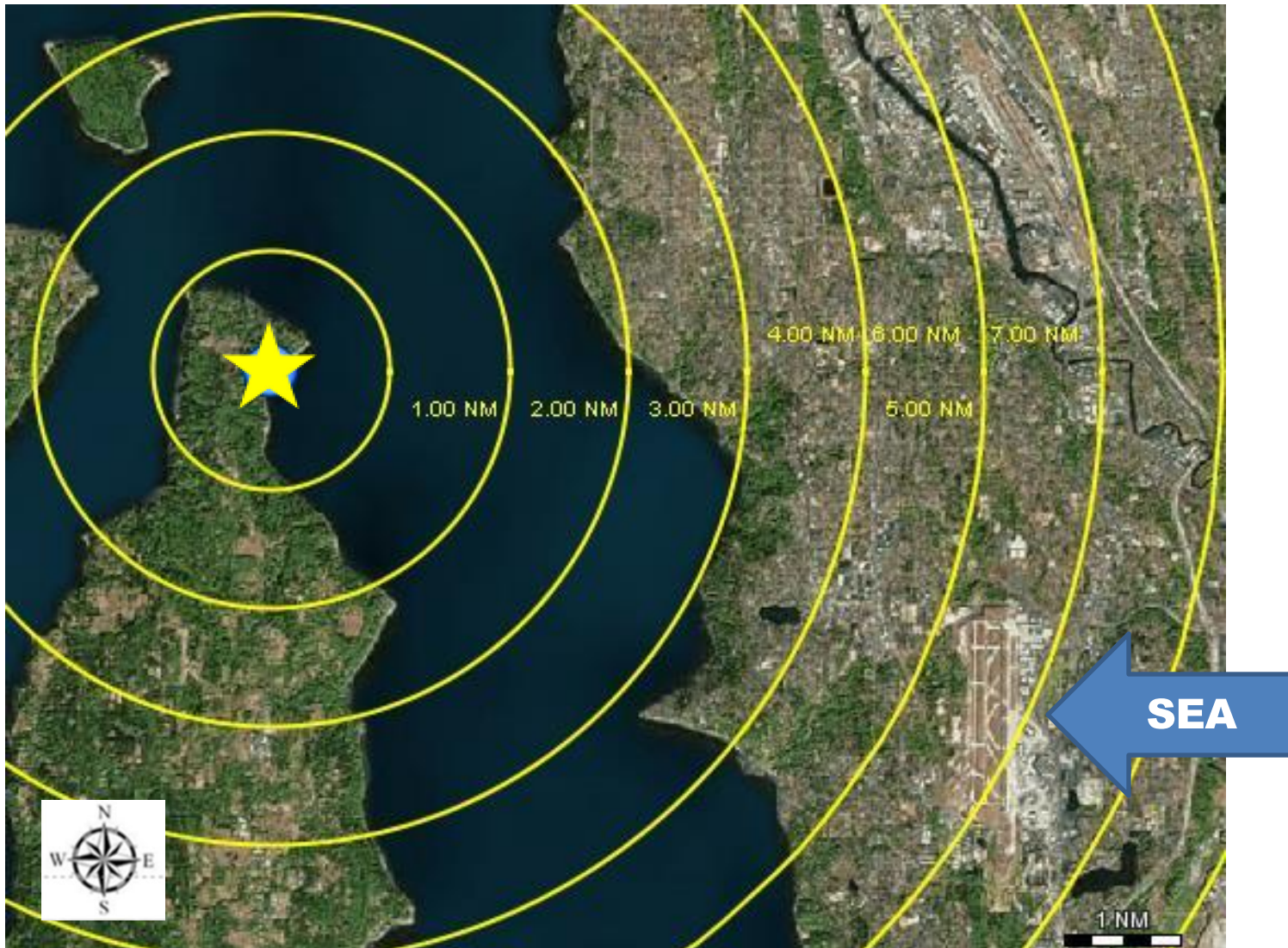
This is the highest level displayed on a sound level during a noise event or time period. *Peak is not the same as Maximum Sound Level.*

Source: FAA website: https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/



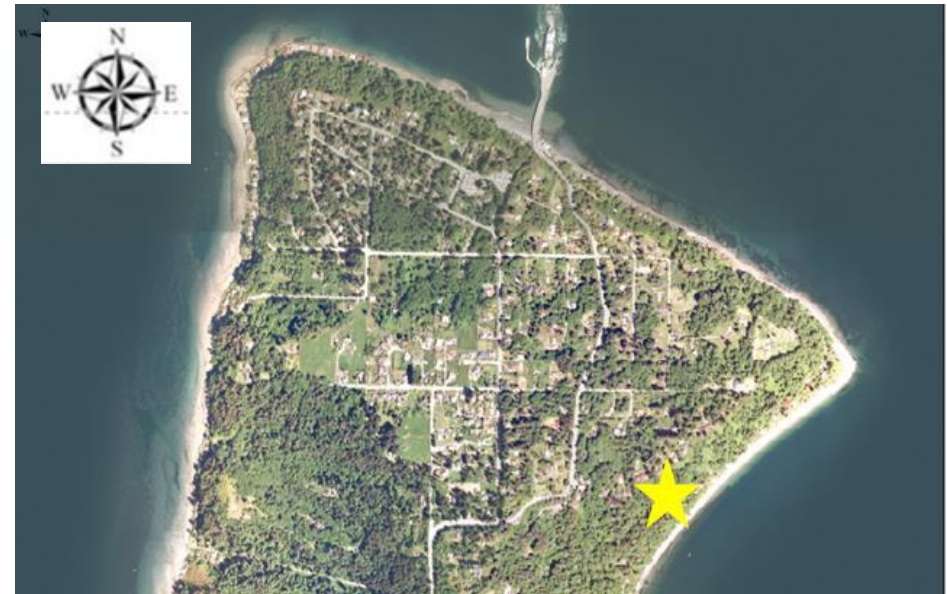
Portable Monitor Location

Map shows the location of portable noise monitoring site in relation to SEA. The monitor was installed on the east side of the northern portion of Vashon Island, approximately 7 nautical miles from the airport.



Location and Installment

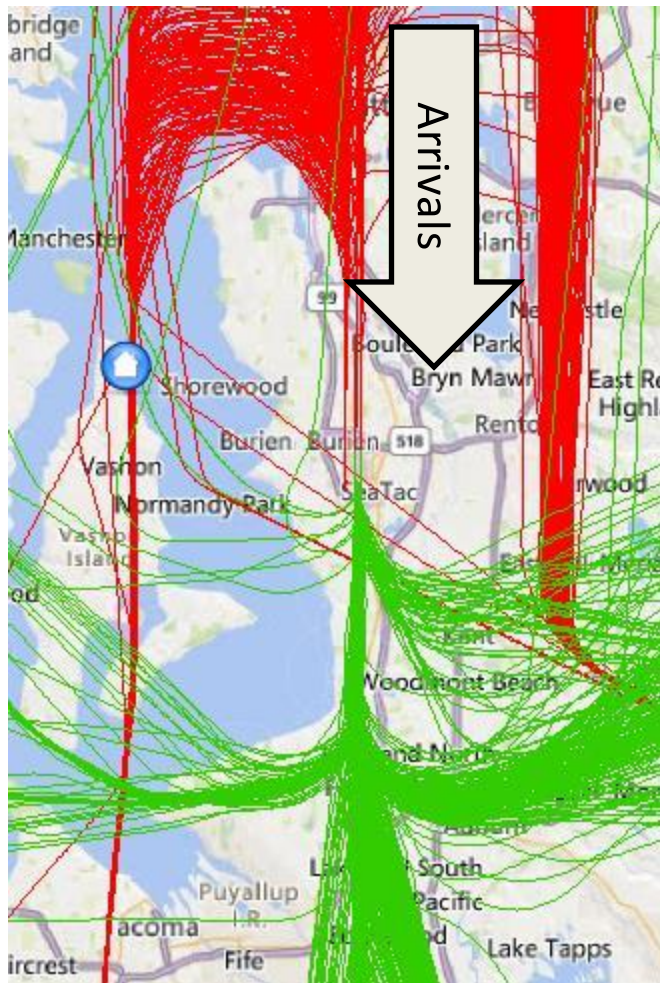
The location selected was within a rural area on Vashon Island near an embankment facing the Puget Sound on the east side of the island. To help secure and protect the noise monitoring equipment from wildlife, a metal kennel was supplied to house the noise monitor. The placement location is secluded, with the nearest house located approximately 40 yards away. The upper level of the home and roof line are visible in the photo below.



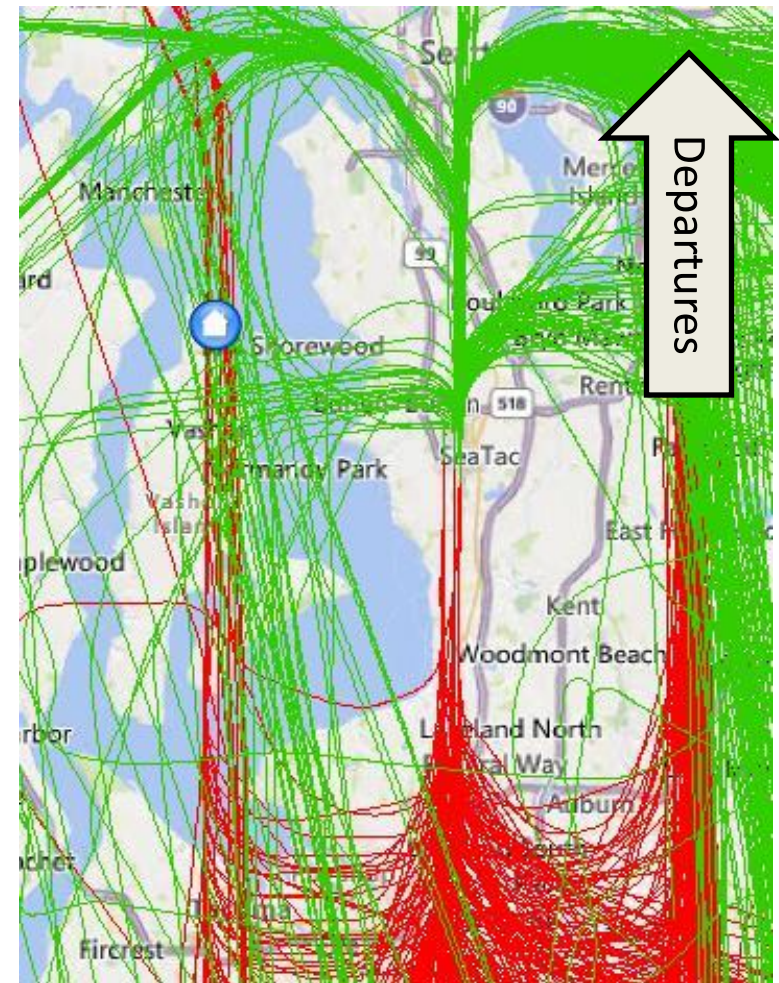
Yellow star on the map notes the approximate location of the portable noise monitor on Vashon Island.

SEA Flight Paths and Traffic Flow Direction

Aircraft primarily take-off and land facing into the prevailing winds. SEA operates in a south-flow or north-flow condition, depending upon the direction of the prevailing winds. More information about flight patterns at SEA can be found on the Port's website: [Noise Abatement Procedures & Flight Patterns](#)



Blue circle represents location of the Vashon portable noise monitor A003 on the map



South-flow map.

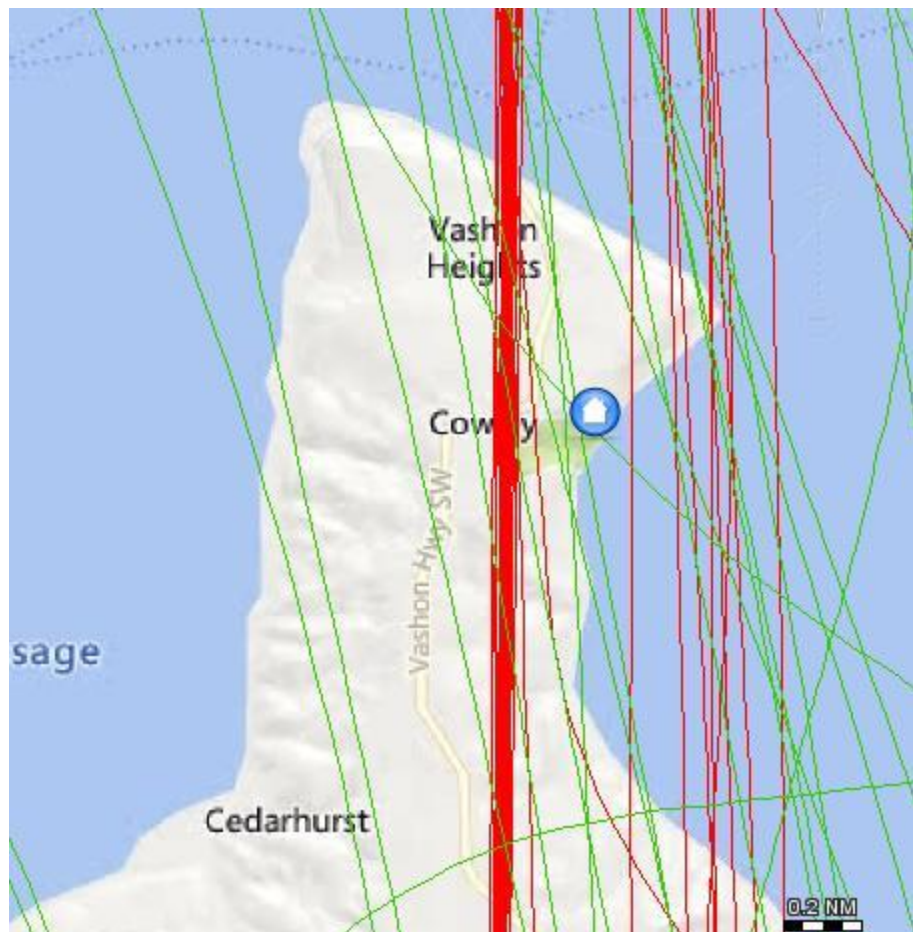
The monitor location on Vashon Island primarily receives arrival overflights. Aircraft arriving from the west fly in a northerly direction over the island before turning east then south for their final approach into SEA.

North-flow map.

The monitor location on Vashon Island receives arrival and departure overflights. Aircraft arriving from the west fly in a southerly direction over the island before turning east then north for their final approach into SEA.

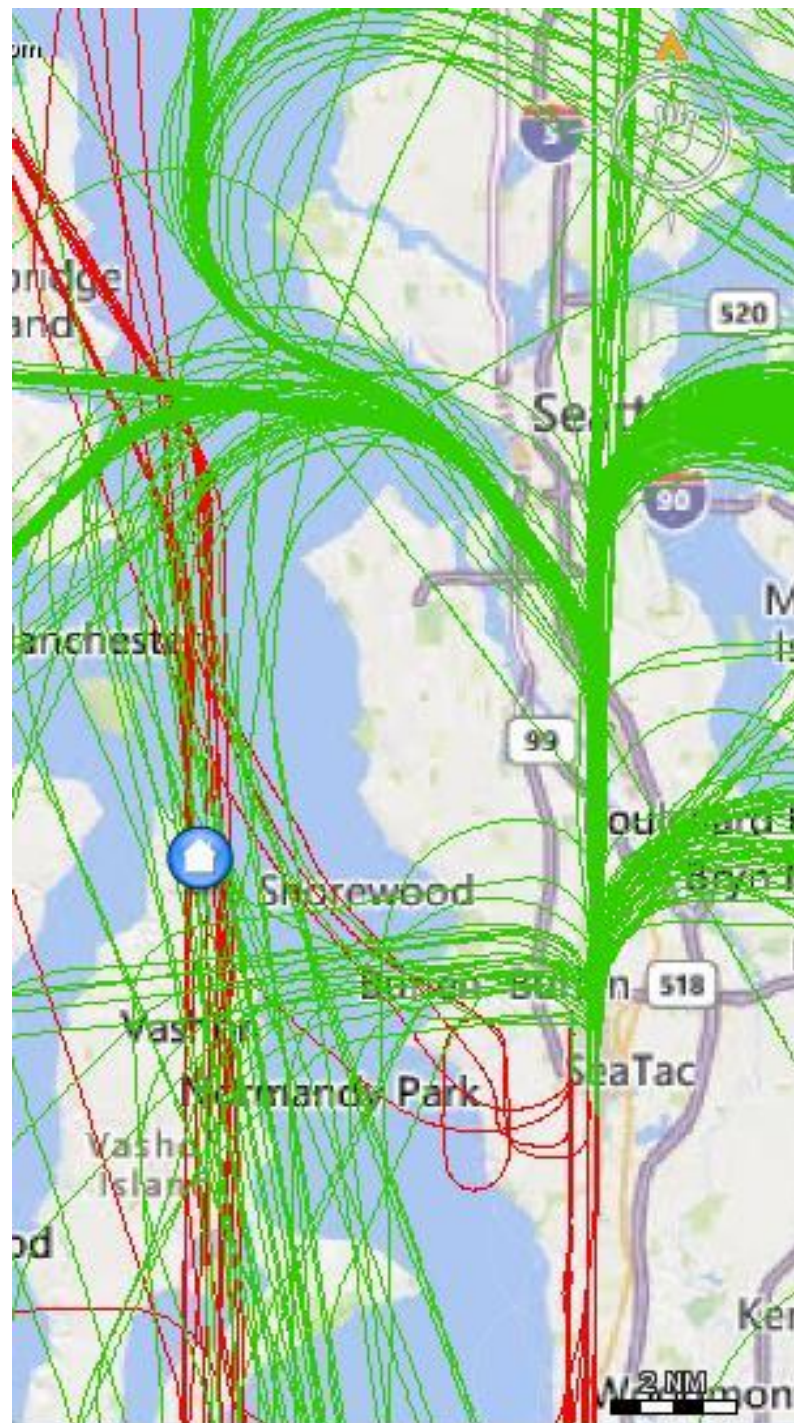
**This map represents typical north-flow operations:
Flight track map for July 24, 2021
Jet and Propeller Aircraft, 1174 total operations at
SEA**

Blue circle represents location of the Vashon portable noise monitor A003 on the map



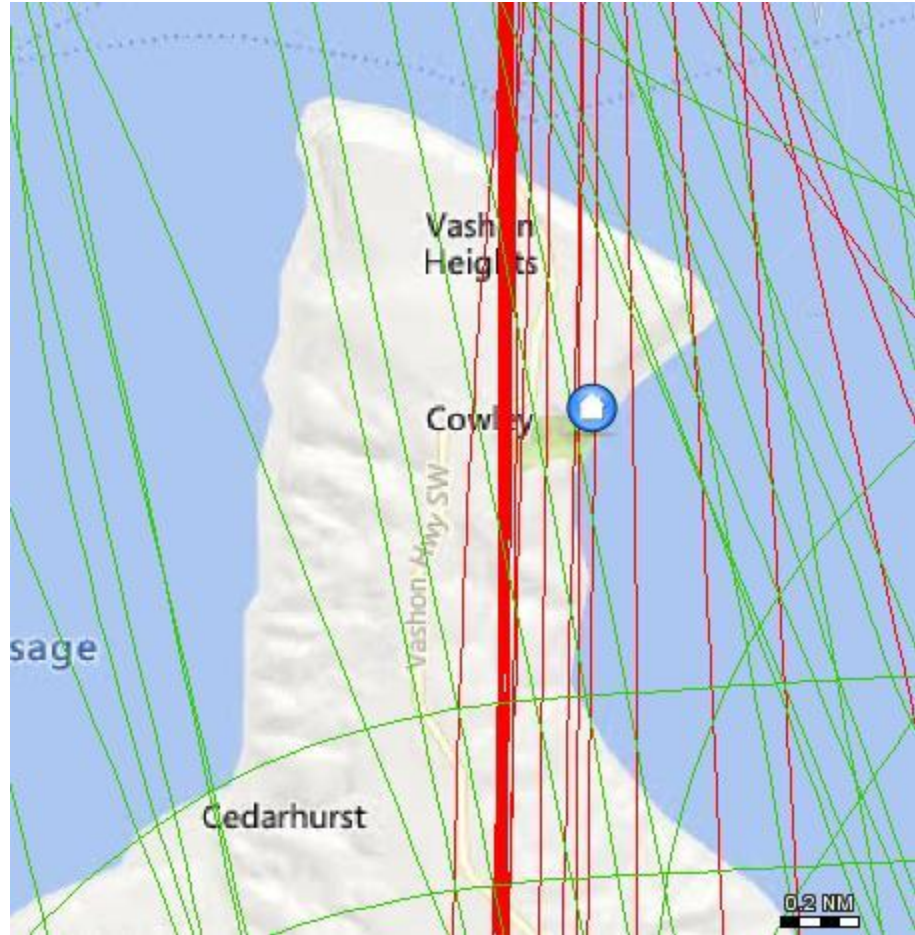
Legend

- Departures
- Arrivals



**This map represents typical north-flow operations:
Flight track map for September 24, 2021
Jet and Propeller Aircraft, 1203 total operations
at SEA**

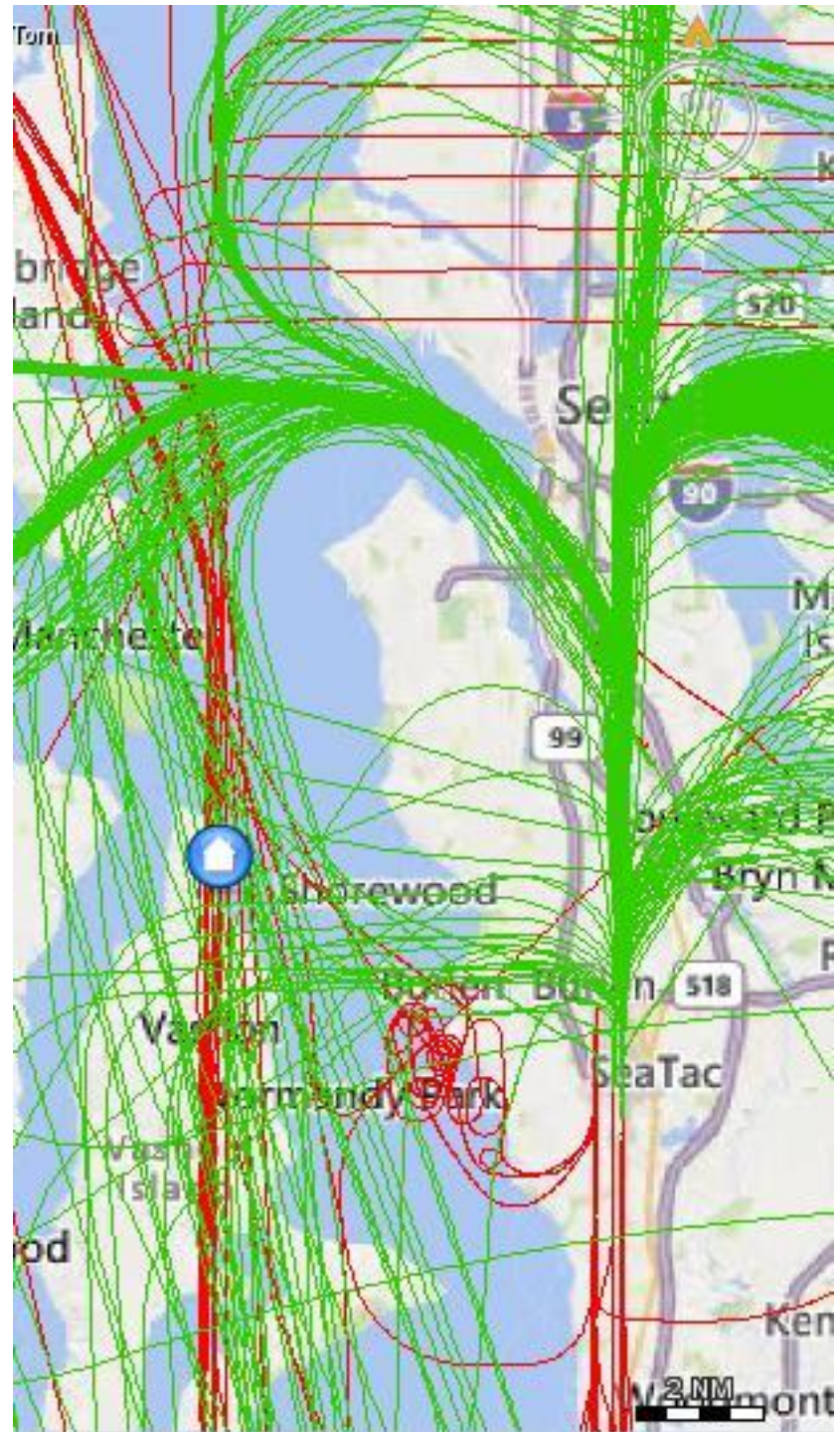
Blue circle represents location of the Vashon
portable noise monitor A003 on the map



Legend

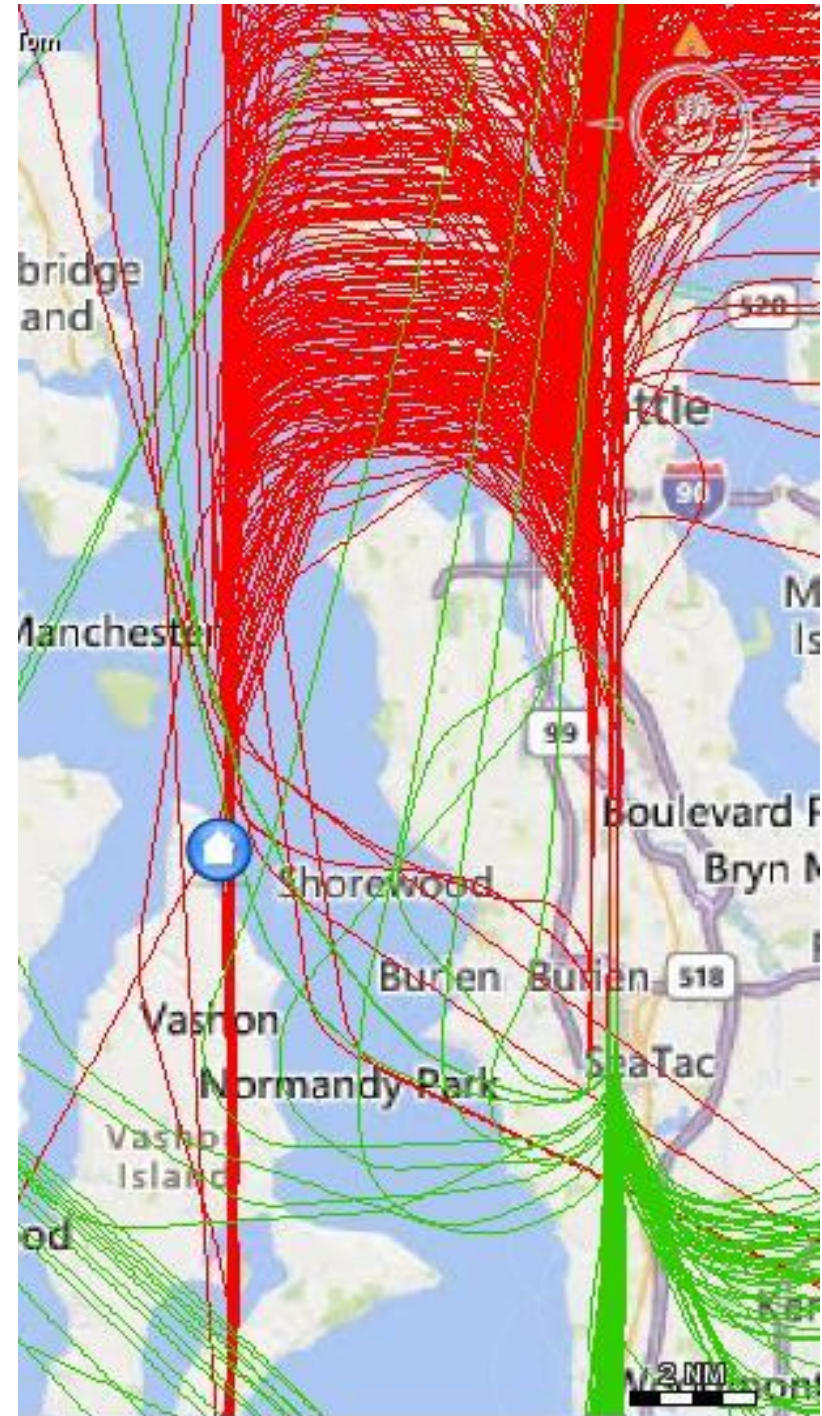
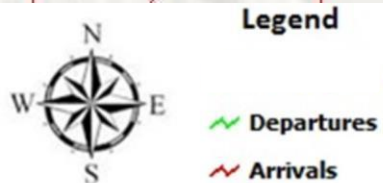
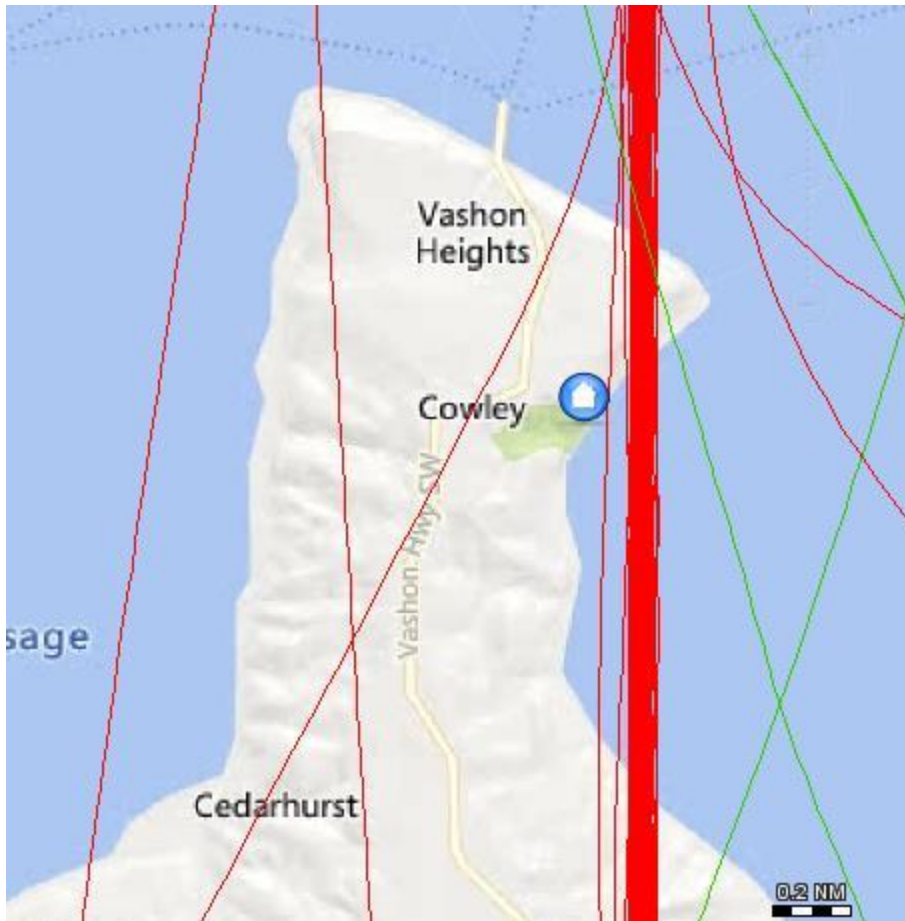
- Departures
- Arrivals

**Portable A003 at
Vashon**



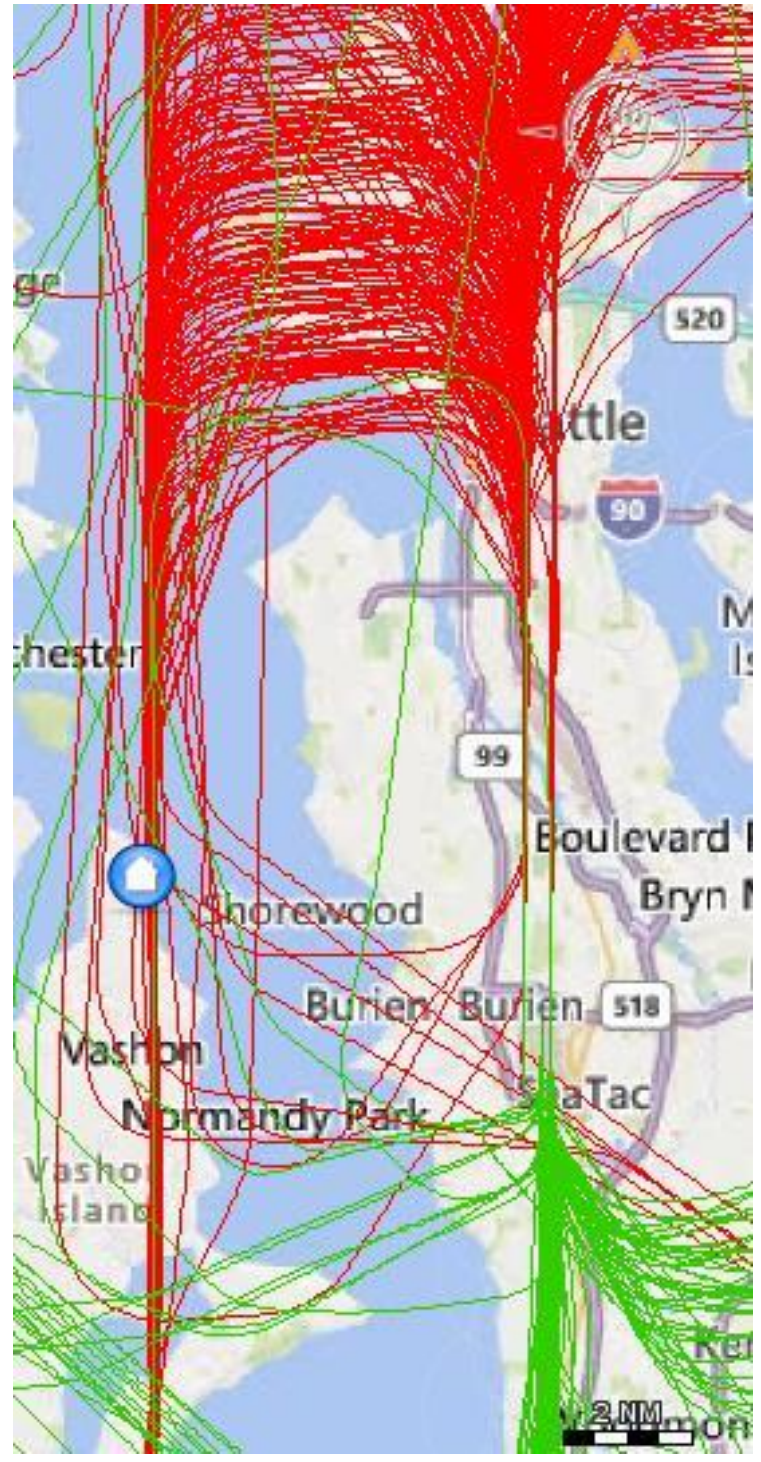
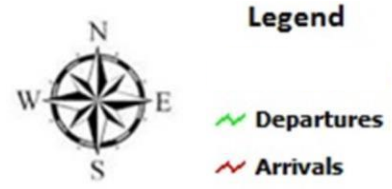
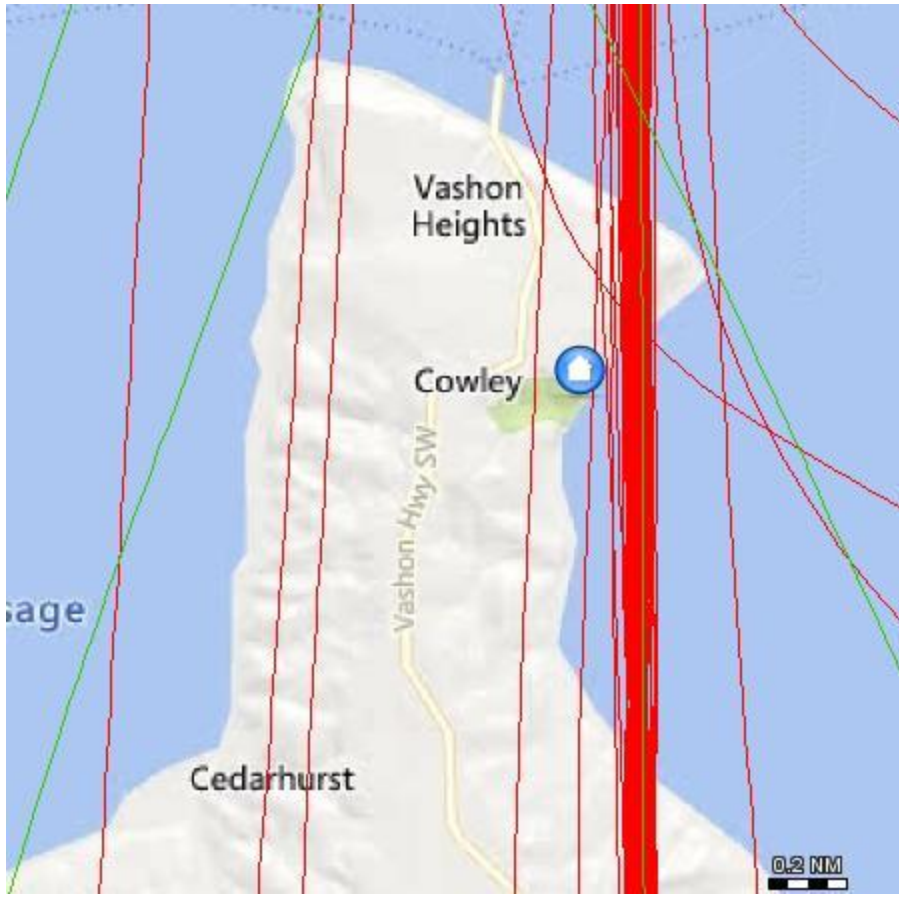
**This map represents typical south-flow operations:
Flight track map for August 8, 2021
Jet and Propeller Aircraft, 1201 total operations
at SEA**

Blue circle represents location of the Vashon portable noise monitor A003 on the map



**This map represents typical south-flow operations:
Flight track map for September 30, 2021
Jet and Propeller Aircraft, 1163 total operations at
SEA**

Blue circle represents location of the Vashon portable noise monitor A003 on the map



Traffic Flow— March 4, 2021 to March 4, 2022

The graph below shows the percentage of north-flow and south-flow operations for SEA and total operations for each flow by month. Daily operations graph can be found in the Appendix.

Data collection began on March 4, 2021. The monitor completed the 1 year cycle on March 4, 2022

| Month | Flow | Percentage | Operations |
|---------|------------|------------|------------|
| 2021-03 | North Flow | 19% | 5,051 |
| | South Flow | 81% | 20,923 |
| 2021-04 | North Flow | 37% | 10,834 |
| | South Flow | 63% | 18,325 |
| 2021-05 | North Flow | 42% | 13,616 |
| | South Flow | 58% | 18,984 |
| 2021-06 | North Flow | 43% | 14,877 |
| | South Flow | 57% | 19,676 |
| 2021-07 | North Flow | 51% | 18,534 |
| | South Flow | 49% | 18,101 |
| 2021-08 | North Flow | 35% | 13,036 |
| | South Flow | 65% | 23,845 |
| 2021-09 | North Flow | 36% | 12,337 |
| | South Flow | 64% | 22,108 |
| 2021-10 | North Flow | 15% | 5,077 |
| | South Flow | 85% | 28,567 |
| 2021-11 | North Flow | 7% | 2,264 |
| | South Flow | 93% | 28,544 |
| 2021-12 | North Flow | 26% | 7,377 |
| | South Flow | 74% | 21,450 |

Traffic Flow – Yearly Comparison

During the monitor deployment on Vashon Island, SEA operated in south-flow 72% of the time. Traffic flow at SEA is primarily dependent upon wind and weather conditions. Due to the prevalence of southerly winds in the region, SEA typically operates in south-flow approximately 70% of the year.

| Start Date | 2021-03-04 00:00:00 | Start Date | 2021-03-04 00:00:00 | | | |
|---------------|---------------------|---------------|---------------------|------------|------------|------------|
| End Date | 2022-03-04 23:59:59 | End Date | 2022-03-04 23:59:59 | | | |
| Summary Level | Period | Summary Level | Year | | | |
| Airport | SEA | Airport | SEA | | | |
| Flow | Percentage | Operations | Year | Flow | Percentage | Operations |
| North Flow | 28% | 109,142 | 2021 | North Flow | 32% | 103,003 |
| South Flow | 72% | 274,515 | | South Flow | 68% | 220,523 |
| | | | 2022 | North Flow | 10% | 6,139 |
| | | | | South Flow | 90% | 53,992 |

For comparison purposes, the information below indicates SEA’s percentages of north-flow and south-flow operations along with the total aircraft operations for each of the flows throughout the same time period in 2018 and 2019. A daily breakdown of flow and aircraft operations is listed in the Appendix.

| Start Date | 2019-03-04 00:00:00 | Start Date | 2018-03-04 23:59:59 | | |
|---------------|---------------------|---------------|---------------------|------------|------------|
| End Date | 2020-03-04 23:59:59 | End Date | 2019-03-04 23:59:59 | | |
| Summary Level | Period | Summary Level | Period | | |
| Airport | SEA | Airport | SEA | | |
| Flow | Percentage | Operations | Flow | Percentage | Operations |
| North Flow | 24% | 109,079 | North Flow | 30% | 131,836 |
| South Flow | 76% | 343,261 | South Flow | 70% | 305,540 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-03-04 | North Flow | 0% | 0 |
| | South Flow | 100% | 953 |
| 2021-03-05 | North Flow | 0% | 1 |
| | South Flow | 100% | 959 |
| 2021-03-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 853 |
| 2021-03-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 954 |
| 2021-03-08 | North Flow | 0% | 1 |
| | South Flow | 100% | 936 |
| 2021-03-09 | North Flow | 0% | 1 |
| | South Flow | 100% | 899 |
| 2021-03-10 | North Flow | 44% | 394 |
| | South Flow | 56% | 505 |
| 2021-03-11 | North Flow | 77% | 738 |
| | South Flow | 23% | 221 |
| 2021-03-12 | North Flow | 0% | 1 |
| | South Flow | 100% | 972 |
| 2021-03-13 | North Flow | 0% | 1 |
| | South Flow | 100% | 864 |
| 2021-03-14 | North Flow | 29% | 267 |
| | South Flow | 71% | 650 |
| 2021-03-15 | North Flow | 60% | 554 |
| | South Flow | 40% | 369 |
| 2021-03-16 | North Flow | 74% | 662 |
| | South Flow | 26% | 234 |
| 2021-03-17 | North Flow | 1% | 13 |
| | South Flow | 99% | 890 |
| 2021-03-18 | North Flow | 0% | 1 |
| | South Flow | 100% | 955 |
| 2021-03-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 975 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-03-20 | North Flow | 0% | 0 |
| | South Flow | 100% | 862 |
| 2021-03-21 | North Flow | 0% | 0 |
| | South Flow | 100% | 948 |
| 2021-03-22 | North Flow | 44% | 412 |
| | South Flow | 56% | 534 |
| 2021-03-23 | North Flow | 2% | 15 |
| | South Flow | 98% | 890 |
| 2021-03-24 | North Flow | 0% | 0 |
| | South Flow | 100% | 909 |
| 2021-03-25 | North Flow | 54% | 519 |
| | South Flow | 46% | 442 |
| 2021-03-26 | North Flow | 0% | 4 |
| | South Flow | 100% | 975 |
| 2021-03-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 867 |
| 2021-03-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 958 |
| 2021-03-29 | North Flow | 57% | 541 |
| | South Flow | 43% | 413 |
| 2021-03-30 | North Flow | 4% | 33 |
| | South Flow | 96% | 891 |
| 2021-03-31 | North Flow | 95% | 893 |
| | South Flow | 5% | 45 |
| 2021-04-01 | North Flow | 1% | 8 |
| | South Flow | 99% | 972 |
| 2021-04-02 | North Flow | 0% | 0 |
| | South Flow | 100% | 988 |
| 2021-04-03 | North Flow | 1% | 13 |
| | South Flow | 99% | 862 |
| 2021-04-04 | North Flow | 100% | 964 |
| | South Flow | 0% | 0 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-04-05 | North Flow | 1% | 13 |
| | South Flow | 99% | 978 |
| 2021-04-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 961 |
| 2021-04-07 | North Flow | 0% | 1 |
| | South Flow | 100% | 944 |
| 2021-04-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 990 |
| 2021-04-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,010 |
| 2021-04-10 | North Flow | 42% | 374 |
| | South Flow | 58% | 526 |
| 2021-04-11 | North Flow | 100% | 961 |
| | South Flow | 0% | 0 |
| 2021-04-12 | North Flow | 100% | 1,005 |
| | South Flow | 0% | 0 |
| 2021-04-13 | North Flow | 100% | 965 |
| | South Flow | 0% | 0 |
| 2021-04-14 | North Flow | 100% | 947 |
| | South Flow | 0% | 0 |
| 2021-04-15 | North Flow | 100% | 1,009 |
| | South Flow | 0% | 0 |
| 2021-04-16 | North Flow | 100% | 1,011 |
| | South Flow | 0% | 0 |
| 2021-04-17 | North Flow | 100% | 925 |
| | South Flow | 0% | 0 |
| 2021-04-18 | North Flow | 74% | 741 |
| | South Flow | 26% | 255 |
| 2021-04-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 736 |
| 2021-04-20 | North Flow | 95% | 917 |
| | South Flow | 5% | 51 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-04-21 | North Flow | 100% | 968 |
| | South Flow | 0% | 1 |
| 2021-04-22 | North Flow | 1% | 7 |
| | South Flow | 99% | 999 |
| 2021-04-23 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,016 |
| 2021-04-24 | North Flow | 0% | 1 |
| | South Flow | 100% | 914 |
| 2021-04-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 988 |
| 2021-04-26 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,003 |
| 2021-04-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,005 |
| 2021-04-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,011 |
| 2021-04-29 | North Flow | 0% | 2 |
| | South Flow | 100% | 1,061 |
| 2021-04-30 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,054 |
| 2021-05-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 978 |
| 2021-05-02 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,028 |
| 2021-05-03 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,040 |
| 2021-05-04 | North Flow | 47% | 482 |
| | South Flow | 53% | 542 |
| 2021-05-05 | North Flow | 100% | 1,027 |
| | South Flow | 0% | 0 |
| 2021-05-06 | North Flow | 1% | 10 |
| | South Flow | 99% | 1,055 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-04-07 | North Flow | 0% | 1 |
| | South Flow | 100% | 944 |
| 2021-04-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 990 |
| 2021-04-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,010 |
| 2021-04-10 | North Flow | 42% | 374 |
| | South Flow | 58% | 526 |
| 2021-04-11 | North Flow | 100% | 961 |
| | South Flow | 0% | 0 |
| 2021-04-12 | North Flow | 100% | 1,005 |
| | South Flow | 0% | 0 |
| 2021-04-13 | North Flow | 100% | 965 |
| | South Flow | 0% | 0 |
| 2021-04-14 | North Flow | 100% | 947 |
| | South Flow | 0% | 0 |
| 2021-04-15 | North Flow | 100% | 1,009 |
| | South Flow | 0% | 0 |
| 2021-04-16 | North Flow | 100% | 1,011 |
| | South Flow | 0% | 0 |
| 2021-04-17 | North Flow | 100% | 925 |
| | South Flow | 0% | 0 |
| 2021-04-18 | North Flow | 74% | 741 |
| | South Flow | 26% | 255 |
| 2021-04-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 736 |
| 2021-04-20 | North Flow | 95% | 917 |
| | South Flow | 5% | 51 |
| 2021-04-21 | North Flow | 100% | 968 |
| | South Flow | 0% | 1 |
| 2021-04-22 | North Flow | 1% | 7 |
| | South Flow | 99% | 999 |























Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-04-23 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,016 |
| 2021-04-24 | North Flow | 0% | 1 |
| | South Flow | 100% | 914 |
| 2021-04-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 988 |
| 2021-04-26 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,003 |
| 2021-04-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,005 |
| 2021-04-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,011 |
| 2021-04-29 | North Flow | 0% | 2 |
| | South Flow | 100% | 1,061 |
| 2021-04-30 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,054 |
| 2021-05-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 978 |
| 2021-05-02 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,028 |
| 2021-05-03 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,040 |
| 2021-05-04 | North Flow | 47% | 482 |
| | South Flow | 53% | 542 |
| 2021-05-05 | North Flow | 100% | 1,027 |
| | South Flow | 0% | 0 |
| 2021-05-06 | North Flow | 1% | 10 |
| | South Flow | 99% | 1,055 |
| 2021-05-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,086 |
| 2021-05-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,028 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|--|------------|
| 2021-05-09 | North Flow |  49% | 521 |
| | South Flow |  51% | 534 |
| 2021-05-10 | North Flow |  63% | 673 |
| | South Flow |  37% | 388 |
| 2021-05-11 | North Flow |  100% | 1,049 |
| | South Flow | 0% | 0 |
| 2021-05-12 | North Flow |  100% | 1,049 |
| | South Flow | 0% | 0 |
| 2021-05-13 | North Flow |  73% | 796 |
| | South Flow |  27% | 299 |
| 2021-05-14 | North Flow |  100% | 1,017 |
| | South Flow | 0% | 0 |
| 2021-05-15 | North Flow |  100% | 1,048 |
| | South Flow | 0% | 0 |
| 2021-05-16 | North Flow |  81% | 837 |
| | South Flow |  19% | 202 |
| 2021-05-17 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,087 |
| 2021-05-18 | North Flow |  31% | 341 |
| | South Flow |  69% | 742 |
| 2021-05-19 | North Flow |  100% | 1,056 |
| | South Flow | 0% | 0 |
| 2021-05-20 | North Flow | 0% | 4 |
| | South Flow |  100% | 1,136 |
| 2021-05-21 | North Flow |  35% | 406 |
| | South Flow |  65% | 740 |
| 2021-05-22 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,071 |
| 2021-05-23 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,116 |
| 2021-05-24 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,118 |

Note: Missing data from approximately 8:17 on May 19th to 6:00am on May 21, 2021

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-05-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,046 |
| 2021-05-26 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,050 |
| 2021-05-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,070 |
| 2021-05-28 | North Flow | 43% | 468 |
| | South Flow | 57% | 627 |
| 2021-05-29 | North Flow | 100% | 727 |
| | South Flow | 0% | 1 |
| 2021-05-30 | North Flow | 100% | 1,042 |
| | South Flow | 0% | 0 |
| 2021-05-31 | North Flow | 100% | 1,062 |
| | South Flow | 0% | 0 |
| 2021-06-01 | North Flow | 100% | 1,055 |
| | South Flow | 0% | 0 |
| 2021-06-02 | North Flow | 80% | 858 |
| | South Flow | 20% | 221 |
| 2021-06-03 | North Flow | 2% | 26 |
| | South Flow | 98% | 1,088 |
| 2021-06-04 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,123 |
| 2021-06-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,085 |
| 2021-06-06 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,120 |
| 2021-06-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,145 |
| 2021-06-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,150 |
| 2021-06-09 | North Flow | 23% | 268 |
| | South Flow | 77% | 886 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-06-10 | North Flow | 2% | 22 |
| | South Flow | 98% | 1,148 |
| 2021-06-11 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,193 |
| 2021-06-12 | North Flow | 52% | 592 |
| | South Flow | 48% | 542 |
| 2021-06-13 | North Flow | 0% | 2 |
| | South Flow | 100% | 1,123 |
| 2021-06-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,179 |
| 2021-06-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,166 |
| 2021-06-16 | North Flow | 69% | 786 |
| | South Flow | 31% | 356 |
| 2021-06-17 | North Flow | 100% | 1,190 |
| | South Flow | 0% | 0 |
| 2021-06-18 | North Flow | 100% | 1,216 |
| | South Flow | 0% | 0 |
| 2021-06-19 | North Flow | 100% | 1,155 |
| | South Flow | 0% | 0 |
| 2021-06-20 | North Flow | 100% | 1,171 |
| | South Flow | 0% | 0 |
| 2021-06-21 | North Flow | 100% | 1,187 |
| | South Flow | 0% | 0 |
| 2021-06-22 | North Flow | 4% | 52 |
| | South Flow | 96% | 1,138 |
| 2021-06-23 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,185 |
| 2021-06-24 | North Flow | 55% | 660 |
| | South Flow | 45% | 538 |
| 2021-06-25 | North Flow | 100% | 1,201 |
| | South Flow | 0% | 0 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-06-26 | North Flow | 100% | 1,134 |
| | South Flow | 0% | 1 |
| 2021-06-27 | North Flow | 100% | 1,163 |
| | South Flow | 0% | 0 |
| 2021-06-28 | North Flow | 100% | 1,135 |
| | South Flow | 0% | 0 |
| 2021-06-29 | North Flow | 0% | 2 |
| | South Flow | 100% | 1,123 |
| 2021-06-30 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,166 |
| 2021-07-01 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,216 |
| 2021-07-02 | North Flow | 56% | 696 |
| | South Flow | 44% | 539 |
| 2021-07-03 | North Flow | 48% | 557 |
| | South Flow | 52% | 608 |
| 2021-07-04 | North Flow | 1% | 8 |
| | South Flow | 99% | 1,108 |
| 2021-07-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,181 |
| 2021-07-06 | North Flow | 45% | 517 |
| | South Flow | 55% | 640 |
| 2021-07-07 | North Flow | 2% | 24 |
| | South Flow | 98% | 1,148 |
| 2021-07-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,203 |
| 2021-07-09 | North Flow | 56% | 684 |
| | South Flow | 44% | 528 |
| 2021-07-10 | North Flow | 51% | 595 |
| | South Flow | 49% | 565 |
| 2021-07-11 | North Flow | 52% | 607 |
| | South Flow | 48% | 566 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-07-12 | North Flow | 63% | 752 |
| | South Flow | 37% | 438 |
| 2021-07-13 | North Flow | 4% | 44 |
| | South Flow | 96% | 1,132 |
| 2021-07-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,168 |
| 2021-07-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,202 |
| 2021-07-16 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,198 |
| 2021-07-17 | North Flow | 46% | 524 |
| | South Flow | 54% | 623 |
| 2021-07-18 | North Flow | 100% | 1,168 |
| | South Flow | 0% | 0 |
| 2021-07-19 | North Flow | 18% | 219 |
| | South Flow | 82% | 972 |
| 2021-07-20 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,188 |
| 2021-07-21 | North Flow | 34% | 404 |
| | South Flow | 66% | 768 |
| 2021-07-22 | North Flow | 100% | 1,195 |
| | South Flow | 0% | 0 |
| 2021-07-23 | North Flow | 100% | 1,217 |
| | South Flow | 0% | 1 |
| 2021-07-24 | North Flow | 100% | 1,160 |
| | South Flow | 0% | 0 |
| 2021-07-25 | North Flow | 100% | 1,172 |
| | South Flow | 0% | 0 |
| 2021-07-26 | North Flow | 100% | 1,186 |
| | South Flow | 0% | 0 |
| 2021-07-27 | North Flow | 100% | 1,171 |
| | South Flow | 0% | 0 |

Note: Missing data from approximately 11:42pm on July 26 to 2:32am on July 28, 2021

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-07-28 | North Flow | 100% | 1,181 |
| | South Flow | 0% | 0 |
| 2021-07-29 | North Flow | 100% | 1,202 |
| | South Flow | 0% | 0 |
| 2021-07-30 | North Flow | 100% | 1,202 |
| | South Flow | 0% | 0 |
| 2021-07-31 | North Flow | 91% | 1,048 |
| | South Flow | 9% | 109 |
| 2021-08-01 | North Flow | 25% | 293 |
| | South Flow | 75% | 877 |
| 2021-08-02 | North Flow | 64% | 756 |
| | South Flow | 36% | 428 |
| 2021-08-03 | North Flow | 61% | 710 |
| | South Flow | 39% | 452 |
| 2021-08-04 | North Flow | 100% | 1,155 |
| | South Flow | 0% | 0 |
| 2021-08-05 | North Flow | 5% | 76 |
| | South Flow | 94% | 1,155 |
| 2021-08-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,208 |
| 2021-08-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,182 |
| 2021-08-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,200 |
| 2021-08-09 | North Flow | 52% | 623 |
| | South Flow | 48% | 573 |
| 2021-08-10 | North Flow | 100% | 1,196 |
| | South Flow | 0% | 0 |
| 2021-08-11 | North Flow | 100% | 1,185 |
| | South Flow | 0% | 0 |
| 2021-08-12 | North Flow | 100% | 1,231 |
| | South Flow | 0% | 0 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|--------------|
| 2021-07-29 | North Flow | 100% | 1,202 0 |
| | South Flow | 0% | |
| 2021-07-30 | North Flow | 100% | 1,202 0 |
| | South Flow | 0% | |
| 2021-07-31 | North Flow | 91% | 1,048 109 |
| | South Flow | 9% | |
| 2021-08-01 | North Flow | 25% | 293 877 |
| | South Flow | 75% | |
| 2021-08-02 | North Flow | 64% | 756 428 |
| | South Flow | 36% | |
| 2021-08-03 | North Flow | 61% | 710 452 |
| | South Flow | 39% | |
| 2021-08-04 | North Flow | 100% | 1,155 0 |
| | South Flow | 0% | |
| 2021-08-05 | North Flow | 6% | 76 1,155 |
| | South Flow | 94% | |
| 2021-08-06 | North Flow | 0% | 0 1,208 |
| | South Flow | 100% | |
| 2021-08-07 | North Flow | 0% | 0 1,182 |
| | South Flow | 100% | |
| 2021-08-08 | North Flow | 0% | 0 1,200 |
| | South Flow | 100% | |
| 2021-08-09 | North Flow | 52% | 623 573 |
| | South Flow | 48% | |
| 2021-08-10 | North Flow | 100% | 1,196 0 |
| | South Flow | 0% | |
| 2021-08-11 | North Flow | 100% | 1,185 0 |
| | South Flow | 0% | |
| 2021-08-12 | North Flow | 100% | 1,231 0 |
| | South Flow | 0% | |
| 2021-08-13 | North Flow | 5% | 58 1,145 |
| | South Flow | 95% | |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-08-14 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,144 |
| 2021-08-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,188 |
| 2021-08-16 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,208 |
| 2021-08-17 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,159 |
| 2021-08-18 | North Flow | 34% | 404 |
| | South Flow | 66% | 770 |
| 2021-08-19 | North Flow | 2% | 24 |
| | South Flow | 98% | 1,193 |
| 2021-08-20 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,215 |
| 2021-08-21 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,162 |
| 2021-08-22 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,179 |
| 2021-08-23 | North Flow | 44% | 522 |
| | South Flow | 56% | 671 |
| 2021-08-24 | North Flow | 100% | 1,172 |
| | South Flow | 0% | 0 |
| 2021-08-25 | North Flow | 5% | 55 |
| | South Flow | 95% | 1,135 |
| 2021-08-26 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,213 |
| 2021-08-27 | North Flow | 51% | 632 |
| | South Flow | 49% | 599 |
| 2021-08-28 | North Flow | 100% | 1,164 |
| | South Flow | 0% | 0 |
| 2021-08-29 | North Flow | 100% | 1,189 |
| | South Flow | 0% | 0 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-08-30 | North Flow | 7% | 81 |
| | South Flow | 93% | 1,113 |
| 2021-08-31 | North Flow | 43% | 508 |
| | South Flow | 57% | 676 |
| 2021-09-01 | North Flow | 72% | 855 |
| | South Flow | 28% | 329 |
| 2021-09-02 | North Flow | 61% | 746 |
| | South Flow | 39% | 472 |
| 2021-09-03 | North Flow | 61% | 742 |
| | South Flow | 39% | 471 |
| 2021-09-04 | North Flow | 3% | 40 |
| | South Flow | 97% | 1,111 |
| 2021-09-05 | North Flow | 23% | 266 |
| | South Flow | 77% | 876 |
| 2021-09-06 | North Flow | 58% | 680 |
| | South Flow | 42% | 485 |
| 2021-09-07 | North Flow | 100% | 1,166 |
| | South Flow | 0% | 0 |
| 2021-09-08 | North Flow | 1% | 10 |
| | South Flow | 99% | 1,106 |
| 2021-09-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,177 |
| 2021-09-10 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,168 |
| 2021-09-11 | North Flow | 43% | 466 |
| | South Flow | 57% | 617 |
| 2021-09-12 | North Flow | 59% | 665 |
| | South Flow | 41% | 462 |
| 2021-09-13 | North Flow | 65% | 744 |
| | South Flow | 35% | 404 |
| 2021-09-14 | North Flow | 2% | 22 |
| | South Flow | 98% | 1,110 |

Note: Missing data from approximately 4:17am on Sept 4 to 5:23am on Sept 5, 2021

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-09-15 | North Flow | 95% | 1,056 |
| | South Flow | 5% | 57 |
| 2021-09-16 | North Flow | 73% | 852 |
| | South Flow | 27% | 323 |
| 2021-09-17 | North Flow | 1% | 12 |
| | South Flow | 99% | 1,170 |
| 2021-09-18 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,086 |
| 2021-09-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,166 |
| 2021-09-20 | North Flow | 46% | 533 |
| | South Flow | 54% | 614 |
| 2021-09-21 | North Flow | 100% | 1,132 |
| | South Flow | 0% | 1 |
| 2021-09-22 | North Flow | 43% | 484 |
| | South Flow | 57% | 632 |
| 2021-09-23 | North Flow | 55% | 636 |
| | South Flow | 45% | 524 |
| 2021-09-24 | North Flow | 100% | 1,186 |
| | South Flow | 0% | 0 |
| 2021-09-25 | North Flow | 4% | 43 |
| | South Flow | 96% | 1,070 |
| 2021-09-26 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,127 |
| 2021-09-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,160 |
| 2021-09-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,114 |
| 2021-09-29 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,114 |
| 2021-09-30 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,162 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-10-01 | North Flow | 69% | 815 |
| | South Flow | 31% | 363 |
| 2021-10-02 | North Flow | 3% | 33 |
| | South Flow | 97% | 1,067 |
| 2021-10-03 | North Flow | 26% | 293 |
| | South Flow | 74% | 843 |
| 2021-10-04 | North Flow | 7% | 83 |
| | South Flow | 93% | 1,073 |
| 2021-10-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,112 |
| 2021-10-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,116 |
| 2021-10-07 | North Flow | 45% | 506 |
| | South Flow | 55% | 609 |
| 2021-10-08 | North Flow | 2% | 19 |
| | South Flow | 98% | 1,091 |
| 2021-10-09 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,027 |
| 2021-10-10 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,069 |
| 2021-10-11 | North Flow | 49% | 526 |
| | South Flow | 51% | 540 |
| 2021-10-12 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,050 |
| 2021-10-13 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,071 |
| 2021-10-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,130 |
| 2021-10-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,116 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-10-16 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,032 |
| 2021-10-17 | North Flow | 24% | 262 |
| | South Flow | 76% | 829 |
| 2021-10-18 | North Flow | 7% | 81 |
| | South Flow | 93% | 1,024 |
| 2021-10-19 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,046 |
| 2021-10-20 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,065 |
| 2021-10-21 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,064 |
| 2021-10-22 | North Flow | 0% | 2 |
| | South Flow | 100% | 1,086 |
| 2021-10-23 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,057 |
| 2021-10-24 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,073 |
| 2021-10-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,110 |
| 2021-10-26 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,056 |
| 2021-10-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,061 |
| 2021-10-28 | North Flow | 0% | 1 |
| | South Flow | 100% | 1,110 |
| 2021-10-29 | North Flow | 39% | 430 |
| | South Flow | 61% | 677 |
| 2021-10-30 | North Flow | 100% | 1,012 |
| | South Flow | 0% | 0 |
| 2021-10-31 | North Flow | 100% | 1,008 |
| | South Flow | 0% | 0 |




















Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-11-01 | North Flow | 0% | 5 |
| | South Flow | 100% | 1,054 |
| 2021-11-02 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,047 |
| 2021-11-03 | North Flow | 4% | 41 |
| | South Flow | 96% | 997 |
| 2021-11-04 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,086 |
| 2021-11-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,104 |
| 2021-11-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,004 |
| 2021-11-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,040 |
| 2021-11-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,049 |
| 2021-11-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 987 |
| 2021-11-10 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,011 |
| 2021-11-11 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,070 |
| 2021-11-12 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,077 |
| 2021-11-13 | North Flow | 0% | 0 |
| | South Flow | 100% | 968 |
| 2021-11-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,052 |
| 2021-11-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,026 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|--|------------|
| 2021-11-16 | North Flow |  31% | 315 |
| | South Flow |  69% | 687 |
| 2021-11-17 | North Flow |  86% | 869 |
| | South Flow |  14% | 145 |
| 2021-11-18 | North Flow |  52% | 553 |
| | South Flow |  48% | 518 |
| 2021-11-19 | North Flow |  45% | 480 |
| | South Flow |  55% | 577 |
| 2021-11-20 | North Flow | 0% | 1 |
| | South Flow |  100% | 1,030 |
| 2021-11-21 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,047 |
| 2021-11-22 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,045 |
| 2021-11-23 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,039 |
| 2021-11-24 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,075 |
| 2021-11-25 | North Flow | 0% | 0 |
| | South Flow |  100% | 683 |
| 2021-11-26 | North Flow | 0% | 0 |
| | South Flow |  100% | 925 |
| 2021-11-27 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,032 |
| 2021-11-28 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,063 |
| 2021-11-29 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,068 |
| 2021-11-30 | North Flow | 0% | 0 |
| | South Flow |  100% | 1,038 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-12-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 975 |
| 2021-12-02 | North Flow | 68% | 712 |
| | South Flow | 32% | 329 |
| 2021-12-03 | North Flow | 100% | 1,033 |
| | South Flow | 0% | 0 |
| 2021-12-04 | North Flow | 47% | 440 |
| | South Flow | 53% | 490 |
| 2021-12-05 | North Flow | 48% | 472 |
| | South Flow | 52% | 520 |
| 2021-12-06 | North Flow | 1% | 8 |
| | South Flow | 99% | 975 |
| 2021-12-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 965 |
| 2021-12-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 981 |
| 2021-12-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,036 |
| 2021-12-10 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,025 |
| 2021-12-11 | North Flow | 0% | 0 |
| | South Flow | 100% | 942 |
| 2021-12-12 | North Flow | 0% | 0 |
| | South Flow | 100% | 997 |
| 2021-12-13 | North Flow | 21% | 207 |
| | South Flow | 79% | 791 |
| 2021-12-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 958 |
| 2021-12-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 969 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2021-12-16 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,049 |
| 2021-12-17 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,042 |
| 2021-12-18 | North Flow | 0% | 0 |
| | South Flow | 100% | 968 |
| 2021-12-19 | North Flow | 57% | 564 |
| | South Flow | 43% | 421 |
| 2021-12-20 | North Flow | 57% | 580 |
| | South Flow | 43% | 438 |
| 2021-12-21 | North Flow | 0% | 3 |
| | South Flow | 100% | 984 |
| 2021-12-22 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,004 |
| 2021-12-23 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,043 |
| 2021-12-24 | North Flow | 0% | 0 |
| | South Flow | 100% | 917 |
| 2021-12-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 784 |
| 2021-12-26 | North Flow | 82% | 400 |
| | South Flow | 18% | 90 |
| 2021-12-27 | North Flow | 68% | 475 |
| | South Flow | 32% | 226 |
| 2021-12-28 | North Flow | 85% | 596 |
| | South Flow | 15% | 103 |
| 2021-12-29 | North Flow | 70% | 566 |
| | South Flow | 30% | 248 |
| 2021-12-30 | North Flow | 77% | 552 |
| | South Flow | 23% | 163 |
| 2021-12-31 | North Flow | 98% | 769 |
| | South Flow | 2% | 17 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2022-01-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 777 |
| 2022-01-02 | North Flow | 0% | 0 |
| | South Flow | 100% | 913 |
| 2022-01-03 | North Flow | 0% | 0 |
| | South Flow | 100% | 911 |
| 2022-01-04 | North Flow | 0% | 0 |
| | South Flow | 100% | 858 |
| 2022-01-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 867 |
| 2022-01-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 911 |
| 2022-01-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 975 |
| 2022-01-08 | North Flow | 0% | 0 |
| | South Flow | 100% | 856 |
| 2022-01-09 | North Flow | 0% | 0 |
| | South Flow | 100% | 966 |
| 2022-01-10 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,030 |
| 2022-01-11 | North Flow | 0% | 0 |
| | South Flow | 100% | 926 |
| 2022-01-12 | North Flow | 0% | 0 |
| | South Flow | 100% | 956 |
| 2022-01-13 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,029 |
| 2022-01-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 973 |
| 2022-01-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 848 |
| 2022-01-16 | North Flow | 0% | 0 |
| | South Flow | 100% | 878 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2022-01-17 | North Flow | 0% | 0 |
| | South Flow | 100% | 982 |
| 2022-01-18 | North Flow | 0% | 0 |
| | South Flow | 100% | 889 |
| 2022-01-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 907 |
| 2022-01-20 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,017 |
| 2022-01-21 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,006 |
| 2022-01-22 | North Flow | 13% | 110 |
| | South Flow | 87% | 751 |
| 2022-01-23 | North Flow | 0% | 0 |
| | South Flow | 100% | 834 |
| 2022-01-24 | North Flow | 0% | 0 |
| | South Flow | 100% | 966 |
| 2022-01-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 896 |
| 2022-01-26 | North Flow | 15% | 138 |
| | South Flow | 85% | 784 |
| 2022-01-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,015 |
| 2022-01-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 993 |
| 2022-01-29 | North Flow | 0% | 1 |
| | South Flow | 100% | 851 |
| 2022-01-30 | North Flow | 0% | 0 |
| | South Flow | 100% | 944 |
| 2022-01-31 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,000 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2022-02-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 912 |
| 2022-02-02 | North Flow | 0% | 0 |
| | South Flow | 100% | 933 |
| 2022-02-03 | North Flow | 0% | 0 |
| | South Flow | 100% | 973 |
| 2022-02-04 | North Flow | 0% | 0 |
| | South Flow | 100% | 992 |
| 2022-02-05 | North Flow | 0% | 0 |
| | South Flow | 100% | 885 |
| 2022-02-06 | North Flow | 0% | 0 |
| | South Flow | 100% | 975 |
| 2022-02-07 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,005 |
| 2022-02-08 | North Flow | 22% | 207 |
| | South Flow | 78% | 718 |
| 2022-02-09 | North Flow | 0% | 1 |
| | South Flow | 100% | 947 |
| 2022-02-10 | North Flow | 43% | 451 |
| | South Flow | 57% | 597 |
| 2022-02-11 | North Flow | 100% | 1,036 |
| | South Flow | 0% | 0 |
| 2022-02-12 | North Flow | 100% | 887 |
| | South Flow | 0% | 0 |
| 2022-02-13 | North Flow | 2% | 21 |
| | South Flow | 98% | 913 |
| 2022-02-14 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,017 |
| 2022-02-15 | North Flow | 0% | 0 |
| | South Flow | 100% | 932 |

Appendix - Traffic Flow

Daily overview of traffic flow direction at SEA, along with the daily operations count to the right of the percentages graph.

| Day | Flow | Percentage | Operations |
|------------|------------|------------|------------|
| 2022-02-16 | North Flow | 0% | 0 |
| | South Flow | 100% | 954 |
| 2022-02-17 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,048 |
| 2022-02-18 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,059 |
| 2022-02-19 | North Flow | 0% | 0 |
| | South Flow | 100% | 907 |
| 2022-02-20 | North Flow | 24% | 234 |
| | South Flow | 76% | 722 |
| 2022-02-21 | North Flow | 67% | 671 |
| | South Flow | 33% | 334 |
| 2022-02-22 | North Flow | 94% | 935 |
| | South Flow | 6% | 59 |
| 2022-02-23 | North Flow | 0% | 0 |
| | South Flow | 100% | 982 |
| 2022-02-24 | North Flow | 75% | 770 |
| | South Flow | 25% | 255 |
| 2022-02-25 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,055 |
| 2022-02-26 | North Flow | 0% | 1 |
| | South Flow | 100% | 936 |
| 2022-02-27 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,009 |
| 2022-02-28 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,029 |
| 2022-03-01 | North Flow | 0% | 0 |
| | South Flow | 100% | 978 |
| 2022-03-02 | North Flow | 0% | 0 |
| | South Flow | 100% | 973 |
| 2022-03-03 | North Flow | 0% | 0 |
| | South Flow | 100% | 1,045 |
| 2022-03-04 | North Flow | 67% | 676 |
| | South Flow | 33% | 339 |

Appendix

Port of Seattle

Airport Noise Programs, Aircraft Noise Monitoring System (includes map of where the Port of Seattle permanent noise monitors are located)
www.portseattle.org/page/aircraft-noise-monitoring-system

Airport Noise Programs, Noise Abatement Procedures for Jet Aircraft www.portseattle.org/projects/noise-abatement-procedures-jet-aircraft

Airport Noise Programs, Flight Patterns (maps and explanations of north-flow and south-flow operations at Sea-Tac Airport)
www.portseattle.org/projects/flight-patterns

Airport Noise Programs Questions and Answers www.portseattle.org/page/airport-noise-programs-questions-and-answers

Federal Aviation Administration (FAA)

Fundamentals of Noise and Sound www.faa.gov/regulations_policies/policy_guidance/noise/basics/

Aviation Noise www.faa.gov/regulations_policies/policy_guidance/noise/

Community Response to Noise www.faa.gov/regulations_policies/policy_guidance/noise/community/

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 3/4/2021 | A003 | 48 | 45 | 50 |
| 3/5/2021 | A003 | 47 | 45 | 49 |
| 3/6/2021 | A003 | 45 | 44 | 48 |
| 3/7/2021 | A003 | 48 | 46 | 50 |
| 3/8/2021 | A003 | 43 | 44 | 47 |
| 3/9/2021 | A003 | 43 | 44 | 47 |
| 3/10/2021 | A003 | 42 | 41 | 44 |
| 3/11/2021 | A003 | 42 | 41 | 45 |
| 3/12/2021 | A003 | 43 | 41 | 45 |
| 3/13/2021 | A003 | 59 | 41 | 60 |
| 3/14/2021 | A003 | 46 | 44 | 48 |
| 3/15/2021 | A003 | 42 | 41 | 44 |
| 3/16/2021 | A003 | 44 | 37 | 45 |
| 3/17/2021 | A003 | 45 | 44 | 48 |
| 3/18/2021 | A003 | 45 | 45 | 48 |
| 3/19/2021 | A003 | 51 | 45 | 52 |
| 3/20/2021 | A003 | 46 | 44 | 48 |
| 3/21/2021 | A003 | 46 | 44 | 49 |
| 3/22/2021 | A003 | 47 | 42 | 48 |
| 3/23/2021 | A003 | 42 | 44 | 46 |
| 3/24/2021 | A003 | 51 | 44 | 52 |
| 3/25/2021 | A003 | 48 | 42 | 49 |
| 3/26/2021 | A003 | 44 | 44 | 47 |
| 3/27/2021 | A003 | 43 | 44 | 47 |
| 3/28/2021 | A003 | 51 | 45 | 52 |
| 3/29/2021 | A003 | 42 | 41 | 45 |
| 3/30/2021 | A003 | 42 | 45 | 47 |
| 3/31/2021 | A003 | 42 | 37 | 43 |
| 4/1/2021 | A003 | 43 | 43 | 46 |
| 4/2/2021 | A003 | 45 | 46 | 48 |
| 4/3/2021 | A003 | 44 | 44 | 47 |
| 4/4/2021 | A003 | 43 | 36 | 44 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 4/5/2021 | A003 | 42 | 43 | 46 |
| 4/6/2021 | A003 | 43 | 43 | 46 |
| 4/7/2021 | A003 | 46 | 44 | 48 |
| 4/8/2021 | A003 | 44 | 44 | 47 |
| 4/9/2021 | A003 | 49 | 44 | 50 |
| 4/10/2021 | A003 | 44 | 42 | 46 |
| 4/11/2021 | A003 | 42 | 36 | 43 |
| 4/12/2021 | A003 | 45 | 38 | 46 |
| 4/13/2021 | A003 | 43 | 38 | 44 |
| 4/14/2021 | A003 | 43 | 36 | 44 |
| 4/15/2021 | A003 | 43 | 38 | 45 |
| 4/16/2021 | A003 | 42 | 34 | 43 |
| 4/17/2021 | A003 | 52 | 42 | 53 |
| 4/18/2021 | A003 | 44 | 40 | 45 |
| 4/19/2021 | A003 | 44 | 43 | 47 |
| 4/20/2021 | A003 | 43 | 36 | 44 |
| 4/21/2021 | A003 | 43 | 40 | 45 |
| 4/22/2021 | A003 | 45 | 43 | 47 |
| 4/23/2021 | A003 | 44 | 45 | 48 |
| 4/24/2021 | A003 | 47 | 45 | 49 |
| 4/25/2021 | A003 | 50 | 46 | 52 |
| 4/26/2021 | A003 | 44 | 45 | 47 |
| 4/27/2021 | A003 | 45 | 44 | 47 |
| 4/28/2021 | A003 | 44 | 42 | 46 |
| 4/29/2021 | A003 | 44 | 41 | 46 |
| 4/30/2021 | A003 | 47 | 43 | 48 |
| 5/1/2021 | A003 | 45 | 50 | 51 |
| 5/2/2021 | A003 | 47 | 44 | 49 |
| 5/3/2021 | A003 | 47 | 44 | 49 |
| 5/4/2021 | A003 | 46 | 42 | 48 |
| 5/5/2021 | A003 | 45 | 37 | 46 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 5/6/2021 | A003 | 49 | 45 | 51 |
| 5/7/2021 | A003 | 45 | 43 | 47 |
| 5/8/2021 | A003 | 48 | 44 | 50 |
| 5/9/2021 | A003 | 45 | 41 | 47 |
| 5/10/2021 | A003 | 43 | 40 | 45 |
| 5/11/2021 | A003 | 44 | 37 | 45 |
| 5/12/2021 | A003 | 47 | 38 | 47 |
| 5/13/2021 | A003 | 47 | 40 | 47 |
| 5/14/2021 | A003 | 46 | 36 | 47 |
| 5/15/2021 | A003 | 46 | 37 | 46 |
| 5/16/2021 | A003 | 46 | 39 | 46 |
| 5/17/2021 | A003 | 47 | 44 | 49 |
| 5/18/2021 | A003 | 54 | 43 | 55 |
| 5/19/2021 | A003 | 46 | 31 | 46 |
| 5/20/2021 | A003 | 0 | 0 | 0 |
| 5/21/2021 | A003 | 46 | 43 | 48 |
| 5/22/2021 | A003 | 45 | 42 | 46 |
| 5/23/2021 | A003 | 49 | 43 | 50 |
| 5/24/2021 | A003 | 48 | 44 | 49 |
| 5/25/2021 | A003 | 46 | 43 | 48 |
| 5/26/2021 | A003 | 49 | 42 | 50 |
| 5/27/2021 | A003 | 53 | 46 | 53 |
| 5/28/2021 | A003 | 46 | 41 | 47 |
| 5/29/2021 | A003 | 46 | 34 | 47 |
| 5/30/2021 | A003 | 46 | 32 | 46 |
| 5/31/2021 | A003 | 47 | 36 | 47 |
| 6/1/2021 | A003 | 48 | 39 | 48 |
| 6/2/2021 | A003 | 48 | 38 | 48 |
| 6/3/2021 | A003 | 48 | 45 | 50 |
| 6/4/2021 | A003 | 46 | 44 | 48 |
| 6/5/2021 | A003 | 52 | 47 | 53 |
| 6/6/2021 | A003 | 54 | 44 | 54 |

Note: Missing data from approximately 8:17 on May 19 to 6am on May 21, 2021

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 6/7/2021 | A003 | 49 | 45 | 51 |
| 6/8/2021 | A003 | 51 | 45 | 52 |
| 6/9/2021 | A003 | 47 | 43 | 49 |
| 6/10/2021 | A003 | 51 | 45 | 52 |
| 6/11/2021 | A003 | 54 | 43 | 54 |
| 6/12/2021 | A003 | 47 | 41 | 48 |
| 6/13/2021 | A003 | 55 | 42 | 55 |
| 6/14/2021 | A003 | 47 | 44 | 49 |
| 6/15/2021 | A003 | 48 | 44 | 49 |
| 6/16/2021 | A003 | 44 | 40 | 45 |
| 6/17/2021 | A003 | 46 | 40 | 47 |
| 6/18/2021 | A003 | 46 | 36 | 46 |
| 6/19/2021 | A003 | 45 | 38 | 46 |
| 6/20/2021 | A003 | 46 | 36 | 46 |
| 6/21/2021 | A003 | 44 | 34 | 45 |
| 6/22/2021 | A003 | 45 | 43 | 47 |
| 6/23/2021 | A003 | 45 | 43 | 47 |
| 6/24/2021 | A003 | 46 | 42 | 48 |
| 6/25/2021 | A003 | 45 | 37 | 45 |
| 6/26/2021 | A003 | 44 | 35 | 44 |
| 6/27/2021 | A003 | 44 | 32 | 44 |
| 6/28/2021 | A003 | 44 | 32 | 44 |
| 6/29/2021 | A003 | 46 | 42 | 47 |
| 6/30/2021 | A003 | 45 | 42 | 46 |
| 7/1/2021 | A003 | 44 | 44 | 47 |
| 7/2/2021 | A003 | 44 | 39 | 45 |
| 7/3/2021 | A003 | 45 | 41 | 47 |
| 7/4/2021 | A003 | 58 | 45 | 58 |
| 7/5/2021 | A003 | 54 | 46 | 55 |
| 7/6/2021 | A003 | 42 | 40 | 44 |
| 7/7/2021 | A003 | 45 | 43 | 47 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 7/8/2021 | A003 | 43 | 44 | 47 |
| 7/9/2021 | A003 | 43 | 41 | 45 |
| 7/10/2021 | A003 | 43 | 39 | 44 |
| 7/11/2021 | A003 | 42 | 40 | 44 |
| 7/12/2021 | A003 | 42 | 40 | 44 |
| 7/13/2021 | A003 | 43 | 42 | 45 |
| 7/14/2021 | A003 | 44 | 43 | 46 |
| 7/15/2021 | A003 | 44 | 43 | 46 |
| 7/16/2021 | A003 | 42 | 42 | 45 |
| 7/17/2021 | A003 | 43 | 41 | 45 |
| 7/18/2021 | A003 | 42 | 33 | 43 |
| 7/19/2021 | A003 | 43 | 42 | 46 |
| 7/20/2021 | A003 | 43 | 42 | 46 |
| 7/21/2021 | A003 | 42 | 41 | 44 |
| 7/22/2021 | A003 | 41 | 35 | 42 |
| 7/23/2021 | A003 | 54 | 35 | 54 |
| 7/24/2021 | A003 | 40 | 37 | 42 |
| 7/25/2021 | A003 | 41 | 36 | 42 |
| 7/26/2021 | A003 | 41 | 36 | 42 |
| 7/27/2021 | A003 | 37 | 0 | 37 |
| 7/28/2021 | A003 | 40 | 33 | 41 |
| 7/29/2021 | A003 | 43 | 36 | 44 |
| 7/30/2021 | A003 | 42 | 35 | 42 |
| 7/31/2021 | A003 | 43 | 35 | 43 |
| 8/1/2021 | A003 | 42 | 40 | 44 |
| 8/2/2021 | A003 | 42 | 39 | 44 |
| 8/3/2021 | A003 | 42 | 38 | 43 |
| 8/4/2021 | A003 | 41 | 38 | 43 |
| 8/5/2021 | A003 | 44 | 43 | 47 |
| 8/6/2021 | A003 | 43 | 42 | 45 |
| 8/7/2021 | A003 | 45 | 44 | 48 |
| 8/8/2021 | A003 | 43 | 43 | 46 |

Note: Missing data from approximately 11:42pm on July 26th to 2:32am on July 28, 2021

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 8/9/2021 | A003 | 41 | 40 | 44 |
| 8/10/2021 | A003 | 41 | 34 | 42 |
| 8/11/2021 | A003 | 41 | 35 | 42 |
| 8/12/2021 | A003 | 42 | 35 | 43 |
| 8/13/2021 | A003 | 42 | 40 | 44 |
| 8/14/2021 | A003 | 41 | 40 | 44 |
| 8/15/2021 | A003 | 42 | 41 | 44 |
| 8/16/2021 | A003 | 42 | 41 | 45 |
| 8/17/2021 | A003 | 42 | 43 | 46 |
| 8/18/2021 | A003 | 42 | 41 | 44 |
| 8/19/2021 | A003 | 44 | 44 | 47 |
| 8/20/2021 | A003 | 49 | 43 | 50 |
| 8/21/2021 | A003 | 45 | 43 | 47 |
| 8/22/2021 | A003 | 44 | 44 | 47 |
| 8/23/2021 | A003 | 43 | 40 | 45 |
| 8/24/2021 | A003 | 44 | 37 | 45 |
| 8/25/2021 | A003 | 47 | 44 | 49 |
| 8/26/2021 | A003 | 48 | 43 | 49 |
| 8/27/2021 | A003 | 42 | 40 | 44 |
| 8/28/2021 | A003 | 41 | 38 | 43 |
| 8/29/2021 | A003 | 42 | 34 | 43 |
| 8/30/2021 | A003 | 45 | 43 | 47 |
| 8/31/2021 | A003 | 45 | 43 | 47 |
| 9/1/2021 | A003 | 43 | 42 | 45 |
| 9/2/2021 | A003 | 43 | 40 | 45 |
| 9/3/2021 | A003 | 41 | 40 | 43 |
| 9/4/2021 | A003 | 38 | 27 | 39 |
| 9/5/2021 | A003 | 44 | 41 | 46 |
| 9/6/2021 | A003 | 42 | 38 | 44 |
| 9/7/2021 | A003 | 42 | 34 | 43 |
| 9/8/2021 | A003 | 44 | 44 | 47 |
| 9/9/2021 | A003 | 43 | 42 | 45 |

Note: Missing data from approximately 4:17am on Sept 4 to 5:23 on Sept 5, 2021

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|------------|------|---------------------|--------------------|-----------|
| 9/10/2021 | A003 | 42 | 41 | 45 |
| 9/11/2021 | A003 | 42 | 42 | 45 |
| 9/12/2021 | A003 | 43 | 38 | 44 |
| 9/13/2021 | A003 | 41 | 40 | 44 |
| 9/14/2021 | A003 | 43 | 41 | 45 |
| 9/15/2021 | A003 | 41 | 36 | 42 |
| 9/16/2021 | A003 | 49 | 38 | 49 |
| 9/17/2021 | A003 | 52 | 44 | 52 |
| 9/18/2021 | A003 | 56 | 44 | 56 |
| 9/19/2021 | A003 | 46 | 44 | 48 |
| 9/20/2021 | A003 | 43 | 41 | 45 |
| 9/21/2021 | A003 | 44 | 38 | 45 |
| 9/22/2021 | A003 | 43 | 42 | 46 |
| 9/23/2021 | A003 | 42 | 39 | 44 |
| 9/24/2021 | A003 | 43 | 33 | 44 |
| 9/25/2021 | A003 | 43 | 42 | 45 |
| 9/26/2021 | A003 | 53 | 43 | 54 |
| 9/27/2021 | A003 | 52 | 44 | 53 |
| 9/28/2021 | A003 | 52 | 44 | 52 |
| 9/29/2021 | A003 | 44 | 43 | 47 |
| 9/30/2021 | A003 | 52 | 44 | 52 |
| 10/1/2021 | A003 | 43 | 40 | 45 |
| 10/2/2021 | A003 | 44 | 41 | 46 |
| 10/3/2021 | A003 | 42 | 40 | 44 |
| 10/4/2021 | A003 | 42 | 42 | 45 |
| 10/5/2021 | A003 | 50 | 44 | 51 |
| 10/6/2021 | A003 | 44 | 44 | 47 |
| 10/7/2021 | A003 | 48 | 40 | 49 |
| 10/8/2021 | A003 | 41 | 42 | 45 |
| 10/9/2021 | A003 | 45 | 44 | 47 |
| 10/10/2021 | A003 | 49 | 44 | 50 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|------------|------|---------------------|--------------------|-----------|
| 10/11/2021 | A003 | 48 | 42 | 49 |
| 10/12/2021 | A003 | 44 | 44 | 47 |
| 10/13/2021 | A003 | 42 | 44 | 46 |
| 10/14/2021 | A003 | 44 | 43 | 47 |
| 10/15/2021 | A003 | 45 | 44 | 48 |
| 10/16/2021 | A003 | 47 | 44 | 49 |
| 10/17/2021 | A003 | 41 | 42 | 45 |
| 10/18/2021 | A003 | 42 | 43 | 45 |
| 10/19/2021 | A003 | 43 | 43 | 46 |
| 10/20/2021 | A003 | 51 | 44 | 52 |
| 10/21/2021 | A003 | 54 | 43 | 54 |
| 10/22/2021 | A003 | 49 | 44 | 50 |
| 10/23/2021 | A003 | 43 | 43 | 46 |
| 10/24/2021 | A003 | 55 | 44 | 56 |
| 10/25/2021 | A003 | 57 | 47 | 57 |
| 10/26/2021 | A003 | 51 | 45 | 52 |
| 10/27/2021 | A003 | 47 | 44 | 48 |
| 10/28/2021 | A003 | 57 | 41 | 57 |
| 10/29/2021 | A003 | 55 | 45 | 55 |
| 10/30/2021 | A003 | 45 | 37 | 45 |
| 10/31/2021 | A003 | 42 | 48 | 49 |
| 11/1/2021 | A003 | 48 | 44 | 49 |
| 11/2/2021 | A003 | 51 | 45 | 52 |
| 11/3/2021 | A003 | 53 | 42 | 53 |
| 11/4/2021 | A003 | 56 | 45 | 56 |
| 11/5/2021 | A003 | 50 | 45 | 51 |
| 11/6/2021 | A003 | 53 | 45 | 54 |
| 11/7/2021 | A003 | 53 | 45 | 54 |
| 11/8/2021 | A003 | 56 | 42 | 56 |
| 11/9/2021 | A003 | 53 | 45 | 54 |
| 11/10/2021 | A003 | 50 | 45 | 51 |
| 11/11/2021 | A003 | 55 | 44 | 55 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|------------|------|---------------------|--------------------|-----------|
| 11/12/2021 | A003 | 53 | 44 | 54 |
| 11/13/2021 | A003 | 54 | 41 | 54 |
| 11/14/2021 | A003 | 54 | 46 | 55 |
| 11/15/2021 | A003 | 58 | 45 | 58 |
| 11/16/2021 | A003 | 43 | 42 | 46 |
| 11/17/2021 | A003 | 42 | 36 | 43 |
| 11/18/2021 | A003 | 51 | 41 | 51 |
| 11/19/2021 | A003 | 49 | 42 | 50 |
| 11/20/2021 | A003 | 44 | 44 | 47 |
| 11/21/2021 | A003 | 43 | 38 | 44 |
| 11/22/2021 | A003 | 49 | 43 | 50 |
| 11/23/2021 | A003 | 49 | 43 | 50 |
| 11/24/2021 | A003 | 42 | 43 | 46 |
| 11/25/2021 | A003 | 50 | 42 | 50 |
| 11/26/2021 | A003 | 45 | 43 | 47 |
| 11/27/2021 | A003 | 51 | 45 | 52 |
| 11/28/2021 | A003 | 49 | 45 | 51 |
| 11/29/2021 | A003 | 43 | 43 | 46 |
| 11/30/2021 | A003 | 46 | 44 | 48 |
| 12/1/2021 | A003 | 50 | 45 | 51 |
| 12/2/2021 | A003 | 49 | 40 | 49 |
| 12/3/2021 | A003 | 43 | 35 | 43 |
| 12/4/2021 | A003 | 48 | 41 | 49 |
| 12/5/2021 | A003 | 42 | 42 | 45 |
| 12/6/2021 | A003 | 43 | 42 | 46 |
| 12/7/2021 | A003 | 43 | 43 | 46 |
| 12/8/2021 | A003 | 51 | 45 | 52 |
| 12/9/2021 | A003 | 45 | 43 | 47 |
| 12/10/2021 | A003 | 53 | 44 | 53 |
| 12/11/2021 | A003 | 56 | 45 | 56 |
| 12/12/2021 | A003 | 48 | 45 | 49 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|------------|------|---------------------|--------------------|-----------|
| 12/13/2021 | A003 | 50 | 44 | 51 |
| 12/14/2021 | A003 | 45 | 44 | 48 |
| 12/15/2021 | A003 | 46 | 44 | 48 |
| 12/16/2021 | A003 | 42 | 45 | 46 |
| 12/17/2021 | A003 | 44 | 44 | 47 |
| 12/18/2021 | A003 | 51 | 45 | 52 |
| 12/19/2021 | A003 | 42 | 40 | 44 |
| 12/20/2021 | A003 | 45 | 42 | 47 |
| 12/21/2021 | A003 | 45 | 44 | 48 |
| 12/22/2021 | A003 | 50 | 45 | 51 |
| 12/23/2021 | A003 | 47 | 45 | 49 |
| 12/24/2021 | A003 | 50 | 44 | 51 |
| 12/25/2021 | A003 | 46 | 42 | 47 |
| 12/26/2021 | A003 | 44 | 36 | 44 |
| 12/27/2021 | A003 | 43 | 37 | 44 |
| 12/28/2021 | A003 | 42 | 33 | 42 |
| 12/29/2021 | A003 | 44 | 38 | 45 |
| 12/30/2021 | A003 | 44 | 37 | 45 |
| 12/31/2021 | A003 | 41 | 31 | 41 |
| 1/1/2022 | A003 | 43 | 40 | 45 |
| 1/2/2022 | A003 | 53 | 43 | 53 |
| 1/3/2022 | A003 | 52 | 44 | 52 |
| 1/4/2022 | A003 | 47 | 44 | 48 |
| 1/5/2022 | A003 | 46 | 43 | 48 |
| 1/6/2022 | A003 | 55 | 44 | 55 |
| 1/7/2022 | A003 | 50 | 46 | 51 |
| 1/8/2022 | A003 | 43 | 44 | 47 |
| 1/9/2022 | A003 | 43 | 43 | 46 |
| 1/10/2022 | A003 | 47 | 44 | 49 |
| 1/11/2022 | A003 | 51 | 45 | 52 |
| 1/12/2022 | A003 | 44 | 42 | 46 |
| 1/13/2022 | A003 | 46 | 44 | 48 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 1/14/2022 | A003 | 42 | 44 | 46 |
| 1/15/2022 | A003 | 42 | 41 | 45 |
| 1/16/2022 | A003 | 43 | 37 | 44 |
| 1/17/2022 | A003 | 43 | 43 | 46 |
| 1/18/2022 | A003 | 43 | 43 | 46 |
| 1/19/2022 | A003 | 42 | 45 | 47 |
| 1/20/2022 | A003 | 46 | 45 | 49 |
| 1/21/2022 | A003 | 58 | 44 | 58 |
| 1/22/2022 | A003 | 54 | 40 | 54 |
| 1/23/2022 | A003 | 53 | 38 | 53 |
| 1/24/2022 | A003 | 52 | 39 | 53 |
| 1/25/2022 | A003 | 45 | 40 | 46 |
| 1/26/2022 | A003 | 44 | 38 | 45 |
| 1/27/2022 | A003 | 43 | 37 | 44 |
| 1/28/2022 | A003 | 50 | 40 | 51 |
| 1/29/2022 | A003 | 44 | 42 | 46 |
| 1/30/2022 | A003 | 47 | 45 | 49 |
| 1/31/2022 | A003 | 42 | 44 | 46 |
| 2/1/2022 | A003 | 43 | 44 | 47 |
| 2/2/2022 | A003 | 46 | 43 | 48 |
| 2/3/2022 | A003 | 43 | 44 | 46 |
| 2/4/2022 | A003 | 46 | 45 | 49 |
| 2/5/2022 | A003 | 42 | 43 | 46 |
| 2/6/2022 | A003 | 43 | 38 | 44 |
| 2/7/2022 | A003 | 47 | 44 | 49 |
| 2/8/2022 | A003 | 44 | 41 | 46 |
| 2/9/2022 | A003 | 43 | 45 | 47 |
| 2/10/2022 | A003 | 41 | 39 | 43 |
| 2/11/2022 | A003 | 43 | 39 | 44 |
| 2/12/2022 | A003 | 43 | 37 | 44 |
| 2/13/2022 | A003 | 42 | 42 | 45 |
| 2/14/2022 | A003 | 44 | 45 | 47 |

Appendix - Noise Metrics: Daily LEQ at Vashon A003

Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

| Date | NMT | LEQ Community Noise | LEQ Aircraft Noise | LEQ Total |
|-----------|------|---------------------|--------------------|-----------|
| 2/15/2022 | A003 | 42 | 44 | 46 |
| 2/16/2022 | A003 | 42 | 45 | 47 |
| 2/17/2022 | A003 | 42 | 44 | 46 |
| 2/18/2022 | A003 | 43 | 44 | 47 |
| 2/19/2022 | A003 | 47 | 46 | 49 |
| 2/20/2022 | A003 | 45 | 43 | 47 |
| 2/21/2022 | A003 | 44 | 40 | 46 |
| 2/22/2022 | A003 | 45 | 36 | 46 |
| 2/23/2022 | A003 | 43 | 41 | 45 |
| 2/24/2022 | A003 | 42 | 39 | 44 |
| 2/25/2022 | A003 | 42 | 41 | 44 |
| 2/26/2022 | A003 | 47 | 43 | 49 |
| 2/27/2022 | A003 | 51 | 44 | 52 |
| 2/28/2022 | A003 | 53 | 47 | 54 |
| 3/1/2022 | A003 | 44 | 44 | 47 |
| 3/2/2022 | A003 | 43 | 46 | 48 |
| 3/3/2022 | A003 | 46 | 46 | 49 |
| 3/4/2022 | A003 | 43 | 41 | 45 |

Appendix - Basic Noise Metrics

Sound Exposure Level (SEL)

The Sound Exposure Level (SEL) metric represents all the acoustical energy (sound pressure) of an individual noise event as if that event had occurred within a one-second time period. SEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by “squeezing” all the noise energy from an event into one second. This provides a uniform way to make comparisons among noise events of various durations.

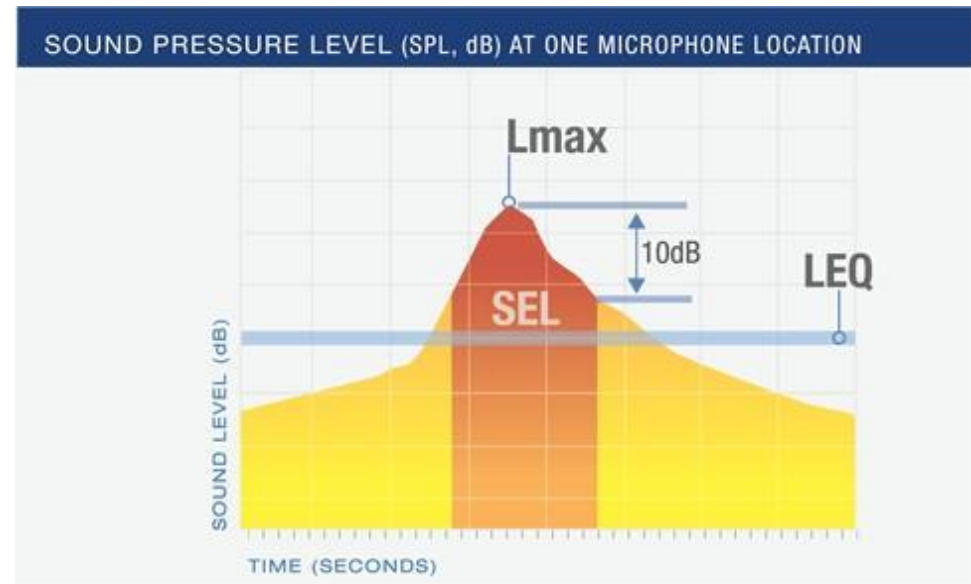
Equivalent Sound Level (LEQ)

The equivalent sound level (LEQ) measures the average acoustic energy over a period of time to take account of the cumulative effect of multiple noise events. This could, for example, provide a measure of the aggregate sound at a location that has aircraft overflights throughout the day. LEQ is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure.

Maximum Sound Level (Lmax)

This is the highest level displayed on a sound level during a noise event or time period. *Peak is not the same as Maximum Sound Level.*

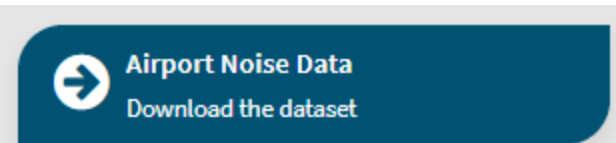
Source: FAA website: https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/



Appendix - SEL Reports Available Online

SEL

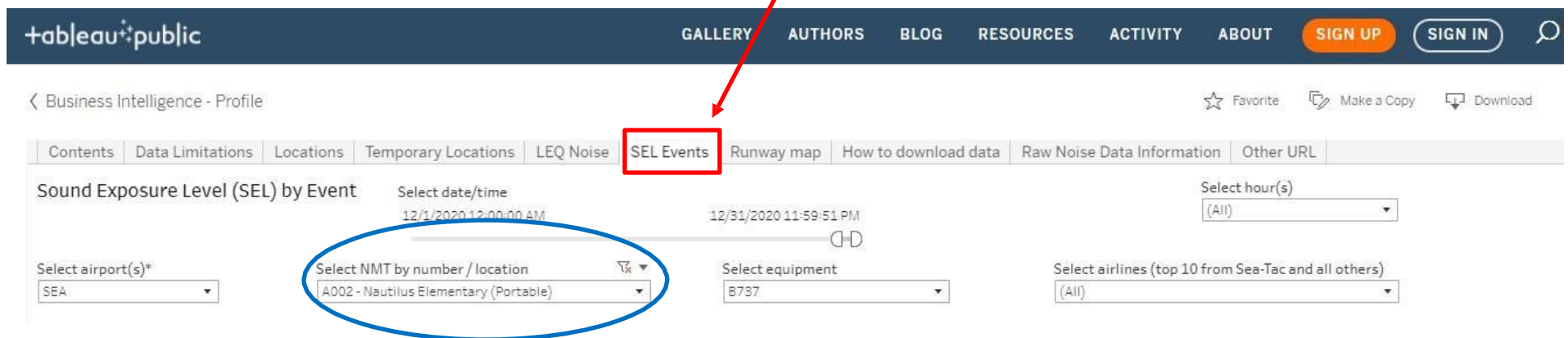
SEL—Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.



SEL data can be found on the Port of Seattle, SEA noise monitoring system data page:

<https://public.tableau.com/profile/portofseattlebi#!/vizhome/Sea-Tacnoisemonitoringsystemdata/Contents>

There you will find the SEL EVENTS tab



Data for the portable noise monitor B003—Seahurst Elementary is available on the drop down, this allows you to view and download the SEL noise events for the time the noise monitor was deployed, from July 16, 202, to October 1, 2021. No SEL data is available at this location from 00:17 on April 20 to 09:27 on April 23, 2021. You can also download and compare SEL events at other noise monitors from the drop-down menu.