



# AGENDA

## Burien Airport Committee

Tuesday, April 20, 2021 – 6:00 p.m.

Zoom Webinar

Public Access Link: <https://bit.ly/3fcykmg>

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**NOTE:** In accordance with [Governor Inslee's Healthy Washington - Roadmap to Recovery \(from January 8, 2021\)](#), the City is temporarily prohibited from holding in-person meetings. However, in an effort to encourage our community to continue to view and participate in public meetings, we request that you visit our website for more information regarding [Virtual Meeting Access](#). Please see the link to the [Zoom Webinar Meeting](#) in the header of the Agenda.

### 1. CALL TO ORDER

### 2. APPROVE MINUTES

- a) **Approve minutes for the February 16, 2021 Burien Airport Committee (BAC) meeting.** 3 - 5  
[February 16, 2021 BAC Draft Minutes](#)
- b) **Approve minutes for the March 16, 2021 Burien Airport Committee meeting.** 7 - 9  
[March 16, 2021 BAC Draft Minutes](#)

### 3. BUSINESS AGENDA

- a) **Welcome to new Burien Airport Committee members. (Councilmember Aragon) (5 min)**
- b) **Presentation on Community Health and Airport Operations Noise-Air Pollution (Kris Johnson, Public Health Seattle and King County) (30 min)** 11 - 26  
[Community Health and Airport Related Pollutants presentation 4-20-21](#)
- c) **Discussion on review and input to applicable Port Commission meeting items. (Councilmembers Aragon and Schilling) (10 min.)**
- d) **Update on StART (SEA Stakeholder Advisory Round Table), including Noise and Federal Policy Working Groups (City Manager Wilson) (5 Min)** 27 - 69  
[StART Noise Working Group Mtg 4-12-21](#)  
[SEA Portable Noise Monitoring Program Update 4-12-21](#)  
[Noise Abatement Departure Procedures \(NADP\) Summary April 2021](#)

[StART Federal Policy Working Group Agenda 4-5-21](#)

[FAA Noise Annoyance Survey Public Comment Letter - SEA and Cities 3-12-21](#)

[SEA Sound Insulation Letter 3-12-21](#)

- e) **Update on selection of remaining Burien Airport Committee member and StART community representatives (City Manager Wilson) (5 min)**
- f) **Update on Earth Day presentation with Congressional and state officials and local community advocates. (Councilmember Aragon) (5 min)**
- g) **Request for input on future agenda items. (Councilmember Aragon) (5 min)**
- h) **Other items?**

#### **4. PUBLIC COMMENT**

There are three ways to provide public comment: Email (preferred) Text, or Online. Public comment shall be limited to two minutes per speaker.

1. **Email (preferred):** You can provide a public comment in advance by sending an email to [AirportCommittee@burienwa.gov](mailto:AirportCommittee@burienwa.gov). The Staff Liaison will read your comment aloud during the meeting. Cutoff for emails will be at 4:45 p.m. on the day of the meeting.
2. **Text:** Send a text to [AirportCommittee@burienwa.gov](mailto:AirportCommittee@burienwa.gov) (simply enter the email address in the "To:" line of the text) and the Staff Liaison will read your comment aloud during the meeting. Cutoff for emails will be at 4:45 p.m. on the day of the meeting.
3. **Online (Zoom):** If you are unable to provide public comment via email or text, and would still like to provide public comment during the meeting, you will need to login to the Zoom meeting that begins at approximately 6:00 p.m.

#### **5. ADJOURNMENT**

The next Burien Airport Committee meeting is scheduled for Tuesday, May 18, 2021 at 6:00 p.m. via Zoom webinar.

#### **COMMITTEE MEMBERS**

**Councilmember Sofia Aragon (Chair); Mayor Jimmy Matta;  
Councilmember Kevin Schilling**

**Holly Mouser-Guerra; Savannah Sly; Javier Tordable;  
Stephen Wydick; Jeff Harbaugh; Vacant**

**Ex-Officio Member: Brian J. Wilson, City Manager  
Staff Liaison: Lori Fleming, Phone: 206-248-5518, e-mail: [Lorif@burienwa.gov](mailto:Lorif@burienwa.gov)**



**MINUTES - Draft**  
**Burien Airport Committee**  
Tuesday, February 16, 2021  
Zoom Webinar

**1. CALL TO ORDER**

The meeting was called to order at 6:04 p.m. by Councilmember Aragon. Members and guests introduced themselves and provided comments on Burien Airport Committee activities, such as reviewing the relationship with the Port of Seattle, concerns of air quality, noise, health impacts, and environmental justice.

Members Present:

Councilmember Sofia Aragon, Chair  
Mayor Jimmy Matta  
Councilmember Kevin Schilling  
Jeff Harbaugh  
Javier Tordable  
Brian Wilson, Ex-Officio Member  
Lori Fleming, Staff Liaison

Guests Present:

Dave Kaplan  
JC Harris

**2. APPROVE MINUTES**

The minutes for the December 15, 2020 Burien Airport Committee (BAC) meeting were approved.

**3. BUSINESS AGENDA**

**a) Review purpose of the Burien Airport Committee.**

Burien Resolution No. 405 was reviewed, which lists the purpose and composition of the Burien Airport Committee. I

**b) Discuss Burien Airport Committee Chair selection for 2021.**

The Burien Airport Committee is the only Council Committee of the city and the Chair must be one of the three Council members. Councilmember Sofia Aragon expressed interest and was selected to be the Chair for 2021.

Burien Airport Committee  
February 16, 2021

**d) Update on SeaTac Airport Stakeholder Advisory Round Table (StART).**

City Manager Wilson provided an update on the StART Operating Procedures, which includes several changes to address cities concerns. Some of the changes include establishing a reporting relationship with the Highline Forum in order to include elected officials; formation of a Steering Committee to review meeting agendas; and a new facilitator (Brian Scott).

There are two StART working groups: 1.) Noise Work Group and 2.) Federal Policy Work Group. Some accomplishments of these work groups include having EVA Air change to a quieter airplane for a middle of the night flight, and reducing the use of the third runway during the night. In January 2021, only two landings were made on the third runway during late night.

An update was provided on the 2021 StART Priorities, which includes community engagement, aviation noise, air quality/health impacts, future of aviation mobility, and federal policy. It was noted that air cargo flights have increased dramatically, and they are the main air carriers that exceeded late night operation thresholds in fourth quarter 2020.

The Port of Seattle has drafted a letter to the Federal Aviation Administration (FAA) to respond to comments to a Neighborhood Environmental Survey (NES). The letter provides input into the next steps that should be undertaken based on the survey's results. The six StART cities may sign onto the letter too.

ACTION: City Manager Wilson will provide a copy of the draft letter to the Burien Airport Committee.

**e) Update on federal airport related legislation.**

Federal airport policy updates were provided including ASCENT (Aviation Sustainability Center) efforts on sustainable aviation fuels and cleaner, quieter airplanes.

**c) Updates on Councilmember activities regarding the airport.**

Councilmember Aragon mentioned airport concerns by Beacon Hill, and provided an update on a King County International Airport Master Plan presentation which included environmental and health injustice, and climate concerns. Data showed higher numbers of asthma, pre-term birth rates, cardiovascular, and other health issues around the airport. It was mentioned that looking at strategies used by other airports is helpful and may be useful for the Burien Climate Action Plan.

ACTION: Chair Aragon will provide a copy of the presentation to the Committee.

A suggested future educational presentation for the Committee was on sustainable aviation fuels.

Burien Airport Committee  
February 16, 2021

**4. PUBLIC COMMENT**

JC Harris – He is writing a book on the history of the airport. He recommends that the Committee focus on protecting the community.

**f) Discuss recruitment of Burien Airport Committee members and selection of StART representatives.**

The recruitment for Burien Airport Committee members is underway and already have interested applicants. The selection process for the two StART community representatives is also underway and Committee members Javier Tordable and Jeff Harbaugh indicated they would be interested.

**g) Discuss changing Burien Airport Committee monthly meeting date.**

No change to the monthly meeting date of the third Tuesday of each month at 6:00 p.m.

**h) Other items?**

None

**5. ADJOURNMENT**

Meeting was adjourned at 7:06 p.m.

The next Burien Airport Committee meeting is scheduled for Tuesday, March 16, 2021 at 6:00 p.m. via a Zoom webinar.





**MINUTES - Draft**  
**Burien Airport Committee Study**  
**Session**  
Tuesday, March 16, 2021  
Zoom Webinar

**1. CALL TO ORDER**

The meeting was called to order at 6:02 p.m. by Councilmember Aragon. Members and guests introduced themselves.

Members Present:

Councilmember Sofia Aragon, Chair  
Councilmember Kevin Schilling  
Brian Wilson, City Manager, Ex-Officio Member  
Lori Fleming, Staff Liaison

Members Absent:

Mayor Jimmy Matta

Guests Present:

Jeff Harbaugh  
Amanda Wyma-Bradley, Legislative Assistant, Congressman Smith's Office  
Alex Stone, Field Representative, Congressman Smith's Office  
Dave Kaplan, Port of Seattle  
Bruce Dennis

**2. APPROVE MINUTES**

Minutes from the February 16, 2021 Burien Airport Committee meeting to be approved at the next regular meeting.

**3. BUSINESS AGENDA**

**a) Update from Congressman Adam Smith's Office on Smith's letter to FAA regarding Airplane Noise Mitigation Program for homes.**

Amanda Wyma-Bradley and Alex Stone from Congressman Adam Smith's Office provided an update on the letter sent to the Federal Aviation Administration (FAA) requesting airplane noise mitigation funds be allowed for homes that were provided mitigation prior to 1993. Their goal is to have the FAA respond with a plan that includes implementation, participation, and reimbursement guidance for such a mitigation program.

Factors involved include: FAA is not supposed to create a program where funding is provided to a home twice; some homes are no longer in the 65 DNL contour; concern

Burien Airport Committee  
March 16, 2021

about the 65 DNL (Day-Night Average Sound Level) as an adequate noise annoyance metric; ventilation issues could be due to the homeowner; the Airport Improvement Program (AIP) is underfunded; competition with other mitigation programs; and tracking old paperwork from almost 30 years ago.

It was suggested to bring this issue to the SeaTac Stakeholder Advisory RoundTable (StART).

**b) Update on selection of Burien Airport Committee members and StART Community Representatives (City Manager Wilson)**

There are six community representative openings for the Burien Airport Committee, with only five applicants. Those five are scheduled for Council interviews on March 22, 2021. The application process will be reopened to fill the last spot.

The application process for the StART community representatives has not yet been opened.

**c) Update on StART meeting held on February 24, 2021. (City Manager Wilson)**

City Manager Wilson attended the February 24<sup>th</sup> StART meeting and provided the following highlights:

- Revised StART Operating Procedures were reviewed.
- New facilitator for the meetings.
- More formal relationship with the Highline Forum.
- Meeting is not officially audio or video recorded.
- Steering committee develops the agenda.
- FAA Neighborhood Environmental Survey report on noise annoyance data collected from 20 airports around the country, one being Boeing Field.
- Federal Policy and Aviation Noise Working Groups.

**d) Discuss future meeting with El Centro de la Raza and Beacon Hill on King County Climate Change. (Chair Aragon)**

This item was moved to the next meeting.

**e) Future discussion on Preparation for the SAMP process.**

The Sustainable Airport Master Plan (SAMP) is being prepared by the Port of Seattle and should be done by mid-year 2021. There will likely be a 60-90 day response time and the four cities of Burien, Des Moines, Normandy Park, and SeaTac have jointly hired a consultant to review the SAMP. The City also has its own consultant.

**f) Other items?**

No other items.



Burien Airport Committee  
March 16, 2021

**4. PUBLIC COMMENT**

No public comment.

**5. ADJOURNMENT**

Meeting was adjourned at 7:04 p.m.

The next Burien Airport Committee meeting is scheduled for Tuesday, April 20, 2021 at 6:00 p.m. via Zoom webinar.





# Community Health and Airport Operations-Related Noise and Air Pollution

Kris Johnson, PhD  
Public Health Seattle and King County

April 20, 2021



# Understanding the community health effects of pollution related to Seattle-Tacoma International Airport (SeaTac) operations

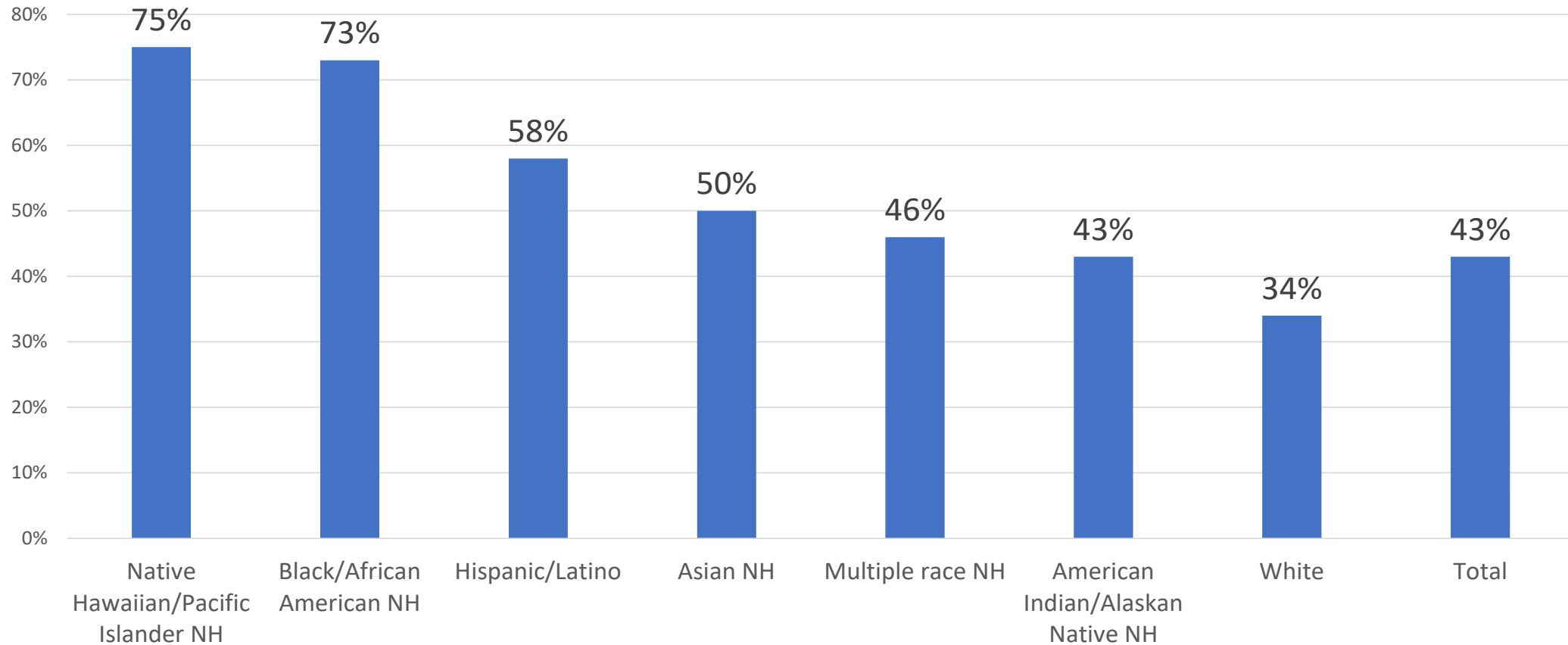
- a) Airport community health profiles
- b) Strength of evidence to date
- c) UW School of Public Health Study on UFP
- d) Recommendations to address health issues





# The airport communities are home to a majority of King County's people of color

Percent of King County Population by Race/Ethnicity, 2014-2018 Average





## WHAT IS THE HEALTH OF AIRPORT COMMUNITIES COMPARED TO THE REST OF KING COUNTY?

Compared to the rest of the county, people in airport communities face disparities in

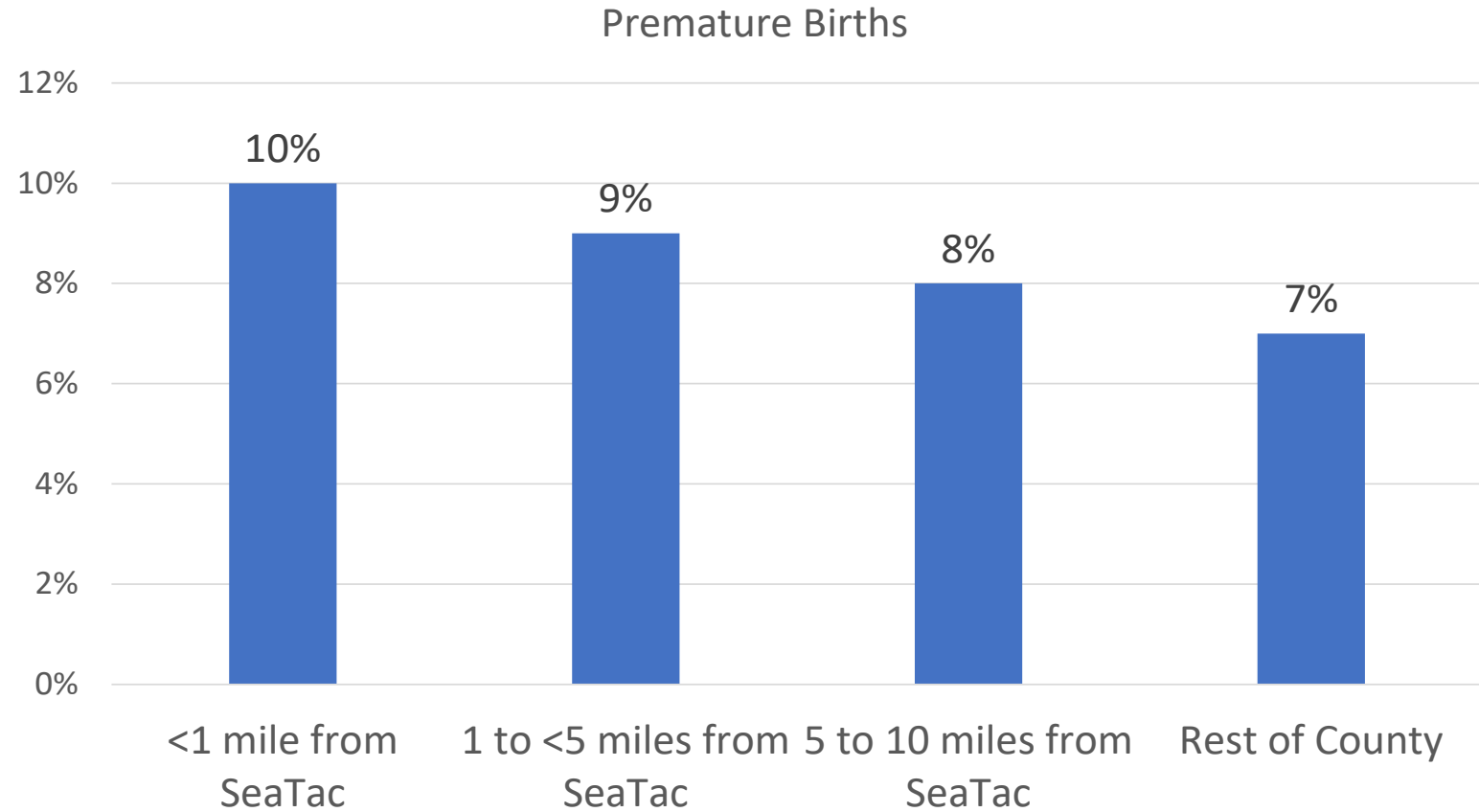
- Health
- Health risk factors
- Resources

For some measures, health outcomes worsened with proximity to airport

- Hospitalization rates for heart disease
- Rate of death from all causes
- Rate of death from heart disease
- Life expectancy (2-5 years lower for airport communities)

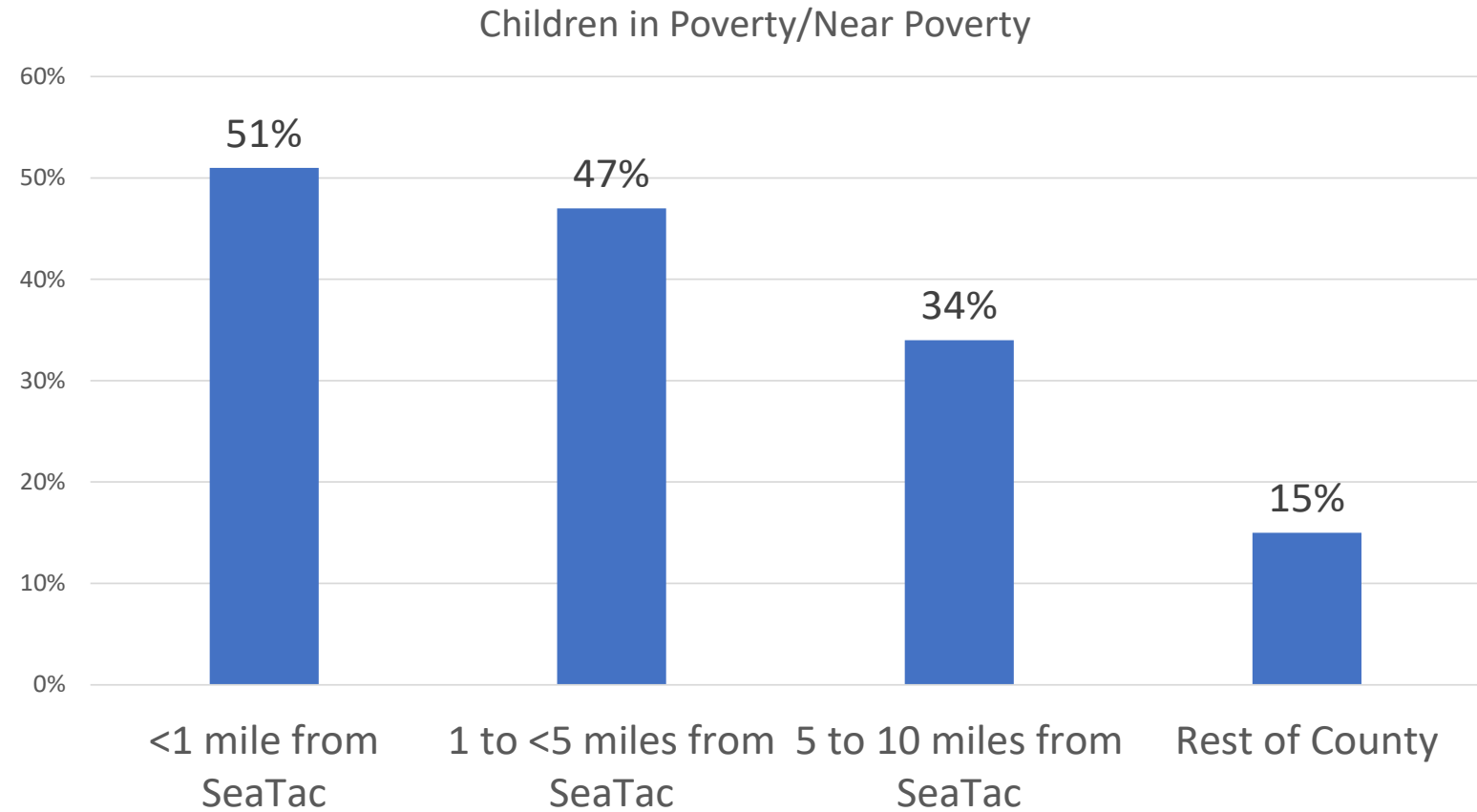


Mothers in airport communities were 43% more likely to have a premature birth than the rest of King County





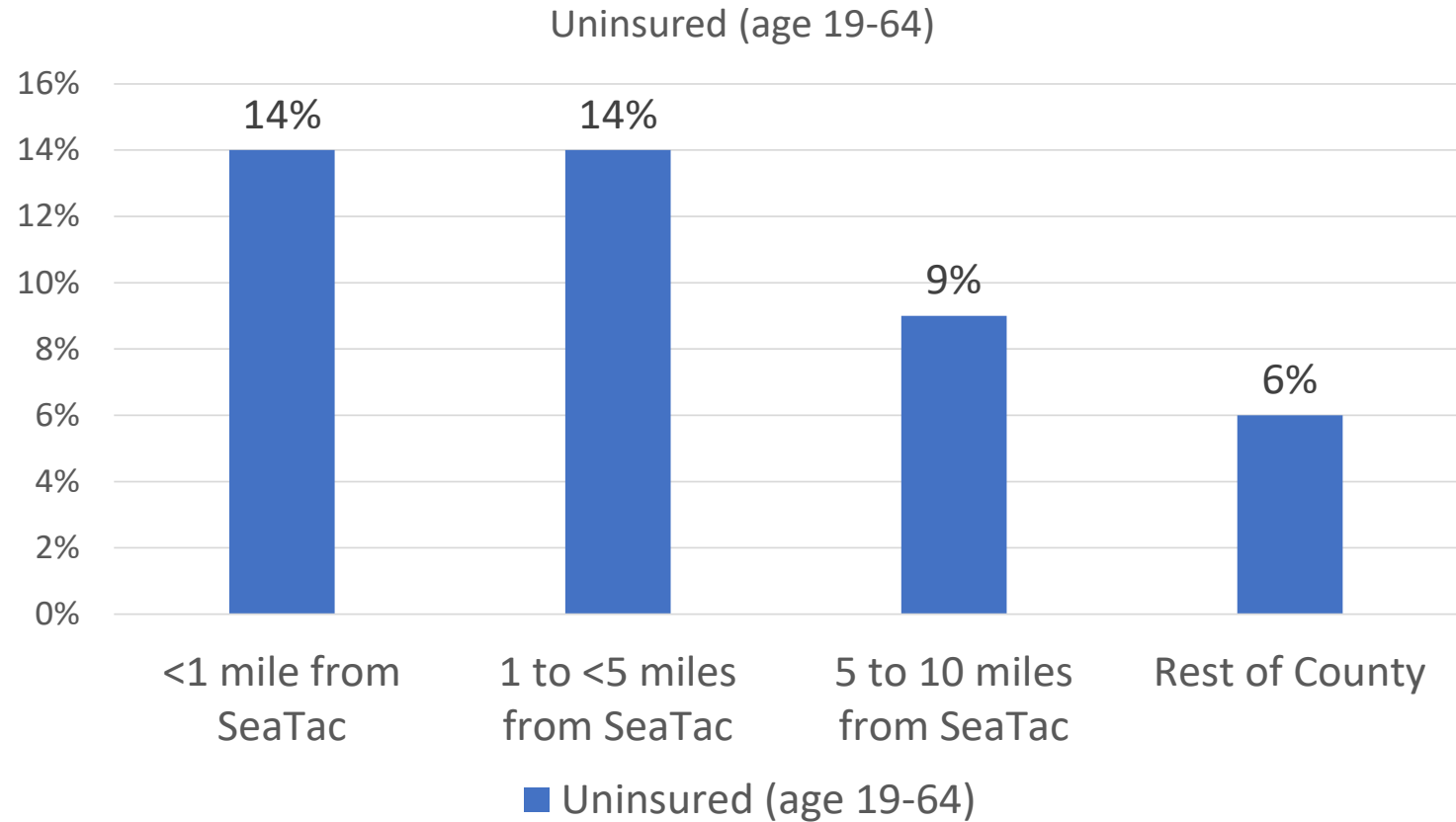
# Airport communities had twice as many children living in poverty or near poverty than the rest of King County





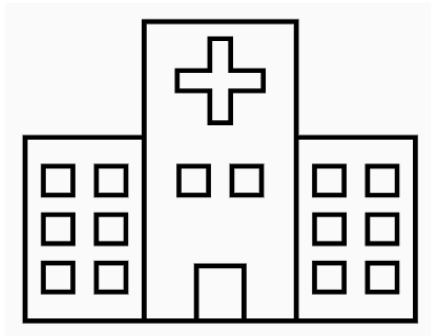
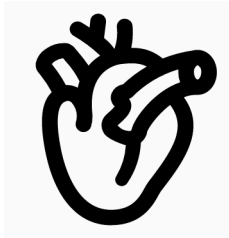


# Adults were more likely to be uninsured in airport communities than in the rest of King County

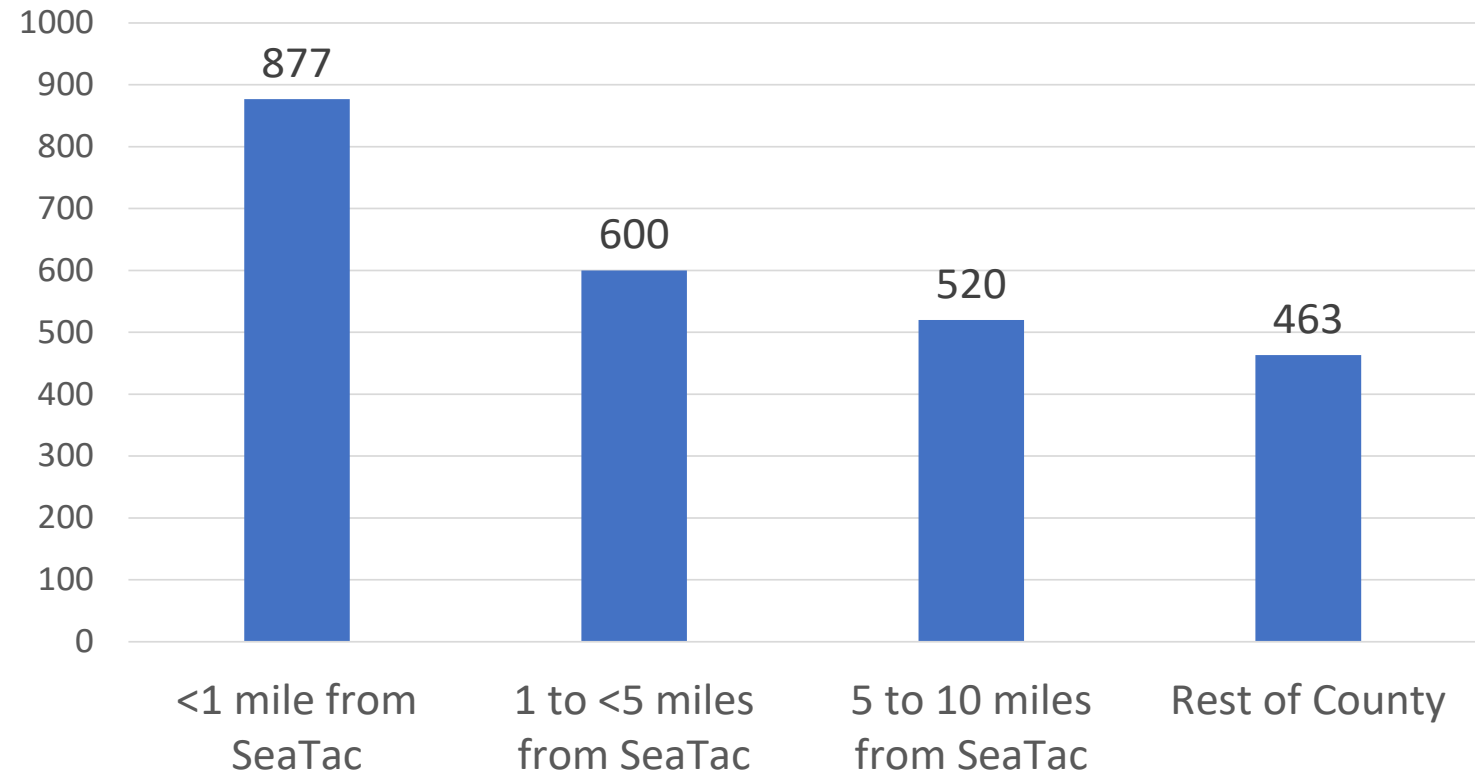




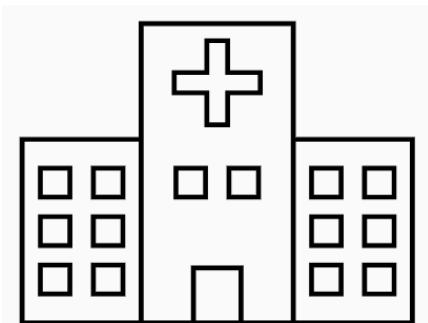
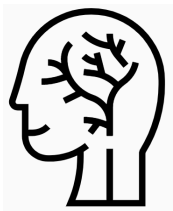
# Airport communities had a higher rate of hospitalization from heart disease than the rest of King County



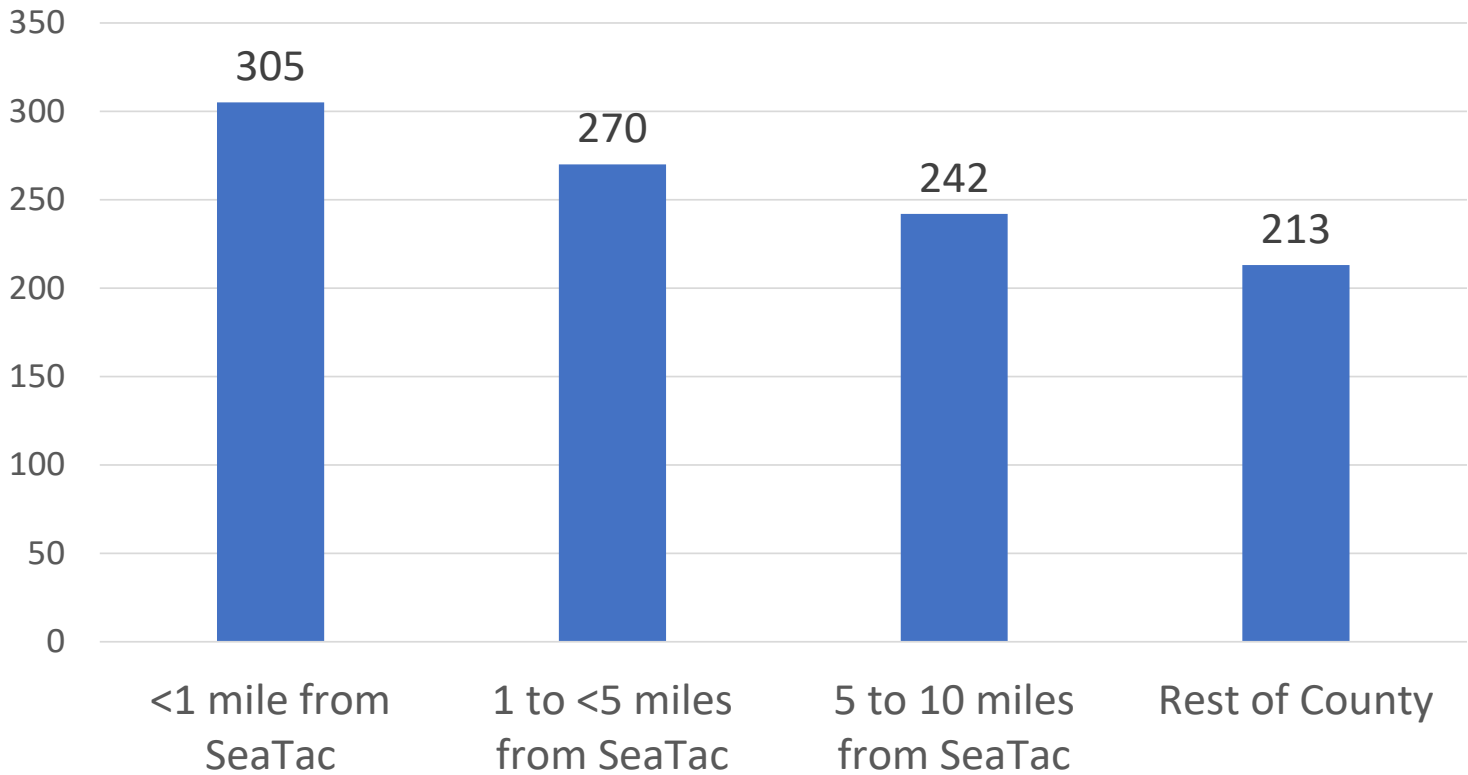
Heart Disease Hospitalization Rate per 100,000



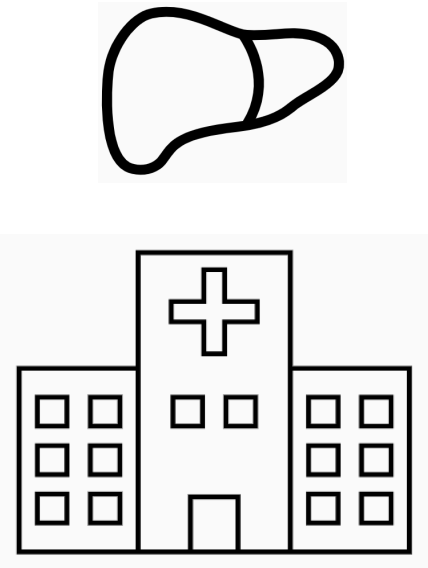
# Airport communities had a higher rate of hospitalization from stroke than the rest of King County



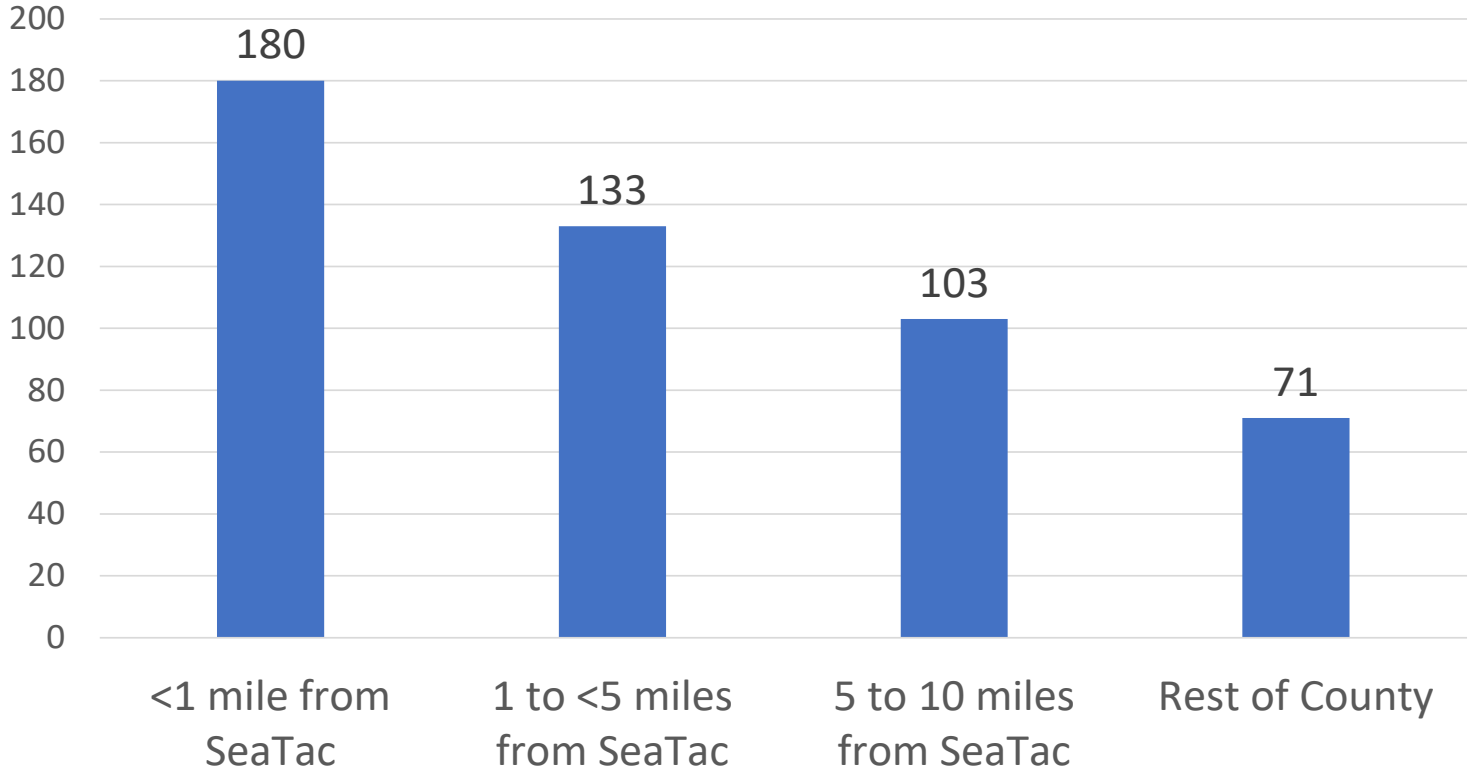
Cerebrovascular Disease (Stroke) Hospitalization Rate per 100,000



# Airport communities had a higher rate of hospitalization from diabetes than the rest of King County

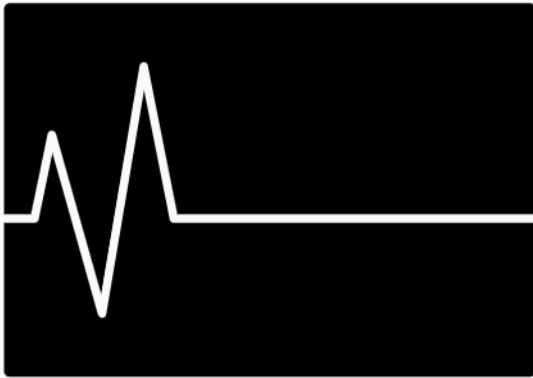


Diabetes Hospitalization Rate per 100,000

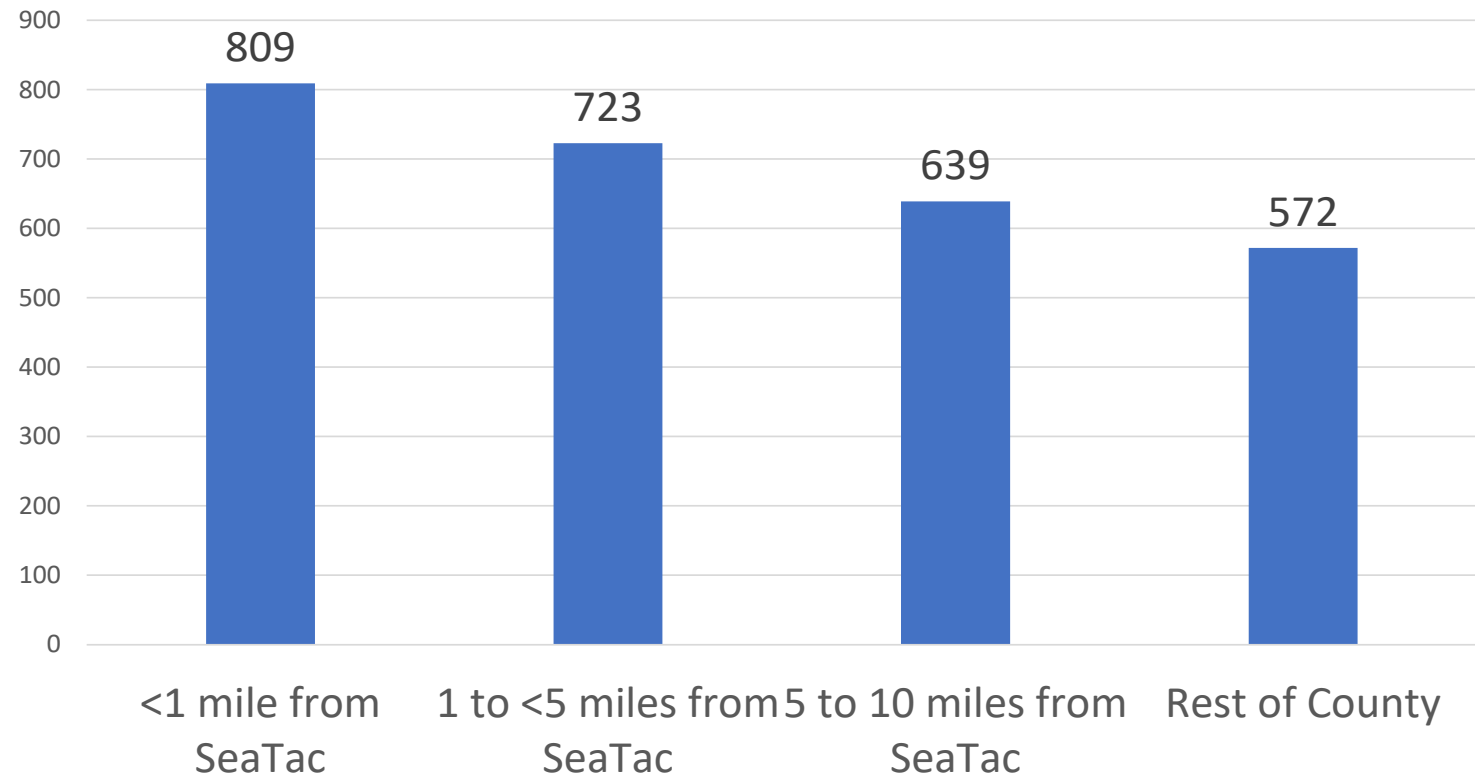




# Airport communities had a higher rate of death than the rest of King County



Death Rate per 100,000 All Causes





## WHAT POLLUTANTS RESULT FROM AIRPORT OPERATIONS AND WHAT ARE THE LIKELY HEALTH IMPACTS?

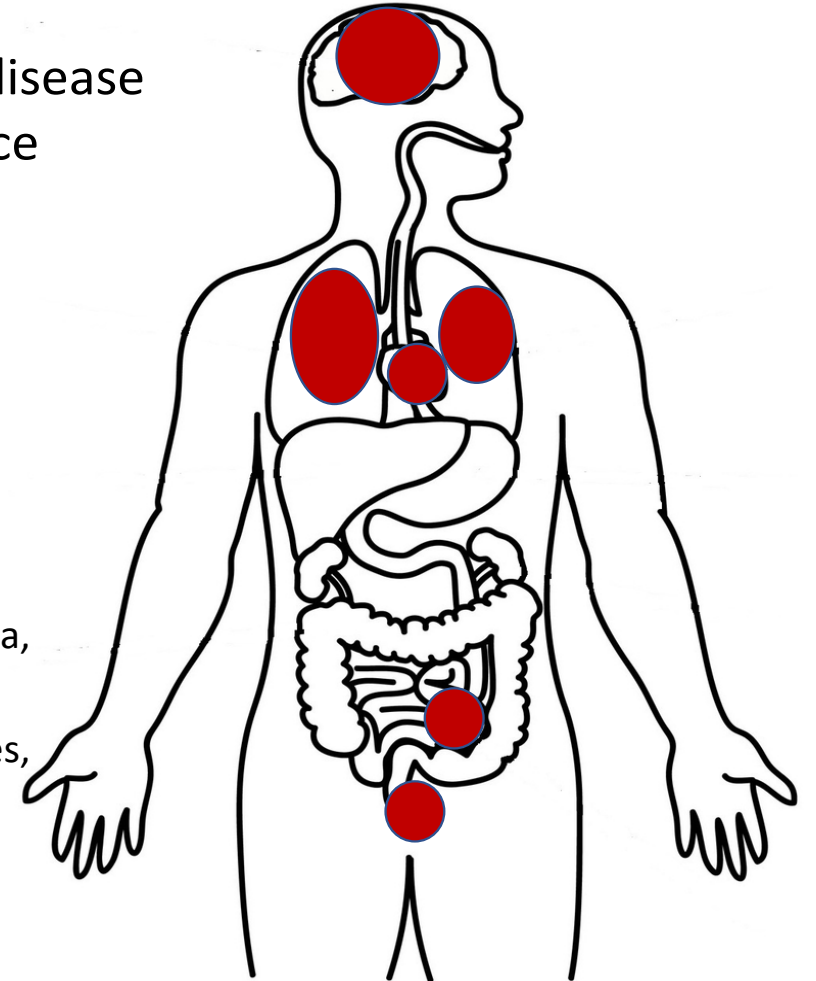
### Airport-related Pollutants and Their Likely Health Effects

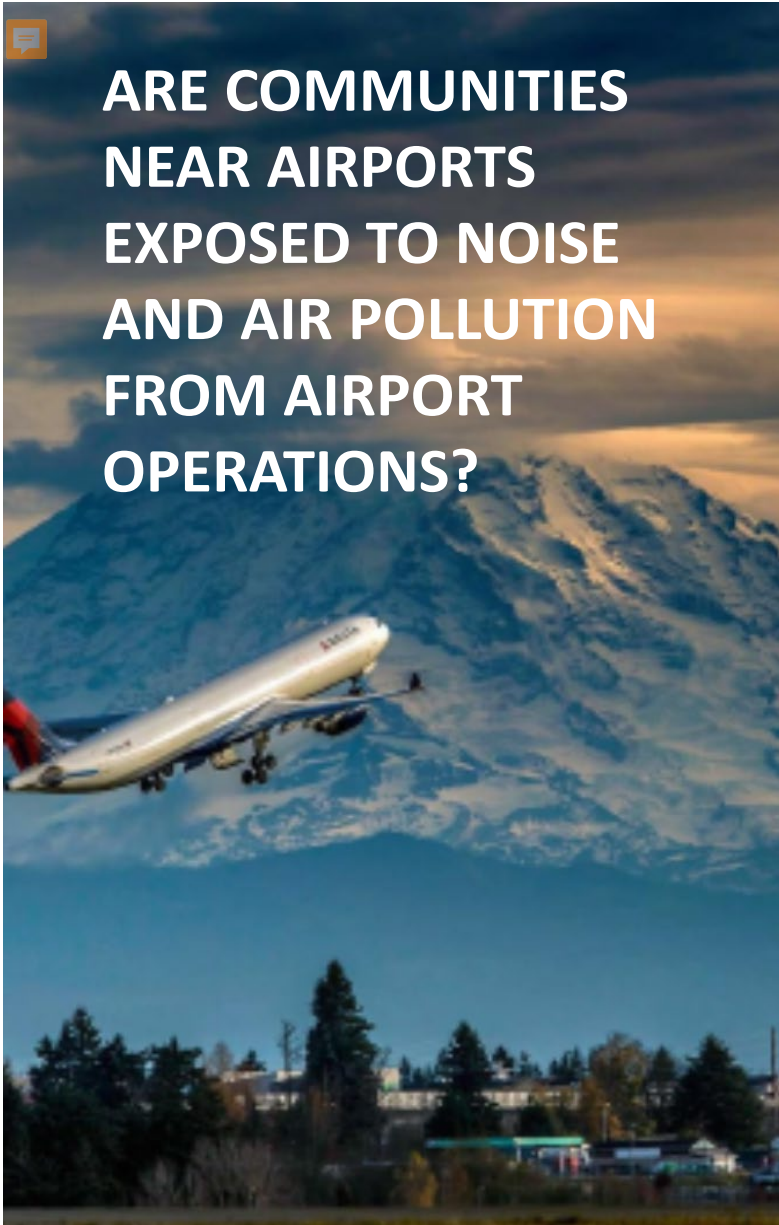
#### Noise pollution

- Hypertension & Heart disease
- Poor school performance among children

#### Air pollution

- Respiratory problems (asthma, respiratory diseases)
- Cardiovascular issues (Hypertension, heart disease/attack, stroke)
- Nervous system (dementia, oxidative stress)
- Metabolic issues (Diabetes, metabolic syndrome)
- Reproductive health concerns





# ARE COMMUNITIES NEAR AIRPORTS EXPOSED TO NOISE AND AIR POLLUTION FROM AIRPORT OPERATIONS?

## We need to know more about exposure

- Several studies in urban areas identified noise and air pollution related to airports and adverse health effects
- 2018 Beacon Hill study showed that >50% of 24-hour day-night avg noise levels over 65 dB (WHO recommends 45 dB).
- 2019 Puget Sound Clean Air Agency report shows particulate matter levels over EPA-recommended levels 22 days in winter

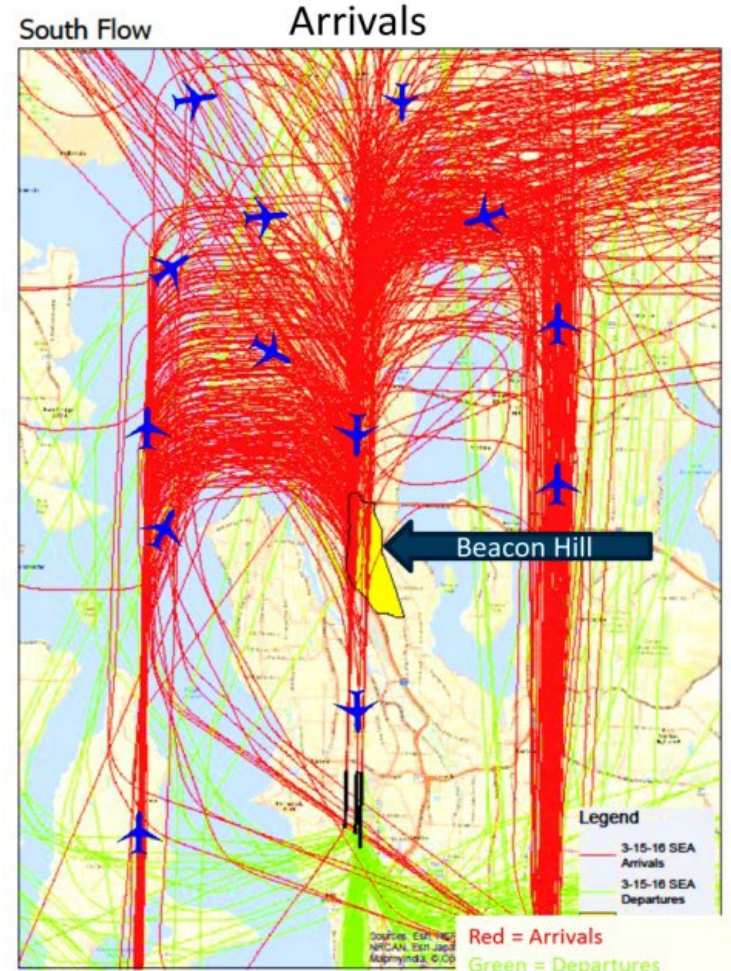


Figure 3. Arrival flight paths for Seattle-Tacoma International Airport. Beacon Hill neighborhood in yellow. Airport runways shown as two black lines center-bottom of image.

# Ultrafine Particles Measurement & Exposure Assessment MOV-UP Study Objectives

- Study the implications of air traffic at Sea-Tac
- Assess the concentrations of ultrafine particulate matter (UFP) in areas surrounding and directly impacted by air traffic
- Distinguish between and compare concentrations of aircraft-related and other sources of UFP
- Coordinate with local governments, and share results and solicit feedback from community

MOV-UP Team: Elena Austin, Jianbang Xiang, Timothy Gould, Sukyong Yun, Jeff Shirai, David Hardie, Michael Yost, Timothy V. Larson, Edmund Seto **University of Washington, Seattle**

Note: slide created by Dr. Elena Austin and team.



# MOV-UP Study Findings



## Summary

Communities underneath and downwind of jets landing at Seattle-Tacoma International Airport are exposed to a type of ultrafine particle pollution that is distinctly associated with aircraft, according to a 2019 University of Washington (UW) study that is the first to identify the unique signature of aircraft emissions in Washington.

The finding comes from the two-year Mobile Observations of Ultrafine Particles (MOV-UP) study funded by the Washington State Legislature and led by the UW Department of Environmental & Occupational Health Sciences and the Department of Civil and Environmental Engineering.

The MOV-UP study examined the air-quality impacts of aircraft traffic on communities located

The discovery creates opportunities to investigate the health effects of aircraft-related pollution, how different neighborhoods are impacted by it and specific interventions to reduce people's exposure to these pollutants.

Previous studies have linked exposure to ultrafine pollution particles to breast cancer, heart disease, prostate cancer and a variety of lung conditions.

This policy brief describes some of the remaining knowledge gaps about aircraft-related pollution.

It also proposes next steps that state legislators can take to better understand the health impacts of ultrafine particle pollution and to protect the health of people who live and work in the vicinity of Sea-Tac Airport.

- Ultrafine particles (UFP) are emitted from both traffic and aircraft sources.
- Total concentration of UFP (10 - 1000 nm) did not distinguish roadway and aircraft features.
- The spatial impact of traffic and aircraft UFP emissions can be separated using a combination of mobile monitoring and standard statistical methods.
- There are key differences in the particle size distribution and the black carbon concentration for roadway and aircraft features.
- Fixed site monitoring confirms that aircraft landing activity is associated with a large fraction of particles between 10-20 nm.

## MOV-UP Project Website

<https://deohs.washington.edu/mov-up>

Note: slide created by Dr. Elena Austin and team.



## THE HEALTH OF AIRPORT COMMUNITIES

## RECOMMENDATIONS

- Address the health disparities of airport communities
- Mitigate the health impacts of airport operations
- Continue development and implementation of strategies to mitigate airport-related air and noise pollution
- Implement new technologies to improve measurement of exposures indoors and outdoors
- Expand the systematic monitoring of pollutants (both outdoor and indoor exposures) in residences, schools, childcare settings, and long-term care facilities
- Support research to address gaps in knowledge



# StART Noise Working Group Meeting

April 12, 2021



# Late Night Noise Limitation Program First Quarter Update

# Air Carriers That Exceeded Thresholds Q1 2021

12:00am to 5:00am

\*PAX = passenger  
CRG = cargo

Airline Name	Type*	Total Late-Night Operations	Total Number of Exceedances	Percent of Exceeding Operations
FedEx Express	CRG	105	71	68%
Air Transport Intl' (Prime Air)	CRG	420	40	10%
China Airlines Cargo	CRG	47	34	72%
China Cargo Airlines	CRG	70	34	42%
EVA Air	PAX	73	23	32%
Cargolux	CRG	27	22	81%

# Air Carriers That Exceeded Thresholds Q1 2021 continued

\*PAX = passenger  
CRG = cargo

12:00am to 5:00am

Airline Name	Type*	Total Late-Night Operations	Total Number of Exceedances	Percent of Exceeding Operations
Kalitta Air	CRG	13	9	69%
Korean Air Cargo	CRG	23	8	35%
Asiana Cargo	CRG	6	5	83%
Atlas Air	CRG	4	4	100%
ABX Air	CRG	14	2	14%
Boliviana	PAX	1	1	100%
Hawaiian Air	PAX	18	1	6%
Delta Air Lines	PAX	123	1	1%

## Air Carriers That Operated Late Night With No Exceedances in Q1 2021

12:00am to 5:00am

Airline	Number of Operations
Alaska Airlines	267
American Airlines	179
Horizon Air	39
Southwest Airlines	15
JetBlue	15
SkyWest Airlines	12
Sun Country Airlines	8
Omni Air	4
Frontier Airlines	3
Sun Country Airlines	1
National Air Cargo	1

# Quarterly Comparison

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021
Total Late-Night Operations	2545 (16% Cargo)	1062 (61% Cargo)	1586 (43% Cargo)	1763 (42% Cargo)	1482 (49% Cargo)
Total Late Night Ops Exceeding Thresholds	213 (56% Cargo)	191 (65% Cargo)	235 (84% Cargo)	258 (81% Cargo)	255 (90% Cargo)
Percent of Total Ops Exceeding	8%	18%	15%	15%	17%



## Late Night Operations Notes

- In September – average of 17 operations per late night (9 passenger / 8 cargo)
- In January – average of 17 operations per late night (9 passenger / 8 cargo)
- **In March – average of 15 operations per late night (8 passenger / 7 cargo)**
- China Cargo Airlines (777's to Shanghai) has not operated at SEA since 3/7
- EVA with no noise exceedances since 2/27 – now operating Boeing 787
- Air Transport Intl' busiest operator – 10% of ops exceeded thresholds

# Late Night Runway Use Update



# Runway Use Agreement with FAA

Voluntarily Reduces Usage of Third Runway (16R/34L) from 12:00am to 5:00am

- September 2019 to present: an average of 1.1 third runway landings per late night
- 2021 to date: 34\* total landings (average of 0.3 landings per late night)
  - \*9 of those landings occurred on 4/6 (east runway closed for maintenance)
- Third runway is often not utilized until almost 6:00am

# Thank You!



**SEA**

Seattle-Tacoma  
International  
Airport

Operated by the  
Port of Seattle

FlySEA.org





# SEA Portable Monitoring Program Update

StART Meeting  
April 12, 2021

## Presentation Overview

- Program procedures and selection criteria
- Current status and deployments
- Discussion of next steps

## Portable Noise Monitors for Temporary Deployment



- 2 monitors acquired in early 2020
- Same Larson Davis 831 monitors as the permanent system
- Noise data provided in the same standard metrics (SEL and LEQ) as permanent sites
- Resulting data is shown along side the permanent monitor data on the Port's webpage

## SEA's Temporary Noise Monitoring Program Procedures

- Deployment period of 2 months.
- 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)



The Sound Exposure Level (SEL) metric represents all the acoustic energy (a.k.a. sound pressure) of an individual noise event as if that event had occurred within a one-second time period

## Noise Monitoring Data

The purpose of the SEA's noise monitoring system is to identify aircraft overflights and correlate probable noise events. Noise data provided includes:

### 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 Noise Data / non-correlated

- Available through public disclosure

# <https://www.portseattle.org/page/aircraft-noise-monitoring-system>

The screenshot shows a web browser displaying the 'Aircraft Noise Monitoring System' page on the Port of Seattle website. The browser's address bar shows the URL 'portseattle.org/page/aircraft-noise-monitoring-system'. The page features a dark blue navigation bar with links for HOME, SEA AIRPORT, MARITIME, BUSINESS, COMMUNITY, and ABOUT. Below the navigation bar, the breadcrumb trail reads 'Home / Environment / Aircraft Noise Monitoring System'. The main heading is 'Aircraft Noise Monitoring System'. A yellow banner contains an update: 'Update on the Port's COVID-19 response Learn More.'. Below the banner are social media icons for Facebook, Twitter, LinkedIn, Email, and Print. The main text describes the 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.' On the right side, there is a vertical list of three buttons: 'Airport Noise Data' (Download the dataset), 'Aircraft Noise Comment Form', and 'Aircraft Noise Comment App' (Download the app to your mobile phone). A large red arrow points from the top of the page down to the 'Airport Noise Data' button.

# Site Selection Criteria

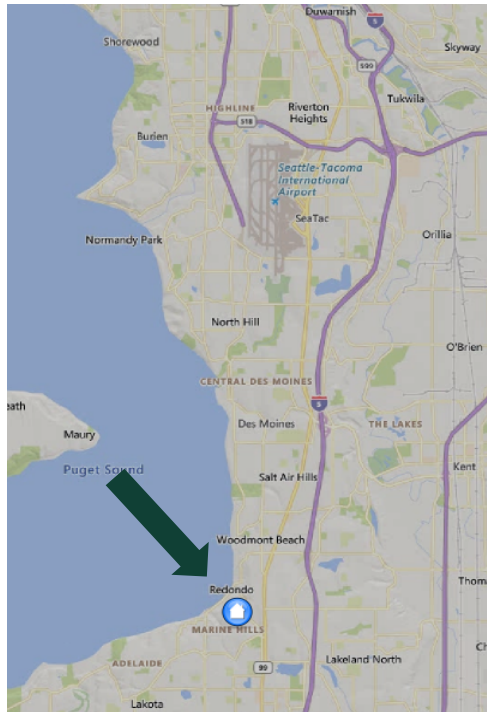
- Distance from permanent monitoring sites – preferably not within 2 miles
- Proximity to established flight paths and airfield noise
- Availability of electric power
- Site accessibility for Port and vendor staff
- Site security
- Acoustically feasible
- Neighborhood equity and diversity is considered

# Noise Monitor Data Utilization

Temporary and permanent monitor data have the same usage limitations

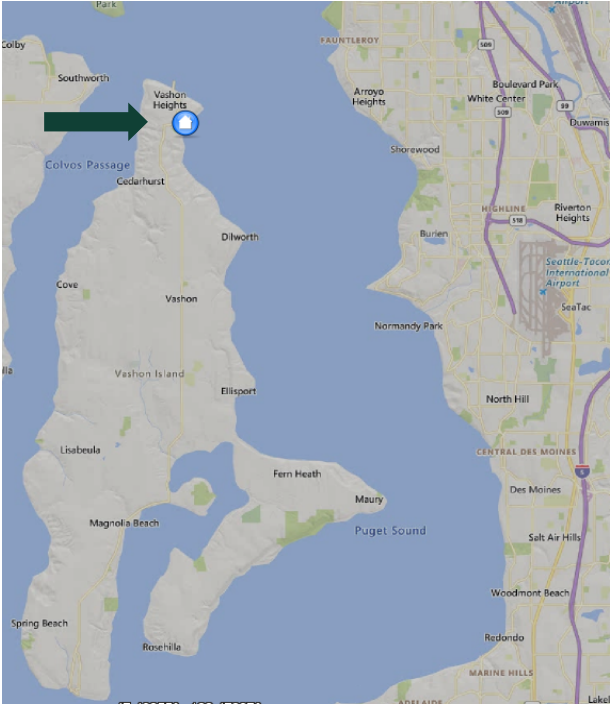
- Provides aircraft noise event information to the public along with aircraft type, airline, flight number and time/date.
- FAA does not use data from noise monitors as the basis for air traffic or flight procedure decisions, or for sound insulation program eligibility.
- Noise monitors do not provide 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

## First Deployment – Federal Way



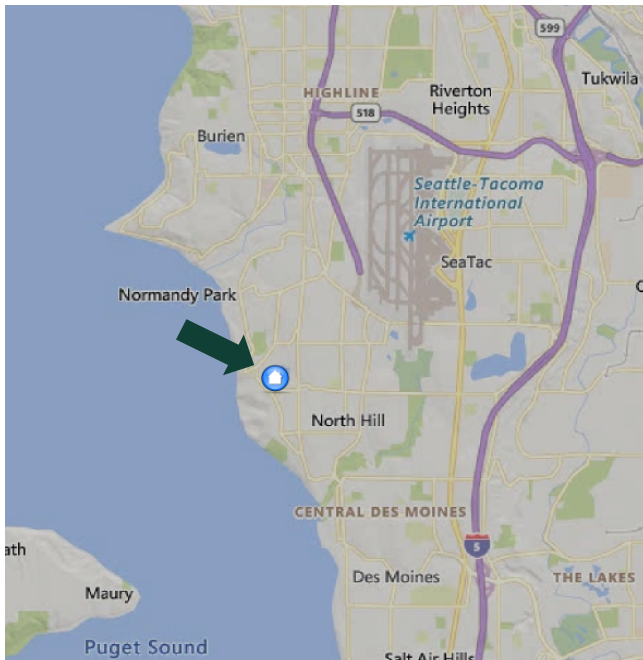
- City of Federal Way requested placement at Nautilus Elementary School
- Deployed from November 5<sup>th</sup> thru February 4<sup>th</sup>
- All SEL and LEQ noise data is included on Port's webpage for this period
- Monitoring Summary Report

# Current Deployment – Vashon Island



- Port Commission directed placement of monitor on Vashon Island for 12 months
- Sited on private property (public site not feasible)
- Monitoring began on March 4<sup>th</sup>
- Data available on Port’s webpage

## Current Deployment – Normandy Park



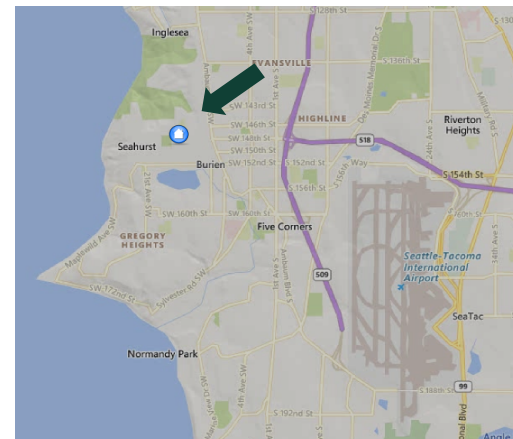
- City of Normandy Park requested placement at Marvista Elementary
- Monitoring began on March 17<sup>th</sup>
- Data available on Port's webpage

# Future Deployment & Next Steps

- **Burien – Seahurst Elementary this Summer:**

Future Deployment in late Summer/Fall:

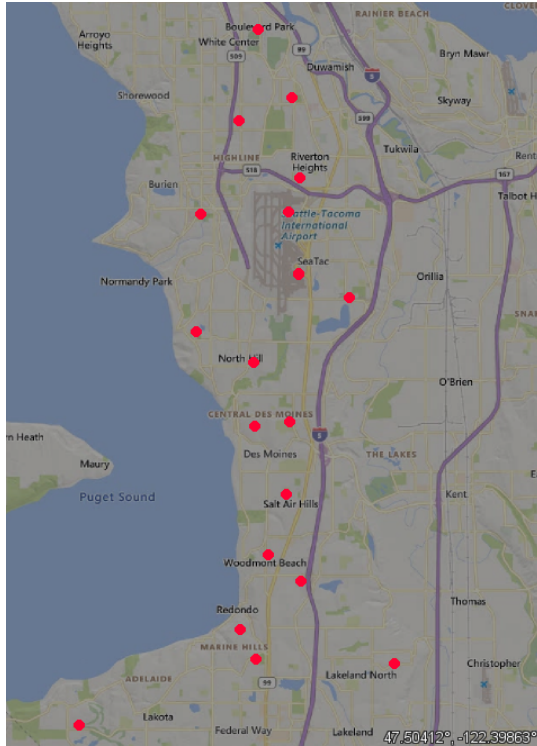
- Reach out to Highline Forum cities?
- Monitor Gap Analysis?
- Expand to areas outside HF cities?
- Discussion



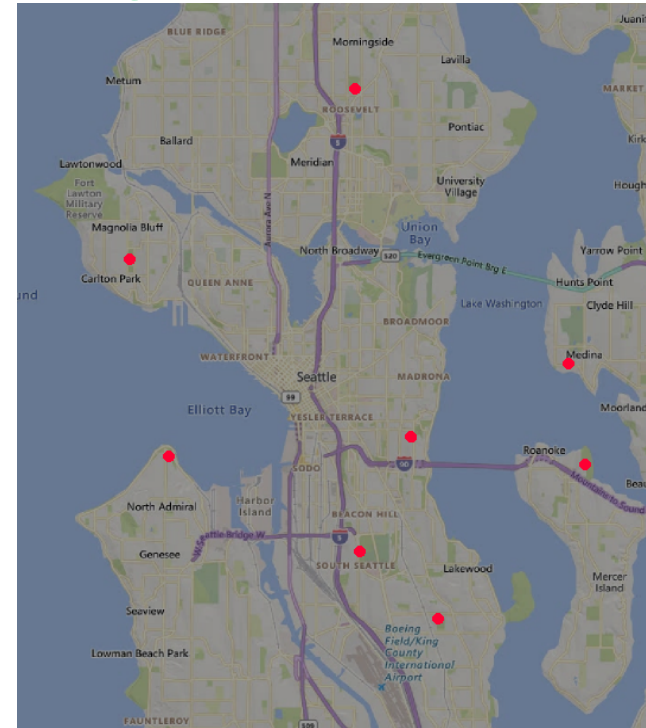


# Current Noise Monitoring Sites

South King County:



Seattle & King County:





**SEA**

Seattle-Tacoma  
International  
Airport

Operated by the  
Port of Seattle

FlySEA.org



# Review: Noise Abatement Departure Procedures

A Summary of Presentations From Steve Alverson,  
ESA

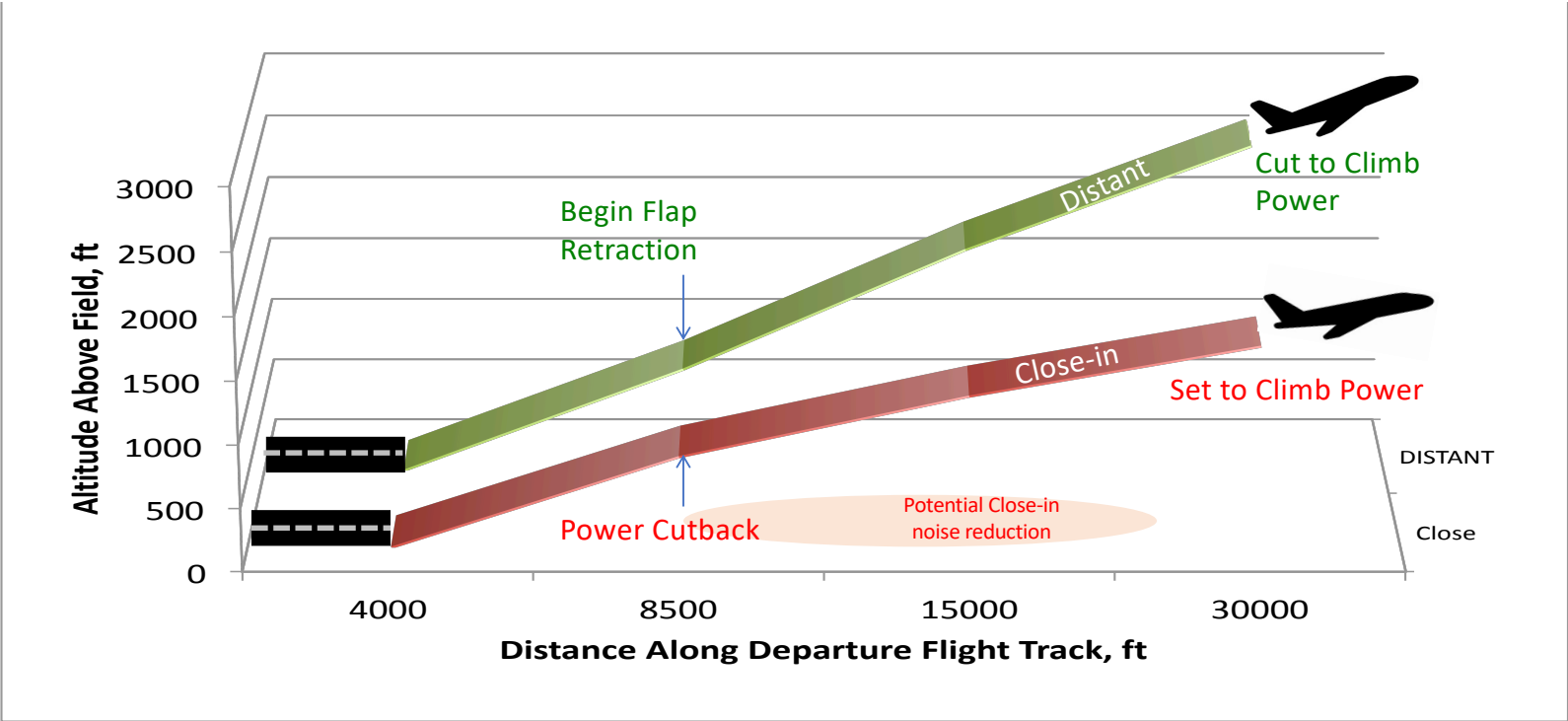
By Vince Mestre

April 2021

## Close-in vs Distant Departure Procedure

- Close-in procedure
  - Benefit is for community very close to runway end
    - Generally within 10,000 feet from beginning of takeoff roll
  - Results in higher noise levels for communities farther away
- Distant procedure:
  - Benefit for communities several miles from airport
  - Results in higher noise for communities close-in

# Distant Versus Close-in Procedures



3

# SEA NADP Noise Analysis Summary Results: Existing Conditions

- Five airlines operating the Boeing 737-800 at SEA were surveyed to determine the NADPs currently in use

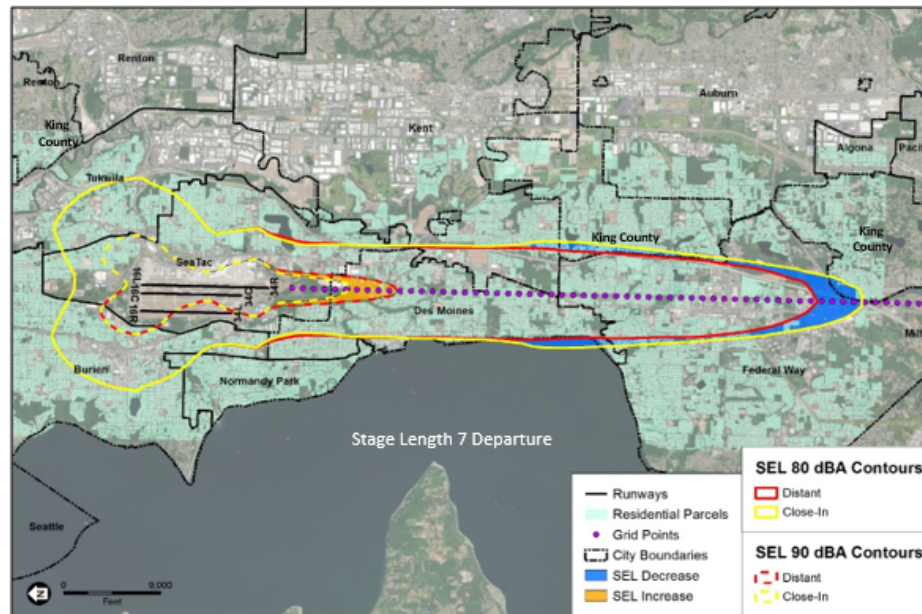
Airline	Reported Departure Profile
Alaska Airlines	Distant
American Airlines	Distant
Delta Air Lines	Close-In
Southwest Airlines	Distant (Equivalent)
United Airlines	Distant

SOURCE: ESA, September 2019.

[Note: Delta later updated response to Distant procedure.]

## SEA NADP Noise Analysis Results: Boeing 777-300ER Close-In vs. Distant NADP Conditions

- 777-300ER SEL Contours for **Runway 16L**

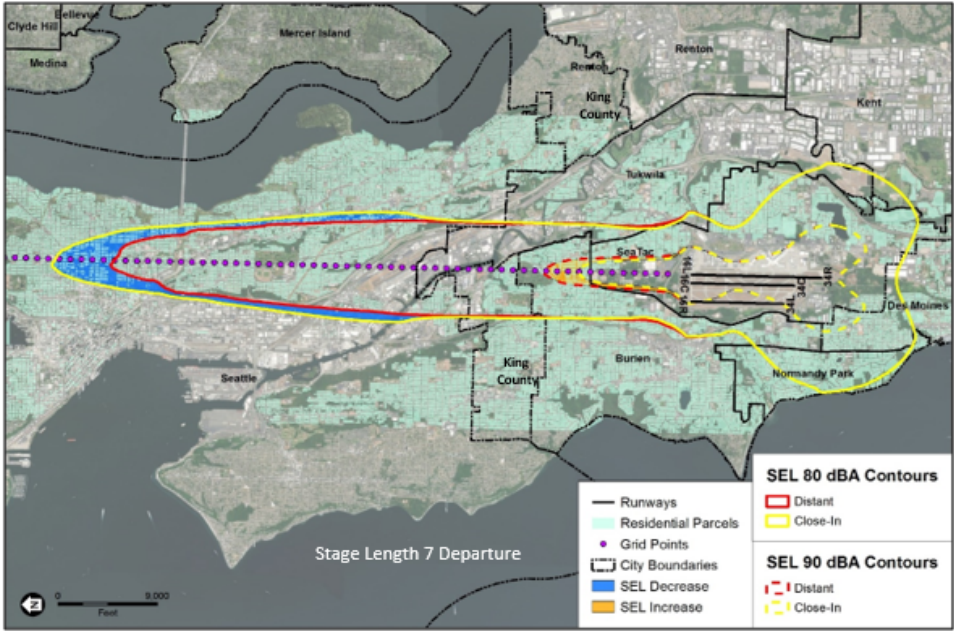


SOURCE: AEDT 2d, 2019; ESA, February 2020.



# SEA NADP Noise Analysis Results: Boeing 777-300ER Close-In vs. Distant NADP Conditions

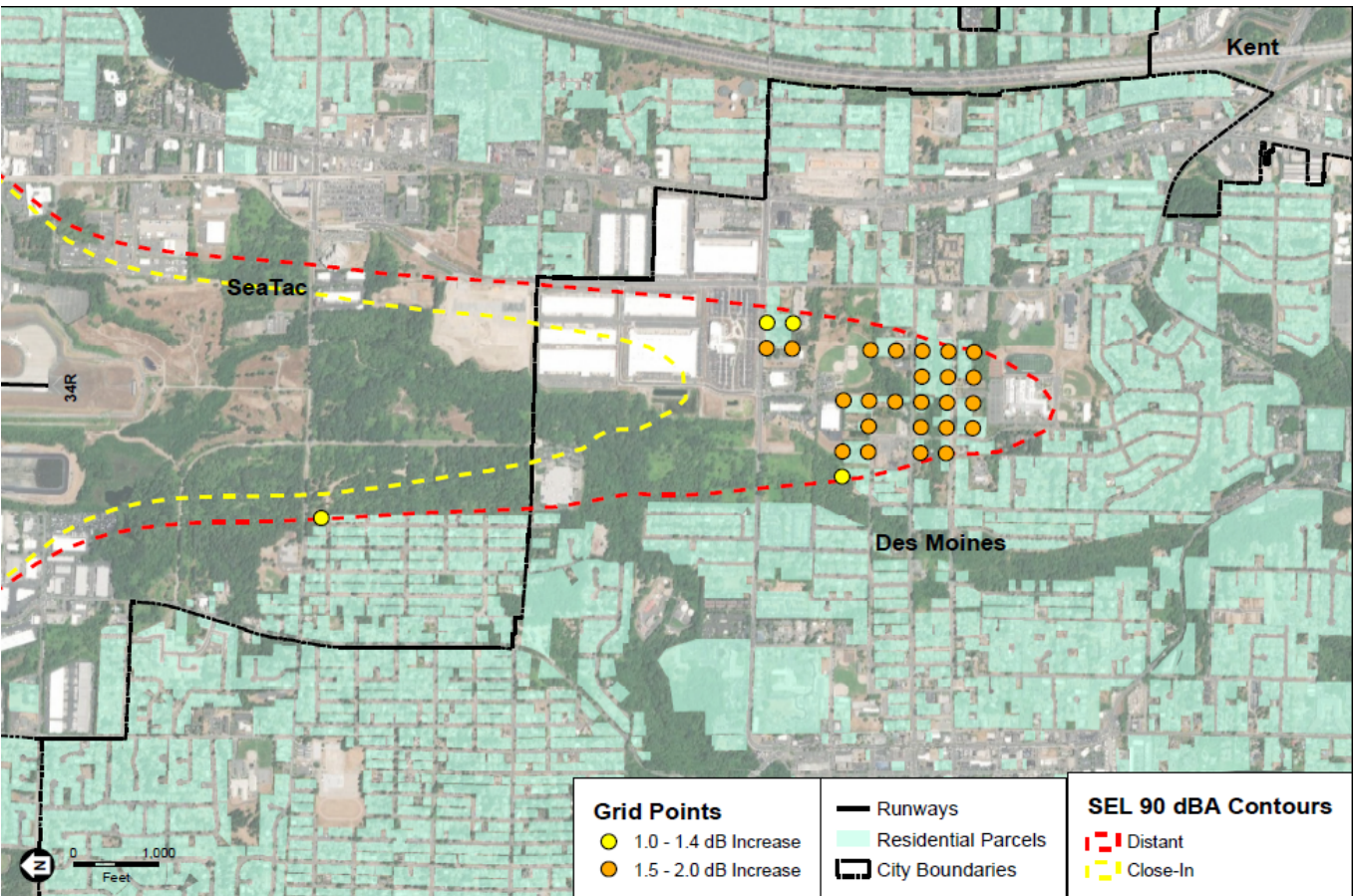
- 777-300ER SEL Contours for **Runway 34R**

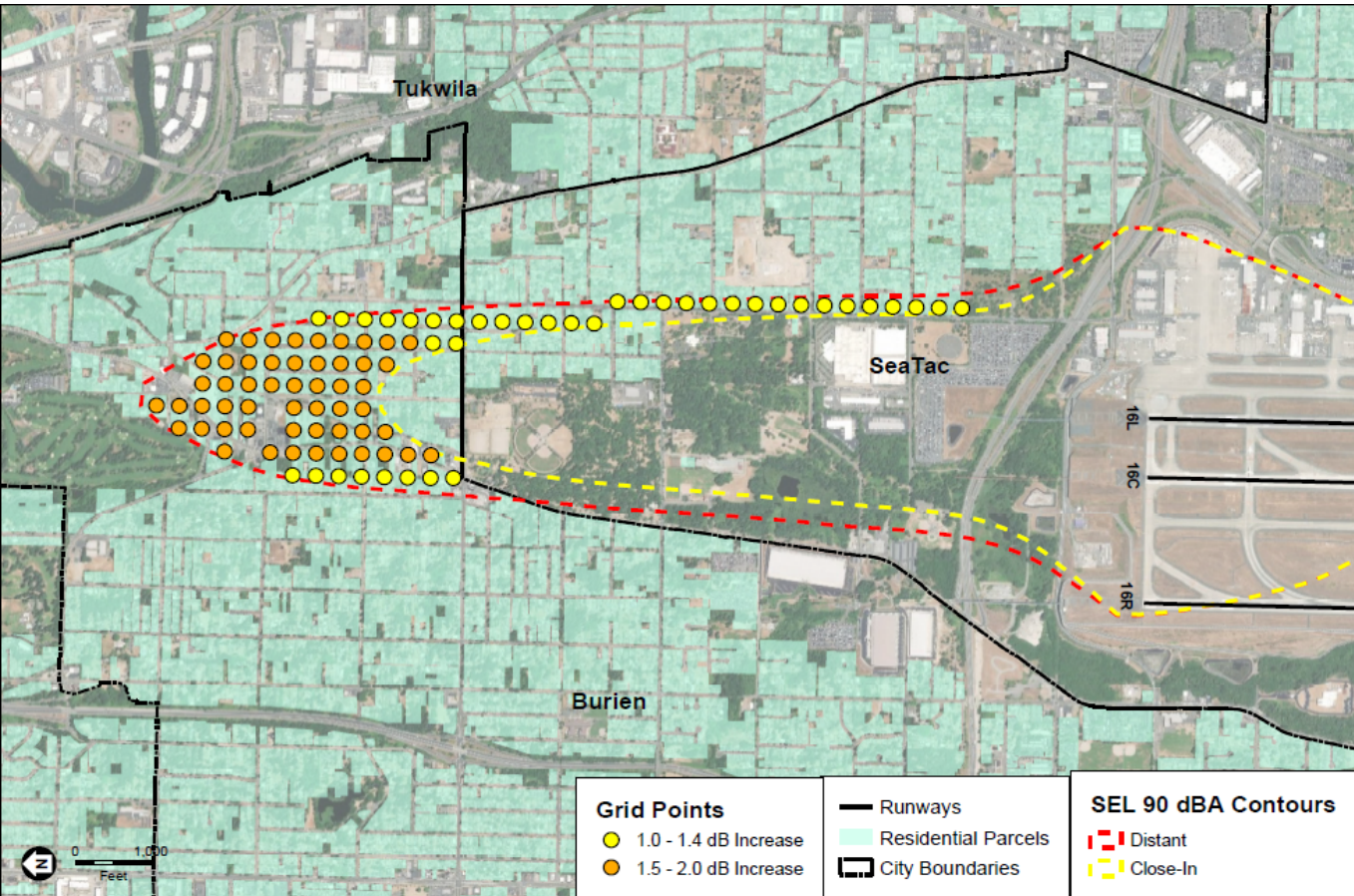


SOURCE: AEDT 2d, 2019; ESA, February 2020.









# SEA 737-800 NADP Noise Analysis Results: People Exposed to SEL 80 dBA and Higher

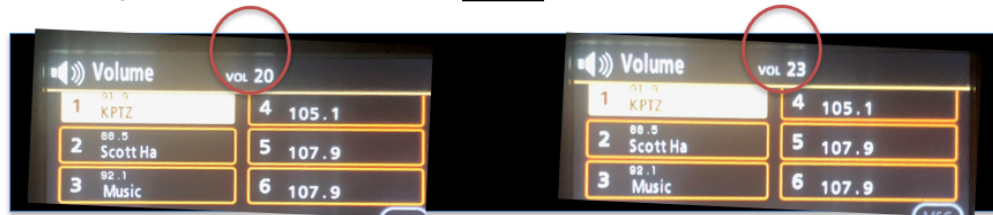
NADP	16C	16L	34C	34R
<b>SEL 80 dBA</b>				
Close-In	76,200	79,435	94,905	89,987
Distant	73,088	75,781	68,551	68,698
<b>Difference</b>	<b>3,111</b>	<b>3,655</b>	<b>26,353</b>	<b>21,288</b>
<b>SEL 90 dBA</b>				
Close-In	4	1	7	3
Distant	171	141	528	119
<b>Difference</b>	<b>-167</b>	<b>-140</b>	<b>-521</b>	<b>-116</b>

SOURCE: AEDT 2d, 2019; ESA, September 2019.

- For this analysis, the American Airlines NADP represented the Distant NADP and was compared to the Generic Close-In NADP
- The Distant NADP exposes fewer people within the SEL 80 dBA contour, while the Close-In NADP exposes fewer people within the SEL 90 dBA contour
- These results are consistent with expectations regarding the benefits and drawbacks of the Close-In and Distant NADPs

## Difference In Sound Level

- Generally stated that it takes a 3dB difference in sound level for people to detect a difference
  - sounds separated in time, i.e., a slight pause
- 10 dB is perceived as sounding twice as loud
- Example: A radio or TV may be in 1 dB increments:



- It takes a 4 dB change to hear a real change in level

Questions?





## Federal Policy Working Group

### AGENDA

APRIL 5, 2021; 5:00 PM – 7:00 PM  
VIA ZOOM VIDEOCONFERENCE

#### Meeting Objectives:

Presentation on legislative outlook by guest speaker. Discuss updates related to the StART federal policy agenda.

*(Note: The facilitator will open the meeting at 4:45 pm for those who may want to test their technology and connection.)*

<u>Time</u>	<u>Item</u>	<u>Lead</u>	<u>Action</u>
5:00 pm	<b>Welcome</b>	Brian Scott, Facilitator	
5:05 pm	<b>Potential Aircraft Noise and Emissions Policy Opportunities for 2021</b>	Annie Russo, Senior Vice President of Government and Political Affairs, Airports Council International – North America / All	Presentation, QA
5:35 pm	<b>Policy Updates</b>	Eric Schinfeld, POS / All	
	<ul style="list-style-type: none"> <li>• Airport Improvement Program Eligibility Expansion of Sound Insulation</li> <li>• Letter to FAA: Request for Input on Research Activities to Inform Aircraft Noise Policy</li> <li>• Appropriation Process/Member-Directed Spending Updates</li> <li>• Next Virtual Fly-in Meetings</li> </ul>		
5:55 pm	<b>Wrap Up + Next Steps</b>	Brian Scott	
6:00 pm	<b>Adjourn</b>		

NEXT MEETING: JUNE 7, 2021- TENTATIVELY 5:00 PM - 7:00 PM  
LOCATION: ZOOM VIDEOCONFERENCE









March 12, 2021

Mr. Donald Scata  
 Office of Environment and Energy  
 Federal Aviation Administration  
 800 Independence Avenue SW  
 Washington, DC 20591

**RE: Overview of FAA Aircraft Noise Policy and Research Efforts: Request for Input on Research Activities to Inform Aircraft Noise Policy**

Dear Mr. Scata,

Thank you so much for the opportunity to respond to the recent release of the Federal Aviation Administration’s (FAA) Neighborhood Environmental Survey (NES), and to provide input into next steps regarding additional research and analysis that should be undertaken based on the survey’s results.

Prior to the COVID-19 pandemic, Seattle-Tacoma International Airport (SEA) was not only the 8<sup>th</sup> busiest airport in the country in terms of passenger volumes, but also one of the fastest growing – increasing from 31 million passengers in 2010 to almost 52 million passengers in 2019. This growth – and the associated number of operations and overflights in our near-airport communities – has made aircraft noise one of the highest community priorities for the Port of Seattle, which operates SEA, and the surrounding cities of SeaTac, Burien, Des Moines, Normandy Park, Tukwila and Federal Way.

Quality of life and environmental sustainability are essential to our community, which is why noise abatement and noise mitigation are major priorities for us. To that end, the Port, these six cities, and the FAA work closely together not only to invest in noise insulation for homes and other buildings near the airport, but also to identify progress that can be made on a voluntary basis in these areas. In fact, we have created the SEA Stakeholder Advisory Round Table (StART) to provide a forum for brainstorming new ideas on this front, and it has already resulted in tangible improvements: an enhanced Fly Quiet Program, a new Late-Night Noise Limitation Program and an updated Runway Use Agreement. These are just a few of the examples of how collaboration and creativity can address community concerns and improve quality of life.

On a related note, thank you so much for attending a recent StART meeting to present on the NES, and to answer community questions about this survey. Your insights and the additional detail provided helped us craft this comment letter, and gave us a much better understanding of the current overall FAA noise and emissions research program. Furthermore, the willingness of the FAA to directly engage with our residents is an important signal of your commitment to community engagement and transparency.

**We are pleased to share specific responses to the questions listed in the request for input, but our overarching comment is to urge swift and strategic decision-making about whether and how current FAA noise policy should change based on the results of the survey and other related research that has already been completed.** The significant increase in reported annoyance reflected by your survey mirrors the dynamics that we have experienced in our own community, with growth over the last several years (pre-pandemic) in noise complaints received from local residents. While a portion of this volume can be explained by the increasing technological ease with which community members can submit noise complaints, the NES reflects a real and ongoing concern about overflight noise in many communities.

While we do not profess to know all the answers to these important questions, the NES clearly indicates that community concerns about aircraft noise are significant, and therefore waiting for years of additional research to make policy decisions seems both unnecessary and detrimental. We also ask that – if there are policy changes that lead to new opportunities for noise insulation – the FAA work with Congress to appropriate sufficient federal funding to support those investments.

The public comment notice lists three specific questions, and please find our direct responses to those inquiries below.

**1) What, if any, additional investigation, analysis, or research should be undertaken in each of the following three categories as described in this notice:**

- **Effects of Aircraft Noise on Individuals and Communities;**
- **Noise Modeling, Noise Metrics, and Environmental Data Visualization; and**
- **Reduction, Abatement, and Mitigation of Aviation Noise?**

As mentioned above, we believe that the fundamental premise of this question implies that not enough research has yet been completed to understand the current state of aircraft noise effects. However, thanks to the FAA, to the Airport Cooperative Research Program and to a wide variety of academic researchers, many of these topics have already been explored in great detail. Rather than launch extensive and time-consuming new research programs, we would like to offer an alternative approach, which would be to quickly complete a thorough review of existing scientific studies covering the topics noted above. In particular, this literature review should highlight those studies that the FAA considers to be accurate, and should make clear what studies are not considered adequate and why. Then, based on those findings, the FAA should then release its gap analysis of what, if any, additional research is needed to inform future policymaking. Furthermore, we encourage the FAA to consider not only US research on these topics, but also international research from places like the European Union and any other international noise policies and standards that have been considered and/or implemented.

We hope that the FAA’s review will come to fully vetted and objective conclusions. In particular, we are interested in the FAA’s findings about the current state of research on “alternative metrics” to the 65 DNL noise standard – including single event metrics, such as sound exposure level, and operational-acoustic metrics; the impact of noise exposure on human health; innovative approaches to noise abatement such as variable takeoff and landing speeds, higher approach paths, planned dispersion routes, higher glideslopes and ascent angles, and improved spacing rules to allow for Required Navigation Performance and Instrument Landing System approaches to parallel runway ends; the potential benefits of sound insulation below DNL 65; building design and construction techniques that can mitigate aircraft noise; and the continued effectiveness of prior sound insulation, with consideration of whether “aging” results in reduced effectiveness, and if so, for what reasons. Some of these metrics

are of particular interest to the communities around the airport that are not within the current 65 DNL contour.

**2) As outlined in this notice, the FAA recognizes that a range of factors may be driving the increase in annoyance shown in the Neighborhood Environmental Survey results compared to earlier transportation noise annoyance surveys—including survey methodology, changes in how commercial aircraft operate, population distribution, how people live and work, and societal response to noise. The FAA requests input on the factors that may be contributing to the increase in annoyance shown in the survey results.**

The NES results are consistent with recent significant growth in noise complaints by our local residents near SEA, particularly related to evening flights by both passenger and cargo airlines that are driven by international travel and e-commerce shipments. While we do not have any concrete insights into which of the factors listed in this question, or other factors, are most responsible for these increases in community concerns, we encourage FAA to conduct further evaluation on the role in annoyance driven by the frequency of noise-generating incidents; the timing of those events (i.e. – daytime vs. late night); and the trends in overflight frequency in a given period of time. As noted above, we also encourage you to include continued explorations of whether alternative and/or additional metrics might better capture community experience. Finally, the FAA should consider how it prioritizes the relative importance of all these factors in order to focus future resources on those noise programs that will have the most impact.

When considering the results of the NES, we also encourage the FAA to utilize an equity lens in interpreting the results – considering how institutional and systemic racism might have affected consideration of impacts, modeling and metrics, as well as past noise abatement and mitigation programs. The communities surrounding SEA, like many airports, represent a highly diverse population, and so insights into differing demographics, backgrounds and cultures are essential to truly understanding the NES results. Similarly, all future research and outreach should include multiple languages and a variety of formats to ensure full community participation and accuracy.

**3) What, if any, additional categories of investigation, analysis, or research should be undertaken to inform FAA noise policy?**


Our response to the first question above is very similar to the answer for this inquiry: any new research should be highly focused and targeted specifically toward the goal of determining whether and how current FAA noise policy needs to be changed to better address noise annoyance and other effects of aircraft overflights. **It may very well be that the FAA already has all of the information needed to make noise policy decisions after completing the comprehensive literature review that we suggest above, in which case we encourage timely and decisive action on policymaking.** At the very least, the FAA should be very clear as to what it considers to be the current gaps in knowledge that prevent immediate policy decisions, and the timeline for completing additional information gathering and analysis before policymaking can be conducted. The latter would not only meet community expectations, but also enable airports to schedule their planning studies to avoid mid-stream conflicts with future policy changes.

One potential path forward would be for the FAA to consider a “tiered” approach to research and policy, where certain research findings could prompt earlier determinations while the FAA concurrently conducts additional analysis in areas that it determines require more data. Ideally, any new research will include not only an understanding of the effects of aircraft noise but also the various levels of efficacy of

different potential interventions that could address and mitigate the annoyance caused by these factors. This dual approach is particularly important for non-acoustic annoyance to overflights, given the difficulty for airports and the FAA to mitigate issues such as changes in the societal response to aircraft noise.

Thank you again for the opportunity to share our response to the NES results. We look forward to continuing to work with you to ensure that the National Airspace System provides as much benefit as possible not only to users of the system but also those who live in proximity to airports. Please do not hesitate to contact us if we can provide any additional details on our comments.

Yours truly,



Commissioner Fred Felleman  
President  
Port of Seattle Commission



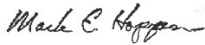
Carl Cole  
City Manager  
City of SeaTac



Brian Wilson  
City Manager  
City of Burien



Michael Matthias  
City Manager  
City of Des Moines



Mark Hoppen  
City Manager  
City of Normandy Park



Mayor Jim Ferrell  
City of Federal Way



Mayor Allan Ekberg  
City of Tukwila



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

**Northwest Mountain Region**  
Colorado, Idaho, Montana  
Oregon, Utah, Washington,  
Wyoming

**Airports Division**  
2200 S. 216<sup>th</sup> Street  
Des Moines, WA 98198

March 12, 2021

Mr. Lance Lyttle, Director  
Seattle-Tacoma International Airport  
P.O. Box 68727  
Seattle, Washington 98168

Dear Mr. Lyttle:

As discussed with your team earlier today, the Federal Aviation Administration is expanding Airport Improvement Program eligibility to include replacement of sound insulation in residences previously mitigated prior to 1993.

This provision can be implemented under the existing Residential Sound Insulation Program (RSIP). As such, existing practices and requirements to determine eligibility for sound insulation treatment would apply. These provisions include demonstrating that treated residential buildings are within the day/night average sound level (DNL) 65 decibel (dB) contour; that current interior noise levels demonstrate an exceedance of DNL 45 dB; and that new sound insulation treatment would have the ability to achieve a 5 dB noise reduction.

If you wish to participate in this program or would like to discuss further, please contact Mr. Warren Ferrell, Acting Seattle Airports District Office manager at (206) 231-4108.

Sincerely,

William C. Garrison, Acting Director  
Northwest Mountain Region Airports Division