

StART FACILITATOR'S MEETING SUMMARY

Wednesday, February 26, 2020

6:00-8:00 pm, SEA Airport Conference Center

Participant	Interest Represented		Participant	Interest Represented	
Eric Zimmerman	Normandy Park	X	Scott Kennedy	Alaska Airlines	X
Tim Sorensen	Normandy Park	X	Matt Shelby (Alt)	Alaska Airlines	-
Mark Hoppen	Normandy Park	X	Grady Stone	FAA	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Justin Biassou	FAA	X
Tejvir Basra	SeaTac	X	Chris Schaffer	FAA	X
Robert Akhtar	SeaTac	X	Jason Richie	FAA	-
Carl Cole	SeaTac	X	Lance Lyttle	Port of Seattle	X
Steve Pilcher (Alt)	SeaTac	-	Tom Fagerstrom	Port of Seattle	X
Erica Post	Tukwila	X	Marco Milanese	Port of Seattle	X
Brandon Miles	Tukwila	X	Arlyn Purcell	Port of Seattle	-
Tony Gonchar	Delta Air Lines	-	Eric Schinfeld	Port of Seattle	-
Scott Ingham (Alt)	Delta Air Lines	X	Stan Shepherd	Port of Seattle	-

Additional Participants: Dr. Tim Larson, University of Washington

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Amanda Murphy, Amanda Gray Consulting

Meeting Objectives

To provide input into the upcoming federal policy advocacy trip to Washington DC. To recap the Aviation Noise Working Group meeting. To provide the Late-Night Noise Limitation Program 4th quarter results. To brief and discuss the University of Washington study on ultrafine particles.

Welcome

Lance Lyttle, Port of Seattle

The Airport Managing Director, Lance Lyttle, welcomed participants including two new StART members, Erica Post, Tukwila Community Representative, and Tim Sorensen, Normandy Park Community Representative. The new members provided brief introductions of themselves and their interest in joining StART. Lyttle provided an update on the status of reengagement with the three self-suspended cities. All six cities met in a productive meeting in January and the hope is that the three self-suspended cities will be returning to StART in the spring.

Port staff provided a quick update on the acceleration of the sound insulation program implementation. With Commission's approval, the program will accelerate implementation from a 15 year to a seven year plan. This acceleration will include insulating three condominium complexes, eighteen apartment complexes, seven places of worship, and voluntary acquisition of homes south of the 3rd runway.

StART Federal Policy Working Group Update

Marco Milanese, Port of Seattle

The Federal Policy Working Group (FP Working Group) will be sending a delegation of Port representatives and elected officials from five of the six StART cities to Washington DC on March 11 and 12. Due to budget constraints, Normandy Park is unable to send a representative at this time. The goal of this trip is to meet with congressional representatives and members of the FAA to share concerns, discuss priority issues identified by StART, and advocate for a number of pieces of legislation. Additionally, discussion will focus on the identification of new areas of interest and approaches as well as sharing StART's accomplishments. StART members responded that the issues highlighted for discussion in DC were consistent with what has been discussed in StART. *(Note: The trip was postponed due to COVID -19.)*

StART Aviation Noise Working Group Update

Tom Fagerstrom, Port of Seattle

Fagerstrom reviewed the StART Aviation Noise Working Group's February 10 meeting. He provided an update on the Ground Noise Analysis and the status of the consultant's work. The first phase of the analysis is data collection to identify noise sources and impacts. The Port provided data that will be utilized as part of the analysis. Next steps involve developing draft measurement protocols, identifying appropriate sites for noise monitoring, and surveying airlines on their ground operations. Measurements will be taken at approximately five sites over five days. Direct observations will be utilized along with statistics for identifying noise sources. The survey will focus on identifying how airlines operate on the ground including taxiing, run-up activities, and use of reverse thrust. It is anticipated that the survey will be distributed soon. Internal planning has begun for analysis methods to identify mitigation options. It is anticipated that preliminary findings will be ready in the summer and a final report in the fall.

StART participants asked a number of questions. Based on these questions, Fagerstrom provided some additional information including:

- Suggestions for monitoring sites were received from StART participants as well as from the Highline Forum
- The southwest corner of the airfield and the northeast area where cargo takes place are two obvious areas for monitoring
- Monitoring sites will provide additional data to analyze

It was requested that the ground noise consultant be asked whether there is any additional information or hard data that would be helpful to look at that is not part of the survey.

Fagerstrom also provided an update on the Noise Abatement Departure Profiles (NADP) Study. He briefly shared the consultant's conclusions that a distant NADP would be of benefit to communities further from

the airport and that additional analysis is being performed to determine if there are any neighborhoods that would experience a perceptible increase in noise.

Late-Night Noise Limitation Program: 4th Quarter Results

Tom Fagerstrom, Port of Seattle

Fagerstrom provided an update on the Late-Night Noise Limitation Program 2019 4th quarter results and outreach to airlines regarding the Program. He reminded StART that the focus of the program is between 12:00 am and 5:00 am. Outreach was to all airlines who had noise exceedances as well as to airlines that flew during the late night hours. 4th quarter data showed that the top three airlines for exceedances were the same as the 2019 3rd quarter: EVA Air, FedEx Express and China Airlines Cargo. Fagerstrom detailed the positive responses that are coming out of discussions with the airlines notably:

- EVA Air has committed to changing one of their two late night flights to a significantly quieter aircraft. They shared their challenges in implementing this change, but wanted to respect community interests.
- FedEx Express has plans to retire its fleet of MD-11s. Though they haven't established a timeline, discussions will continue to try to expedite the fleet change at SEA.
- China Airlines Cargo discussions have been constructive. They fly one type of aircraft and don't have a quieter alternative available. Discussions about whether they can move flights out of the late night hours continue.
- A number of airlines have engaged in constructive dialogue including Air Transport International, Korean Air Cargo, Alaska Airlines, Delta Air Lines, and Cathay Pacific.

Fagerstrom mentioned that all airlines who had exceedances will receive a letter from the Port that includes data on their exceedances. The overall drop in 4th quarter exceedances is mainly due to seasonal fluctuations. It was stated that conversations with Boeing about the data and exploration of noise reduction/retrofits in aircraft are also in process.

StART participants suggested that a letter of appreciation be sent to the airlines that are making changes from StART as well as from cities. It was suggested that the letters be sent once the changes occur. A StART participant commented that there was initially skepticism as to whether airlines that had noise exceedances would actually consider voluntary changes. It was stated that it is humbling and surprising and it is important to recognize the amount of work from Port staff that went into making this happen.

The presentation can be found [here](#).

University of Washington MOV-UP (Ultrafine Particles) Study Briefing

Dr. Tim Larson, University of Washington

The focus of the meeting was a briefing by Dr. Tim Larson, University of Washington, on the Mobile Observations of Ultrafine Particles (MOV-UP) Study (Study). Dr. Larson stated that the Study was funded by a budget proviso from the Washington State Legislature to analyze the concentrations of ultrafine particles (UFP) in areas surrounding and directly impacted by air traffic and to develop methodology to distinguish between and compare concentrations of UFP from aircraft and other sources such as motor

vehicles. The study included community engagement and the establishment of a study advisory group who provided feedback. The Study objectives were to:

- Study the implications of air traffic at SEA
- 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

Dr. Larson described that particle size (e.g., ultrafines versus ultra-ultrafines) is the main distinguishing characteristic between the two sources of ultrafine particles. Important characteristics of UFPs include:

- They have a large amount of surface area, relative to their size.
- They are small enough to enter the bloodstream, cross the placenta, and cross the blood-brain barrier.
- Because they are small, they have very little mass.
- Typically, they are measured differently than PM_{2.5}, which includes both smaller and larger particles, and therefore has appreciable mass that can be weighed. UFPs are typically measured by counting the number of individual particles in a volume of air.

It was noted that motor vehicles sources emit ultrafine particles resulting in elevated levels near major roadways and jet aircraft emit “ultra” ultrafine particles.

Dr. Larson reviewed the study region including mobile transects and fixed monitoring site locations. Measurements were taken by a few stationary monitoring stations as well as a mobile monitoring platform that drove through the region. Study results mapped areas of concentration for traffic related pollutants and concentrations related to aircraft distributions. He summarized the Study results:

- UFP are emitted from both traffic and aircraft sources.
- Total concentration of UFP (10-1000nm) 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.
- Mobile derived Fuel Based Emissions Factor (# Ultra UF/kg_{Fuel}) may lead to future air quality modeling scenarios (Findings in the Project Report).

Dr. Larson concluded the presentation by discussing the knowledge gaps in information about the health effects of ultrafine particles, what can be done to reduce human exposure, and difficulty in assigning exposure estimates to specific locations or populations. He mentioned that there are numerous studies in process to understand the health effects which should provide more data in the next few years.

StART participants asked a number of questions. Based on those questions, Dr. Larson provided some additional information including:

- For all sizes and sources of particles, from sources including wildfires, filtration is needed to minimize exposure.
- Utilizing biofuels in airplanes could reduce ultrafine particle pollution.
- There have been many studies on ultrafine particles related to cars and trucks and less studies related to airports/aircraft. It will be important for future studies to look at what correlations exist or don't exist. Partnerships with other research institutions would be beneficial.
- Data is not clear as to what the impacts of weather are on UFP.

The presentation can be found [here](#).

The full report can be found at: <https://deohs.washington.edu/sites/default/files/Mov-Up%20Report.pdf>

Public Comment

Compiled public comments are included as Appendix A.

Meeting Wrap Up

Lance Lyttle, Port of Seattle

Lyttle thanked the community representatives, air carriers, FAA representatives, and the public for participating, as well as Dr. Larson for his presentation. He shared some information about the airport's response to COVID-19 stating that SEA is one of 11 airports that were selected as funnel airports for travelers returning from China. New procedures are in place that include additional screening provided by the CBP and CDC. SEA has also increased cleaning. The situation is being monitored very closely.

Next Meeting:

April 22, 2020- 6:00 pm - 8:00 pm,

Location: Video Conference Call

Appendix A

Summary of Public Comments

David Goebel (Vashon Island) (oral comments):

- Commented that NextGen is important, that it is the elephant in the room. Recommended discussing this as a topic during the Washington DC federal policy advocacy trip.
- Stated that when it comes to total gross noise complaints – Vashon has twice as many complaints as any other zip code, even though Seattle has 70 times as many households. Vashon has been greatly impacted by increased noise which is contrary to the rural nature of the place and community. Community members are averse to aviation noise.
- Stated that flights were once spread out, but are now concentrated. There is now more emissions and more noise. There is unpredictability as to when loud noise will occur - like water torture.
- Commented that the number of lawsuits related to aviation noise is increasing. Asked that this be a topic in discussions in Washington DC.

Marianne Markkanen (SeaTac) (oral comments):

- Commented that this was a great meeting, that she has been coming to StART meetings for two years, and is happy to hear about the results of the Late-Night Noise Limitation Program's 4th Quarter results. Stated that she appreciates the airlines who are making changes.
- Stated that she lives under the 3rd runway and asked what can be done for people like her who were not warned and purchased their house after the cut-off date for sound insulation.
- Mentioned that community input makes a difference and that the outcomes from the Late-Night Noise Limitation Program should be posted in social media outlets, blogs, etc.
- Thanked the Port for paying for the ultrafine particle study. Stated that It was terrifying to see that these particles can penetrate the brain. Commented that cancer rates are higher in this area. Questioned whether research needs to be done on cancer rates and whether air filters need to be installed in homes.
- Shared concerns about the impacts of COVID-19, that there are many travelers coming off of airplanes and shopping in the local communities. Inquired as to whether the airport will be communicating with communities about COVID-19 precautions.