StART

SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY
Aviation Noise Working Group
Monday June 10, 2019
5:30 pm – 7:30 pm, Conference Room 4A, Sea-Tac Airport

Attendee	Interest Represented
Terry Plumb	Burien
Larry Cripe	Burien
Eric Zimmerman (phone)	Normandy Park
Steve Edmiston	Des Moines
Earnest Thompson	Normandy Park
Chris Hall	Federal Way
Robert Akhtar	SeaTac
Sheila Brush	Des Moines
Jennifer Ferrer-Santa Ines	Normandy Park
Jennifer Kester	City of SeaTac
Stan Shepherd	Port of Seattle
Marco Milanese	Port of Seattle
Robert Tykoski	Port of Seattle
Tom Fagerstrom	Port of Seattle
Scott Ingham (phone)	Delta Airlines
Steve Osterdahl	Alaska Airlines
Bill Vadino	Federal Way
John Reising	Federal Way
Vince Mestre	L&B

Facilitator: Phyllis Shulman, Civic Alchemy
Note Taker: Megan King, Floyd Snider
Other Attendees: Steve Alverson, ESA Airports (phone); Arlyn Purcell, Port of Seattle; Rosa Johnson, Port of Seattle

Meeting Objectives:

To provide updates on actions in the Rolling Work Plan. To gain a deeper understanding of the Noise Abatement Departure Profiles Noise Analysis and review advances in noise monitoring technology. To preview and provide feedback on the Late Night Noise Limitation Program beta site.

StART enhances cooperation between the Port of Seattle and the neighboring communities of Sea-Tac Airport

Meeting Summary:

<u>Updates on Rolling Work Plan's Implementation</u>

<u>Late Night Noise Limitation Program:</u>

- Educational briefings on the upcoming rollout of the Late Night Noise Limitation Program was presented to cargo and passenger air carriers at a number of venues. Communication will continue including a letter to all airlines operating at Sea-Tac. Additional conversations with air carrier representatives will continue.

<u>Revised Runway Use Agreement:</u>

- FAA is continuing their review of the agreement including an assessment by their Environmental Division. Port staff clarified the goal of the revised agreement is to limit the use of the 3rd runway as much as possible during late night hours, irrespective of aircraft type. Staff also clarified that the Working Group had reviewed the language and provided feedback at earlier meetings. Sometime in the future revisions to the language could be considered.

<u>General Discussion:</u>

- General discussion focused on the interest expressed by some members to audio record Working Group meetings. There was also interest in revisiting past discussions and implementation items. The facilitator reminded the Working Group that the goal of the group was to make progress on developing and giving guidance on near-term and other potential actions that could reduce noise. She reinforced that to be able to make progress, the Working Group needs to move forward even if some members are unable to attend some meetings.

<u>Updates on Implementation of Noise Abatement Departure Profiles Noise Analysis</u>

Steve Alverson with ESA Airports was hired to do the analysis. He provided background on close-in and distant departure profiles and shared information about the upcoming analysis. The overview included:

- The airline's approved departure procedure can be used at any airport. Airlines can choose the noise-abatement procedure by runway in coordination with the FAA for each airport.
- Most airlines choose to use just one departure procedure to keep it consistent and straightforward for the pilots, but airlines could choose different procedures for different runways.
- The analysis will not be looking at the 3rd Runway since it is rarely used for departures.
- There are two noise abatement departure procedures: a close-in departure procedure that benefits those living close to a runway-end and a distant departure procedure that benefits those living farther from a runway end. If you choose one procedure, it can have noise benefits for one area, and negative effect for other area, hence the purpose of this analysis.
- Analysis will start by first surveying the airlines, asking them what departure procedure they are using, and by aircraft type.

- Once the information is gathered, ESA Airports will model the existing conditions for the 737-800, the dominant aircraft at the airport. ESA Airports will see if there is a benefit for one procedure over another for that aircraft.
- ESA Airports will not use DNL as a measurement; instead, SEL (single event level) will be used.
- The airlines survey work is due to the Port by 8/15 and the analysis will then move into modeling existing conditions.
- From the ESA's initial look, it does not seem that a close-in departure procedure is the right fit for Sea-Tac, but that will need to be verified by analyzing specific noise levels.
- The final report and findings will be presented to StART in the Fall.

Questions and discussion followed the briefing.

- Noise data and contours can be overlaid with land use maps and aerials to show where they will overlap with residential areas and other land uses which will give indicators on the impacts to people. The Port can also use their GIS department to look at populations in the different contour areas.
- The analysis will focus on the most common aircraft type (737-800) at the airport. Based on this initial analysis, it can be determined whether there are benefits associated with the departure procedure and whether other aircraft types should also be evaluated.
- The consulting firm will ask the airlines to complete a survey on their departure procedures. An FAA-approved model will then be used to analyze the procedures.
- Through an advisory circular, airlines are encouraged to use the appropriate NADP when the Port asks them to use the noise abatement departure procedures that work best for the airport. ESA Airports has not encountered an airline that refused to implement a particular noise abatement departure procedure when asked to do so.
- A representative from Alaska Airlines responded by stating that the procedures Alaska flies is the "distant" procedure. Alaska would be most receptive to talking through what's best, most efficient, most quiet, etc. It takes about a year to train everyone on a change in procedure.
- A representative from Delta Air Lines responded by stating that Delta would engage their Chief Pilot in reviewing procedures, and they would be willing to collaborate.
- This type of analysis will generally not cause a substantial change to a 65 DNL contour. The changes that we'll expect to see from this modeling will likely be seen outside of the 65 DNL contour.
- A member shared concern that the effort and funds spent over time to calibrate a model would end up being more expensive than the collection of empirical data.

Late Night Noise Limitation Program:

Port staff shared an early draft of their planned webpage for the Late Night Noise Limitation Program. This is a beta site, so is not live, or accessible yet to the public. Staff reviewed a few key points including:

- The webpage will be hosted on the Port of Seattle's website and accessible through multiple links.
- The webpage will include a description of the program, a summary of the four noise monitors, and a table of the quarterly data/results.

- Site visitors will be able to view Excel file reports that include details on airlines, flights, times/dates of late night exceedances of the established monitoring thresholds.
- Statistics collection will commence in the 3rd quarter of 2019 and 3rd quarter data will be ready for publication early in the 4th quarter.

Discussion, questions, and feedback included:

- Include another tab in the full report that showed the number of citizen complaints for those same hours in order to provide more transparency.
  Response:
    - *Port will look into if it is possible to include that data.*

- Include responses to citizen complaints on the website.
  Response:
    - *Port will look into it. Could also include links to current site for registering complaints.*

- Additional definition and explanation of the noise thresholds and acronyms could be helpful.
  Response:
    - *The thresholds are included on the inset map, but additional information can be added.*

- Compare quarterly reports to previous quarters.
  Response:
    - *Will look at trends, comparison to previous quarters, plus any good news – such as an air carrier adjusting times, or changing aircraft as a result of the program's implementation.*

- Identify the time of most complaints and the flight causing it.
  Response:
    - *Staff will look into it. Every airline operating between 12:00am-5:00am will be shown, regardless of whether they exceeded a noise threshold or not.*

- Create more opportunities, for example, issue press releases identifying the air carriers who are loudest at night.
  Response:
    - *Port staff are working on various communication strategies.*

A member inquired as to whether noise monitors will pick up reverse thrust noise on the airfield. Monitoring of noise on the airfield will be part of the upcoming ground noise analysis.

Noise Monitoring Overview – Are There Options?

StART's noise consultant, Vince Mestre, provided an overview of noise monitoring options. He pointed out the challenges of noise monitoring including the array of monitoring points throughout areas surrounding an airport that can be corrupted by other generators of noise – lawn mowers, vehicles, motorcycles, animals, etc. He described system components and how different monitoring systems work. There are only six airport system vendors in the world, mostly in Europe. The cost of installations varies,

but each can cost tens of thousands of dollars to install. It was pointed out that the quality of the microphone is critical for accurate monitoring, and that lower quality microphones, those in smart phones for example, do not pick up low frequency noise such as reverse thrust and engine runups.

The noise consultant then reviewed the small variety of noise monitoring systems that are currently on the market or in development and their strengths and weaknesses. These included:

- Medusa: Two companies – Ryan and 01DB have had this setup for years. Medusa is an array of multiple microphones, whose purpose is to segregate out community noise from aircraft noise through determining directionality and time difference between sounds. It only works in areas where the analysis is attempting to separate overhead noise from ground level noise. It would not be an effective noise monitoring method for adjacent neighborhoods to Sea-Tac, as it would not pick-up ground level/airfield noise.
- MONA: Being developed at Stanford University. They are developing open source software (free, sharable, modifiable) for MONA. If this is successful it could provide a future opportunity to consider.
- Array of Things: Developed by Argonne National Laboratories for the City of Chicago. Can include air, environmental, light and noise monitors.
- NoiseTube: Provides measurement of daily noise levels by utilizing mobile phones and visualizes those measurements on maps. There are issues because phone microphones are not high quality. but could be useful in identifying noise hotspots.

In summary, airport noise monitoring systems are complicated and expensive. Data acquisition and analysis software is the majority of system costs, not the microphones or meters. Microphone quality is key to accurate data recording. New community-based measurement methods are coming online, but they are not mature at this time.

Discussion of a Part 150 Study

Some Working Group members wanted to get more information about the Port's timing and approach in regard to a Part 150 noise study. Port staff explained that the next Part 150 is anticipated to be done when the SAMP Environmental Review is complete. The noise consultant provided more details about what a Part 150 is including:

- The FAA will not allow noise contours outside of the 65 DNL included within a Part 150, which is why they can be included as appendices in a Part 150 final report.
- Part 150 is a voluntary process. There is nothing in FAA regulations that trigger one. However, if airports want to conduct certain programs and qualify for FAA funding, then it is a requirement. It is a land use planning tool.

During the discussion, a number of items came up that needed additional clarification including:

- The SAMP environmental review process and how that relates to a Part 150
- Understanding what triggers a Part 150 and whether this issue should be considered in the Federal Policy Working Group

- Understanding of the rationale for timing of a Part 150
- Other questions or information the Working Group members would like to discuss in a future meeting related to a Part 150

The Working Group discussed the need for a Part 150 discussion at a future StART meeting. It was requested by a few Working Group members to bring their outside consultant to a future discussion. It was agreed that there would be a discussion at a future StART meeting on the Part 150 process. Members were asked to submit Part 150 questions or topics they would like discussed by email to the facilitator to help frame the discussion.

Future Meetings Dates/Times:

Next meeting will be August 12, 2019, 5:30 pm -7:30 pm, Seattle-Tacoma International, Airport Office Building Room 4A.