



2018 StART Annual Report

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February 2019

StART 

SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

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

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List of Acronyms and Abbreviations

Acronym/ Abbreviations	Definition
Airport	Seattle-Tacoma International Airport
FAA	Federal Aviation Administration
Port	Port of Seattle
PSRC	Puget Sound Regional Council
SAMP	Sustainable Airport Master Plan
StART	Sea-Tac Stakeholder Advisory Round Table
TNC	Transportation network company
Working Group	Aviation Noise Working Group

1. EXECUTIVE SUMMARY

The Sea-Tac Stakeholder Advisory Round Table (StART) was created in 2018 by the Managing Director of Seattle-Tacoma International Airport (Airport) in collaboration with the leadership from the six Airport-area cities (Sea-Tac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way). The purpose of StART is to build relationships, create dialogue, and inform Airport-related decision-making on issues that impact surrounding communities. Representation from the cities and Port of Seattle (Port) airline and air cargo comprise the membership of StART. The Federal Aviation Administration (FAA) provides agency expertise.

During 2018, StART meetings included presentations and discussion focused on developing shared understanding of operations and topics as well as identification of issues that are important to the airport communities. Presentations included the following:

- Aviation Operations Roles and Responsibilities
- Air Traffic Overview
- Aviation Noise
- Forthcoming Aircraft Fleet Changes
- Federal Congressional Aviation Issues

Members prioritized a list of issues for discussion, choosing to initially focus on the identification of near-term potential actions related to preventing, reducing, and/or mitigating aviation noise. To analyze these potential actions in more detail, an Aviation Noise Working Group (Working Group) was established. Working with a noise consultant, the Working Group met regularly and developed a work plan and action agenda while receiving input from the larger StART group. The Working Group vetted a number of actions that are going forward for implementation. In 2019, the Working Group will continue with its work plan and explore additional actions.

At the end of the year, StART agreed to form a new working group focused on federal policy. The Federal Policy Working Group will look at policies already passed as part of the FAA Reauthorization legislation and aviation-oriented legislation expected to be championed by U.S. Representative Adam Smith and other local U.S. Representatives in Congress.

2. FORMATION OF StART

Background

Cognizant of the Airport's continued growth and the community impacts associated with that growth, the Port is committed to building relationships with the community and local jurisdictions that foster trust, accountability, and collaboration. An important component of that earnest effort was the creation in early 2018 of StART.

After conducting research on various engagement strategies employed at selected airports in the summer of 2017, Lance Lyttle, the Airport's Managing Director, and External Relations staff met with the administrative leadership from the six Airport-area cities (SeaTac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way) to gauge their level of interest in a stakeholder advisory roundtable. The administrative leadership agreed on the need for a round table and over a series of working meetings, reached an agreement on StART's formation, purpose, and structure.

StART's inaugural meeting was held on February 28, 2018, followed by meetings every 2 months for 2 hours per meeting. In addition to StART meetings, educational opportunities that enhance knowledge of aviation operations and impacts have also been offered on occasion. StART meetings are open to the public and there is opportunity for oral and written public comment.

Purpose

As established within StART's Operating Procedures, StART provides Southwest King County cities, communities, airline representatives, the FAA, and the Port with the opportunity to:

- Support meaningful and collaborative public dialogue and engagement on Airport-related operations, planning, and development;
- Provide an opportunity for the communities to inform the Airport-related decision-making of the Port and other Southwest King County jurisdictions/organizations; and
- Raise public knowledge about the Airport and impacted communities.

The intent of StART is to provide a forum that fosters a spirit of goodwill, respect, and openness while encouraging candid discussion between the Port and residential and business community members.

StART is not a formal decision-making body or an inter-local agency. StART does not follow procedural rules of order and does not entertain motions or record votes. StART uses consensus to shape feedback to provide guidance to the Port. Consensus-based actions are the product of discussions among the members to distinguish underlying values, interests, and concerns with a goal of developing feedback. Feedback includes both areas of agreement, as well as the articulation of concerns that require further exploration.

Membership

StART is convened by the Airport's Managing Director, who, in addition to serving as the chair, serves as the sponsor directing staff to provide technical analysis and expertise to the group. An independent, neutral facilitator provides assistance in the preparation, management, and summation of each StART meeting.

Each of the six Airport-area cities appoints two community members to serve as members of StART along with a non-elected city employee who is typically a city manager. Members are appointed for a 2-year term. StART’s effectiveness is driven by a willingness by all parties to fully discuss matters of mutual concern, and all members are asked to pledge their good faith best effort to achieve those ends.

Representatives from Alaska Airlines, Delta Air Lines, and Lynden Air Cargo also participate as members and the FAA provides agency expertise.

City representation on StART is identical to the Highline Forum’s city representation, and StART reports up to the Highline Forum. In this way, both StART’s community representatives and the Highline Forum’s elected representatives are involved in airport issues and can provide a coordinated approach among stakeholders.

Member/Association	Name	Title
Burien	John Parnass	Community Member
	Terry Plumb	Community Member
	Brian Wilson	City Manager
	Lisa Marshall (Alt)	City Attorney
Federal Way	John Resing	Community Member
	Chris Hall	Community Member
	Yarden Weidenfeld	Mayor’s Office, Senior Policy Advisory
Des Moines	Sheila Brush	Community Member
	Ken Rogers	Community Member
	Michael Matthias	City Manager
Normandy Park	Eric Zimmerman	Community Member
	Earnest Thompson	Community Member
	Mark Hoppen	City Manager
	Jennifer Ferrer-Santa Ines (Alt)	Finance Director

Member/Association	Name	Title
SeaTac	Tejvir Basra	SeaTac Community Member
	Robert Akhtar	SeaTac Community Member
	Joe Scorcio	SeaTac City Manager
	Steve Pilcher (Alt)	SeaTac Community & Economic Development Director
Tukwila	Katrina (Trina) Cook	Tukwila Community Member
	Joon (Thomas) Lee	Tukwila Community Member
	Brandon Miles	Tukwila Business Relations Manager
Port of Seattle	Lance Lyttle	Aviation Managing Director
	Mike Ehl (Alt)	Director of Airport Operations
	Marco Milanese (Staff)	Community Engagement Manager
Delta Air Lines	Tony Gonchar	Vice President – Seattle
	Scott Ingham (Alt)	Public Affairs Advisor
Alaska Airlines	Scott Kennedy	Manager, State and Local Government Affairs
	Matt Shelby (Alt)	Managing Director – Airport Affairs
Lynden Air Cargo	Laura Sanders	Vice President, Carrier Relations and Customer Experience
FAA (non-members)	Randy Fiertz	Director, Airports Division – Northwest Mountain Region
	Joelle Briggs	Seattle Airports District Office Manager
	Jason Ritchie	Assistant Manager, Seattle Airports Districts Office

3. 2018 MEETING OBJECTIVES, PRESENTATIONS, AND DISCUSSIONS

Background

Prior to the kick-off meeting of StART, the facilitator met with StART stakeholders either one-on-one or in groups by city, with the exception of Tukwila (due to time constraints). The stakeholders were asked to reflect on two questions:

1. What are the issues that you think are relevant to discuss as part of StART?
2. One objective of StART is to develop shared understanding. What would be helpful to know? Learn? For yourself and for the group?

The lists developed from discussions with the stakeholders (consolidated below) were used as a starting point for helping to identify future agenda items; therefore, items on this draft list may or may have become part of a meeting discussion. A third list was created as part of the inaugural meeting of StART (also below). The items listed are not in any order of priority.

1. What are the issues that you think are relevant to discuss as part of StART?

- Sustainable Airport Master Plan (SAMP) including the breadth of the environmental analysis
- Airport growth (airfield and airspace)
 - What would a positive shared vision of the future include?
 - What can be mitigated, prevented, monitored, improved now?
 - Are there alternatives to growing the airport?
 - What is the regional approach to growth?
 - Long-term visioning – what is the vision for the next 10 years, 20 years?
 - Are there other modes of transportation to pursue?
 - What is the best way to determine the capacity of the communities to handle impacts? How are limits to growth determined?
 - What is the best way to maximize use of the limited airport footprint while supporting livability and other goals?
- Noise
 - Night and early morning flights.
 - What generates specific noise?
 - How do community logs of noise compare to Port analysis?
 - Noise prevention and mitigation.
- Pollution and public health
- How are airport impacts mitigated, including options and opportunities to influence?
- Flights: flight paths, night flights
- Shared economic development opportunities and shared prosperity for the airport, airlines, and communities. How can employment opportunities for nearby residents be increased at the airport?

2. One objective of StART is to develop shared understanding. What would be helpful to know? Learn? For yourself and for the group?

- Roles, responsibilities, and decision-making authority of the Airport, Port, airlines, FAA, tenants, state, Puget Sound Regional Council (PSRC), and others in operations on the ground and in the air
- Transparency on what is being considered for the future, procedural changes
- NextGen modernization of national airspace
- Airline flight operations, flight paths, opportunities for pro-active input, and whole system approach
- What studies are currently being undertaken, what studies are needed, and what data need updating?
- Information on pollution and its health effects
- Understanding of safety zone – what it is, what it means, and who decides?
- Air cargo issues – what studies have been done, how do decisions get made, and what affects the Port’s goals?
- Understanding the Interlocal Agreement between the City of SeaTac and the Port
- Understanding how demand and flight patterns are determined/decided
- Shared data on user fees, stormwater runoff, and transportation planning
- Identification of opportunities for additional cooperative engagement with the FAA, Port, airlines, and communities, and identification of what type of engagement works well
- Future technologies – what is on the horizon?
- 3rd runway impacts on the communities
 - Compared to expectations communicated during the process
 - Identification of changing conditions
 - Comparison of mitigations identified to mitigations delivered
 - Comparison of expected use and current use
- Q400 aircraft – intent of airlines, timetable for use, capital plans for the fleet
- Port mission and community/economic benefits
- PSRC study on the air system
- General Airport management
 - Operations – changes/history, what drives growth?
 - Environmental – sustainability measures, noise programs including limitations, Part 150, airspace, air quality
 - Future investments including SAMP environmental review process and best way to influence and make comments
 - Programs – workforce development, noise

Issues added from February 28, 2018, StART Meeting Discussion

- Roles, responsibilities, and decision-making authority of the Airport, Port, airlines, FAA, landside operations (including transportation network companies [TNCs]), vehicle movement, and private and commercial
- Plans for baggage safety and luggage theft
- SAMP – timing of analysis, baseline assumptions at each stage, why certain choices were made. Why was an Environmental Assessment performed instead of an Environmental Impact Statement? What are the assumptions and where do they come from? Who influences the assumptions?
- Airport footprint – How can it be made bigger?
- Bullet trains, hyperloop technologies
- FAA community engagement opportunities
- Specific powers and obligations and explanation of federal preemption. What can be influenced?
- How does the FAA do flight path planning? What is behind some decisions made regarding flight paths? How is noise analyzed?
- Traffic impacts on I-5 and I-405. How are forecasts made? Is there a whole system approach to traffic and transportation planning?
- Growth and how airport growth impacts cities. What is spent on mitigation?
- Noise abatement programs
- How is the FAA noise contour decided? Do the formulas work?
- Health: Health authorities/University of Washington; what are impacts that can be related to the airport?
- NextGen and wake recategorization. What are its effects? What is in store for the communities with implementation of NextGen?
- Where can revenues be spent and not spent?
- What are the airlines, Port, and FAA's preferred future?
- Role, responsibilities, and what can be influenced
 - Is it possible for the Airport to have a curfew?
 - Who makes decisions and how is it decided when aircraft models are phased in or out, specifically Q400s?
 - How does noise mitigations work? What are the rules? Who is responsible for rule changes?
 - Who decides about nighttime flight restrictions?
 - Altitude analysis – How are choices made?

Development of Priorities

The generated list of ideas was expanded upon in the inaugural meeting of StART on February 28, 2018, and was followed up by a participant survey to identify priorities. Key themes from the survey included:

- Impacts: including noise; air quality, pollution, and public health; mitigation, prevention, reduction (range of options)
- Airport development and growth
- Meeting current and future demand
- Economic development/community/Port partnership potential
- Operations and investments

Through discussion at StART meetings, some priorities were further refined. The survey was distributed to members, with 20 individuals or entities responding. The following survey questions were developed to identify issue priorities:

- Question 1: Check THREE topics you are most interested in discussing.
- Question 2: Give each of your top three choices (from Question 1) a priority ranking, with 1 denoting the highest priority. (Only rank your top three choices.)

Results of the survey from April 23, 2018, are provided below, including information on ranking given to each topic.

Topic	# Who Chose Topic in Top 3 Choices	# Who Chose Topic as #1 Priority	# Who Chose Topic as #2 Priority	# Who Chose Topic as #3 Priority
Sustainable airport master plan	4	2	1	1
Airport growth and related topics	3	1	0	2
Noise	10	4	4	2
Air quality, pollution, and public health	8	1	5	2
Impact mitigation, prevention, reduction – range of options	8	2	2	4
Shared economic development opportunities	2	1	0	1
NextGen and wake recategorization	3	0	1	2
Visioning-preferred future for communities, airlines, Port, FAA	0	0	0	0
Overview of current studies and needed research	0	0	0	0

Topic	# Who Chose Topic in Top 3 Choices	# Who Chose Topic as #1 Priority	# Who Chose Topic as #2 Priority	# Who Chose Topic as #3 Priority
Air cargo	1	1	0	0
Understanding the Interlocal Agreement with the City of SeaTac	0	0	0	0
Community engagement and influence – how to increase effectiveness	1	0	1	0
Future technologies, including bullet trains, hyperloop technologies	1	1	0	0
3 rd runway impacts on communities	2	0	1	1
Q400s – intent of airlines, capital plans for fleet, timetable for use	2	1	0	1
Airport operations including future investment	1	0	0	1
Environmental sustainability efforts and programs	0	0	0	0
Environmental review processes	1	1	0	0
Airline flight operations, flight paths, nighttime flights, altitude analysis	4	2	2	0
Safety zone	0	0	0	0
Landside operations including TNCs, vehicle movement, private and commercial	3	1	1	1
Plans for baggage safety and luggage theft	1	0	0	1
Airport footprint	0	0	0	0
Specific powers and obligations and explanation of federal preemption	2	1	1	0
Traffic impacts, locally and regionally	3	1	2	0
Revenues – constraints and opportunities for spending	1	0	0	1

Meeting Progress and Summaries

Once initial priorities were established, objectives and agendas were developed for the meetings. The meeting agendas were iterative based on the emerging discussion and needs arising from each meeting. The following graphic shows the meeting objectives and progress in 2018. Meeting summaries are attached as Appendix I.

StART–2018 Meeting Progress

February 2018 Inaugural Meeting

Objectives:
Inaugural meeting

Discussion Topics:

- Roles and Commitments of Members, Role of Public, Role of Facilitator, Logistics, Operating Principles
- Public Comment
- Presentation: Sea-Tac International Airport (Port Staff)
- Discussion: 2018 Look Ahead—StART Priorities

April 2018

Objectives:
To expand and develop shared understanding of roles and responsibilities, decision-making authorities, and what can be influenced in aviation operations.

Discussion Topics:

- Public Comment
- Sea-Tac Airport Updates—Capital Projects; Monthly Statistics (Port Staff)
- Presentation and Discussion: Aviation Operations Roles and Responsibilities (FAA and Port Staff)

June 2018

Objectives:
To discuss and prioritize a list of potential actions for StART to explore related to preventing, reducing, and/or mitigating aviation noise. To consider constructive next steps including the formation of a StART aviation noise working group.

Discussion Topics:

- Congressional Update (Noise) (Port Staff)
- Discussion: Aviation Noise and Prioritization of Issues
- Sea-Tac Airport Updates—Capital Projects (SAMP); Operations
- Public Comment

August 2018

Objectives:
To review and discuss information from the initial meeting of the Aviation Noise Working Group. To develop shared understanding of Seattle region’s airspace and flight paths.

Discussion Topics:

- Briefing and Discussion: Aviation Noise Working Group
- Presentation and Discussion: Air Traffic Overview (FAA)
- Public Comment

October 2018

Objectives:
To review progress from the Aviation Noise Working Group. To develop understanding of the forthcoming fleet changes and how those may impact aviation noise.

Discussion Topics:

- FAA Reauthorization Update, SAMP Update
- Briefing and Discussion: Aviation Noise Working Group and Working Group Work Plan
- Presentation: Forthcoming Aircraft Fleet Changes (The Boeing Company, Delta Air Lines, Alaska Airlines)
- Public Comment

December 2018

Objectives:
To confirm next steps based on the work of the Aviation Noise Working Group. To hear and discuss Federal Congressional efforts related to airports and airport communities. To propose and discuss an additional working group.

Discussion Topics:

- Federal Congressional Briefing: Aviation Issues (office of U.S. Rep Adam Smith)
- Discussion: Proposal for Creating a StART Federal Policy Working Group
- Briefing and Discussion: Aviation Noise Working Group Action Agenda
- Public Comment

Revision of Operating Procedures

A mid-year check-in was held with member City Managers or their equivalents to discuss both progress and a number of process issues that arose during the first few meetings. The group reviewed the original Operating Procedures that had been developed to guide StART and recommended a number of changes to the procedures in order to bring clarity, address emerging processes, delete unnecessary statements, and update language. These revised procedures were agreed upon by consensus and reviewed with StART members. Major changes in the revised Operating Procedures included the following:

- StART was granted the ability to establish working groups to give identified topics a more in-depth focus
- A process was established for amending StART's Operating Procedures
- Parameters were delineated for public comment at StART meetings
- Alternates were clarified
- The quorum requirement was removed

The Revised Operating Principles are attached as Appendix II.

4. ESTABLISHMENT OF AVIATION NOISE WORKING GROUP

After dedicating the first two StART meetings to increasing awareness around a number of aviation-related topics, the members had an open conversation at their June meeting about where they would like to focus their energies going forward. The June meeting ended with the decision to create a smaller working group, composed of volunteer StART members and representatives from Delta Air Lines, Alaska Airlines, the FAA, and the Port. First held in August 2018, the Aviation Noise Working Group's (Working Group's) assignment was to prioritize and explore a list of potential near-term actions to prevent and reduce aviation noise.

A noise/aviation consultant with experience working with similar stakeholder groups was hired by the Port to provide technical analysis to the Working Group. The Working Group has met five times since its August 2018 meeting. Updates on the Working Group's progress are provided at all StART meetings. Meeting summaries of the Working Group are included as part of Appendix I. The Working Group also developed a work plan, which is attached as Appendix III. The following graphic shows the Working Group's meeting objectives and progress in 2018.

StART Aviation Noise Working Group Meeting Progress



August 2018 Inaugural Meeting

Objectives:

To establish the StART Aviation Noise Working Group. To begin discussion and prioritization of a list of potential actions for StART to explore related to preventing, reducing, and/or mitigating aviation noise. To consider constructive next steps.

Discussion Topics:

- Group Process and Objectives
- Discussion: Work Program and Priorities—Identification of Near-Term Actions
- Constructive Next Steps



September 2018

Objectives:

To review data on nighttime flight operations and to discuss examples of Letters of Agreement from other airports. To discuss and consider constructive next steps.

Discussion Topics:

- Data Sharing and Discussion of Nighttime Flight Operations
- Review and Discussion: Letter of Agreement
- Constructive Next Steps



October 2018

Objectives:

To review and provide feedback on approaches to a voluntary nighttime curfew and runway use agreement. To review analysis of nighttime operations. To discuss and consider constructive next steps regarding noise abatement departure procedures and a glide slope analysis.

Discussion Topics:

- Presentation and Discussion: Voluntary Nighttime Curfew and Runway Use Agreement
- Presentation and Discussion: Nighttime Operations
- Presentation and Discussion: Noise Abatement Departure Procedures
- Preview of Glide Slope Angle Analysis



November 2018

Objectives:

To review and provide feedback on drafts of a voluntary late-night curfew and a Runway Use Agreement. To analyze the potential options for changes in glide slope as a potential means to reduce aviation noise. To provide guidance on the Aviation Noise Working Group's Draft Work Plan.

Discussion Topics:

- Review and Discussion: Draft of Voluntary Late-Night Curfew Strategy
- Review and Discussion: Draft of Runway Use Agreement
- Presentation and Discussion: Glide Slope Angle Analysis
- Review of Draft Work Plan



December 2018

Objectives:

To complete discussions on the voluntary nighttime curfew and Draft Runway Use Agreement in order to solicit feedback from StART and begin implementation steps. To identify and discuss additional near-term noise reduction actions and to prepare for the 2019 Work Plan.

Discussion Topics:

- Review and Discussion: Final Draft Voluntary Nighttime Curfew (Fly Quiet Late-Night Noise Limitation Program)
- Review and Discussion: Revised Draft of Runway Use Agreement
- Discussion: A320 Vortex Retrofit
- Discussion: Glide Slope Angle Analysis

Near-Term Aviation Noise Action Agenda

At the Working Group's first meeting in August, the members approved exploring four near-term efforts linked to preventing and reducing aviation noise:

- Runway Use Agreement
- Late-Night Noise Limitation Program
- Glide Slope Angle Analysis
- Airfield Noise Assessment

The four near-term efforts were branded the Near-Term Aviation Noise Action Agenda. If and when appropriate, the Working Group could consider adding other efforts to the agenda.

With the Runway Use Agreement and the Late-Night Noise Limitation Program, significant progress has been made by the Working Group to date. A preliminary draft of the Runway Use Agreement has been submitted to the FAA for review and the Late-Night Noise Limitation Program is currently in design. The Working Group is expected to recommend a path forward for the Glide Slope Angle Analysis in early 2019. Work on defining the Airfield Noise Assessment will begin in early 2019. Additional details on these agenda items are provided below.

Runway Use Agreement: The most consequential proposed change to the agreement, which was originally implemented in 2010, is language clarifying minimized use of the 3rd Runway during the late-night hours (12:00 AM to 5:00 AM). FAA review and acceptance of the new agreement is required, and an FAA-directed environmental review might also be a requirement. *Potential enactment: mid-2019*

Late-Night Noise Limitation Program: The program is designed to reduce late-night (12:00 AM to 5:00 AM) noise by incentivizing air carriers to fly at less noise sensitive hours or transition to quieter aircraft. The incentive is the addition of a new category to the Port's already established Fly Quiet Program that assigns air carriers a penalty score for any late-night flights above a specified noise threshold. The program's various thresholds are still being calculated. Once the calculations are complete, the Port will begin publicizing the program with the air carriers. *Potential enactment: mid-2019*

Glide Slope Angle Analysis: An approach for raising Runway 34R's glide slope from 2.75 degrees to 3.0 or 3.1 degrees has been identified. Raising the glide slope on Runway 34R could provide a small noise reduction from aircraft arriving over communities south of the airport. The defined approach and timeline will require FAA approval. As a next step, options for raising the glide slopes on all runways higher than 3 degrees will be evaluated. *Potential enactment: TBD*

Airfield Noise Assessment: The assessment is expected to investigate and determine sources of airfield noise troublesome to the community, including noise generated by aircraft reverse thrust. *Potential enactment: TBD*

The Near-Term Aviation Noise Action Agenda is attached as Appendix IV.

5. StART IN 2019

StART will continue with meetings every other month in 2019, serving as a forum for hearing the concerns from the six neighboring Airport communities and for identifying ways that all parties can work together more cooperatively on possible solutions to those concerns.

The Working Group will continue to meet on a monthly basis to advance the Near-Term Aviation Noise Action Agenda. Other efforts are expected to be identified by the Working Group in 2019 and added to the agenda, including a campaign to encourage air carriers to retrofit A320 aircraft to reduce noise when descending.

At its December 19 meeting, StART also agreed to form a new working group focused on federal policy. Specifically, the new working group would look at policies already passed as part of the FAA Reauthorization legislation and aviation-oriented legislation expected to be championed by U.S. Representative Adam Smith and other local U.S. Representatives in Congress. The goal would be to identify ways StART can work collectively to ensure these enacted and proposed policies and legislation are fully and successfully implemented. The new working group is expected to hold its first meeting early in 2019.

Appendix I

StART Meeting Summaries



StART FACILITATOR'S MEETING SUMMARY
Wednesday, February 28, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Wednesday, February 28, 2018

6:00-8:00, Conference Center SeaTac Airport

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	X	Tejvir Basra	SeaTac	X
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	X
Brian Wilson	Burien	X	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	-	Jeff Robinson (Alt)	SeaTac	X
John Resing	Federal Way	X	Katrina (Trina) Cook	Tukwila	X
Chris Hall	Federal Way	X	Joon (Thomas) Lee	Tukwila	X
Yarden Weidenfeld	Federal Way	X	Brandon Miles	Tukwila	X
Sheila Brush	Des Moines	X	Lance Lyttle	Port of Seattle	X
Ken Rogers	Des Moines	X	Mike Ehl	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher (Alt)	Port of Seattle	-
Eric Zimmerman	Normandy Park	X	Katie Halse	Port of Seattle	X
Earnest Thompson	Normandy Park	X	James Masoero for 2/28 mtg (Tony Gonchar unavailable)	Delta Airlines	X
Mark Hoppen	Normandy Park	X	Scott Ingham (Alt)	Delta Airlines	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Megan Ouellette	Alaska Airlines	-
	air cargo	-	Matt Shelby (Alt)	Alaska Airlines	X
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Agency	X	Joelle Briggs	Federal Aviation Agency	X

Facilitator: Phyllis Shulman, Civic Alchemy

Introductory Comments: Lance Lyttle, Sea-Tac Airport Director

Lance discussed the purpose of the advisory roundtable and set the stage for this new initiative.

- Opportunity for a new approach
- Work to understand one another and listen through a new lens
- Desire constructive feedback and honest and respectful conversations

- May involve sometimes difficult conversations, but desire is to be focused on solutions
- First time this group of individuals are at the table together

Member Introductions: StART Members

Members introduced themselves and answered the question: “What does a cooperative relationship look like to you?”

Responses included:

- Mutual understanding of facts and data
- Transparency and balance
- Clear understanding of roles and accountability for responsibility
- Agenda that we can agree to and discussion based on facts/data
- Raising awareness and keeping stakeholders engaged
- Not about dwelling in the past, but about moving forward together
- Progressive partnership between community and the Port, FAA, and airlines; increase the positive impact within the community
- Listen to all parties
- Listen with open mind and giving benefit of the doubt
- Evidenced based data
- Listen and be willing to change your mind
- Mutual benefits that are allocated justly to all participants
- Find common areas
- Listening, open/honest communication, respect other viewpoints which might be different from your own
- Thoughtful, sharing, listening
- Willingness to compromise
- Willingness to listen
- Open and honest exchange, listen to one another
- Listen to each other and seek solutions

Introduction of Facilitator, Phyllis Shulman

The facilitator discussed roles and commitment of members, the role of the public, and the format and logistics of future meetings. She also reviewed general meeting protocols.

Public Comment

The facilitator reviewed that 10 minutes of public comment are allowed at each meeting. In addition to oral comment, written comment sheets are available and all comments will be attached to the meeting summary as an appendix.

Public comments are compiled on Appendix B. of the meeting summary.

Presentation and Q & A: Lance Lyttle & StART Members

Lance presented an overview of the Sea-Tac International Airport. The presentation is available at the StART website [here](#).

Questions and comments after the presentation:

1. Q. How many people came through the airport pre-9/11?
A. About 22 million. More flights, but fewer passengers.
2. Q. What does TNC stand for?
A. Transportation network companies
3. Q. Airport is always under construction. Will it ever be complete, stop changing, etc.?
A. Yes, it's always under construction. Ours is renovation.
4. Q. How can you have more people going through the airport with fewer flights?
A. Aircraft are being replaced by larger planes which accommodate more passengers. In 2000, there were 22 million passengers.
5. Q. This is the third airport you've worked at (referring to Lance). Is community engagement similar at other airports?
A. No, if a stakeholder meeting like this was held in Houston, unlikely that the public would show up. The impact of the airport is different in different communities.

Discussion: StART Members

The facilitator asked participants to review the initial list of possible topics for discussion at the StART meetings and to brainstorm on other topics. The initial list and additions to that list based on the conversation is attached to the meeting summary as Appendix A.

Participants discussed potential agenda items for the April meeting. There was wide agreement that understanding roles and responsibilities, authorities, and what can be influenced is foundational for other issues. Participants expressed interest in a number of other issues. These issues are noted in Appendix A. The facilitator will develop a survey to get feedback on priorities for discussion topics to inform agenda development.

Meeting Wrap Up: Lance Lyttle & StART Members

Lance thanked everyone for attending and looks forward to future meetings.

Next Meeting: Wednesday, April 25, 2018
Sea-Tac International Airport Conference Center, 6:00 pm – 8:00 pm

MEETING EVALUATIONS

(Meeting evaluations were not utilized for this meeting.)

of responses _____

1. Overall Meeting Experience	Poor	Fair	Good	Very Good	Excellent
N/A					

2, Presentations	Not Useful	Somewhat Useful	Very Useful
N/A			

Comments: N/A

3. Discussion	Not Useful	Somewhat Useful	Very Useful
N/A			

Comments: N/A

4. Overall Comments, Suggestions, or Questions: N/A

5. Outreach and engagement involvements reported during the last two months: N/A

Appendix A:

Potential List of Issues for Discussion Based on Facilitator's Meetings with Stakeholders

As of 03-23-18

Background:

Prior to the kick-off meeting of StART the facilitator met with all StART stakeholders, with the exception of Tukwila (due to time constraints). As part of each meeting the stakeholders were asked to reflect on a number of questions. The following lists are a consolidation of the answers to two questions:

- 1. What are the issues that you think are relevant to discuss as part of StART?*
- 2. One objective of StART is to develop shared understanding. What would be helpful to know? Learn? For yourself and for the group?*

These lists are a starting point for helping to identify future agenda items; therefore, items on this draft list may or may not be part of a meeting discussion. The list will be modified over time, based on interest, as priorities for discussion emerge and additional issues are added. The items listed are not in any order of priority.

1. What are the issues that you think are relevant to discuss as part of StART?

- SAMP including the breadth of the environmental analysis
- Airport growth (airfield and airspace) –
 - What would a positive shared vision of the future include?
 - What can be mitigated, prevented, monitored, improved now?
 - Alternatives to growing the airport?
 - Regional approach to growth
 - Long-term visioning – what is vision for next 10 years, 20 years?
 - Other modes of transportation to pursue?
 - How to determine the capacity of communities to handle impacts? How are limits to growth determined?
 - What is best way to maximize use of the limited airport footprint while supporting livability and other goals?
- Noise
 - Night and early morning flights
 - What generates specific noise?

- How do community logs of noise compare to Port analysis?
- Noise prevention and mitigation
- Pollution and Public Health
- How are airport impacts mitigated for, including options and opportunities to influence?
- Flights -flight paths, night flights
- Shared economic development opportunities and shared prosperity for the airport, airlines, and communities. How to increase employment opportunities at the airport for nearby residents?

2. One objective of StART is to develop shared understanding. What would be helpful to know? Learn? For yourself and for the group?

- Roles, responsibilities, and decision-making authority of airport, Port, airlines, FAA, tenants, State, PSRC, and others in operations on the ground and in the air.
- Transparency on what is being considered for the future, procedural changes
- Next Gen
- Airline flight operations, flight paths, opportunities for pro-active input, whole system approach
- What studies are currently being undertaken, what studies are needed, and what data needs updating?
- Information on pollution and health effects of pollution
- Understanding of safety zone – what it is, what it means, who decides?
- Air cargo issues- what studies have been done, how do decisions get made, what affects the Port’s goals?
- Understanding the Interlocal Agreement between SeaTac and Port
- Understanding how demand and flight patterns are determined/decided
- Shared data on user fees, storm water runoff, transportation planning
- Identification of opportunities for additional cooperative engagement with FAA, Port, airlines, communities and identification of what type of engagement works well
- Future technologies – what is on the horizon?
- 3rd runway impacts on the communities
 - compared to expectations communicated during the process
 - identification of changing conditions
 - comparison of mitigations identified to mitigations delivered

- comparison of expected use and current use
- Q400s – intent of airlines, timetable for use, capital plans for the fleet
- Port of Seattle mission and community/economic benefits
- PSRC Study on Air System
- Airport
 - Operations – changes/history, what drives growth
 - Environmental- sustainability measures, noise programs including limitations, Part 150, Airspace, air quality
 - Future investments including SAMP Environmental review process and best way to influence and make comments
 - Programs – workforce development, noise

Issues added from 02-28-18 StART Meeting Discussion

- Landside operations including transportation network companies (TNCs), vehicle movement, private and commercial
- Plans for baggage safety and luggage theft
- SAMP- timing of analysis, baseline assumptions at each stage, why certain choices were made. Why EA instead of EIS? What are the assumptions and where do they come from? Who influences the assumptions?
- Airport footprint- how to make it bigger
- Bullet trains, hyperloop technologies
- FAA community engagement opportunities
- Specific powers and obligations and explanation of federal pre-emption. What can be influenced?
- How does the FAA do planning for flight paths? What is behind some decisions made regarding flight paths? How is noise analyzed?
- Traffic impacts on I-5, I-405. How are forecasts made? Is there a whole system approach to traffic and transportation planning?
- Growth and how airport growth impacts cities. What is spent on mitigation?
- Noise abatement programs
- How FAA noise contour is decided? Do the formulas work?
- Health. Health authorities/University of Washington-what are impacts that can be related to the airport?
- Next Gen and Wake Re-categorization. What are its effects? What's in store for communities with Next Gen?

- Where can revenues be spent and not spent?
- What are the airlines, Port, and FAA's preferred future?
- Role, responsibilities, and what can be influenced?
 - Is it possible for the airport to have a curfew?
 - Who makes decisions and how is it decided when aircraft models are phased in or out, specifically Q400s?
 - How noise mitigations work. What are the rules? Who is responsible for rule changes?
 - Nighttime flight restrictions. Who decides?
 - Altitude analysis –how choices are made.

Appendix B:

Summary of Public Comments

1. Mike O'Hallorran (written comments):

- Should airline pilots or pilot associations be invited to attend StART?
- I would like to thank all the government agencies, airlines partners for being involved.
- Only “2 or 3” airline partners are “fly quiet” partners.
- My neighborhood in the Renton Highlands is impacted by SeaTac, Boeing Field, and Renton Municipal.
- I like the concept of “what subjects can we as a group” influence? Is there hanging fruit?
- Possible agenda and speaker subjects:
 - Sea-Tac Airport emission reductions. Ground based port and airline transportation initiatives for cleaner vehicles. (Somewhat in likeness to the Port of Seattle’s class 8 truck new model program)
- Impact of air traffic over the Puget Sound eastside including the new “southwest approach” for planes arriving from the east coast and internationally.
 - Currently, there are intermittent days where air traffic is too low over the eastside.
 - Also includes using a gliding airport approach versus the use of full power to descend.
 - Are propeller driven aircraft “scattering” after takeoff” Are they full flights’ Are they flying too low”.
- Grade each airline companies using a scale similar to the Heathrow Airport study.
- What is the “fly quiet” program”? (Alaska, Horizon and Delta account for over 60% of air traffic and are not “fly quiet” partners.)
- How can the Port of Seattle help airline companies become “fly quiet” compliant at Sea-Tac Airport. (Aircraft with over 20 years of service should not be allowed to use Sea-Tac Airport or McDonald Douglas MD-80 type of aircraft use banned for Sea-Tac-airspace.)

2. Christopher Mitchell (Des Moines) (oral comments):

- Lives under the 3rd runway flight path on 10th Ave. S. Is concerned about pollution, noise, and cancer risks. Hopeful that there can be bullet trains and hyperloops

incorporated into the transportation system as has happened in many other countries including China and Japan.

3. David Goebel (representing noRNP) (written comments):

- While I understand this was the kickoff meeting, I was disappointed by the technical level of the discussion. For future meetings, I and my organization, nornp.org would like the FAA representatives to engage much more deeply on topics such as Wake Recategorization and Optimized Profile Descent's Impact on extended low altitude level-offs on approach.

I would also suggest that Vashon Island should have been included among the communities severely impacted by KSEA. With the 2015 introduction of the HAWKZ RNP, and its concentrated flight path and lowered altitudes to permit Elliot Bay arrivals, some parts of Vashon Island newly have DNL comparable to, if not more than, some parts of the other communities that "are" part of StART.

StART FACILITATOR'S MEETING SUMMARY
April 25, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

April 25, 2018

6:00–8:00 PM, Conference Center Seattle-Tacoma International Airport

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	X	Tejvir Basra	SeaTac	X
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	X
Brian Wilson	Burien	X	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	-	Jeff Robinson (Alt)	SeaTac	X
John Resing	Federal Way	X	Katrina (Trina) Cook	Tukwila	X
Chris Hall	Federal Way	X	Joon (Thomas) Lee	Tukwila	-
Yarden Weidenfeld	Federal Way	X	Brandon Miles	Tukwila	-
Sheila Brush	Des Moines	X	Lance Lyttle	Port of Seattle	X
Ken Rogers	Des Moines	X	Mike Ehl	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher (Alt)	Port of Seattle	X
Eric Zimmerman	Normandy Park	X			
Earnest Thompson	Normandy Park	X	Tony Gonchar	Delta Air Lines	X
Mark Hoppen	Normandy Park	X	Scott Ingham (Alt)	Delta Air Lines	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Megan Ouellette (represented by Steven Osterdahl)	Alaska Airlines	X
Laura Sanders	Lynden (air freight shipping and logistics)	-	Matt Shelby (Alt)	Alaska Airlines	-
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Administration	X	Joelle Briggs	Federal Aviation Administration	X

Additional Participants:

Kim Stover, Federal Aviation Administration

Katie Halse, Port of Seattle

Facilitator: Phyllis Shulman, Civic Alchemy

Meeting Objective:

To expand and develop shared understanding of roles and responsibilities, decision-making authorities, and what can be influenced in aviation operations.

Welcome: Lance Lyttle, Airport Director

After member introductions, Lyttle reviewed the meeting objective and reflected on the previous meeting, highlighting that these are difficult conversations but he desires to focus on solutions. Gaining a shared understanding of roles and responsibilities will help StART to narrow in on the solutions to focus on. He emphasized the importance of building a cooperative relationship that includes listening with an open mind, evidence based information, transparency, and respect for other's viewpoints.

Public Comment

The facilitator reviewed that 10 minutes of public comment is allocated at each meeting. In addition to oral comment, written comment sheets are available and all comments will be attached to the meeting summary as an appendix (Compiled public comments are included here as Appendix A).

Sea-Tac Airport Updates: Lance Lyttle, Airport Director

Katie Halse, Local Government Relations Manager

Lyttle provided an airport update on operations and ongoing facility construction. The update included a roll out of the Port's new website and examples of accessible information, including airport capital projects and airport statistics. A new feature on the website includes downloadable data on Sea-Tac's flight track monitoring system using 24 permanent noise monitors to show single and daily noise events. Airport noise data can be found here: <https://public.tableau.com/profile/portofseattlebi#!/vizhome/Sea-Tacnoisemonitoringsystemdata/Contents>.

Lyttle also announced that the Port will be inviting StART members and Highline Forum members to a Noise 101 workshop that will be held in May. A leading noise expert will lead the workshop. The facilitator will send out details of the date and location to StART members for registration.

Facilitator's Update: Phyllis Shulman, Civic Alchemy

Shulman shared the results from the member survey related to prioritizing possible future discussion topics (Appendix B). She noted that some topics are interrelated with the following themes:

- Impacts: including noise; air quality, pollution and public health; impact mitigation, prevention, reduction (range of options)

- Airport development and growth
- Meeting current and future demand
- Economic development/community/Port partnership potential
- Operations and investments

The facilitator reviewed three principles for engagement in discussion:

- Respect: Multiple viewpoints exist and all have value
- Generosity: Share your viewpoint with others and give time to others to share theirs
- Curiosity: Listen to what is important to others

Aviation Operations: Roles and Responsibilities

The main topic of the meeting was aviation operations – roles and responsibilities. Presenters and panelists included:

- Mike Ehl, Director, Airport Operations, Port of Seattle
- Stan Shepherd, Aviation Noise Programs Manager, Port of Seattle
- Arlyn Purcell, Director, Aviation Environment and Sustainability, Port of Seattle
- Randy Fiertz, Director, Airport Division, Northwest Mountain Division, Federal Aviation Administration (FAA)
- Kim Stover, Director of Operations, Air Traffic Services, Western Service Area, FAA
- Tony Gonchar, Vice President, Seattle, Delta Air Lines
- Steven Osterdahl, Director, Air Traffic and Airspace Operations, Alaska Airlines

Presentation

The presentation by Port staff and FAA representatives is available here:

https://www.portseattle.org/sites/default/files/2018-04/2018_04_25%20StART%20Role_Responsibility%20Presentation_FINAL%20for%20WEB.pdf.

A video provided by the FAA regarding Air Traffic Control Procedures for the Seattle Region is available here:

<https://www.youtube.com/watch?v=YMxpKhzNnjI&feature=youtu.be>

StART members submitted a number of questions to the facilitator prior to the meeting. Presenters worked to address questions related to aviation operations roles and responsibilities in the presentation or during the panel discussion.

Question & Answer: Panel and StART Members

Following the presentation, panelists were asked questions from StART members. Some of the topics were captured on a “bulletin board” (Appendix C) for discussion at future meetings or follow-up.

The panel provided responses to various issues and questions raised by the members, including:

- development of flight paths;
- Port of Seattle requirements under FAA’s grant assurances
https://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf;
- ability of the Port of Seattle to impose flight restrictions on service to Sea-Tac;
- local noise ordinance enforcement;
- flight path decision-making;
- FAA’s role in the Port of Seattle’s Sustainable Master Plan;
- voluntary curfews;
- utilization of 14 Code of Federal Regulations (CFR) Part 161, Notice and Approval of Airport Noise and Access Restrictions;
- restrictions/limitations of Port of Seattle utilization of grant funds from the FAA as well as property tax levy funds;
- air traffic controller incentives;
- determination of airline hubs;
- concerns about possible aircraft separation changes;
- noise mitigation;
- FAA’s noise annoyance study; and
- whether FAA and Port of Seattle have considered increasing compensation to developers due to additional costs due to height restrictions and sound insulation.

Meeting Wrap Up: Lance Lyttle & StART Members

Based on survey results, the facilitator stated that the next StART meeting will focus on impacts: noise; air quality, pollution and public health; impact mitigation, prevention, reduction –range of options. Lyttle thanked StART members and the public for their attendance.

Next Meeting: June 27, 2018

Sea-Tac International Airport Conference Center, 6:00 pm – 8:00 pm

MEETING EVALUATIONS *for April 25, 2018 StART Meeting*

of responses: 9

1. Overall Meeting Experience

Poor	Fair	Good	Very Good	Excellent
0	3	2	2	1

2. Presentation

Not Useful	Somewhat Useful	Very Useful
1	7	1

Comments:

- We do not need airport stats or website updates. We need more time for discussion.
- No presentation should have content that can't be read on the screen. Really not good use of time to have material on the screen that does not communicate well.
- Presentations seemed "canned," just the party line.
- Nice to learn some of the big picture of the airport

3. Discussion

Not Useful	Somewhat Useful	Very Useful
0	4	5

Comments:

- The questions from the panel were most important, while not answered in full transparency they were educated questions.
- There are just so many complexities it is difficult to get a sense of accomplishment or progress. But, it certainly is better than past meetings. It is worth keeping the dialogue. Just difficult and complex topics in a short period.
- Need some information on how you work together. We just heard how you work independently.
- Mostly on topic.

4. Overall Comments, Suggestions, or Questions

- Need work group to invite bullet train and hyperloop reps.
- More discussion/less presentation.
- Give power points out in advance.
- Move public comment to after discussion.
- Huge step forward in understanding the complexity.
- Need some work on your graphics. They were unreadable.
- Ideas about “focus on what we can do” and “what tools do we have at our disposal” are worth FAA answering! Work group on part 161 would be a good idea.
- Someone needs to respond to the concern about compensation for removal of trees within the clear area of the safety zone when on private property.
- Public comment usually isn’t a discussion . . . not sure if the expectation is clear for the attending public.

5. Outreach and engagement involvements reported during the last two months

N/A

Appendix A

Summary of Public Comments

1. David Goebel (written comments):
 - Please bring someone from the tower to explain the complete decision flow chart that's used when a flow change is made.

2. Mike O'Halloran (written comments):
 - Sea-Tac airport does an extensive evaluation of flights and flight patterns. The Renton Highlands is impacted not only by Sea-Tac traffic but also small aircraft from Renton Airport and Boeing Field, tripling the impact on the ground.
 - So, the impact surface area of Sea-Tac should be expanded to an area at least 10 miles in all directions. Meaning ALL even the smallest aircraft in the 10 mile area are monitored and under flight controller control with an emphasis on "flying friendly."
 - We need a no fly/activity curfew rule for/from 10 PM to 5 AM.
 - Why not use Moses Lake airport for all international flights from the State of Washington?

3. Susan Petersen (written comments):
 - Too much B.S. and dancing around DIRECT questions
 - Ms. Facilitator must understand that 1.5 minutes is NOT enough time and before we hear the content of the meeting. This is a very emotional issue for those of us whose greatest investment is our home! Our health counts too!
 - What about the people?! None of the FAA or POS addresses us. It's all about money for the Port and nothing, not even our quality of life for us.
 - 1970's DNL is not even close to what it should be today and you all know

4. Dana Holloway (oral comments):
 - Have lived in Federal Way for 42 years. Noise has increased impacting quality of life. Can't enjoy being outside or inside. Port, FAA, and airlines have taken away peaceful quality of life. Stop noise and pollution – why do you refuse to make a decision? Instead, you increase cargo and commercial flights. Port Commissioners should be required to live under the flight path.

5. Debi Wagner (oral comments):
 - Request to provide comments at the end of the meeting instead of the beginning. Public should be able to provide comments and feedback after hearing the public comments. How bad are you going to hurt us and what are

you going to do about it? Harms are additive. Everything from the 3rd runway forward is additive and cumulative. Do no harm. Improve the environment, if possible.

6. Larry Cripe (oral comments):

- Member of Quiet Skies Coalition. Specifically to the FAA: we have never been allowed to sit in on meetings with the City and FAA. We were promised that there wouldn't be a fourth runway but July 26, 2016 changed that with the turns over Burien. The decision process has not been openly accessible to the public.

7. Carol Oliver (oral comments):

- 15-year resident. Noise has increased greatly. Gardening isn't enjoyable and worried about toxins. Have been experiencing ear infections, hearing/ health problems, difficult sleeping, unable to concentrate. There is a decrease in property value. Insulted by comments about the same people calling on the complaint line.

8. Candace Urqhart (oral comments):

- Request discussion during the StART meeting about the cutting down of trees between the FAA and the Port, including who is requiring that trees are removed on private property without compensation? And who is taking responsibility? Only 10 minutes of public comment is inadequate and a joke.

9. JC Harris (oral comments):

- Communities are in a reactive mode. Cities should join together to establish a public group with a public fund to create a political organization different from the Port. The Port should be ours.

Appendix B

StART Potential Discussion Topics Survey Results as of 4-23-18

Question 1. Check THREE topics you are most interested in discussing.

Question 2. Give each of your top three choices (from Question 1) a priority ranking, with 1 denoting the highest priority. (Only rank your top three choices.)

TOTAL RESPONSES: 20

Topic	Number who chose topic in their top 3 choices	Number who chose topic as #1 priority	Number who chose topic as #2 priority	Number who chose topic as #3 priority
Sustainable Airport Master Plan	4	2	1	1
Airport Growth and related topics	3	1	0	2
Noise	10	4	4	2
Air quality, pollution, and public health	8	1	5	2
Impact mitigation, prevention, reduction –range of options	8	2	2	4
Shared economic development opportunities	2	1	0	1
Next Gen and Wake Recategorization	3	0	1	2
Visioning-preferred future for communities, airlines, Port, FAA	0	0	0	0
Overview of current studies and needed research	0	0	0	0
Air cargo	1	1	0	0
Understanding the Interlocal Agreement with the City of SeaTac	0	0	0	0
Community engagement and influence – how to increase effectiveness	1	0	1	0
Future technologies, including bullet trains, hyperloop technologies	1	1	0	0

Topic	Number who chose topic in their top 3 choices	Number who chose topic as #1 priority	Number who chose topic as #2 priority	Number who chose topic as #3 priority
3 rd runway impacts on communities	2	0	1	1
Q400s – intent of airlines, capital plans for fleet, timetable for use	2	1	0	1
Airport operations including future investment	1	0	0	1
Environmental sustainability efforts and programs	0	0	0	0
Environmental review processes	1	1	0	0
Airline flight operations, flight paths, nighttime flights, altitude analysis	4	2	2	0
Safety zone	0	0	0	0
Landside operations including TNCs, vehicle movement, private and commercial	3	1	1	1
Plans for baggage safety and luggage theft	1	0	0	1
Airport footprint	0	0	0	0
Specific powers and obligations and explanation of federal pre-emption	2	1	1	0
Traffic impacts, locally and regionally	3	1	2	0
Revenues – constraints and opportunities for spending	1	0	0	1

Appendix C

Bulletin Board of Technical Questions/Topics for Future Discussion or Follow-up

- Distribute information on the 39 grant assurances
- Determination of runway north/south flow
- Components of determination or changes to separation
- 65 DNL congressionally mandated?

StART FACILITATOR'S MEETING SUMMARY
Wednesday, June 27, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Wednesday, June 27, 2018

6:00–8:00 PM, Conference Center SeaTac Airport

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	X	Tejvir Basra	SeaTac	X
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	X
Brian Wilson	Burien	-	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	X	Jeff Robinson (Alt)	SeaTac	X
John Resing	Federal Way	-	Katrina (Trina) Cook	Tukwila	X
Chris Hall	Federal Way	X	Joon (Thomas) Lee	Tukwila	X
Yarden Weidenfeld	Federal Way	-	Brandon Miles	Tukwila	X
Sheila Brush	Des Moines	X	Lance Lyttle (phone)	Port of Seattle	X
Ken Rogers	Des Moines	X	Mike Ehl (Alt)	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher (Alt)	Port of Seattle	X
Eric Zimmerman	Normandy Park	X	Tony Gonchar	Delta Airlines	X
Earnest Thompson	Normandy Park	X	Scott Ingham (Alt)	Delta Airlines	X
Mark Hoppen	Normandy Park	X	Megan Ouellette	Alaska Airlines	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Matt Shelby (Alt)	Alaska Airlines	-
Laura Sanders	Lynden (air cargo)	X	Scott Kennedy	Alaska Airlines	-
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Agency	X	Joelle Briggs	Federal Aviation Agency	X

Additional Participants:

Eric Schinfeld, Port of Seattle

Marco Milanese, Port of Seattle

Facilitator: Phyllis Shulman, Civic Alchemy

Note taker: Megan King, Floyd Snider

Meeting Objectives:

To discuss and prioritize a list of potential actions for StART to explore related to preventing, reducing, and/or mitigating aviation noise. To consider constructive next steps including the formation of a StART aviation noise working group.

Welcome: Lance Lyttle, Airport Director

Lyttle welcomed participants and gave an overview of his intent for the meeting highlighting his interest in moving forward with some constructive ideas and recommendations for action. Lyttle stated that starting with this meeting and going forward, the group will focus on what we can do collaboratively to move toward practical solutions.

Lyttle participated by phone due to his travel schedule.

Member Introductions: StART Members

All members and participants introduced themselves and their affiliations.

Facilitator's Update: Phyllis Shulman, Civic Alchemy

The facilitator described that during the last meeting comments were received from the public about the public comment process during these meetings. Surveys were sent to StART participants to solicit feedback about where in the agenda to have public comment. As a result of the feedback, the public comment period has been moved to the end of the meeting.

The public comment period will be 10 minutes, with each commenter limited to 1–3 minutes each, depending on the number of commenters who wish to speak.

The facilitator also reminded the public that the StART community representatives at this meeting are appointed by their respective cities to represent their communities. She encouraged the public to engage with the StART community representatives if they have comments or concerns that they would like to see addressed.

Congressional Update on Aircraft Noise Mitigation: Eric Schinfeld, Port of Seattle

Schinfeld explained that many noise regulations are determined by Congress. Schinfeld summarized the status of five current bills in Congress that have a component related to noise mitigation.

FY18 APPROPRIATIONS

- PROVIDES FUNDING FOR FEDERAL GOVERNMENT THROUGH SEPTEMBER 30, 2018.
- Contained increased funding for eight Federal Aviation Administration (FAA) full-time equivalents (FTEs), one for each regional office, to focus on community engagement.
- The Port of Seattle (the Port) and cities have sent a joint letter calling for expedited hiring of this person in our region, and our Congressional delegation under Senator Murray's leadership has sent a similar letter.

FAA REAUTHORIZATION BILL

- Passed House on April 27, 2018.
- Contains multiple noise studies, including:
 - Adds Seattle to a national study of the impact of noise on human health near major airports;
 - Encourages exploration of the feasibility of dispersal headings or other lateral track variations to address community noise concerns;
 - Requires the FAA to complete within one year the ongoing evaluation of alternative metrics to the current Day Night Level (DNL) 65 standard;
 - Directs the FAA administrator to study the relationship between jet aircraft approach and takeoff speeds and corresponding noise impacts on communities surrounding airports; and
 - Requires a GAO report studying whether air traffic controllers and airspace designers are trained on noise and health impact mitigation in addition to efficiency.
- Contains language ensuring noise insulation funding eligibility for Highline Public Schools.

The Bill is currently in the Senate with unclear prospects, mostly due to issues related to pilot training requirements, unrelated tax issues, and lack of availability for Senate floor time.

NATIONAL DEFENSE AUTHORIZATION ACT

- The House version of the annual military funding authorization bill now contains the same legislation from the FAA bill that ensures eligibility for Highline Public School noise insulation funding (supported by U.S. Representative Adam Smith).
- The Bill has now passed the House and the Senate, and is awaiting a conference committee to resolve differences between the two bills. Final passage is expected in the next few months.

FY 19 APPROPRIATIONS

- In process now.
- House Transportation Appropriations bill, which includes the FAA, has several noise provisions, including:
 - Language that “strongly encourages the FAA to permit second round noise insulation to account for subsequent improvements in technology.”
 - “Directs the FAA to evaluate alternative metrics to the current Day Night Level (DNL) 65 standard, and requests that the FAA not rely solely on modeling and simulation for the evaluation.”
 - The committee also recommended that Regional Centers of Air Transportation Excellence should study “the impacts of aircraft noise on humans and effective methods for mitigating such impacts.”
- Unclear when appropriations will be finalized, possibly by September 30, 2018, due to controversy over other unrelated issues.

AVIATION IMPACTED COMMUNITIES ACT

- New legislation proposed by U.S. Representative Adam Smith.
- The legislation would help cities, localities, and neighborhoods engage with the FAA, and it would require that the FAA communicate directly with residents and locally-nominated leaders on issues of aviation noise and environmental impacts through the creation of community boards.
- It establishes a new “aviation impacted communities” designation, defined as any residential neighborhood or municipality located 3,000 feet below, and one mile on either side of any commercial jet route.
- It would require that the FAA develop action plans to respond to both communities’ concerns as well as any recommendations for mitigation identified in impact studies.
- It would expand the availability of mitigation funding for aviation-impacted communities outside of the current 65 DNL contour.
- However, there is not a clear path to passage for this legislation at the current time.

Christine Nhan, U.S. Representative Adam Smith’s field representative, added that this legislation is being prepared in coordination with the Port, FAA, and others. This bill is a starting point and they are always interested in gathering additional feedback. They have been working with the Quiet Skies Coalition, who is also supportive. U.S. Representative Pramila Jayapal’s office is also supportive. Nhan encouraged StART participants and the public to reach out to other Quiet Skies Coalition groups throughout the country to get other members of Congress to support the legislation.

Aviation Noise Discussion: StART Members

The main topic of the meeting was a discussion on aviation noise. In preparation for the meeting, StART members were asked to provide information about their entity's previous, existing, and currently proposed efforts to prevent, reduce, and/or mitigate aviation noise. This information was compiled into a table to be used as a foundation for discussion.

StART members were asked to come prepared to identify and discuss potential actions that can be explored by StART to address aviation related noise. Members provided a range of ideas. After consolidating the list, members were asked to prioritize the list in order to get a sense of the top two to three ideas that could be explored further.

The list of possible actions was meant to be a starting point for discussion. The ideas included:

- Include elected officials at City, State and Federal level in the process
- Identification of near-term actions that can be taken now and identification of best practices from efforts elsewhere
- Modification to air operations:
 - Restrict night time flights
 - Restrict prop planes and/or cargo flights
 - Provide clarity on how flight volume is determined
 - Revise long-term plan related to air cargo/restrict additional regular flights
 - Look at current mitigation techniques (with FAA) that can be applied to air operations
 - Restrict flight paths over residential areas
 - Modify takeoff angles (utilized by Frankfurt Airport)
- Modification to ground operations:
 - Evaluate modifications to operations/activities on airfield to reduce noise toward residences
 - Reduction of ground noise and noise attenuation/cancellation mitigation
 - Evaluate restrictions on westernmost runway and whether changes can be made to what planes use which runway
 - Look at reducing/restricting use of reverse thrust during landings
- Focus on operations actions instead of mitigation actions
- Construction of additional airport/reduce number of flights at Sea-Tac
- Upgrade/replace aging residential sound insulation
- Identify areas where incremental progress can be made given all existing limitations, restrictions, and funding issues

- City modifications to land use and zoning
- Explore potential mitigation funding in areas outside the 65 DNL zone
- Survey communities for data on local impacts for clearer understanding of community impact (fatigue, land value, etc.)
- Look at appropriateness of using DNL measurement as benchmark for evaluating noise
- Hear from representatives from bullet trains/hyper loop

The highest priorities were the identification of near-term actions that can be taken now, potential modifications to air operations, and potential modifications to ground operations. There was also interest in identifying appropriate ways to engage elected officials at the City, State, and Federal level in the process.

A small working group or groups were established to explore and discuss the ideas in more depth and to provide recommendations for potential actions. StART members were surveyed for their interest in participating in a small working group. Nine members were interested. The prioritized list will be refined and used as a basis for the focus of the working group(s). Additional ideas may emerge in the process. Subject matter experts including the airline, FAA, and air cargo representatives will participate as needed.

Sea-Tac Airport Updates

CAPITAL PROJECTS (SAMP) – CLARE GALLAGHER, PORT OF SEATTLE

Gallagher explained that the Port will be hosting public hearings for the Sustainable Airport Master Plan (SAMP) in the early fall. The scoping period starts in late July with 4 to 5 scoping meetings and will include webinars, online open houses, etc.

OPERATIONS – MIKE EHL, PORT OF SEATTLE

Ehl provided an operations summary:

- Passenger percentage is up 5.8%, year to date.
- Air cargo percentage is up 5.1%. Year to date, 37,083 tons through May.

Public Comment

Compiled public comments are included here as Appendix A.

Meeting Wrap-Up: Lance Lyttle, Mike Ehl, & StART Members

Lyttle reiterated the intent of StART was to develop solutions to bring to the elected officials for possible action not to omit them from the process. This intent of StART to be an advisory body was confirmed by a number of City Managers who participated in the design of StART.

Next Meeting: Tuesday, August 21, 2018 (NOTE DATE CHANGE)
Sea-Tac International Airport Conference Center, 6:00 pm – 8:00 pm

MEETING EVALUATIONS

of responses 1

1. Overall Meeting Experience	Poor	Fair	Good	Very Good	Excellent
		1			

2. Presentations	Not Useful	Somewhat Useful	Very Useful
	1		

3. Discussion	Not Useful	Somewhat Useful	Very Useful
		1	

4. Overall Comments, Suggestions, or Questions

The FAA industry did not speak...that's horrible. Why are you afraid of hyper loop and bullet train Reps?

5. Outreach and engagement involvements reported during the last two months

N/A

Appendix A

Summary of Public Comments

1. Jean Hilde (Shoreline; oral comments):

- Referenced “Final Report re: Greener Skies Over Seattle” released by the FAA describing Shoreline as central to the changes that would be happening north of the airport.
- She has lived in her Shoreline home since 1995. About two years ago, what had been very infrequent aircraft noise turned into, virtually overnight, a jet aircraft over her home every 30–60 seconds, for hours at a time with no break, from 5 AM to midnight when south flow is in effect.
- Many approach paths have been narrowed into a single sacrificial corridor, over her home and all homes along the I-5 corridor.
- Her home and her neighborhood are now subjected to 90 percent of aviation noise from southbound aircraft. Flight trackers show flights often as low as 3,000 feet, which may not sound terrible to StART members who live in the southern cities, but these flights are every 30–60 seconds.
- She now is wearing earplugs indoors and can no longer enjoy her garden or deck due to the incessant aircraft noise. She and her family are basically trapped indoors.
- Growth demand driven by passengers, so why are airlines offering deals to fly?

2. Candace Urquhart (member of Quiet Skies Puget Sound; Des Moines; oral comments):

- Because of money received for the 3rd runway, the Port can’t make changes or otherwise will violate FAA rules that came with accepting the funding.
 - Constrains ability to restrict night flights, or make any other changes.
- Congress is now owned by the oil industry.
- Hopes that the SAMP will not be proposing the same thing.
- Suggests we pay back the grants to allow ability to restrict night flights.

3. Marianne Markkanen (member of Quiet Skies Coalition; oral comments):

- At last SAMP meeting, the Port stated that there are 46.9M passengers now, and projects 56M passengers, with no new runways.
- Has flight traffic overhead every 30 seconds.
- Referenced a Wall Street Journal article (from March 8, 2018) about the FAA and reducing noise significantly by reducing the speed of departures. FAA is working with

Boston Logan to mitigate noise problem. Why are they not also working on something like this here? Provided additional statistics from article.

- Has been involved for 12 years and the conversation is the same.

4. Larry Cripe (President of Quiet Skies Coalition; Burien; oral comments):

- Brought image of westerly flight path over Burien in the form of a runway, since westbound traffic could be considered a “4th runway.”
- FAA made decision (arbitrary and capricious), with seven proposals in front of them, to select Seahurst and Burien as the new departure path as those communities would not have the funding or strength to fight the decision.
- Group should be outraged that the FAA will not come and discuss this. Requests FAA members in attendance to tell Brad Tilden (CEO of Alaska) that he will be receiving a letter from the citizens of Burien and the FAA will be hearing from them.

5. Anne Kroeker (Des Moines; oral comments):

- Doesn’t see other affected communities such as Shoreline, Vashon Island, or Capitol Hill, at the table, but they are equally affected. All communities under the flight path should be represented.
- In addition to near-term considerations, should also look at what is “least harm” to humans and natural environment. Asking for comments from the people at the table of how they can do less harm.
- Requesting delay in SAMP because SAMP has not yet addressed any issues brought up from today or from the past 20 years.

6. Debi Wagner (Burien; oral comments):

- Reverse Thrust—difficult to implement because the 3rd runway has short exits. Potential option to not use 3rd runway. It is harming a lot of people through the use of the 3rd runway at night, and it’s possible to not do that. There’s no mitigation around the 3rd runway like there is for the other two runways.
- Airport neighborhood in Chicago has 20 families with cancer. Flights overhead (ORD) at 500 feet. Does not want this same impact to be occurring here. Does not want herself or anyone else in her neighborhood to be a victim to this.
- FAA is hiding behind the ambiguity of ‘there is no science’ so we can’t understand if it is legitimate at all.

7. Gigi Sather (Federal Way; written comments):

- I am a NW lady, born in Seattle, moved to Federal Way 45 years ago. I live in Marine Hills, a community right next to Redondo Beach. I have raised my family here and life

in my residence has been wonderful up to two years ago. We now do not have a life outside in the yard (no picnics, no conversation, etc.). It has been shocking. Each of us are only a product of our own life experiences! The impact on our communities, our schools (two in my immediate neighborhood). These children are playing outside in this environment. The health issue is real!

Why not fly over the Puget Sound water in the south end like you are in the north end? Are you really listening? Do you really care? This is solvable. Check again with Chris Hall (StART representative). He knows what he is talking about. He creates flight patterns for many airports in the U.S. He knows what he is talking about. It really is an easy fix if you would listen . . . if you really cared. We are talking about people and quality of life. Are you listening?!

8. Anonymous (written comments):

- Short-term actions:
 - Change flights so that no flights depart or arrive after 10:00 pm or depart before 6:00 am.
 - FAA—stop flying turbo props and 737s over my bedroom and house. It disrupts my sleep. The jet fuel residue adds a layer of dark oil residue on my organic vegetable garden. STOP NOW!
 - Stop arrivals on Runway 3. The noise pollution rattles my windows.
 - Move cargo flights to Moses Lake.
 - Move all commuter flights to Paine Field
 - Move international flights to McChord.
 - Stop all flights on Runway 3 after 8:00 pm and until 7:00 am.

StART FACILITATOR'S MEETING SUMMARY
Tuesday, August 21, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Tuesday, August 21, 2018

6:00–8:00 p.m., Conference Center Sea-Tac Airport

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	-	Tejvir Basra	SeaTac	-
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	-
Brian Wilson	Burien	X	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	-	Steve Pilcher (Alt)	SeaTac	X
John Resing	Federal Way	X	Katrina (Trina) Cook	Tukwila	-
Chris Hall	Federal Way	-	Joon (Thomas) Lee	Tukwila	-
Yarden Weidenfeld	Federal Way	X	Brandon Miles	Tukwila	-
Sheila Brush	Des Moines	X	Lance Lyttle (phone)	Port of Seattle	X
Ken Rogers	Des Moines	X	Mike Ehl	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher (Alt)	Port of Seattle	X
Eric Zimmerman	Normandy Park	-	Marco Milanese	Port of Seattle	X
Earnest Thompson	Normandy Park	X	Tony Gonchar	Delta Airlines	-
Mark Hoppen	Normandy Park	X	Scott Ingham (Alt)	Delta Airlines	-
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Scott Kennedy	Alaska Airlines	X
Laura Sanders	Lynden (air cargo)	X	Matt Shelby (Alt)	Alaska Airlines	X
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Agency	X	Joelle Briggs	Federal Aviation Agency	-

Additional Participants:

Steve Vale, FAA

Stan Shepherd, Port of Seattle

Vince Mestre, Aviation Noise Consultant

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Megan King, Floyd Snider

Meeting Objectives

*To review and discuss information from the initial meeting of the Aviation Noise Working Group.
To develop shared understanding of Seattle region's airspace and flight paths.*

Welcome

Lance Lyttle, Sea-Tac Airport Director

Lyttle reiterated the intent of the StART group is to bring together representatives from six neighboring communities along with representatives from the airlines, the Federal Aviation Administration (FAA), and air cargo to brainstorm issues and to develop relevant actions that address these issues. StART is not intended to be a policy decision-making body, but the objective is to identify issues and develop recommendations to take to those bodies that have the responsibility and authority to make decisions. Lyttle stated that subject matter experts will be included as resources to StART and to StART subgroups. He expressed excitement that feedback from the first StART Aviation Noise Working Group was positive.

Member Introductions

StART Members

All members and participants introduced themselves and their affiliations.

Facilitator's Update

Phyllis Shulman, Civic Alchemy

The facilitator described the original intent of StART. It was established to provide a forum that fosters respect and goodwill, and improves working relationships while reaching tangible recommendations and solutions. In order to create a constructive environment that enhances cooperation, the facilitator stated that it is important that StART participants feel that their engagement is valued. StART members were asked to share what would help them to feel valued in this process. The range of answers included: seeing actual outcomes, providing for a range of perspectives to be heard, follow-up actions on issues, providing participants with an awareness of competing issues that may not match their own, the ability to have open dialogue among all parties, for all individuals to have a voice, and tangible operational improvements.

StART participants were also asked to identify the conditions that support a constructive working environment for the group. Answers included: trust, right expertise around the table, answers about what can be done and not what can't, patience, attitude and willingness to move toward "how," integrity, honesty, meaningful responses from both sides, active listening, willingness to walk in others' shoes, open communication, and evidence of progress.

An issue was raised regarding whether a StART community representative can designate an alternative when the representative cannot attend a StART meeting. The facilitator and Mr. Lyttle reviewed the operating procedures that state that community representatives are designated by their city and that there is no provision for a community representative to designate an alternative. City staff representatives do have an alternate designee. This issue will be discussed outside of the formal meeting time.

Aviation Noise Working Group Briefing and Discussion

Earnest Thompson, StART Member; Stan Shepherd, Port of Seattle; Vince Mestre, Consultant

The StART Aviation Noise Working Group (Working Group) reported on their first meeting and solicited feedback and questions from StART participants. Shepherd explained that the Port of Seattle (Port) hired Vince Mestre as a technical noise consultant to assist with the Working Group. Mestre's qualifications were shared with the group. Thompson provided the following summary of the first Working Group.

StART Aviation Noise Working Group Facilitator's Meeting Summary Thursday, August 16, 2018

Meeting Objectives:

- To establish the Working Group.
- To begin discussion and prioritization of a list of potential actions for StART to explore related to preventing, reducing, and/or mitigating aviation noise.
- To consider constructive next steps.

Meeting Summary: *The Working Group attendees included StART members, as well as resource representatives from the airlines, the FAA, and the Port. To assist the Working Group, the Port hired a technical consultant, Vince Mestre, who specializes in airport noise and has experience working with stakeholder groups. Vince introduced himself and shared information about his expertise.*

The meeting's main focus was to review, refine, and/or expand upon the initial list of near-term strategies identified by StART at the June 27 StART meeting. Long-term potential strategies could also be identified and considered as part of a future work plan. The Working Group suggested that it is important to clarify and identify who has authority to influence/make decisions for each specific potential action. Port staff and the consultant provided context for each of the initial strategies including identifying relevant history, opportunities, challenges, and examples from other airports (domestic and international), including best practices. Potential strategies discussed included:

- *Runway Use Agreement/Memorandum of Understanding (MOU)*
- *Nighttime voluntary curfew*
- *Glide slope & optimized profile descent analysis*
- *Airfield noise/reverse thrust assessment*

The Working Group members, as well as the resource representatives, reviewed the potential strategies and confirmed that these potential strategies are worthy of further exploration.

Next Steps: *The Working Group decided to meet monthly for at least the next three months. Members identified additional information to be brought to the next meeting including statistics on night operations (including arrivals, departures, carriers, aircraft type, and seasonal data),*

clarification of what Port funds can be applied to noise mitigation, and examples of runway use agreements/MOUs. Suggested topics for the next meeting's agenda included:

- Review of a draft work program for the Working Group that identifies potential actions, additional analysis or information needed to evaluate each strategy, and who will follow up with each task.
- Suggestions for additional potential measures including best practices that the consultant may be aware of.

The Working Group members, Port staff, and Mestre reviewed the potential strategies with the StART participants. Shepherd and Mestre reviewed the initial potential strategies in more detail.

Runway Use Agreement/MOU): *The Working Group will analyze 3rd runway use and identify if opportunities exist that can reduce the use of the 3rd runway during times of lower operation. Mestre gave examples of how MOUs are utilized for runway operations at other airports and explained that each airport is unique.*

Voluntary Nighttime Curfew: *The Working Group will analyze night flights and determine what the parameters might be and what steps could be taken to explore a voluntary nighttime curfew. Mestre gave examples of how Fly Quiet programs have been utilized at other airports to help incentivize the reduction of nighttime air traffic.*

Glide Slope: *The Working Group will expand their understanding of the airport's runway glide slopes and the implementation of Optimized Profile Descent and explore whether there are potential modifications that could help to reduce aviation noise.*

Airfield Noise: *The Working Group will explore and expand their understanding of the range of activities, including reverse thrust, that may contribute to airfield noise. They will consider the sources of noise including time of day, originating locations, airfield operations, and community impacts, and will consider potential noise reduction strategies.*

StART members shared concerns, asked technical and operational questions, and discussed the information shared from the Working Group. There was general concurrence that these potential strategies are worthy of further exploration.

Presentation and Discussion: Air Traffic Overview

Steve Vale, Air Traffic Manager, FAA, StART Members

Vale gave a presentation and fielded questions on airspace and runway use at Sea-Tac Airport. The presentation can be found [here](#). His presentation covered a range of information. Highlights included:

- At Sea-Tac Airport, the Seattle TRACON (Terminal Radar Approach Control) controls flights up to 15,000 feet and a radius of approximately 40 miles. The Seattle ATCT (Airport Traffic Control Tower) controls approximately 5 mile radius up to 2,000 feet.

- The primary reason for the direction aircraft arrive and depart is due to the direction of the primary winds and how they affect safety. Aircraft take off and land into the wind during each operation.
- Runway separation of 2,500 feet is required for simultaneous arrivals and departures.
- There is a single taxiway on the south end of the airport. This can lead to congestion and to limitations on where planes can wait.
- Sea-Tac Airport and Boeing Field (4 miles away) have to coordinate air traffic. Their proximity creates limitations. For example, when in north flow the air traffic controllers must visually separate arrivals and departures into and from both airports. When visibility is low due to weather or air quality, radar is utilized requiring a separation of 3 miles between airplanes.
- Sea-Tac is slotted to receive Wake Turbulence Recategorization in October 2018, but minimal changes are expected.
- Current formation, known as the four-post plan, is for airplane arrivals to enter from all four corners (SE, NE, SW, and NW) and departures to exit on the compass posts (N, S, E, and W).
- Over time there have been changes to the fleet mix. There has been a decline in smaller prop planes and an increase in larger heavy jets. Larger jets require greater separation.

Discussion and several questions followed his presentation regarding the Burien turn for turbo-props, missed approaches, air traffic control rules for freight-only flights, FAA consideration of community impacts, whether the FAA is involved in deciding when an airport has reached maximum capacity, who is involved in policy making, and the process for changing flight paths.

Public Comment

Compiled public comments are included here as Appendix A.

Meeting Wrap Up

Lance Lyttle & StART Members

Lyttle thanked the members and the public for attending, and continuing to work toward solutions. He reiterated that the intent of StART is to bring parties together to identify practical solutions to issues. He also encouraged StART participants to continue working towards that goal.

<p>Next Meeting: October 24, 2018, 6:00 pm–8:00 pm Location: Conference Center Sea-Tac Airport</p>

MEETING EVALUATIONS

of responses 1

1. Overall Meeting Experience	Poor	Fair	Good	Very Good	Excellent
			X		

2. Presentations	Not Useful	Somewhat Useful	Very Useful
		X	

Comments: FAA presentation was a little too technical.

3. Discussion	Not Useful	Somewhat Useful	Very Useful
		X	

Comments: Need to know at start of the meeting how many public comments there are so we can adjust accordingly.

4. Overall Comments, Suggestions, or Questions:

Appendix A

Summary of Public Comments

1. David Goebel (Vashon Island; oral comments):
 - Commented on operations and flight paths and the current FAA NexGen Scorecard.
2. Bernedine Lund (Quiet Skies Puget Sound; oral comments):
 - Inquired as to StART's final goal, and what they want to have happen 20 years from now? Stated there are only so many planes that can operate within Sea-Tac's small footprint.
3. Sue Petersen (Quiet Skies Puget Sound; oral comments):
 - Suggested that instead of speculating on aviation noise it is better to listen to the community. She lives under the 3rd runway glide path, and the sound is deafening.
4. Debi Wagner (Quiet Skies Puget Sound; oral comments):
 - Played a recording of flights over her house and expressed frustration with being asked to be respectful during the meetings. Described daily abuse from airport as bullying.
5. Larry Cripe (Quiet Skies Puget Sound; oral comments):
 - Commented that In Burien the flight path decision was made assuming Burien could not fight back.
6. Alli Larkin (Quiet Skies Puget Sound; oral comments):
 - She has lived in Des Moines for 39 years. She read from a 2015 article that discussed aviation noise impacts. The article indicated that Next Generation procedures were a potential cause of increased aviation noise.
 - National Sky Justice had their first meeting last week and will be a force in addressing the issues.
7. Dr. Wendy Ghiora (oral comments):
 - The Port has a responsibility to the communities beneath the runway that are exposed to carcinogens, noise, and sleep deprivation. Please consider these before expanding the size of the airport.
8. Kent Palosaari (oral comments):
 - Children's health was not on the list of issues for StART to address and should be.
 - Asks that StART begin working with the community, rather than against it. There is still a trust problem for many in the communities.

9. Austin Smith (Normandy Park; oral comments):
 - Commenting on the meeting itself, at all of these meetings, for every one person that shows up there are hundreds that do not. Please do not forget to consider those that do not have the ability to be here in person.
10. Seth Osborn (oral comments):
 - When he goes outside to create his YouTube videos, he needs to pause and wait until the airplane noise subsides. He would like the group to take the concerns of the public into actual consideration.
11. J.C. Harris (oral comments):
 - There is no Memorandum of Agreement that could be signed that the public would think it was worth the paper it was signed on.
 - Do the people at the table have the stamina to fight this fight for years to come?
12. Anne Kroeker (oral comments):
 - She lives beneath two flight paths where planes operate at different altitudes. This parameter should also be addressed.
 - The carbon footprint of airport operations needs to also be addressed. She wants an explanation for the number of missed arrivals.
13. Dana Hollaway (oral comments):
 - Until impacts are evaluated and addressed, the Airport Master Plan should be rejected. It is unacceptable to the community.
14. Blanche Hill (oral comments):
 - She has lived under flight paths for many years. Particulate matter from the planes covers the streets. She believes what needs to happen is the development of a hyperloop as a transportation alternative.
15. Joe and Shirley Compos (written comments):
 - It is completely outrageous how many take-offs are diverting directly over Burien. We did not purchase our house 26 years ago to be directly in the flight path of all of the excessive flights being jammed into Sea-Tac's schedule. The noise of direct overhead jets and propeller flights impacts our peaceful neighborhood terribly. I also know this impacts pets, wildlife, and the general health of our community.
 - Also, we wonder what happens to and who reviews airport noise emails that are sent to noiseabatement@portseattle.org. We would also like accountability and action instead of finger pointing between the FAA, Port of Seattle, and Alaska/Delta Airlines.
 - It appears reverse thrust is being used unnecessarily as a general guideline, and far too much at night, which interferes with sleep, quiet time for neighborhoods as well as nighttime wildlife such as owls. Will all 3 runways ever be constantly used? How about if Sea-Tac Airport built a 20-foot high noise abatement wall as they do along highways?
16. Susan Cwiertnia (written comments):

- Dispersion concept is intriguing and I would like to see more progress in this area. We live in Des Moines area (Woodmont Beach/Marine View Dr.). This is directly under the approach for North Flow and we can read numbers on bottom of jets as they land.
- The past few months we have noted jets landing overhead every 40 to 120 seconds. This is a very high and concentrated frequency directly overhead. The noise is indescribable and unhealthy. We can't even talk to our neighbors. Dispersing the flights in the corridor to lessen frequency would be a helpful start. Sad to say that when the planes were grounded during the Horizon Air incident the other week, the silence was deafening, but much appreciated. With the noise gone we actually had relaxation and quiet enjoyment of our home, beautiful community and nature. Dispersion is only near-term. Long-term should be a new airport.

17. Anonymous (written comments):

- Keep to your N-S runway. STOP flying over Burien . . . We are not “too poor and uneducated to stop you.”
- Stop reverse thrust between 10 pm and 7 am unless you are going to crash.
- Stop adding more air traffic and freight to this airport: It's past capacity!!! Build an airport to the north.
- Airport runoff is still killing the returning salmon in our local streams that run down to the cove in Normandy Park. The airport needs to haul off this tainted water and additives.
- The airport air pollution causes cancer and lung problems and heart issues. This additional morbidity and mortality needs to be acknowledged.

18. Deborah Dennis (written comments):

- I'm looking for real numbers in terms of projected growth; long-term realistic solutions for a wonderful area with a growing economy. I agree with Joe Scorcio that it's time to move to solutions. Let's start taking bites out of this apple before it takes a bite out of us.

19. Brooke (written comments):

- I am concerned about planes veering due west from the runways over Lake Burien and my own home, 3 houses south of the lake. Flights over the lake are occurring daily and I do call “Quiet Skies” Hot Line to report them. How are these due west routes allowed by the FAA?

20. M.J. Weaver (written comments):

- The Advisory Round Bd. is weak and needs to be more decisive.
- The reason given “reverse thrust performance” may save money for the airlines, but the homeowners' value of their homes is devalued.
- The taxes for us have not decreased.
- This reason of “reverse thrust” should not be used unless it is an emergency. It is often used at nighttime.

- Many citizens have called in at the time of excessive noise, identifying the airline and time, but nothing is accomplished. Our voices are not heard.
- The people who can make decisions are not present here. Are we just beating the air?
- The reverse thrust is not always N and S problem. The take-off goes west often and extremely noisy and low over Burien. The aircraft departing over Burien is most frequently Alaska.

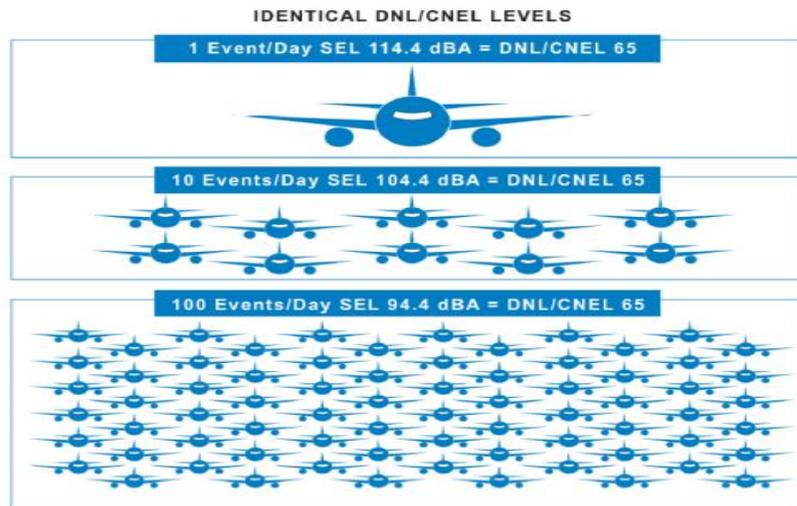
21. Arut Fox (written comments):

- I heard lots of comments about safety of airplane travel—what about the safety of those living below the airplanes who have flights going over every minute? We can't talk when we are outside until the flight goes over and then talk fast for 50 seconds until the next plane. We can't leave our windows open—even in this hot weather. We have to have tax relief—my property taxes went up 32 percent. How can we be treated as mansions and have no sanity? I have spent thousands of dollars on new windows and insulation to no avail. Now I need an air conditioner because I can't open my windows if I want to sleep at night or talk on the phone. King County Assessor needs to be involved here! Property assessments have to include environment! State Reps and U.S. Senators and Congressional Representatives need to be involved!

22. Jean Hilde-Fulghum (Shoreline; written comments):

- I'm Jean Hilde-Fulghum and I'm from Shoreline, which is 25 miles north of Sea-Tac. In its "Greener Skies Final Report," the FAA called Shoreline ". . . *central to the area where procedures would be changing north of the airport.*" We in the north-end have witnessed those changes and they are not good.
- I've lived in my home since 1995. About three years ago, what had been a half-dozen planes a day turned into (seemingly overnight) a jet aircraft roaring overhead literally every 30 to 60 seconds, for hours at a time with no silence in between. This goes on from 5:00 a.m. until well after midnight on days when Sea-Tac is in south flow, about nine months out of the year. A single over-flight at the FAA's DNL of 65 may be just an annoyance. Hundreds of over-flights per day is cruel and unusual punishment. Roaring aircraft throughout the night causing sleep deprivation is nothing less than torture.
- My understanding of what the FAA meant by "procedural changes" was the implementation of RNP procedures, which, for the sake of efficiency, re-route the majority of south-bound arrivals into a single narrow corridor rather than the conventional widespread approach patterns, every single aircraft taking the exact same approach. This "sacrificial" corridor goes right over my home and my neighborhood.
- Thus, the aviation noise that used to be shared by the wider community is now entirely dumped onto the lower socioeconomic communities along the I-5 corridor. We're getting all of the noise without any of the economic compensation that is said to come with airport growth. This concentration of aircraft is also unfairly dumping aviation pollution over our homes, pollution that is well known to cause numerous health problems. We're getting all of the downside with none of the upside.

- This unjust noise dumping has robbed us of the peace of our own homes and yards. I cannot work in my beloved garden. I literally wear earplugs inside my home. We in the north-end are also being subjected to increasing traffic going into Paine and Boeing fields, traffic that is frequently at low altitude in order to accommodate southbound Sea-Tac aircraft.
- My neighbors and I are suffering. Despite being 25 miles from Sea-Tac, we now have a virtual runway over our heads that operates on a 24/7 schedule. Our north-end communities are being severely impacted by NextGen changes and Sea-Tac's growth. We, too, need to be included in these discussions.



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StART FACILITATOR'S MEETING SUMMARY
Wednesday, October 24, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Wednesday, October 24, 2018

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

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	-	Tejvir Basra	SeaTac	-
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	X
Brian Wilson	Burien	X	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	-	Steve Pilcher (Alt)	SeaTac	X
John Resing	Federal Way	X	Katrina (Trina) Cook	Tukwila	X
Chris Hall	Federal Way	X	Joon (Thomas) Lee	Tukwila	-
Yarden Weidenfeld	Federal Way	X	Brandon Miles	Tukwila	X
Sheila Brush	Des Moines	X	Lance Lyttle	Port of Seattle	X
Ken Rogers	Des Moines	X	Mike Ehl	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher (Alt)	Port of Seattle	X
Eric Zimmerman	Normandy Park	X	Marco Milanese	Port of Seattle	X
Earnest Thompson	Normandy Park	-	Tony Gonchar	Delta Airlines	X
Mark Hoppen	Normandy Park		Scott Ingham (Alt)	Delta Airlines	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	-	Scott Kennedy	Alaska Airlines	X
Laura Sanders	Lynden (air cargo)	-	Matt Shelby (Alt)	Alaska Airlines	X
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Agency	-	Joelle Briggs	Federal Aviation Agency	X
Stan Shepherd	Port of Seattle	X			

Additional Participants:

Dr. Robert Stoker, Boeing Company

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Megan King, Floyd Snider

Meeting Objectives:

To review and discuss progress from the Aviation Noise Working Group. To develop understanding of forthcoming fleet changes and how those may impact aviation noise.

Welcome

Lance Lyttle, Sea-Tac Airport Managing Director

Lyttle commented that StART was started to work collaboratively to identify potential solutions to issues raised by surrounding communities. Lyttle emphasized that he is dedicated to working toward this goal, and this is why he has provided significant airport and consultant resources to this effort and enlisted the engagement of the FAA and the two major airlines. Lyttle reinforced his belief that the near-term actions identified and discussed by the working group will result in real change for the communities.

Lyttle noted that in order to make progress on the identified issues, he met twice since the last StART meeting with the City Managers for a mid-year check in. At these meetings, Lyttle and the City Managers discussed how to increase effectiveness of StART and agreed, by consensus, upon changes to the StART Operating Procedures. The revised StART Operating Procedures were distributed to all StART members prior to the meeting.

Lyttle acknowledged the frustration that the public may feel with the limited opportunity for public comment during the StART meetings. StART is intended to be a working group and given the time limitations is not set up to be the most appropriate forum for receipt of public comment. Lyttle is exploring other options for a forum where the public would have more opportunity to comment.

Facilitator's Update

Phyllis Shulman, Civic Alchemy

The facilitator noted one change to the agenda – adding Alaska, in addition to Delta, in the discussion regarding updates on fleet changes.

FAA Reauthorization and SAMP Update

Clare Gallagher, Port of Seattle

Gallagher provided a brief update regarding FAA Reauthorization. The 5-year FAA Reauthorization Bill (Bill) has been passed by Congress and signed into law. The Bill includes infrastructure and grant provisions, primarily for airport facility improvements. Many details of what is included in the Bill are still being analyzed and the FAA is in the process of reviewing the Bill to determine implementation steps. Funding has not yet been appropriated. A few of the items known to be included in the Bill are:

- Creation of a noise ombudsman in each region. This was in addition to the community outreach position funding included last year. The Bill also includes funding for noise impact studies on surrounding communities. Seattle was included as one of the cities to be included in the study.
- Several other noise provisions also included:
 - Study on the impact of takeoff/landing speeds on community noise levels
 - Study on dispersion of flight track paths
 - Study of noise exposure on surrounding neighborhoods (different than human health study)
 - Study on feasibility of phasing out Stage 3 aircraft
 - Environmental mitigation pilot program for air, noise, water studies on areas surrounding airports

A StART member commented that the FAA Reauthorization Act does not include Rep. Adam Smith's request for an ultrafine particulates impact study. She stated that the Highline School District's school funding fix was not included in this Bill, as it was already included in a prior bill.

The member also stated that she thinks that the language in the Bill is ambiguous, and that there were some very important other things included in the Bill. It was suggested that StART look into what the requirements are to become a metroplex, what the pros and cons of a classification change might be and what aspects of the Bill apply to Sea-Tac.

Sustainable Aviation Master Plan (SAMP) UPDATE

The 60-day scoping period closed 9/28. Over 300 public members participated in the comment process. The Port received 700+ comment submittals, with 300+ coming from the Quiet Skies group, as they were self-identified.

The Port is now reviewing comments, and preparing a list of all comments in coordination with the FAA. They expect to prepare a Response to Comments and to report to the Port Commission in early 2019.

Aviation Noise Working Group Briefing and Discussion

Joe Scorcio StART Member

The StART Aviation Noise Work Group (Work Group) reported on their meeting and solicited feedback and questions from StART participants. Scorcio provided the following summary of the September 24 Work Group meeting.

StART Aviation Noise Working Group Facilitator's Meeting Summary Monday, September 24, 2018

Meeting Objectives: *To review data on nighttime flight operations and to discuss examples of runway use letters of agreement from other airports. To discuss and consider constructive next steps.*

Meeting Summary: *The Working Group attendees included StART members, as well as resource representatives from the airlines, the FAA, and Port of Seattle.*

The meeting's main focus was to review data on nighttime flight operations. A few key findings are:

- *Between midnight and 5 am activity decrease significantly*
- *There are approximately 46 night takeoffs and landings between midnight and 5:00am (some seasonal variations)*
- *The majority of night flights are domestic*
- *The majority of cargo flights utilize wide body aircraft*

The discussion focused on identifying additional data that would help inform the crafting of a possible voluntary nighttime curfew.

The Working Group provided guidance to the airport staff and consultant to focus attention on exploring options for reducing aviation noise between the hours of 12:00am to 5:00am and to hone in on identifying what is creating the greatest noise impacts for communities north and south of the airport,

(for example, a specific flight, type of aircraft, a specific flight path or runway, etc.) and identifying actions related to flight operations that could reduce these impacts.

The Working Group reviewed and discussed examples of letters of agreement for runway use from a variety of airports. The noise consultant reviewed some lessons learned from other airports. The Working Group will consider whether a revised Letter of Agreement between the Port of Seattle and FAA would be worthwhile and what might be revisions to consider. Some possible revisions discussed included 3rd runway use at night and documenting procedures that are currently going well.

The Working Group briefly discussed the development of the work program. The Working Group suggested that it is important to clarify the overall goals of the work program. Suggestions for goals included: to make improvements to reduce the impact of nighttime noise, collect and share information about the who, what, where, and when related to noise impacts, and to identify specific noise reduction measures to explore.

The Working Group will refine their guidance on a voluntary curfew and letter of agreement for runway use after additional data is reviewed and after input from StART. The Working Group emphasized the importance of the cooperation of the FAA and airlines in these discussions and exploration of options.

Next Steps: *The Working Group decided to add an additional meeting in December. Members identified additional information to be brought to the next meeting including specific mapping of flight tracks between midnight and 5:00am, additional information about the rationale for specific flights to be at the times they are, any projections on possible increases in nighttime flights, and upcoming carrier fleet changes.*

Based on the information discussed in the meetings, the Working Group requested that the Port and the FAA discuss, among themselves, what improvements could be made to the previous Letter of Agreement to reduce nighttime noise.

The next meeting will include discussion of a draft work program for the Working Group that identifies potential actions, additional analysis or information needed to evaluate each strategy, and who will take the lead with each task. The Working Group will brief StART members and solicit comments at the October StART meeting and will consider their feedback at the next Working Group meeting.

Questions, feedback and guidance were solicited from StART members. Members' questions and comments included:

- What is the benefit of participating in a voluntary program for the airlines? Do we expect the airlines to participate? The airline representatives in attendance stated that they were engaging in the discussions, are sharing their feedback as part of the Work Group process, and until more details were presented, they weren't prepared to offer their official response to the curfew as of yet.
- What aircrafts are here for refuel only during nighttime hours? The Work Group should evaluate whether these flights could be changed to daytime hours. Port staff stated that

there are no current aircraft that land at Sea-Tac during nighttime hours that only land for refueling.

- Appreciation for the specific potential action items that the community members and Work Group are discussing. Gratitude was expressed to the airlines for considering the implementation of a voluntary late-night curfew.

Presentation and Discussion: Forthcoming Aircraft Fleet Changes

Dr. Robert Stoker, Senior Manager of Flight Sciences – Noise, Vibration and Emissions, Boeing Company

Dr. Stoker gave a presentation and fielded questions on forthcoming Boeing aircraft fleet changes and the impact of those changes on aviation noise. Dr. Stoker's presentation can be found [here](#). In addition to the presentation representatives of Alaska Airlines and Delta Air Lines discussed operations improvements to their fleets to reduce noise and improve fuel efficiency as well as current and future investments/fleet replacement with newer, quieter aircraft.

There were several questions following these presentations regarding aircraft noise abatement mitigation, percentage of engine noise vs. other aircraft noise sources, potential improvements to aircraft generated ground noise, engine silencers, whether topography of an airport impacts noise, improving thrust reversers, anticipated phase out of older airplanes, and status of retrofitting A-320s to stop the the fuel vent noise. Questions included:

- Is Boeing still building 747s?
 - Yes – building 747-8s.
- What percentage of noise is generated from sources other than the engine?
 - During takeoff, the majority is engine noise
 - During approach, “airframe” (everything that is not engine) can be equivalent in magnitude to the engine noise.
- Does continued fuel efficiency also reduce noise?
 - It can. Noise is a loss of energy (a small amount of energy), but we want to find those win-win situations that improve fuel efficiency and reduce noise.
- Is Boeing working on anything for reduction of noise while planes are on the airfield?
 - Yes, looking at auxiliary power units, linings, what the engine cycle is while taxiing
- Has the aircraft industry looked at engine silencers, similar to gun silencers?
 - Yes. Boeing has looked at mixer-ejector type nozzles. They tend to not work well on modern high-efficiency engines and add weight and reduce fuel efficiency.
- Does the topography of an airport impact the noise?
 - Not so much the topography, but air density. Different elevations (air density) can change the measured noise, but the effect is very small.
 - Topography could result in echoing, but would not change the source level of sound
- Is there a perceived distance/noise factor?
 - Yes. It is governed by the Inverse Square Law, which indicates that a doubling of the distance from a noise source will reduce the SPL by 6dB.
- Is Boeing looking at thrust reversers as a noise source?

- There are liners in the engines that help to reduce noise. Boeing will continue to look at opportunities to improve.
- Has Boeing done any research on infrastructure for noise reduction opportunities?
 - Boeing is primarily concentrating on the reducing the source noise.
- Is fuel reduction due to other improvements in infrastructure or actual fuel reduction? Fuel usage is going way up, so how is there efficiency?
 - Each generation of planes is more fuel-efficient than past generations of airplanes. Total fuel usage may be going up due to the increase in total number of flights.
- What percentage of older planes have been phased out in the last 10-years or so?
 - Boeing estimates that over the next 20 years 18,000 airplanes out of the existing fleet will be replaced by new quieter, more fuel efficient airplanes.

The following question was not a question asked of the Boeing representative:

- How many A-320 “whistler” planes are coming in/out of SeaTac?
 - The Aviation Noise Work Group is looking into how to address this. Port staff reported that about half of the A-320s on the airfield had the noise retrofit, while the other half did not.

Public Comment

Compiled public comment are included here as Appendix A.

Meeting Wrap Up

Lance Lyttle

Lyttle thanked the community members and StART participants for their time and contribution.

Next Meeting:
December 19, 2018, 6:00 pm – 8:00 pm
Location: SeaTac City Hall, 4800 S 188th Street, SeaTac 98188 –Note
change in location

Appendix A

Summary of Public Comments

1. Dave Berger (Federal Way) (oral comments):
 - Lives in the Marine Hills neighborhood of ~1000 residents outside the 150 parabola. Stated that he was very encouraged to hear the Airport Director state that he wants to see progress. All 4 of the issues being looked into by the Aviation Noise Working Group are things that have been brought up by his neighbors.
 - Recommended that the Working Group create a timetable for their work plan. The timetable could be adjustable, but without one, given the complex issues there can be analysis paralysis.
2. Ray Miryekta (oral comments):
 - He is a retired aerospace engineer, and is appreciative of all the challenges this group is tackling.
 - REM sleep deprivation is significant for those living under the flight path. He is suffering from amnesia and takes sleeping pills to sleep. He stated that even with sleeping pills he still wakes up at 1:30 am and 3:30 am due to aircraft noise.
 - Asked if it is possible to put night flight operations at Moses Lake.
 - Commented that it is very difficult to deal with the aviation noise if you are living under the flight path.
3. Gigi Sather (Federal Way) (oral comments):
 - Stated that life has changed drastically in the last few years. There is no outside living any more and that earplugs are required to do gardening, or speak with neighbors.
 - Sees planes with wheels down, so much more frequently.
 - Is grateful for the efforts to reduce noise by Alaska Airlines and Boeing, but mentioned that it is also depressing.
 - Does not understand why planes cannot be routed over the water, instead of over houses. Requested to please prioritize quality of life for people, and have planes approach/depart over greenbelts and waterways.
4. Bernadine Lund (Federal Way) (oral comments):
 - Urged all to act now, be proactive, to mitigate aviation noise, and not wait until someone tells you to do it.
 - The problems caused by the new flight paths are happening over a narrower corridor, and people have been complaining across the country. Inquired as to why new studies are required considering many studies have already been done.
 - One of the emissions, thorium, a toxic chemical, is concentrated under the flight path.
 - Both the FAA and Port have inaccurate/incorrect information on their websites that should be corrected.
 - Requested that agencies be a proponent for the communities that are impacted by the airport and not wait until legislation passes to do the right thing.
5. Debbie Wagner (Burien) (oral comments):
 - Stated that it is important to know the history of noise abatement mitigations. She mentioned that in the 1980s, there was a group that originated the noise abatement program through a mediated agreement. She commented that these communities that were part of the mediated agreement now have 85dB penetrating through their homes

and bodies because the Port was too cheap to buy out the properties and instead insulated homes.

- Believes that in the 1990 noise abatement program, there were voluntary agreements that aircraft would use no reverse thrust, no engine run-ups, and that there would be curfews between 11 AM and 6AM.
 - The only option now, to reduce community impacts, is to buy out the 10 billion dollars worth of property around the airport, or to move the airport.
 - Commented that the airport is a major source of documented hazardous substance exposure to the surrounding communities.
 - Emissions abatement should also be considered and required along with noise abatement.
6. Marianne Markkanen (SeaTac) (oral comments):
- Requested that the noise ombudsman attend the meetings.
 - Disappointed that ultrafine particulates were not included in the Federal FAA Reauthorization Bill.
 - As a member of the flying public, is thankful to see Alaska and Delta here, and is disappointed that these are the only airlines represented.
 - Appreciates some airlines are updating their fleets, hopes the rest will follow suit.
7. Steve Edmiston (Des Moines) (oral comments):
- Attended this meeting on the recommendation of Port Commissioner Felleman to hear what work has been happening to address nighttime noise.
 - Disappointed that the airlines were not able to state their commitment to a voluntary late night curfew during the meeting.
8. Roger Kadeg (SeaTac) (oral comments):
- Inquired as to what would a fuel change do to jet engines? Is there a possibility that a change to biofuels would have an impact on emissions and noise?
 - Dr. Stoker responded that there have been studies done on biofuels. Boeing has done test flights on 100% biofuels. The change to biofuels is likely coming. Some airports are already using biofuels. There are issues around the world with production, and consistency with types. The biofuel producers are still working through the challenges of a stable supply to the airline industry.
9. Susan Pedersen (Federal Way) (written comments):

After reading the “Operating Procedures” of the StART, I find very little about the residents negatively impacted by SEATAC noise and emissions, whether to implement any suggestions or even express any concern.

I attended a number of these meetings and the noise issue must be of very low importance to the start. This committee hears about the issue from city representatives and the limited time for public comment but ends with **no outcomes, resolutions or implementations by StART.**

Why have these meetings if only to give the **appearance** that you care about what’s going on in South King County? This does not represent either real engagement with the residents or concern by those in charge of these meetings.

SPECIFIC ISSUES: Quoting from the Operating Procedures:

- **Reporting Structure:** “ StART shall have an informal relationship structure to the Highline Forum...and work in partnership on initiatives that benefit the residents of Southwest King County.”
 - *Why have two committees, StART and Highline Forum, IF neither committee appears to actually “partner, act or propose any initiatives,” on behalf of the residents of Southwest King County?*
 - *Listening and ignoring doesn’t count.*
- **“Representatives from the FAA** are expected to participate at StART meetings.”
 - *They only participate when asked to clarify something very specific, but their participation is usually to give their names and position. Are they afraid to make comments? Why?*
- **Facilitator:** Merriam Webster’s definition of a facilitator is: “Someone who helps to bring about an outcome (such as learning, productivity, or communication) by providing indirect or unobtrusive assistance, guidance, or supervision.”
 - *We’d like to see a more “timely administration” and “inconspicuous moderation” of the agenda and ANY outcome!*
 - *This meeting is not to listen to the ineffective facilitator, but to hear the speakers and the public.*
- **Public Comment:** “Members of the public who wish to speak are asked to sign-up before the meeting begins and are provided one to three minutes of time.”
 - *The time allotment for public comment has been pre-determined without concern for those who wish to speak. Public should be able to speak for as long as needed.*
- **Commitment from Stakeholders:** item #7. “Generate and **explore all options** on the merits with an open mind, **listening to different points of view** with a **goal of understanding the underlying interests of other StART members.**”
 - *When will you do this?*
 - *Listen to the CITY REPS and the PUBLIC!*

TIP: Get microphones that work. Or did you really intend not to be heard?

StART FACILITATOR'S MEETING SUMMARY
Wednesday, December 19, 2018



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

StART FACILITATOR'S MEETING SUMMARY

Wednesday, December 19, 2018

6:00-8:00 pm, City of SeaTac City Hall

Member	Interest Represented		Member	Interest Represented	
John Parness	Burien	-	Tejvir Basra	SeaTac	-
Terry Plumb	Burien	X	Robert Akhtar	SeaTac	X
Brian Wilson	Burien	X	Joe Scorcio	SeaTac	X
Lisa Marshall (Alt)	Burien	-	Steve Pilcher (Alt)	SeaTac	X
John Resing	Federal Way	-	Katrina (Trina) Cook	Tukwila	X
Chris Hall	Federal Way	X	Joon (Thomas) Lee	Tukwila	-
Yarden Weidenfeld	Federal Way	X	Brandon Miles	Tukwila	X
Sheila Brush	Des Moines	X	Lance Lyttle	Port of Seattle	X
Ken Rogers	Des Moines	-	Mike Ehl	Port of Seattle	X
Michael Matthias	Des Moines	X	Clare Gallagher	Port of Seattle	
Eric Zimmerman	Normandy Park	X	Marco Milanese	Port of Seattle	X
Earnest Thompson	Normandy Park	X	Tony Gonchar	Delta Airlines	
Mark Hoppen	Normandy Park	-	Scott Ingham (Alt)	Delta Airlines	X
Jennifer-Ferrer-Santa Ines (Alt)	Normandy Park	X	Scott Kennedy	Alaska Airlines	X
Laura Sanders	Lynden (air cargo)	X	Matt Shelby (Alt)	Alaska Airlines	-
Non-Member			Non-Member		
Randy Fiertz	Federal Aviation Agency	-	Joelle Briggs	Federal Aviation Agency	-
Stan Shepherd	Port of Seattle	X	Jason Richie	FAA	X

Additional Participants:

Fernando Ruiz, Legislative Assistant, U.S. Representative Adam Smith (on phone)

Lyndall Bervar, District Representative, U.S. Representative Adam Smith

Vince Mestre, Aviation Noise Consultant (on phone)

Eric Schinfeld, Port of Seattle; Marco Milanese, Port of Seattle; Clare Gallagher, Port of Seattle

Chris Schaffer, FAA

David Suomi, FAA

Shelly Larson, FAA

Kyle Moore, City of SeaTac

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Megan King, Floyd Snider

Meeting Objectives:

To confirm next steps based on the work of the Aviation Noise Working Group. To hear and discuss Federal Congressional efforts related to airports and airport communities. To propose and discuss an additional Working Group.

Welcome

Lance Lyttle, Sea-Tac Airport Managing Director

Lyttle welcomed the group to the final meeting of the year, and stated his praise for the accomplishments that have been achieved in 2018. Lyttle applauded the participants, community members, city representatives, as well as public participants for their participation and stated that he is looking forward to ongoing progress from StART in 2019.

Facilitator's Update

Phyllis Shulman, Civic Alchemy

The facilitator noted that the Port and City of SeaTac are hosting a Noise 101 Symposium and pre-registration is required. She also stated that the schedule for 2019 StART meetings will be the same as 2018 – the 4th Wednesday of every other month, beginning in February. Shulman asked the StART members to fill out a 2019 StART Priorities Worksheet and to turn it in to her at the meeting or by email.

Federal Congressional Briefing – Aviation Issues

Fernando Ruiz, Legislative Assistant, U.S. Representative Adam Smith

Lyndall Bervar, District Representative, U.S. Representative Adam Smith

Lyttle introduced the briefing by proposing a new StART Federal Policy Working Group (FP Working Group), as recommended by StART member Sheila Brush. The focus of the new FP Working Group would be on federal aviation-related noise and air quality policy and advocacy including pushing for policies already passed into law as part of the FAA Reauthorization bill as well as new legislation proposed by U.S. Representative Adam Smith.

Ruiz provided an update on the following legislation that Rep. Smith is drafting:

- The Protecting Airport Communities from Particle Emissions Act (PEA):
 - Originally initiated by a community concern about ultrafine particles generated by aircraft emissions.
 - Would direct the FAA to report on ultrafine particles and their health impacts for communities around the 20 largest U.S. airports.
 - Study would analyze the potential impacts of mitigation options, emissions reductions, and the increased use of aviation biofuels.
 - The Environmental Protection Agency (EPA) would coordinate the studies.
 - Reporting would be due in 2-years.
- Aviation Impacted Communities Act:
 - Would create an official federal designation of an “aviation impacted community” as “a community that is located not greater than 1 mile from any point at which a commercial or cargo jet route is 3,000 feet or less above ground level”.

- Provides opportunities for interface with airports, the FAA, and legislators.
- Provides engagement funding, and opportunities for communities outside the typical 65 DNL noise mitigation boundary.
- Communities receive notification if they fall within the Act's area, and the communities can then apply to be defined as an impacted community.
- Action plans would then be required to address issues identified by the communities, including a request for noise monitors or other actions.
- Allows for residential sound mitigation (insulation) to be requested/applied within the 55 DNL boundary.

Rep. Smith is honing these proposals for the 2019 legislative process. The Protecting Airport Communities from Particle Emissions Act was attempted to be included in a bill last year, but ultimately was not. Rep. Smith is working to obtain input from the FAA and Congressional transportation committees, and is attempting to gain as much support as possible for the Acts.

Rep. Smith is encouraged by the amendments included in the FAA Re-authorization Act. Rep. Smith's office is analyzing how those amendments can best be implemented.

Discussion and questions included:

- Ruiz was thanked for including involvement by Quiet Skies in the development of the PEA language expressed hope that smaller neighborhoods will be able to gain the same protections and support as larger communities in both Acts. Since multiple cities participating in StART are already involved in these Bills, it was suggested that StART engage with Rep. Smith's office to provide input.
- Would the PEA apply to all airports?
Response: PEA is applicable to all airports.
- To what extent is outreach to Republican senators and Presidential staff occurring?
Response: Rep. Smith has spoken with Republican Senators, and has not yet identified any Republican support for the Bill. He will continue to pursue support in addition to beginning working with Sen. Murray and Sen. Cantwell.
- Are there any updates on the bill that focuses on secondary sound insulation?
Response: This will be a priority for the Rep. Smith in the next Congress.
- Will the ultrafine particulate study conducted by the University of Washington be used as a baseline condition for Seattle?
Response: The Bill would not require use of existing studies, but the study could be utilized, if applicable. The Bill could be written to include or expand existing data sets collected by universities or other organizations.
- It was recommended that ultrafine particulate studies outside the US be a source for information, and noted that the European Union had recently released a report on ultrafine particulate matter.
- Why was the PEA not passed in the last Congressional session?
Response: There was resistance from Congressional and FAA leadership, based on existing efforts and potential duplication.
- It was stated that requesting FAA input on a bill that will direct the FAA seems unnecessary.
Response: Ruiz clarified that the input from the FAA was technical, and that they were not involved in scoping.

Proposal for Additional Work Group

Lance Lyttle, Port of Seattle

Lyttle recommended that the new StART Federal Policy (FP) Working Group review the studies and policies that are part of the recently passed FAA Reauthorization Bill and identify areas where input and participation from StART can help shape the scope and implementation of the research and studies identified in the bill. He also recommended that the FP Working Group could provide value by offering input on relevant legislation proposed by our Congressional representatives.

StART member Brush clarified that since the last StART meeting, some StART members have had additional discussions about getting Sea-Tac Airport classified as a metroplex to take better advantage of provisions in the FAA Reauthorization Bill. After additional research, she suggested that the metroplex status would be a detriment, and would not be a path Sea-Tac Airport should pursue.

There was general support by StART members for creating the new Working Group. A potential additional benefit for this working group will be the opportunity to provide language and input on the next reauthorization five-years from now. It was mentioned that anyone considering working on the FP Working Group should be patient, as the schedules associated with legislative process is difficult to predict. It was noted that it will be important for StART to identify what issues/actions the Port and the communities have in common as their interests and priorities are not always the same. It was suggested that a process be utilized to identify areas of agreement and areas of difference. It was also stated that it will be important to keep abreast of what is happening in Congressional committees and with Congressional legislation. Rep. Smith's representatives volunteered to attend the FP Working Group and provide the connectivity to the Representative's office, and the federal level.

Members discussed that it would be beneficial to review the FAA Reauthorization Act in order to understand what is applicable to our local communities. A representative from the FAA stated that the FAA would be interested in participating in the discussions about the legislation. There are some immediate deadlines, as well as longer term requirements that the FAA has already begun to work through.

Details on meeting frequency and time will be determined by the FP Working Group members at its first meeting. A number of StART members volunteered to participate.

Aviation Noise Working Group Briefing and Discussion

Stan Shepherd, Port of Seattle

Vince Mestre, Aviation Noise Consultant

The StART Aviation Noise Working Group (Working Group) provided a recap of the last three meetings. Working Group meeting summaries for the last three meetings are attached as Appendix B. The Working Group discussed and refined three potential action items and considers these actions as ready for moving to eventual implementation:

- Runway Use Agreement: Update to an existing agreement between the Port and FAA, which clarifies preferred use of the runways.
 - Updated language reduces use of third runway during late-night hours
 - Updated language on preferential use of north flow during nighttime hours
- Late Night Noise Limitation Program

- Revision of name to align with intended outcomes – not a curfew, but a voluntary incentive program
 - In effect from 12AM-5AM, and will be incorporated into the existing Fly Quiet Program by adding an additional category that assigns a penalty score to any airlines for single event noise monitor exceedances
 - This new category will measure ‘loudness of fleet during quiet hours’
 - Four monitors to be utilized– two north and two south of airport
 - A penalty score will be applied to any aircraft that exceeds a pre-determined noise threshold.
 - Current Fly Quiet scoring includes:
 - Compliance with noise abatement corridors
 - Average noise score for 24-hour period
 - Penalty for run-ups at night that do not comply with rules
 - NEW – Penalty score for flights that exceed the late night noise thresholds
 - Current Fly Quiet Program currently only recognizes the quietest air carriers. New plan would include more regular reporting to the FAA and the public about rankings. Goal is to encourage air carriers to reschedule late night flights, or transition to quieter aircraft. Air carriers are constantly promoting green and sustainable operations. This would provide them with another opportunity to promote their environmental credentials.
- A320 Aircraft Whistle Noise on Approach:
 - Whistle noise caused by a fuel vent on the wing that generates an air vortex. A retrofit exists, but requires taking the aircraft out of service for major maintenance
 - Working Group concurred with the Port recommendation to try to increase retrofitting and noise reduction by writing a letter to air carriers asking for their plan/schedule for retrofitting and encouraging it happens soon.

The Working Group also reported on their discussion and analysis on the possible raising of Runway 34R’s glide slope as a potential action that could modestly reduce noise. The Working Group is looking at options of how and when the 34R glide slope can be raised to the standard 3 degrees or 3.1 degrees. Additional discussion will occur on this topic in 2019. The Working Group provided a Draft Rolling Work Plan that continues into 2019, which includes a ground noise analysis and opportunities for mitigation.

Working Group member’s comments included:

- Considers the time spent on the Working Group to be very educational. Concerned that the “penalties” in the Late Night Noise Limitation Program have no teeth and pessimistic that any airlines will stop late night flights because of the Program. It is understood that the Federal Government must be the one to make the change to allow airports to implement night-time curfews, but is frustrated by this group’s inability to make that actual change.
- Some progress is better than no progress. Does not consider the Working Group or these efforts as worthless. Believes there is something beneficial to making incremental progress. The cities also have a responsibility to publicize information about the Fly Quiet Program to their residents. Thinks it may behoove the new Federal Policy Working Group to look at what it would take to prepare for a Part 161 submission, or to advocate to change federal law to allow for night- time curfews.

- The Working Group is not done, and this is a status report. If change were easy, the change would have occurred already. StART needs to understand why things are hard. The 34R glide slope is outdated, and has not been addressed, because no one was asking the question. Now someone is asking the question, and now it is going to be seriously looked into. Challenging issues require time and effort, and will require a unified effort by all the communities. Believes the Working Group has made great progress, laying the foundation for continued progress in 2019. It's going to take time. Encouraged the group to not back off.
- Shared a federal code that requires reduction in noise as an FAA requirement. A FAA memorandum from 2005 was referenced, which was re-stamped in 2008 from Flight Standards at the FAA, which stated that the glide slope angle is below the ideal path because the airport did not currently have the time or money to adjust the glide path. Frustration with being told the glide slope could not be adjusted due to funding reasons. Statements have been made that a Part 161 Study is too expensive, but disagrees that it would not be approved, if attempted.
- Request was made to first allow questions based on the presentation before StART members make comments.

Questions included:

- Can the status of a fleet be used to allow or disallow flights to use SeaTac?

Response: No. All airlines in operation meet federal noise standards. The regulation does not limit the time of day flights can land or depart.

- Who will check the data for noise violations for compliance/non-compliance? Stated the current Port website is not as effective as it could be at providing data on noise violations.

Response: Every complaint that enters the Port office is logged into a database – from web, emails, phone, etc. The Port is in the process of acquiring a new system in 2019 that increases transparency.

- We currently have a voluntary curfew. What types of penalties are currently being applied?

Response: The airport does not have a voluntary curfew, and has never had a voluntary curfew.

- How would the noise penalty in the revised Fly Quiet Program be applied? A 90 DNL is very high.

Response: Port clarified that DNL isn't the noise measurement being utilized. It is a one-time measurement of DB, not DNL– different forms of measure. The DNL is an annual average versus Sound Exposure Level (SEL) DB, which is a one-time event.

- Asked for clarification about north flow arrivals, as recent publications have said that Greener Skies has not had a measurable effect.

Response: Port clarified that the Greener Skies approach is for south flow arrivals, not north flow.

- How is scoring in the Fly Quiet Program balanced between major airlines versus smaller airlines?

Response: Averaged by looking at the fleet-average noise level. Not weighted by the number of operations. This avoids a small fleet with loud aircraft to score the same as a large fleet with quieter aircraft.

- Passenger Facility Charge (PFC) is a charge that is used to fund FAA-approved projects. How is this fund currently being used?

Response: Sea-Tac has used that funding for residential insulation and for Highline School District insulation programs. Mitigation funded by the PFC can only be applied within the 65 DNL contour. Airport Improvement Funds can also be used for noise mitigation.

- Will the Port enter into a Part 150 Study?

Response: The Port has not yet decided when it might conduct an update to its Part 150 Study.

- If the Port does enter into a Part 150 Study, it needs to consider how the DNL contour is drawn, and if it is still representative of current conditions. Their understanding is that contour was drawn prior to the recent growth in air traffic.

Response: Part of the Sustainable Airport Master Plan will be to look at the DNL contour, and make sure it is appropriately set based on current aircraft fleet noise levels.

- There is no noise monitoring occurring on the south end of the airport, as the noise monitor is located at Saltwater State Park. Southern neighborhoods are not being currently monitored.

Response: The noise monitors are not used to determine the 65 DNL line – the line is based off known data about aircraft noise generation.

Public Comment

Compiled public comment are included here as Appendix A.

Meeting Wrap Up

Lance Lyttle, Port of Seattle

Lyttle thanked the community members and StART participants for their time and contribution. He stated that the goal is to implement the Runway Use Agreement, and the Late Night Noise Limitation Program by mid-2019.

Next Meeting:
February 27, 2019, 6:00 pm – 8:00 pm
Location: *Conference Center Sea-Tac Airport*

Appendix A

Summary of Public Comments

1. Dana Hollaway (oral comments):
 - Upset with flight frequency.
 - Due to the frequency, filling out online noise complaint forms is time consuming and ineffective. Web apps (AirNoiseIO) make this easier – is able to provide details in real-time.

2. David Goebel (Vashon Quiet Skies) (oral comments):
 - Seattle Times Article by Dominic Gates reports that Next Gen has not achieved environmental goals, and may actually show opposite effects. Should pay attention to the FAA scorecard data. The Next Gen reports no change, rather than reducing greenhouse gas emissions as intended. Will be interesting to do peer review of that data to confirm findings.

3. Bernedine Lund (Federal Way) (oral comments):
 - Began hearing aircraft noise this year after 33 years. Has provided written comments. (Appendix C). FAA policy needs to be updated. Things can change. We need to get our legislators to work with us.
 - There is no way to reach CO2 recommendation from the US or UNFCCC because everything that is done to mitigate emissions is outweighed by frequency. Airline advertising encourages demand for more flights.
 - Suggests promoting job growth and alternate transportation, and siting of an additional airport.

4. Rodger Kadeg (SeaTac Advisory Committee) (oral comments):
 - Thanked the FAA for their presence, and stated that their involvement is important. Citizens are beyond upset; they feel like they have no voice, and no chance.
 - It is important to look at some of the things that came out of the meeting tonight.
 - Expressed concern that glide slope was not adjusted previously.
 - Encourages the public to keep the pressure on elected officials to get together to solve these problems. The communities are running into a brick wall and need the FAA's help.

5. Ann Kroeker (oral comments):
 - Questioned why, with continued growth, isn't Sea-Tac Airport putting effort into dedicated bus and rail infrastructure, and other people movers like hyperloop? Other major cities are looking at other transportation options. Airports in Canada are owned by the government and are implementing these types of efforts. Other transportation options would be popular, and would relieve air traffic.

6. Blanche Hill (Normandy Park) (oral comments):
 - Moved to Normandy Park 1.5 years ago, after previously living in Des Moines. She is well aware of noise complaints. Aside from the unacceptable noise, the air pollution produced by airplanes has been proven to cause medical conditions including cancer.

With increasing amount of air traffic, air pollution has also increased, and this is unacceptable.

- The only solution to this is to develop hyperloop – it doesn't generate noise, pollution, and it is able to move massive numbers of people.

7. Christopher Mitchell (Des Moines) (oral comments):

- In the summer, his neighbors are unable to be outdoors. Questions why Paine Field is not being used to mitigate traffic at Sea-Tac Airport. Is this a possibility? (StART members replied – yes, is happening – flights will begin operating at Paine Field shortly).

8. JC Harris (SeaTac) (oral comments):

- Runs website called SeaTac Noise, and tracks history of the airport expansion over the decades. Also, tracks questions asked by the community. The most common question is 'who are the good guys, and who are the bad guys?' –which flights create the most noise?
- Every few years when the airport decides to expand, elected officials act as if this is an out of the blue occurrence. There should be a continuity of knowledge so we are not repeating the same patterns every time the airport expands.

9. Debi Wagner (Burien) (oral comments):

- Airport expansions have always been bad for citizens, and good only for the airport.
- Ms. Wagner has developed notes and pictures that show flight paths. (Appendix D). Graphics identify flight paths and low-income neighborhoods. Health impacts also align with low-income neighborhoods. She shared concern that these residents are being harmed.

10. Larry Cripe (oral comments):

- In 2019, the Port will hear from citizens in 15 surrounding neighborhoods/cities because of what is going on. This community group will be making an announcement after the New Year, because they have reached a point where they cannot take it anymore.

11. Marianne Markkanen (SeaTac) (oral comments):

- Filters are needed in houses and cars to address ultrafine particles. These particles should be captured and analyzed to determine what the community is being exposed to.
- Voluntary measures are not enough. Citizens are not supportive of a voluntary program, and want it to be mandatory. All employees of the Port and FAA are paid by taxpayer dollars, and should be listening to what taxpayers want. What they want is to not be woken up in the middle of the night by airplanes.

Appendix B

Aviation Noise Working Group Facilitator's Meeting Summary

Monday, October 29, 2018

5:30-7:30PM, Conference Center SeaTac Airport

Member	Interest Represented
Terry Plumb	Burien
Chris Hall	Federal Way
John Resing	Federal Way
Earnest Thompson (phone)	Normandy Park
Mark Hoppen	Normandy Park
Eric Zimmerman (phone)	Normandy Park
Robert Akhtar	SeaTac
Joe Scorcio	SeaTac
Tom Fagerstrom	Port of Seattle
Robert Tykoski	Port of Seattle
Tim Toerber	Port of Seattle
Steven Osterdahl	Alaska Airlines
Stan Shepherd	Port of Seattle
Marco Milanese	Port of Seattle
Scott Ingham	Delta Airlines
Tony Gonchar	Delta Airlines
Randy Fiertz	FAA
Vince Mestre	L&B

- **Facilitator: Phyllis Shulman, Civic Alchemy**
Note Taker: Megan King, Floyd Snider

Meeting Objectives:

To review and provide feedback on approaches to a voluntary nighttime curfew and runway use agreement. To review analysis of night-time operations. To discuss and consider constructive next steps regarding noise abatement departure procedures and a glide slope analysis.

Meeting Summary:

The main focus of the meeting was to review data and to discuss options for a voluntary night-time curfew and elements of a potential revised Runway Use Agreement. In order to provide informed direction, the Working Group also reviewed an analysis of night-time operations. Noise abatement departure procedures were introduced as an additional option for reduction of the impacts of noise. The discussion began with reviewing comments from the October 24 StART meeting.

Voluntary Night-time Curfews:

Two main topics were discussed: clarification of what is a voluntary curfew and a comparison of aircraft single event noise levels. There was discussion that the primary incentive for compliance is positive or negative publicity. The goal of the incentives would be to work in partnership with the aircraft operators to review and revise their night-time operations in order to reduce the impacts of noise on the surrounding communities. Implementation methods would include modifications to the Port's Fly Quiet Program to include curfew operations, publish the results of the Fly Quiet Program more prominently, and develop materials and hold discussions with airlines on the type of aircraft flown and scheduling considerations at night. Hollywood Burbank Airport in Burbank, California was showcased as an airport that currently has a voluntary night-time curfew.

Runway Use Agreement:

The discussion focused on reviewing variations on types of runway use agreements and the pros and cons of each option. Based on this information, it was stated that for SeaTac Airport's circumstances a formal agreement between the Port and local FAA is likely the most favorable alternative, but is also the most challenging because of the formal legal review process. It was noted that there is an advisory circular (dated 1981) that provides guidance on how to draft formal agreements.

The noise consultant presented an aircraft noise profile comparison based on aircraft type. It was noted that the aircraft noise footprint for certain aircraft, for example Boeing 747s, is less affected by which runway is used when compared to quieter aircraft. The aircraft footprint for some other aircraft, for example, Boeing 737s, would have a measureable reduction of noise for surrounding communities depending on which runway the aircraft landed on. It was also noted that an aircraft footprint varies based on aircraft weights and the nature of the flight. In summary, for louder aircraft a voluntary curfew and fleet mix may be more important than preferential runway use. For quieter aircraft preferential runway use may be important. This information helps to identify what potential changes to aircraft or runway use would be most beneficial and the trade-offs regarding community impacts (e.g. less noise for one community, but potentially more noise for another).

Night-time Operations:

Port staff presented data on night-time flight arrivals and departures by runway, by type of aircraft, and by airline. The data set showed operations on all 3 runways from August 8 – September 8, 2018. Some outliers were noted where certain arrivals were the result of flight delays and typically did not arrive during 12:00 AM – 5:00 AM time block.

Noise Abatement Departure Procedures (NADP):

The noise consultant reviewed the process for implementing NADPs. The Work Group has yet to evaluate whether NADP are a preferable option to consider. This will be discussed at a future meeting. Some key findings regarding NADP and possible trade-offs included:

- Distant NADP results in higher noise for close-in airport communities, because aircraft operators do not cutback power as quickly, and flaps remain extracted through the climb.
- Distant NADP also saves fuel.

- Close-in NADP is better for close-in airport communities, but increases noise to communities farther out along the aircraft's flight path.

Preview of Glideslope Analysis (34R):

An emerging option for noise reduction is considering whether a change in glideslope from a 2.75 degree to a 3 degree or greater could reduce noise. Port staff is just beginning to evaluate the possibilities and provided a brief introduction to the topic for consideration at a later meeting. It was requested that information also be provided as to what it might take to increase the glideslope above 3 degrees.

Discussion and Next Steps:

- It was confirmed that ground operations are in the Working Group's scope of what will be analyzed and discussed to identify noise reduction options. This will be on the agenda at an upcoming meeting before the end of the year.
 - Are there other incentives that the Port could offer besides publicity for a voluntary night-time curfew?
 - Financial incentives are not an option. The law is very explicit that fees cannot be changed.
 - Airline Operators stated interest in continuing the discussion on night-time voluntary curfews and were asked to share initial concerns with a voluntary night-time curfew:
 - A voluntary night-time curfew could push flights into other hours where the schedule is already full.
 - Criteria used for Fly Quiet ratings should consider relative size of fleet, as well as weather or other impacts that cause unexpected schedule delays, which push flights into night-time hours.
 - It was suggested that the Work Group develop a set of criteria that can be used to evaluate possible alternatives for action. One member proposed that the criteria consider use of energy (dB-seconds) and the number of people impacted and the degree to which they are affected. Port staff will provide some suggestions based on the discussion.
 - It was suggested that it would be important to include both positive and negative scores in publicity related to the Fly Quiet Program.
 - Port staff will begin discussions with the FAA on potential elements of a revised Letter of Agreement including firming up language related to the use of the outboard runway especially during night-time operations.
 - Port staff will develop initial materials to bring to discussions with airlines about a voluntary night-time curfew.
 - FAA was requested to explore the reasoning behind the regulations that only allows 3 procedures (standard, distant, and close in procedures) and whether it would be possible to add a 4th.
 - Work Group members stated appreciation for hearing direct feedback from the airlines and encouraged the airlines to continue to be partners in StART. It was stated that their involvement is critical to the success of this effort.
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Aviation Noise Working Group Facilitator's Meeting Summary

Monday, November 26, 2018

5:30-7:30PM, Conference Center Sea-Tac Airport

Member	Interest Represented
John Resing	Federal Way
Yarden Weidenfeld	Federal Way
Ken Rogers	Des Moines
Earnest Thompson	Normandy Park
Mark Hoppen	Normandy Park
Eric Zimmerman	Normandy Park
Joe Scorcio	SeaTac
Tom Fagerstrom	Port of Seattle
Robert Tykoski	Port of Seattle
Tim Toerber	Port of Seattle
Scott Kennedy	Alaska Airlines
Marco Milanese	Port of Seattle
Scott Ingham	Delta Airlines
Tony Gonchar	Delta Airlines
Jason Ritchie	FAA
Vince Mestre	L&B

Facilitator: Phyllis Shulman, Civic Alchemy

Note Taker: Megan King, Floyd/Snider

Other Attendees: Lance Lyttle, Port of Seattle; Arlyn Purcell, Port of Seattle; Dave Kaplan, Port of Seattle

Meeting Objectives:

Meeting Objectives: To review and provide feedback on drafts of a voluntary late-night curfew and a Runway Use Agreement. To analyze the potential options for changes in Runway 34R's glide slope as a means to reduce aviation noise. To provide guidance on the Working Group's work plan.

Meeting Summary:

The meeting was focused on reviewing progress and providing guidance on three potential strategies for aviation noise reduction: a voluntary late night curfew, updated runway use agreement, and potential glide slope changes to Runway 34R.

Voluntary Late Night Curfew Review – Proposed Adjustments to Existing Fly Quiet Program:

The noise consultant reviewed the federal limits (Airport Noise and Capacity Act of 1990) that restrict airports from instituting mandatory curfews. Voluntary curfews can be requested by an airport as long as they do not include fees or financial incentives for compliance. Since the last StART Aviation Noise Working Group meeting, the Port and the noise consultant have put together a draft program and outlined next steps to reduce late-night aircraft noise through discussions with airlines about their schedules and adjustments to the Fly Quiet Program by adding a penalty for any flight over a single event noise threshold. Specific information was shared regarding which aircraft and airlines that arrive and depart during late-night hours are the loudest.

The following component was suggested as the make-up of the program:

- Publicize with airlines and the public who is the “best” quiet airline and who is the “worst” The ratings would be based on the current Fly Quiet Program with modifications.

Questions and responses to questions included:

1. What is the number that would result in a penalty, and how much of current late-night flights exceeds this threshold?

Response: The number needs to be less than the noise created by the Boeing-747, but higher than the 777/737 number, so operators could potentially utilize existing quieter aircraft in their fleets. The calculation also needs to account for averaging that can make these wide-body aircraft appear less noisy than they are.

2. Do airlines take the Fly Quiet Program seriously? What is the likelihood that airlines will care?

Response: The Fly Quiet Program currently is communicated to the community through outreach, advertised in trade magazines, part of the Port’s environmental award program, and airlines use it in their promotional material to the public. In the past, the Fly Quiet Program has focused solely on positive messaging on an annual basis and the Program has not focused on which airlines are doing poorly in the program. In going forward, the Port would increase Program visibility, publicize all carriers’ scores and work with the airlines that are rated highly to advertise their positive contributions.

3. Has anyone studied whether rating poorly in a Fly Quiet Program has a negative financial impact on airlines?

Response: No studies are known of, but winners for Fly Quiet Programs often use their award as part of their advertising.

4. Who specifically would be attending meetings with the airlines to discuss with them the late-night hours noise reduction objective?

Response: Specific Port staff has not been identified yet, but it was stated that the Managing Airport Director’s involvement is critical to give weight to the message.

5. Since the use of airport revenues/funds cannot be utilized as incentives for the Fly Quiet Program, can funds from the Port levy be utilized?

Response: Do not know enough to comment on this.

6. Why should we not be working with legislators to try to make a change to federal law to allow airports to create mandatory curfews?

Response: This Working Group members stated that they wanted to focus initially on identifying near-term actions. There are currently other community and national groups focused on trying to influence federal law.

Discussion focused on developing realistic expectations of the program's influence, noting that cargo carriers may be less concerned about their Fly Quiet Program score. It was brought up that even given this possibility, cargo carriers might be flexible about which aircraft they use at Sea-Tac Airport and they may want to see themselves as good neighbors. Community representatives stated that they have an important role to play in drawing attention to those airlines that are flying the noisiest late-night flights and to help raise awareness. The Working Group acknowledged the challenge of voluntary measures succeeding, but communicated their support to move this effort forward with the hope that there will be an impact.

Next steps include:

- Analyze late-night noise data to determine the noise threshold for identifying the noisiest aircraft and share the recommended threshold at the next Aviation Noise Working Group meeting.
- Develop Fly Quiet letter(s), brochure(s), and other materials to utilize for discussion with air carriers.
- Develop a more robust Fly Quiet website and communication materials that highlights air carrier ratings
- Meet with operators to discuss reduction of late-night flights, change of aircraft, and modifications to the Fly Quiet program.
- Continue developing other potential incentives to encourage compliance/involvement including considering whether Port levy funds could be utilized to enhance the likelihood of success.
-

Draft Runway Use Agreement:

The discussion began with a presentation reviewing a draft of a new Runway Use Agreement highlighting the new language. It was stated that the new agreement would include a process for monthly monitoring and check-in between the Port and the FAA. This monthly meeting would provide the opportunity to discuss compliance and challenges. It was also stated that a new Runway Use Agreement might need to have to undergo an environmental review before completion. The Working Group provided some edits to the draft. The Working Group recommended that prior to initiating formal discussions with the FAA regarding the Runway Use Agreement, the full StART group should

review the draft agreement. It was also suggested that additional clarity about what changes might occur regarding noise with a new agreement's implementation.

Questions and responses to questions included:

1. If there needed to be some kind of environmental review, what would be the purpose? Is there some threshold in which changes to runway use are not permissible?

Response: Since the new agreement would be moving aircraft operations from the 3rd runway to an internal runway, it may require environmental review, due to the increased traffic on the internal runway. FAA staff is looking into whether an official environmental review would be required. Even if not required, it may be beneficial to analyze whether there are any unintended consequences of making this adjustment. Change is acceptable unless there is a 1.5 dB DNL within the 65dB area.

2. Why does existing North Flow preferential language in the Draft Runway Use Agreement only apply to departures?

Response: If departures are north flow, arrivals must be as well. Cannot arrive/depart in opposite directions.

3. Is it possible to quantify observance of North Flow procedures?

Response: Yes, there is currently 95-96% observance.

Next Steps include:

- Solicit comments from StART at the December 19 meeting.
- Provide additional information, if known, about what an environmental review may entail and whether it is warranted.
- Send draft to FAA for review/input and initiate discussion with air traffic control about feasibility.
- Provide information on if the Runway Use Agreement was 100% observed what % of the 3rd Runway operations would likely move to the other runways as well as analysis on how that would impact noise.

Runway 34R Glide Slope Modification:

The discussion began with a presentation regarding possible options for increasing the glide slope from 2.75° to 3° on 34R and what it might take to implement each option. Three options were presented with varying timelines and costs for implementation. Each option will require additional analysis and discussion to determine its feasibility and pros and cons. The FAA resource person provided guidance on what information would be needed by the FAA to get through the approval process, also stating that there are over 40,000 current procedure requests nationwide, so the more information and data provided on the rationale the better. Working Group members commented that a short-term temporary solution, costing less, might be beneficial, particularly if some of these changes may be made as part of

the Sustainable Airport Master Plan process. One concern that was expressed was that planes approaching at a steeper angle would require more reverse thrust to reduce their speed.

Next Steps include:

- Additional analysis and discussion with the FAA.

Discussion and Next Steps:

A draft Aviation Noise Work Group Work Program for the next few months was reviewed. Working Group members provided feedback on the schedule and wording of the Work Program. The Working Group agreed that the Work Program is a “rolling” program and that items and the schedule will change over time. The 2019 schedule for the Working Group will be discussed at the next Work Group meeting.

The next Aviation Noise Working Group meeting will be 12/10/18 at 5:30-7:30pm at the airport.

Aviation Noise Work Group Meeting Summary
Monday, December 10, 2018
5:30-7:30PM, Conference Center Sea-Tac Airport

Member	Interest Represented	
John Resing	Federal Way	X
Yarden Weidenfeld	Federal Way	X
Earnest Thompson	Normandy Park	X
Mark Hoppen	Normandy Park	X
Eric Zimmerman	Normandy Park	X
Tom Fagerstrom	Port of Seattle	X
Robert Tykoski	Port of Seattle	X
Scott Kennedy	Alaska Airlines	X
Marco Milanese	Port of Seattle	X
Scott Ingham	Delta Air Lines	X
Vince Mestre	L&B	X
Stan Shepherd	Port of Seattle	X
Chris Schaffer	FAA	X
Chris Hall	Federal Way	X
Lance Lyttle	Port of Seattle	X

Facilitator: Phyllis Shulman, Civic Alchemy;
Note Taker: Kristen Legg, Floyd|Snider
Other Attendees: Dave Kaplan, Port of Seattle

Meeting Objectives

Objectives: To complete discussions on the Voluntary Curfew and Draft Runway Use Agreement in order to solicit feedback from StART and begin implementation steps. To identify and discuss additional near-term noise reduction actions and to prepare for the 2019 Work Plan.

Meeting Summary:

The facilitator suggested that, at the next full StART meeting, Stan Shepherd provide a concise overview of the evolution of thought and a summary of the three Aviation Noise Working Group meetings that have been held during the last two months. The Working Group agreed that was an appropriate way to update the larger StART group. The Working Group asked for confirmation that the discussion of possible actions to reduce ground noise would be on the Working Group's agenda in 2019. It was confirmed that this discussion would begin at the January Working Group meeting. The Port staff will begin analysis on discussion topics for ground noise as well as work with the airlines to request a reverse thrust discussion related to this topic.

Continuation of Review of Draft “Fly Quiet Late Night Noise Limitation Program” (Program):

The noise consultant reviewed the latest iteration of the Program and the suggested renaming of the effort from “Voluntary Curfew” to “Fly Quiet Late Night Noise Limitation Program”. It was noted by the Working Group that the name “Voluntary Curfew” did not completely correspond to the components of the effort being suggested. It was also noted that other airports utilize a variety of names for similar efforts around the country. The objective of the Program is to reduce late night aviation noise, particularly focusing on the noisiest aircraft. The Program would have three components:

1. A request to all late-night carriers to move late-night operations to less sensitive hours;
2. Include a late-night noise penalty in the Fly Quiet Program computations to incentivize airlines to transition to quieter aircraft; and
3. publicize on a more regular basis all four Fly Quiet Program category rankings for all air carriers.

The general guidelines for the Program include:

- It is intended for the hours of 12:00am to 5:00am.
- It will utilize the Port’s current Fly Quiet Program and add a new 4th category for loud aircraft noise during the late night hours.
- It’s specific to aircraft whose noise profile is above a defined threshold.

The noise consultant reviewed how the Program would be implemented. Only aircraft types flying above an average single event noise threshold will receive a Fly Quiet Program penalty score. The average noise SEL threshold is intended to be set so that noisier aircraft in the late night hours are penalized in the FQA scoring system. A penalty is based on the maximum of the four noise monitors. The noise consultant shared example data for measurement and arrival and departure noise comparisons to show which aircraft would likely be penalized and what SEL would likely be used as part of the Fly Quiet Program. Additional analysis to determine the exact SEL still needs to occur, but it appears that the Departure SEL would likely fall around 89 to 90 SEL at Noise Monitor Site 19. Additional data regarding arrival noise was reviewed. Arrival noise is quieter than departure noise; therefore, the penalty would likely be instituted around 84 to 85 SEL at Noise Monitor Site 12.

The preliminary methodology for the penalty would include a noise threshold that would be set for each of the four noise monitors with the maximum noise from the loudest of the four monitors used to determine the amount of penalty. The penalty would only be for aircraft above the threshold. The noise consultant provided examples of what the late-night penalty scores would look like given average SEL and examples of the effect of the penalty on current air carriers who fly during the late-night hours. The next steps for this Program include reviewing the Draft Program with the larger StART group, developing the specific threshold for each site, creating communication materials that explain the process, revising the FQA Scoring Spreadsheet, and meeting with the airline operators to educate them on the Program.

Discussion focused on questions related to how the Fly Quiet Program would be changed and how the scoring would work. Questions and responses to questions included:

1. What are the current three categories in the Fly Quiet Program and how will this new program affect that?

Response:

- How successful they are staying in the corridor on arrival and departure? We give a score for each airline based on their compliance with the airport's noise abatement corridors.
- How quiet is their fleet? A score is given with the quietest airline getting the highest score and others ranked according to the overall noise level of their operations.
- Nighttime engine maintenance run-up regulations are in place at Sea-Tac. Run-ups that do not adhere to the nighttime rules result in a deduction of points to the total score.

2. What is the difference between the current FQA scoring and what the Working Group is currently discussing?

Response: We are adding a fourth scoring category. It would result in the deduction of points for any flights between the hours of midnight and 5 am that exceed a given threshold.

3. Is there a way to make the Fly Quiet Program include the reduction of ground noise, which is more of a problem for SeaTac, Burien, and Normandy Park? It seems like it could be good tool.

Response: This can be explored when the Working Group discusses ground noise in 2019

Discussion also focused on whether this effort was moving away from an actual curfew to more of a noise limitation program. Responses from StART community representatives to this concern included:

- The guidance from StART is acting within the envelop of realistic possibility. This would represent progress and StART can take pride in its implementation.
- There is a long-term objective to be pursued, but it seems unlikely that Congress will change the law regarding an airport's ability to set mandatory curfews any time soon. Tangible results are good to reach now.
- In creating StART, it seems like even something modest like this program will demonstrate that StART can work and it can be built upon.
- The proposed Program is just one of the building blocks. There will be additional efforts related to ground noise, reverse thrust etc. At the end of the day, there will be a number of approaches coming together and it will be impactful.
- This effort demonstrates progress. It's modest, but it represents a big step for an airport, especially a large international one, to take.

Review of Revised Draft of Runway Use Agreement

Port staff reviewed changes made to the Draft Runway Use Agreement based on the Working Group's comments from the previous meeting. Examples of south-flow and north flow runway usage at night and a high level overview of what it means to move flights from the 3rd runway to the other runways, from 12:00am to 5:00am, were shown. It was noted that the new agreement would include monthly monitoring. Next steps included discussing the revised draft at the next StART meeting, engage the FAA

in reviewing and providing input, identifying whether environmental review will be required, and additional steps leading to the finalization of the new Runway Use Agreement.

Questions and responses to questions included:

1. How much time will it take to get through the FAA review?

Response: A number of months. It took 4 to 5 months to go through the process in 2010. Much of the language from the 2010 agreement still exists in the new draft, which may expedite the process.

2. How receptive has the FAA been so far to establishing a new agreement?

Response: The conversations between the Port staff and the FAA have been pretty positive so far. The draft has been shared with the FAA so they are aware of its contents. It will require legal review. Air Traffic Control still has to weigh in on the content.

3. A few meetings back, the FAA representative stated that the Air Traffic Control Tower had informally begun employing some of the tactics outlined in the Draft Agreement. Is that true?

Response: Barring periodic nighttime runway closures, it's true from 1 AM to 5 AM. However, from 12 AM to 1 AM, a number of landings are occurring on the third runway on a regular basis.

4. When does the new Cathy Pacific flight start and how often will they be flying?

Response: The new flight is replacing a flight that was flown by Delta Air Lines. Starting in 2019, they intend to depart around 1:00am approximately 4 times a week. They will be flying an A350, which is a quiet aircraft. It will usually depart from the east runway.

Discussion focused on the tension that exists between adding new flights and major projects at the airport and reducing noise impacts to the surrounding communities. It is difficult for communities to support new projects/flights without first witnessing the airport's commitment to noise reduction. Concern was expressed regarding the Port's marketing strategies and whether it would be in the interest of StART to discuss this tension around marketing. It was noted that StART might also desire to provide guidance on longer-term initiatives on the Congressional/Federal level. A community representative also noted that it is important to take into account how ideas for reducing noise may affect the larger regional economy. It was stated that it is important to acknowledge the benefits that the airport also brings, that people in the region desire, including economical travel, delivery of goods (for example, the shift to more on-line ordering), and jobs. The objective is to be able to provide guidance to the airport on how to channel the growth with as little impact to the communities as possible.

A320 Vortex

Port staff described that the A320, A319, and A321 whistle noise occurs between 7-30 miles from landing and is caused by a circular vent hole under the wing. Airlines flying the A320 fleet at Sea-Tac include:

- American
- Air Canada
- Alaska
- Delta
- United
- Jet Blue
- Spirit
- Allegiant
- Frontier
- Volaris

Retrofitting the aircraft with a specific part can mitigate the noise. Retrofits can happen when the aircraft is receiving heavy maintenance, typically every two years. Fuel tanks and systems have to be fully drained for the work to occur. It is unknown how many aircraft have already been retrofitted, but a visual spot check suggests that about 50% of A320's at Sea-Tac have been retrofitted. It is unknown what plans the airlines have to retrofit their fleets.

Discussion focused on what the Port could do to encourage retrofitting of aircraft. The suggestions included:

- Provide incentives in the Fly Quiet Program and/or encourage the airlines to retrofit.
- Identify, if possible, how many aircraft are still needing the retrofit.
- Add to the Fly Quiet Program a voluntary program that communicates to the airlines that Sea-Tac will deduct points if they don't retrofit their planes.
- Ask Port staff to come up with a draft letter of inquiry to all the airlines, not just the ones in StART. Ask airlines to provide information on:
 - How many A320's do they have in their fleets that fly into Sea-Tac?
 - How many aircraft have been retrofitted?
 - What is the plan and timeline to complete the retrofit?
 - What is the cost per aircraft to complete the retrofit?
- Ask StART airlines representatives what they think would be the best way to encourage the retrofitting. Letter from the Port? Letter from StART?
- Provide to the Working Group the Jet Blue presentation on the costs of their retrofit program.
- Request Alaska Airlines and Delta Air Lines StART representatives to share, at the next StART meeting, whether they have plans for retrofitting their fleets and if so, the timeline.

This topic will be summarized at the StART meeting and additional feedback from StART will be solicited.

Continuation of Glide Slope Angle Analysis

Port staff recapped information regarding the Instrument Landing System and existing conditions. Instrument Landing Systems are composed of two primary ground components: the Localizer, which provides horizontal information, and the Glideslope (GS), which provides vertical information. Three degrees GS is the standard. Existing GS angles and crossing heights were reviewed as well as the three categories of ILS (CAT I, CAT II, CAT III). Port staff provided information and case studies in the US and

Germany where the GS is greater than three degrees. Port staff reviewed some options and what measures might need to be taken to increase the GS. It was discussed whether anything greater than three degrees would require a waiver from the FAA. Additional analysis would need to be done to determine the feasibility of a greater than three degree GS. It was noted that potential impacts to surrounding airports and airspace would need to be analyzed.

Questions and responses to questions included:

1. What other airports in the US have a greater than three degree GS?

Response: Cleveland and Newark, but more information would need to be gathered to understand their situation. There is no CAT III in the US with a greater than three degree GS.

2. How many CAT I approaches are there at Sea-Tac?

Response: The answer would require additional data review.

3. Given the significant fuel savings to the airlines with the CAT III precision, wouldn't all airports be going to CAT III equipment over the next few years?

Response: There are other strategies that play into the decision. There are a number of considerations that would go into changing the approaches.

4. Why does the 34 R runway have an inboard GS of 2.75 degrees?

Response: It was established a long time ago and never modified. It is uncertain what the Incentive for the FAA to change the GS to 3 degrees would be. The change has limited noise reduction benefit as it changes the angle about 20 feet vertically per mile.

5. What is the angle of a plane at take off at a 3.1 degree GS? Could the plane be landed at the same angle as takeoff?

Response: The angle at takeoff depends on the aircraft. Landing does not occur at the exact same angle as a departing plane.

6. Would all runways have to have the same GS?

Response: With the exception of Runway 34R, all runway ends have a three degree GS

Discussion focused on identifying what the Working Group's goal might be regarding the GS. Would the preference be to explore a change to a 3.1 degree GS? The Port stated it is willing to explore the costs and benefits of a change. It was noted that it would be important to consider the impacts of a GS change as a higher GS may require additional use of reverse thrust to slow down landing aircraft.

Next steps include:

- Consider asking one of the StART airline representatives to do a "back of the envelope" calculation of what fuel savings are accomplished with a change in GS.

- Discuss a preferred GS goal at the next Aviation Noise Working Group meeting.
- Ask StART representatives from Delta Air Lines, Alaska Airlines, and the FAA what their perspectives and concerns are regarding increasing GS above 3 degrees.
- Provide additional analysis through a visual that shows what the difference in aircraft height over houses and neighborhoods for different GS approaches and takeoffs would be and what the decibel change might be.
- Consider bringing in an FAA employee from the flight procedure office to provide information on all the ins and outs of take off/landing/airport flow.

2019 Scheduling

The facilitator confirmed that the Aviation Noise Working Group would continue in 2019. Upon discussion it was decided that the Working Group would move its meetings to the second Monday of each month from the fourth Monday of each month so as to overlap with StART meetings. A meeting invitation for the next six months will be sent to Working Group participants. Unless a Working Group participant notified the facilitator that they would like to not be on the Working Group, it is assumed that all current participants will remain engaged.

The next Aviation Noise Working Group will be on 01/14/19 at the airport.

Appendix C

START Meeting 12-19-18: Public Comment: Bernedine Lund

Overview of Recommended Actions:

Update FAA policy: The FAA policy dictates much of what the Port of Seattle (PoS) can and cannot do with revenues from the Port.

Airlines are not currently responsible for the noise and air pollution that is harming the local residents, and local and global environment with noise and air pollution (toxic chemicals and CO₂).

- Currently the PoS is paying to clean up toxic sites left from previous businesses.
- It seems logical that the costs of mitigation and environmental clean-up should come from the flying public and/or airlines.
- This can be done with added cost to each ticket, or gate fee at the PoS. A change in the policies will have to be done to make this happen.

Regulate airline growth: The large growth in the airline industry is not regulated, and in the words of one article the emissions are "...frying the planet".

- The airline industry needs to curtail this unrestrained growth, at the PoS and other airports across the world, to meet the CO₂ limits set by the state, the US, and the UNFCCC.
- The legislature needs to develop a realistic CO₂, CO, ozone, etc. emissions calculation that includes all the jet fuel used, not just that included for take offs and landings.
- Other activities that cannot grow fast enough to reduce the emissions from the large airline growth include: 1) increased fuel efficiency, 2) CO₂ offsets, 3) biofuels, 4) electric planes.

Address public demand for airline growth: The large growth is being pushed by the airline industry and airports.. There are many ways this happens, just as the tobacco companies used to push cigarette smoking.

- Larger and larger airports are being built to be very appealing to the public, almost serving as small cities, e.g., the almost \$1 billion International Building at PoS.
- The cost of flights is artificially low, and does not cover the overall costs; e.g., the PoS is increasing King County property taxes to pay for some additional activities, and the costs do not include mitigation costs.
- The dangers of flying to the public and airline staff should also be made more prominent (like a disclosure statement) when the public purchases tickets.
- Increase in ticket prices due to mitigation and costs of multiple health damages will help drive down the demand (e.g., there is a direct correlation between increased tobacco costs and reduced tobacco use).

Independently, there are several public movements to limit airline use: people in Sweden are using a word for mileage shaming; some are recommending setting mileage limits; and some airlines have stopped offering frequent flyer miles. Real change will most likely have to come from legislation. For example, legislation restricted tobacco company advertising and asbestos use has stopped; however, these companies are still being sued for the harm they have done to people's health.

Promote job growth in alternative transportation: The PoS says that job creation from the airline growth is positive for the local area.

- Building and maintaining other transportation options could have similar job opportunities. For example, high speed trains or hyperlink could transport people up and down the coast using renewable energy. Right now, train tickets are more expensive than airline flights.

Site a region wide freight and/or passenger airport - i.e. one used for the entire region, including nearby states, not just Seattle, with trains carrying the freight to/from the airport.

- Another airport is still needed to accommodate the overcrowding at the current PoS.
- Stop further building at PoS until the overall airline growth is addressed.

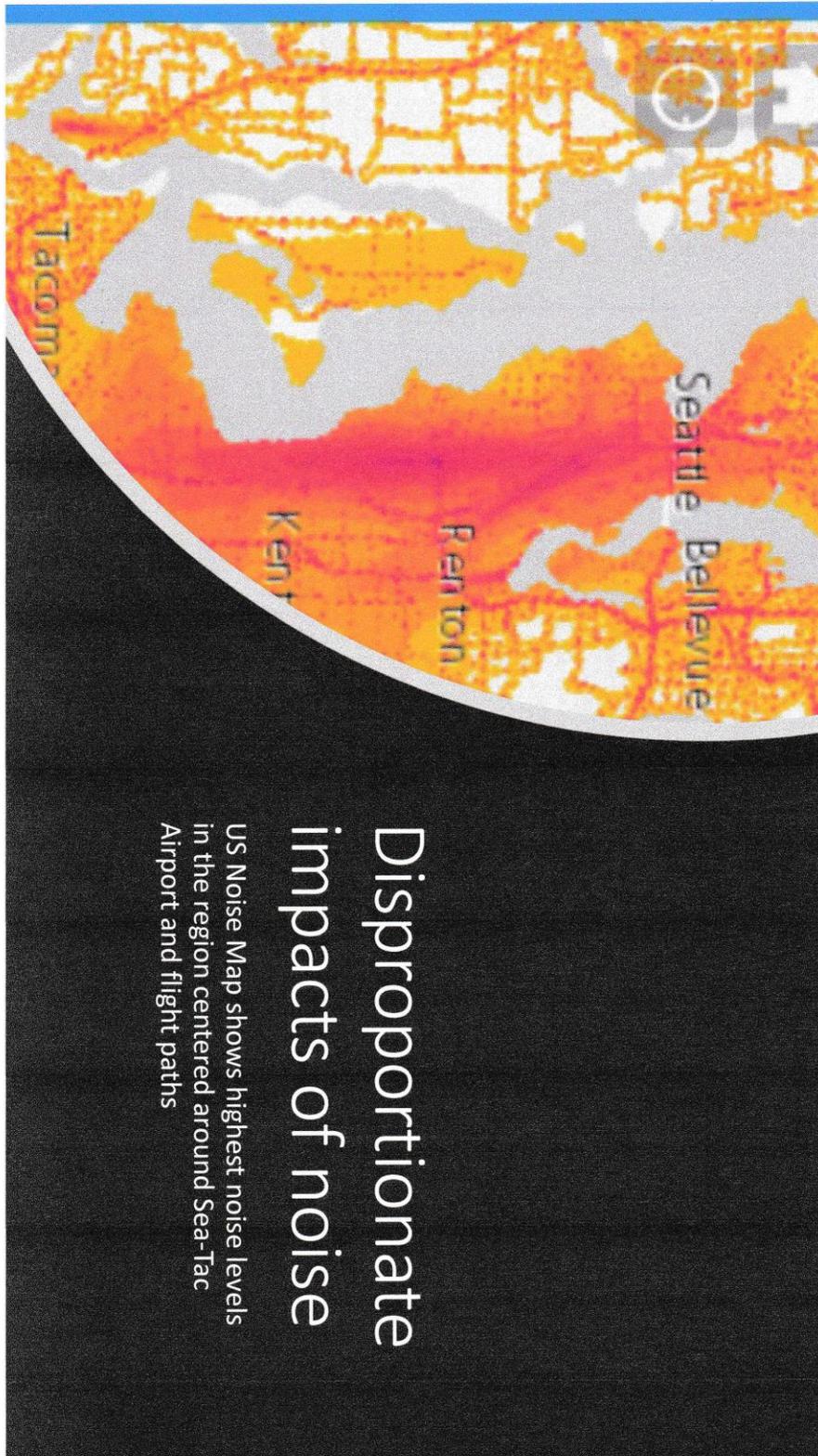
Appendix D

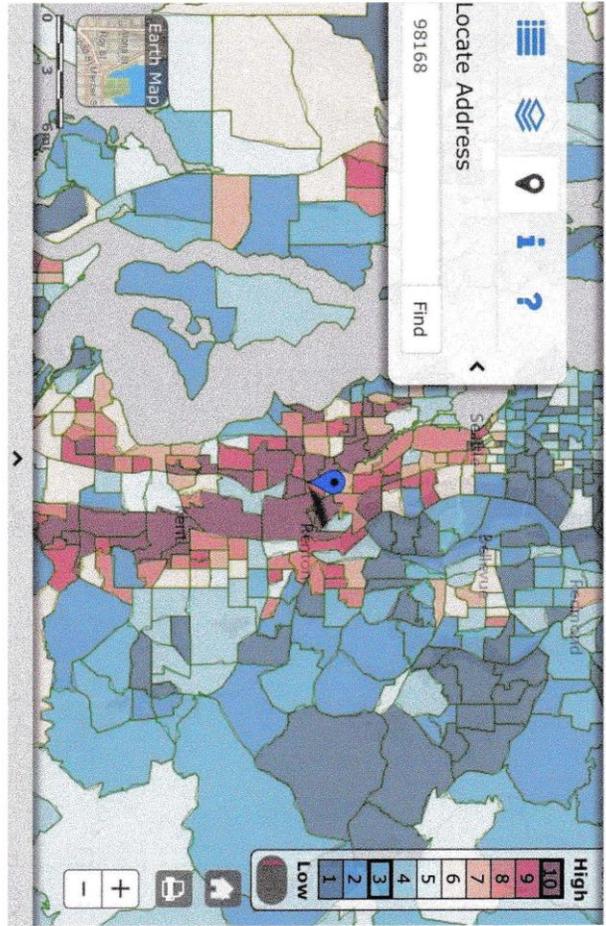
Debbie Wagner Written Comments

Disproportionate Impacts

Maps: King County Health, State Department of Health, EPA EJ Screen, Port of Seattle, Flight Pattern Kids

- Cities in South King County experience a high level of disproportionate impacts from Sea-Tac Airport operations which include:
- Low income residents, highest poverty levels in the county
- Language barriers
- Higher illness rates
- Lower life expectancy
- Less access to healthcare
- Highest noise levels in the county
- Highest concentrated emissions in the county

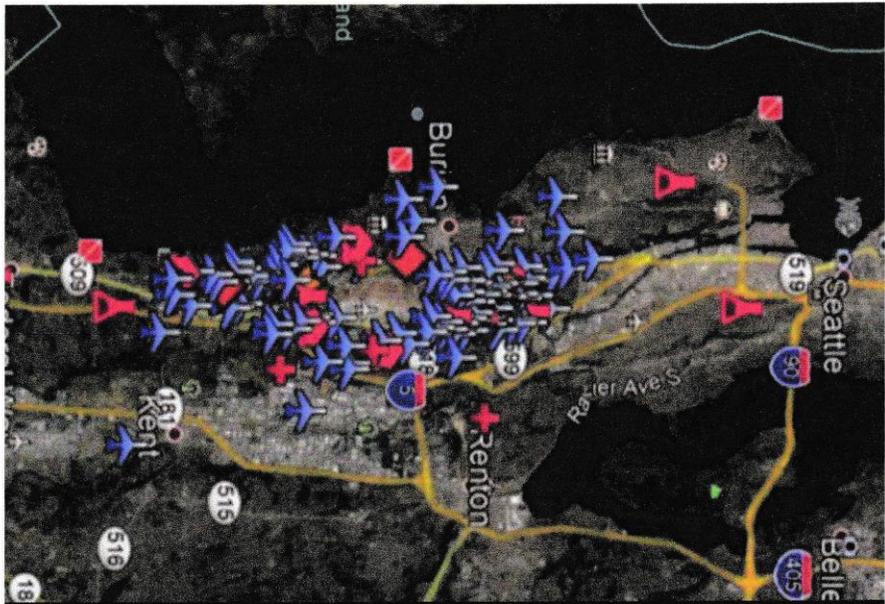




Highest health disparities in the region mirror the areas with the highest noise impact and follow the flight path

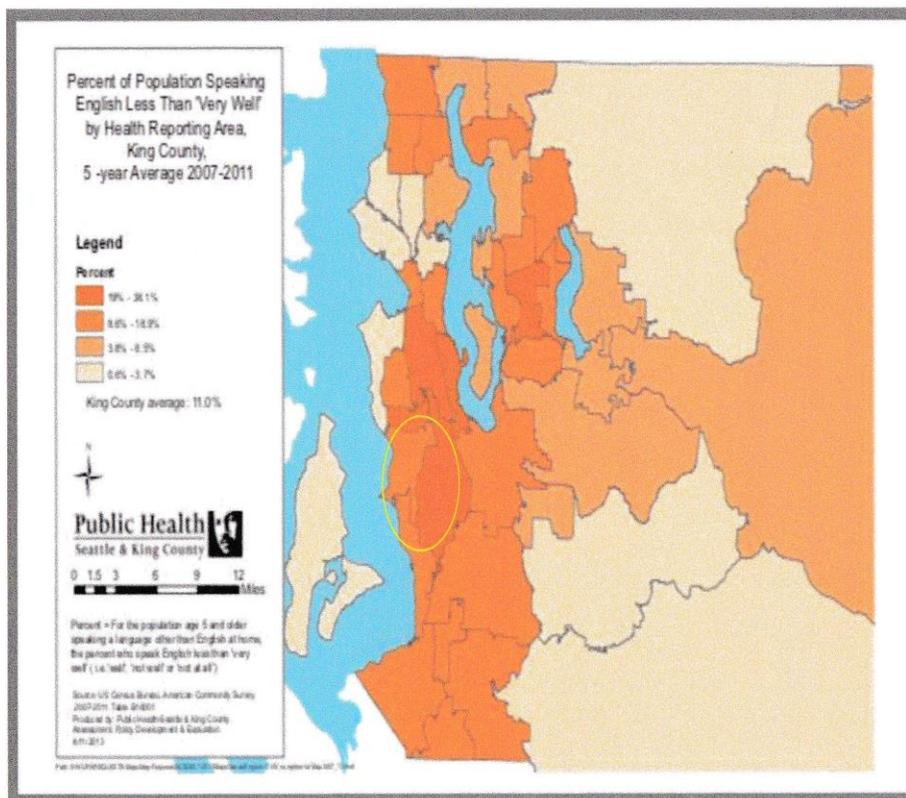


Note the concentration of flight paths matches the high noise, health impacts, social detriments, low income and minority, and disparities.

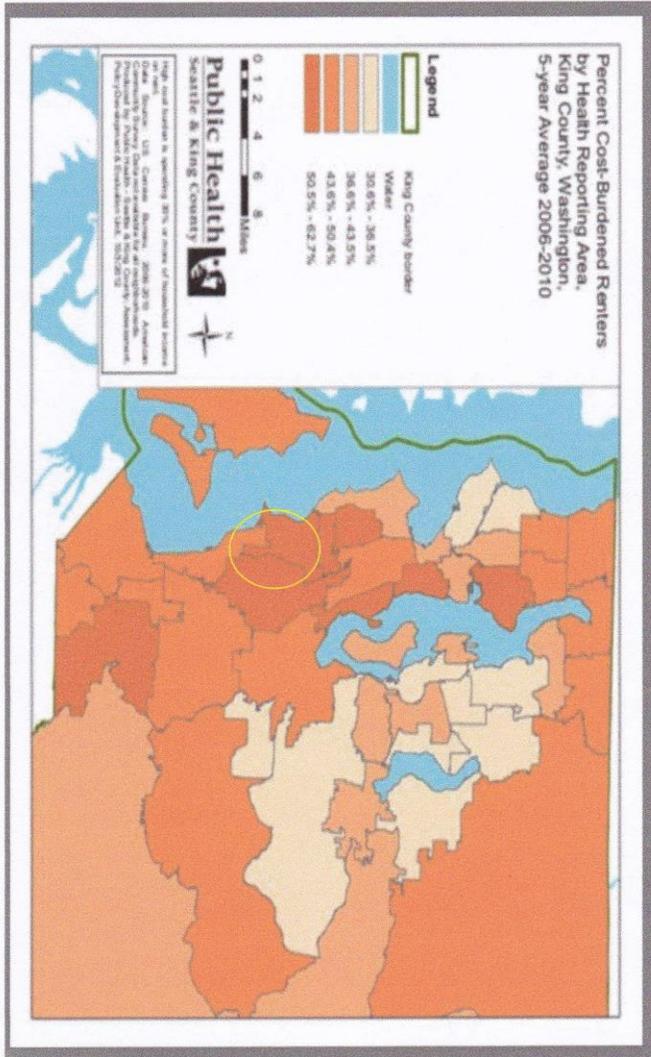


Flight Pattern Kids household health questionnaire shows reported cancer and immune disease concentrated in the highest noise/health impacted areas around the airport and flight path

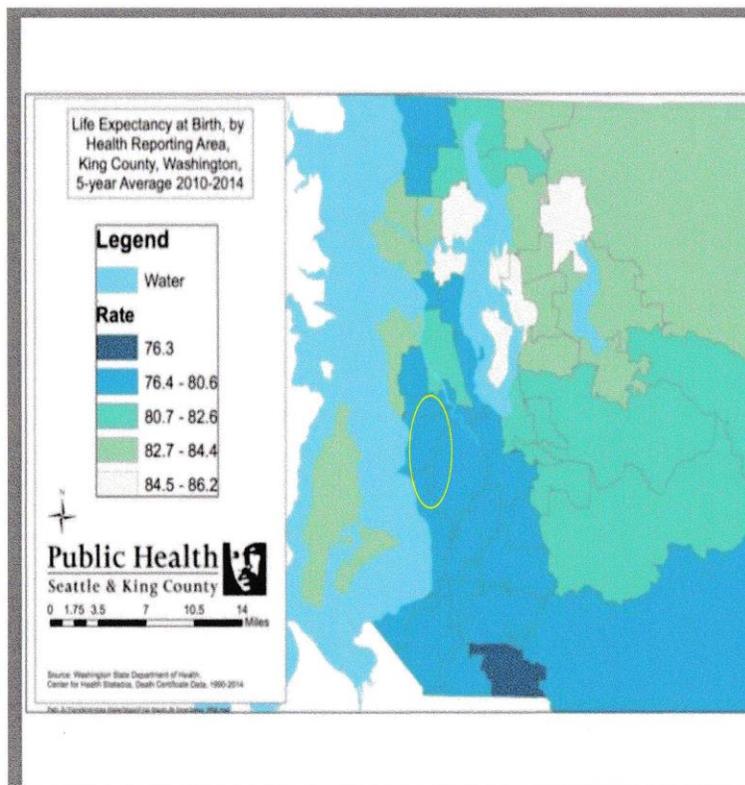
King County Health and Economic Maps: Language barriers



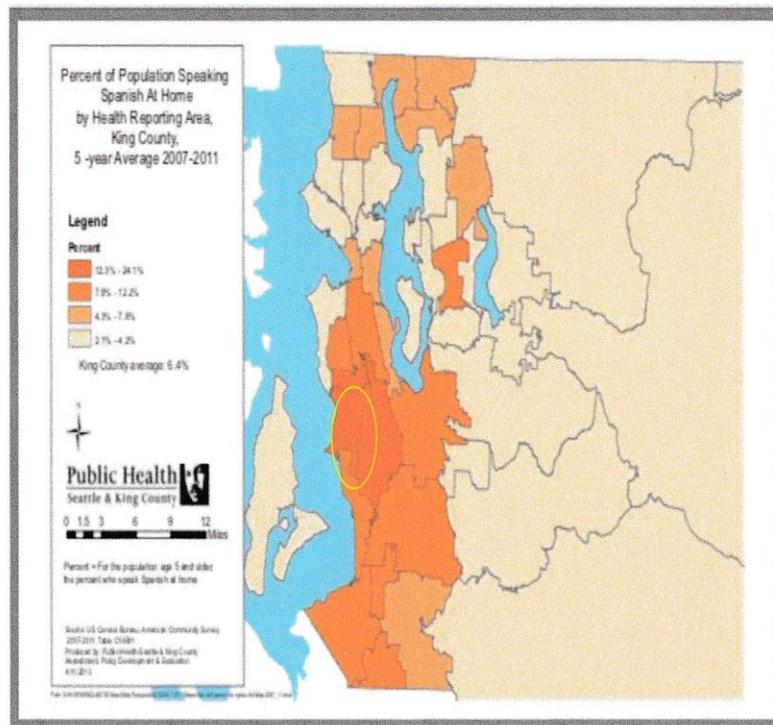
King County Health Maps: Cost Burdened Renters



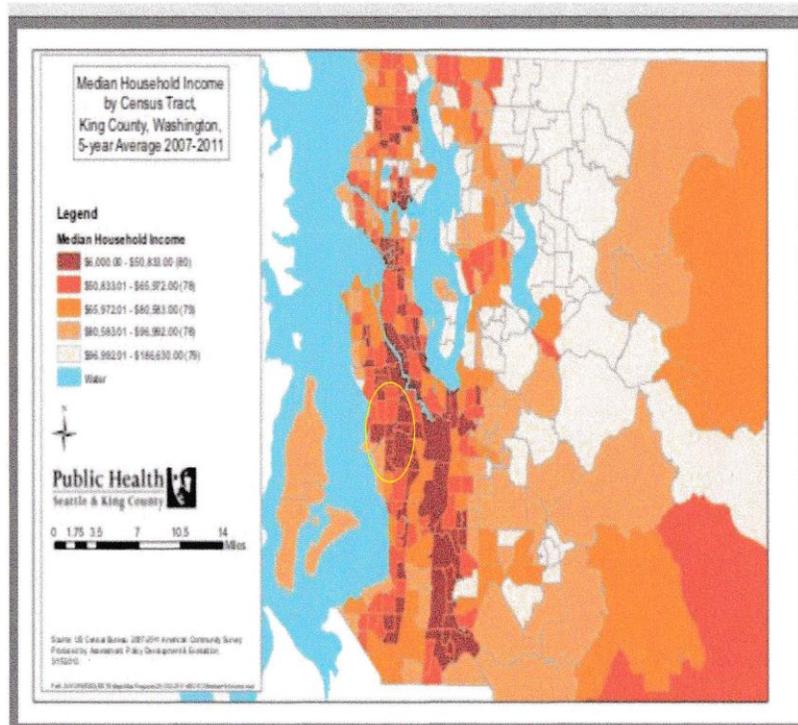
King County Health Maps: Life Expectancy



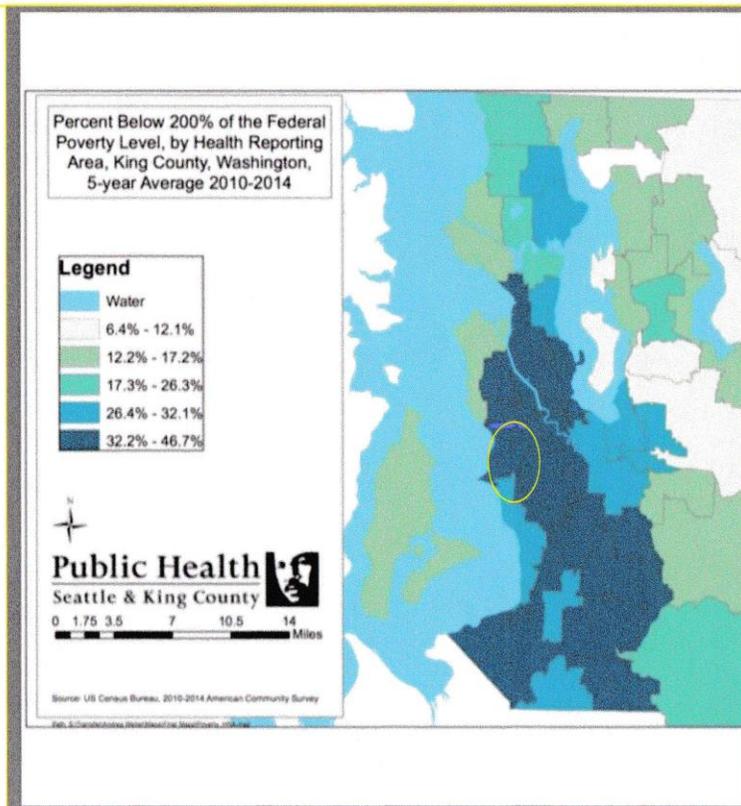
King County Health Maps: English as a second language



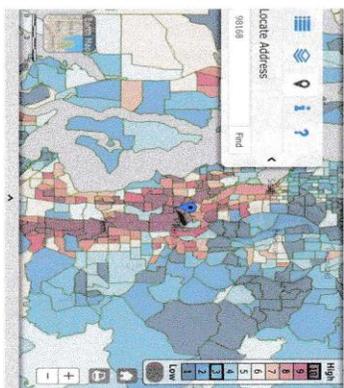
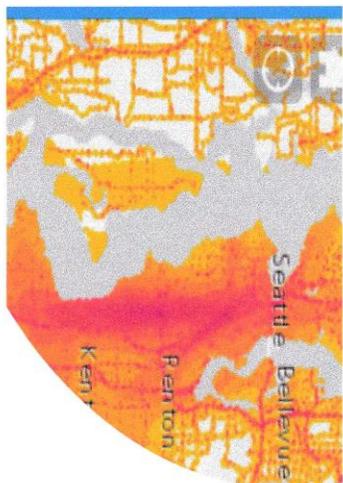
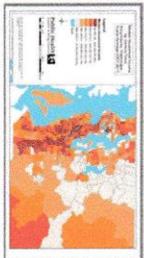
King County Health Maps: Low Income



King County Health Maps: Poverty



King County Health Maps:
Low Income



Appendix II

Revised Operating Procedures





SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

OPERATING PROCEDURES

Updated on October 19, 2018

Background

In fall 2017, the Port of Seattle (Port) developed the Sea-Tac Stakeholder Advisory Round Table (StART) to enhance cooperation between the Port and the neighboring cities of SeaTac, Burien, Des Moines, Normandy Park, Tukwila and Federal Way (cities). This voluntary, non-governing regional roundtable is being convened by the Aviation Managing Director, influenced by discussions with leadership from the cities representing their communities.

Purpose

StART provides Southwest King County cities, communities, airline representatives, the Federal Aviation Administration (FAA) and the Port with the opportunity to:

- Support meaningful and collaborative public dialogue and engagement on airport-related operations, planning and development;
- Provide an opportunity for the communities to inform the airport-related decision making of the Port of Seattle and other Southwest King County jurisdictions/organizations; and
- Raise public knowledge about the airport and impacted communities.

The intent is to provide a forum that fosters a spirit of good will, respect and openness while encouraging candid discussion between the Port and residential and business community members from SeaTac, Burien, Des Moines, Normandy Park, Tukwila and Federal Way.

StART is the preeminent forum for information-sharing, discussing the communities' concerns, and providing feedback to the Port for issues related to Sea-Tac Airport. StART's effectiveness will be driven by a willingness by all parties to fully discuss matters of mutual concern. All parties pledge their good faith best effort to achieve those ends (see Commitments from Stakeholders).

Sponsorship

StART is convened by the Port's Aviation Managing Director, who in addition to serving as the chair, will serve as the sponsor. The sponsor will provide staff support and technical analysis/expertise, and work with the facilitator to identify briefing topics and work toward consensus to shape potential solutions.

Reporting Structure

Through discussions at StART meetings, StART members will provide input and feedback to the Port's Aviation Managing Director and staff.

StART shall have an informal relationship structure to the Highline Forum, with opportunities to provide regular reports on StART activity. The Highline Forum provides Southwest King County cities (elected representation and senior staff), educational governing bodies, and the Port with the opportunity to share information, interact with outside speakers and other governmental organizations, and work in partnership on initiatives that benefit the residents of Southwest King County.

Each member-city of the Highline Forum will be given a formal role to designate StART members (see Membership), identify recommended briefing topics to StART, and/or invite StART to present on a regular basis.

After completion and upon achieving consensus from StART members, an Annual Report shall be presented to the Port of Seattle Commission and the Highline Forum. Upon request to the chair, each city will receive a presentation of the Annual Report.

Membership

StART shall consist of the following members:

- Three (3) members serving as stakeholders, designated by each Highline Forum-member city electing to participate. Two (2) members shall be community members who reside, own a business or property, or are employed within the city and who do not serve as an elected official. One (1) member shall be a non-elected city employee.
- Two (2) airline representatives from each of the two highest passenger volume carriers serving Sea-Tac Airport (one representative and one alternate per carrier).
- One (1) air cargo representative.
- Two (2) representatives from the Port. One (1) representative shall be the Port's Aviation Managing Director. The Port's Aviation Managing Director shall designate the second representative.

Each Highline Forum-member city may assign one (1) non-elected city employee to serve as an alternate for the city employee member. The alternate employee from each city must be assigned by the chief administrative officer. Assigned alternates are encouraged to attend all meetings in order to remain current on StART activities. Because it is important for StART's membership to remain consistent in order to effectively address issues, each city has two appointed community members. Community members on StART are not assigned alternates. If one of the community members is unable to attend a meeting, the second StART community member from that city is available to participate and provide information either representative would like brought forth at the meeting.

Members shall be appointed for a two (2) year term; membership shall be renewed in January of every even numbered year. All members and alternates who serve on StART shall serve at the pleasure of their appointing bodies. It is the responsibility of each city or representational body to notify the facilitator anytime a member is appointed to or terminates service on StART.

Federal Aviation Administration

Representatives from the Federal Aviation Administration (FAA) are expected to participate at StART meetings. Periodically, time will be set aside at meetings for representatives to provide updates and briefings at StART meetings.

Facilitator

An independent, neutral facilitator will be selected and provided by the Port to assist in the preparation, management and summation of each StART meeting. The facilitator will preside over the StART meetings and be responsible for ensuring a fair, open, honest, and balanced discussion of issues and ensure the timely administering of the agenda. As a collaborative process provider, the facilitator will not act as an advocate for anyone on any substantive issue.

The facilitator may have non-confidential, informal communications and perform facilitation activities with Port staff, StART members, and others between and during meetings. To ensure a spirit of goodwill, respect, openness and candidness occurs at all StART meetings, the facilitator will manage member engagement and address situations where it appears that a member is not acting in accordance with the Commitments from Stakeholders.

The facilitator will serve as the lead disseminator of all information related to StART and its meetings, including meeting agendas and summaries. The facilitator will keep a running list of aviation topics of interest to be used in the development of StART meeting agendas, which will be periodically updated through discussions with members. The facilitator will be responsible for drafting meeting summaries, which will be provided electronically in draft form to StART members for proposed correction and comment prior to the next meeting. Final meeting summaries will be posted on the Port's StART webpage for public view.

Meetings

- **Frequency**

StART shall meet six (6) times a year unless otherwise agreed to. Meetings will be scheduled on the 4th Wednesday of the month (typically February, April, June, August, October, December)

alternating with the Highline Forum. Meetings typically begin at 6 PM and conclude at 8 PM. If Christmas falls on the fourth week in December, StART will be held on the third Wednesday in December.

Special meetings may be called upon with twenty-four (24) hours notice by the Sponsor. Any regularly scheduled or special meeting may be cancelled upon the concurrence of a simple majority of members. Each party shall designate one of its members to have the authority to so act.

- **Meeting Attendance**

Members will notify the facilitator via email if they are unable to attend, preferably one week in advance.

- **Location**

The location of StART meetings will be at Sea-Tac Airport unless otherwise noticed. It is possible that some meetings will be held at locations away from the airport.

- **Notification of Meetings**

Attendance at StART meetings is open to the public and the media. All meeting materials, including agendas, are considered public documents and available to the public consistent with the requirements of the Washington State Public Records Act Chapter 42.56 RCW. Meeting agendas will be posted one week prior to a meeting for the public to view. Meeting notices, agendas, and final meeting summaries will be posted on the Port of Seattle's StART website: www.portseattle.org/page/sea-tac-stakeholder-advisory-round-table.

- **Meeting Agendas**

Each meeting may include the following agenda items: updates from the Aviation Managing Director, roundtable updates from each member and informational presentation(s).

The facilitator and Port staff will develop the Agenda for each StART meeting. Members will receive advance copies of the Agenda and are able to provide input and suggest changes prior to the agenda's finalization. A running list of aviation topics of interest will be kept by the facilitator and periodically updated through discussions with members.

At the final meeting of the year, members will complete a yearly evaluation.

- **Public Comment**

All StART meetings are open to the public and the meeting agenda is dedicated to StART-related business. Limited time is set aside at each meeting for the public to provide comments pertinent to the topics listed on that day's StART meeting agenda. Members of the public who wish to speak are asked to sign-up before the meeting begins and are provided one to three minutes of time. Due to time limitations, not all who sign-up to speak will necessarily be provided an opportunity to speak. Members of the public are encouraged to submit written comments to Port staff for circulation to the full StART membership.

StART does not engage in dialogue with those who provide public comment during meetings. Questions or requests for information or documents may be made separately from StART meetings.

Feedback

StART is not a formal decision-making body or an inter-local agency; StART will not follow procedural rules of order and will not entertain motions or record votes.

StART will use consensus to shape feedback, which will be captured in a formal meeting summary developed by the facilitator. Consensus-based actions are the product of discussions among the members to distinguish underlying values, interests, and concerns with a goal of developing widely accepted feedback. The facilitator will assist StART in articulating points of agreement, as well as articulating concerns that require further exploration or areas where consensus could not be achieved.

Working Groups

Working groups may be established to allow for work to continue between StART meetings and to give specific issues and topics a more in-depth focus. A working group will be comprised of a subset of StART members and any staff support and technical analysis/expertise as identified by the Port. Working groups adhere to the StART Commitments from Stakeholders. Working groups set their agendas and work plan. Working groups will report out on the progress of their work and are open to suggested topics and guidance on their work plan during StART meetings. StART members who are not a member of the working group may attend as “observers”. Working group meetings are not open to the public.

Amending the Operating Procedures

Operating Procedures may be amended by consensus of the Airport’s Managing Director and the non-elected employee representatives from each of the Highline Forum cities. Proposed modifications to the Operating Procedures will be distributed in writing to the Airport’s Managing Director and the non-elected employee representatives. Any proposed modification to StART’s Operating Procedures will be evaluated at a separately scheduled meeting with the Airport’s Managing Director and the non-elected employee representatives. If there is consensus, modifications to the Operating Procedures will be communicated to the StART members.

Annual Report

StART will have an annual evaluation to review accomplishments and outstanding issues. With assistance from Port staff, the facilitator will produce an annual report based on StART’s yearly evaluation. After completion and upon achieving consensus from StART members, the annual report shall be presented to the Port of Seattle Commission and the Highline Forum. Upon request to the chair, each city will receive a presentation of the Annual Report.



SEA-TAC STAKEHOLDER ADVISORY ROUND TABLE

COMMITMENT FROM STAKEHOLDERS

StART members will participate in good faith, which means:

1. Set aside time to prepare for and participate in the meetings.
2. Participate fully, honestly and fairly, commenting constructively and specifically.
3. Speak respectfully, briefly and non-repetitively; not speaking again on a subject until all other members desiring to speak have had the opportunity to speak.
4. Allow people to say what is true for them without fear of criticism from StART members.
5. Avoid side conversations during meetings.
6. Provide information as much in advance as possible of the meeting in which such information is to be used and share all relevant information to the maximum extent possible.
7. Generate and explore all options on the merits with an open mind, listening to different points of view with a goal of understanding the underlying interests of other StART members.
8. Consult regularly with their appointing bodies and provide their input in a clear and concise manner.
9. Each member agrees to work toward fair and practical feedback that reflects the diverse interests of all StART members and the public.
10. When communicating with others, accurately summarize the StART process, discussion and meetings, presenting a full, fair and balanced view of the issues and arguments out of respect for the process and other members.
11. Strive for consensus in shaping feedback and closure on issues.
12. Self-regulate and help other members abide by these commitments.

Appendix III

Draft Rolling Work Plan



DRAFT/ROLLING NEAR TERM AVIATION NOISE ACTION AGENDA
StART AVIATION NOISE WORKING GROUP

2018/2019 Work Plan Draft
As of February 12, 2019

ID	Task Name	Nov '18	Dec '18	Jan '19	Feb '19	Mar '19	Apr '19	May '19	Jun '19	
1	Late Night Noise Limitation Program	[Green bar spanning Nov '18 to Jun '19]								
2	Draft language	[Green bar from Nov '18 to Dec '18]								
3	Working Group: circulate draft language	[Green diamond in Nov '18]								
4	Open discussions with FAA/Alaska/Delta on language	[Green bar from Nov '18 to Dec '18]								
5	Update Working Group	[Green diamonds in Dec '18, Jan '19, Feb '19, Mar '19, Apr '19, May '19]								
12	Update StART	[Green diamonds in Dec '18, Feb '19, Apr '19]								
16	Define SEL Noise Thresholds	[Green bar from Dec '18 to Feb '19]								
17	Conversations with FAA	[Green bar from Jan '19 to Mar '19]								
18	Formal conversations with all airlines (station managers, AAAC, individual carriers)	[Green bar from Mar '19 to Jun '19]								
19	Finalize language	[Green bar from Feb '19 to Mar '19]								
20	Update Highline Forum	[Green diamonds in Jan '19, Mar '19, May '19]								
24	Update Commission	[Green diamond 1/22 in Jan '19]								
25	Develop new Fly Quiet materials	[Green bar from Mar '19 to Jun '19]								
26	Implement program									
27	Runway Use Agreement	[Dark blue bar spanning Nov '18 to Jun '19]								
28	Begin drafting runway use agreement	[Dark blue bar from Nov '18 to Dec '18]								
29	Working Group: circulate draft agreement	[Dark blue diamond in Nov '18]								
30	Open discussions with FAA/Alaska/Delta on language	[Dark blue bar from Nov '18 to Dec '18]								
31	Update Working Group	[Dark blue diamonds in Dec '18, Jan '19, Feb '19, Mar '19, Apr '19, May '19]								
38	Update StART	[Dark blue diamonds in Dec '18, Feb '19, Apr '19]								
42	Finalize draft language	[Dark blue bar from Jan '19 to Feb '19]								
43	Formal conversations with FAA	[Dark blue bar from Jan '19 to Mar '19]								
44	Update Highline Forum	[Dark blue diamonds in Jan '19, Mar '19, May '19]								
48	Possible Environmental Review	[Dark blue bar from Mar '19 to May '19]								
49	Update Commission	[Dark blue diamond 1/22 in Jan '19]								
50	Implement	[Dark blue bar from May '19 to Jun '19]								
51	Glide Slope Analysis	[Purple bar spanning Nov '18 to Jun '19]								
52	Begin definition of steps toward 34R glide slope implementation	[Purple bar from Nov '18 to Dec '18]								
53	Present the 34R glide slope level of effort, schedule and cost	[Purple diamond in Nov '18]								
54	Define steps toward 34R glide slope implementation	[Purple bar from Dec '18 to Jan '19]								
55	Present the 34R glide slope implementation recommended approach	[Purple diamond in Dec '18]								
56	Update StART	[Purple diamonds in Dec '18, Feb '19, Apr '19]								
60	Update Working Group	[Purple diamonds in Dec '18, Jan '19, Feb '19, Mar '19, Apr '19, May '19]								
67	Determine potential ways to expedite approach	[Purple bar from Jan '19 to Mar '19]								
68	Update Highline Forum	[Purple diamonds in Jan '19, Mar '19, May '19]								
72	Update Commission	[Purple diamond 1/22 in Jan '19]								
73	Airfield Noise/Reverse Thrust Study	[Brown bar spanning Jan '19 to Jun '19]								
74	Working Group: Present on reverse thrust	[Brown diamond in Jan '19]								
75	Working Group: Consultant presentation on identifying opportunities for ground noise reduction	[Brown diamond in Mar '19]								
76	Update StART	[Brown diamonds in Feb '19, Apr '19]								

Project: StART Aviation Noise Working Group

LEGEND: [Green bar] = Work Task/Activity Duration [Green diamond] = Scheduled Meeting [Dark blue diamond] = StART / Working Group Meeting

Appendix IV

Draft Near-Term Aviation Noise Action Agenda Summary



**Sea-Tac Stakeholder Advisory Round Table (StART)
Aviation Noise Working Group
DRAFT NEAR-TERM AVIATION NOISE ACTION AGENDA SUMMARY
as of 2-12-19**

Near-Term Action Item	Late-Night Noise Limitation Program	Runway Use Agreement	Glide Slope Angle Analysis	Airfield Noise Assessment
Description	Voluntary measures to reduce late-night (12:00 AM to 5:00 AM) noise through incentivizing air carriers to fly at less noise sensitive hours or transition to quieter aircraft	Revise the current Runway Use Agreement to minimize use of the 3 rd Runway during the late-night hours (12:00 AM to 5:00 AM)	Raising Runway 34R's glide slope to lessen aircraft approach noise	Analyze airfield ground noise sources including researching opportunities to minimize the impacts of reverse thrust noise
Components	<ul style="list-style-type: none"> • Reestablish conversations with air carriers on scheduling flights outside of the late-night hours • Recognizing there are reasons why many air carriers fly during the late-night hours, establish a noise threshold that would identify the louder aircraft flying during the late-night hours to incentivize the transition to quieter aircraft • Late-night noise threshold observance would be tracked as part of the Port of Seattle's already established Fly Quiet Program and publicized on a more regular basis along with the results of the other Fly Quiet Program's aircraft noise-related categories 	Updated language for: <ul style="list-style-type: none"> • 3rd Runway daytime/evening runway usage • 3rd Runway late-night runway usage • North flow Preferential Use during nighttime hours • Monthly monitoring of compliance in partnership with the FAA 	<ul style="list-style-type: none"> • Consider various strategies and timelines for raising Runway 34R's glide slope • Once strategy for 34R is determined, consider options for raising the glide slope on all runways to higher than 3 degrees 	Consider options on the scope and funding of a comprehensive analysis of ground noise
Potential Changes	Reduction of aircraft noise during the late-night hours	Minimized use of the 3 rd Runway during the late-night hours	Reduction of aircraft noise for communities south of Sea-Tac	Reduction of aviation noise
Key Responsible Parties	Port of Seattle, air carriers, and cargo operators	Port of Seattle and FAA	Port of Seattle, FAA, and air carriers	TBD
Next Steps	Finalize noise thresholds; schedule informational briefings with air carriers – first tentatively planned for 3/28/19	Draft finalized and sent to FAA; awaiting FAA's response	Strategy for raising 34R's glide slope determined; currently considering ways to expedite the project	TBD