Item No. 7a_supp
Meeting Date: February 25, 2020

Sound Mitigation Briefing

February 25, 2020

Port of Seattle®

Agenda

1. Noise Programs Overview
2. Ongoing sound insulation programs
3. Acceleration of sound insulation programs
4. Staff recommendations

Airport Noise Programs

- **Noise Abatement** – aimed at reducing noise at the source - the aircraft
  - Fly Quiet Program
  - Engine testing restrictions
  - Monitoring noise abatement flight corridors
  - Monthly FAA meetings
- **Community outreach and information** – responding to noise complaints, providing noise monitoring data and attending public meetings
- **Noise Monitoring**
  - 24 Permanent Noise Monitors
  - 5 Portable Noise Monitors
    - 2 Purchased / 3 additional being acquired
- **Noise Mitigation** – reducing noise impacts within the community
  - Sound insulation programs
  - Acquisition programs

Noise Mitigation Accomplishments

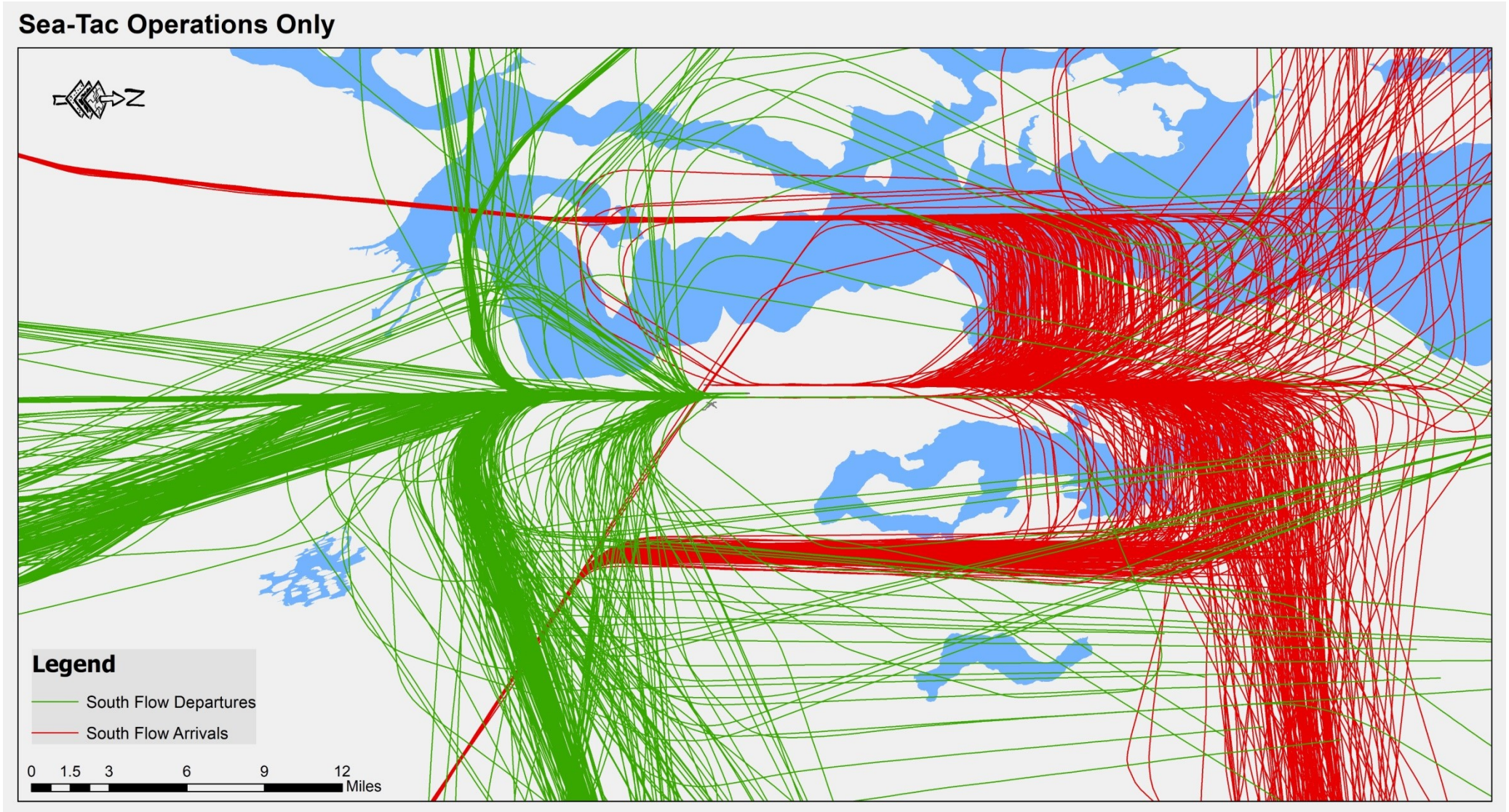
- Sound Insulation Completed
  - Began in 1985
  - Approximately 9,400 homes
  - 9 Highline Schools
  - 5 condominium complexes, 246 units
  - 14 buildings on the Highline College Campus
- Acquisition Completed
  - 5 mobile home parks, 359 mobile home units
  - 69 homes north of the 3rd runway
  - 1,400 single family homes including 3rd runway acquisition

- Approximately $300 million spent on sound insulation
- Approximately $100 million spent on acquisition programs

Sea-Tac Stakeholder Advisory Roundtable

- Late Night Noise Limitation Program – Began in mid-2019, established noise thresholds during late night hours
- Updated Runway Use Agreement with FAA – Signed in September, encourages limited use of 3rd runway after midnight
- Noise Abatement Departure Profile Analysis – Analyzing benefits of airline departure procedure alternatives that potentially benefit community
- Ground Noise Study – Will help identify the various sources of noise from operations on the ground and possible noise reduction options
- Runway 34R Glideslope – Will raise the angle of approaching aircraft

Flight Tracking System



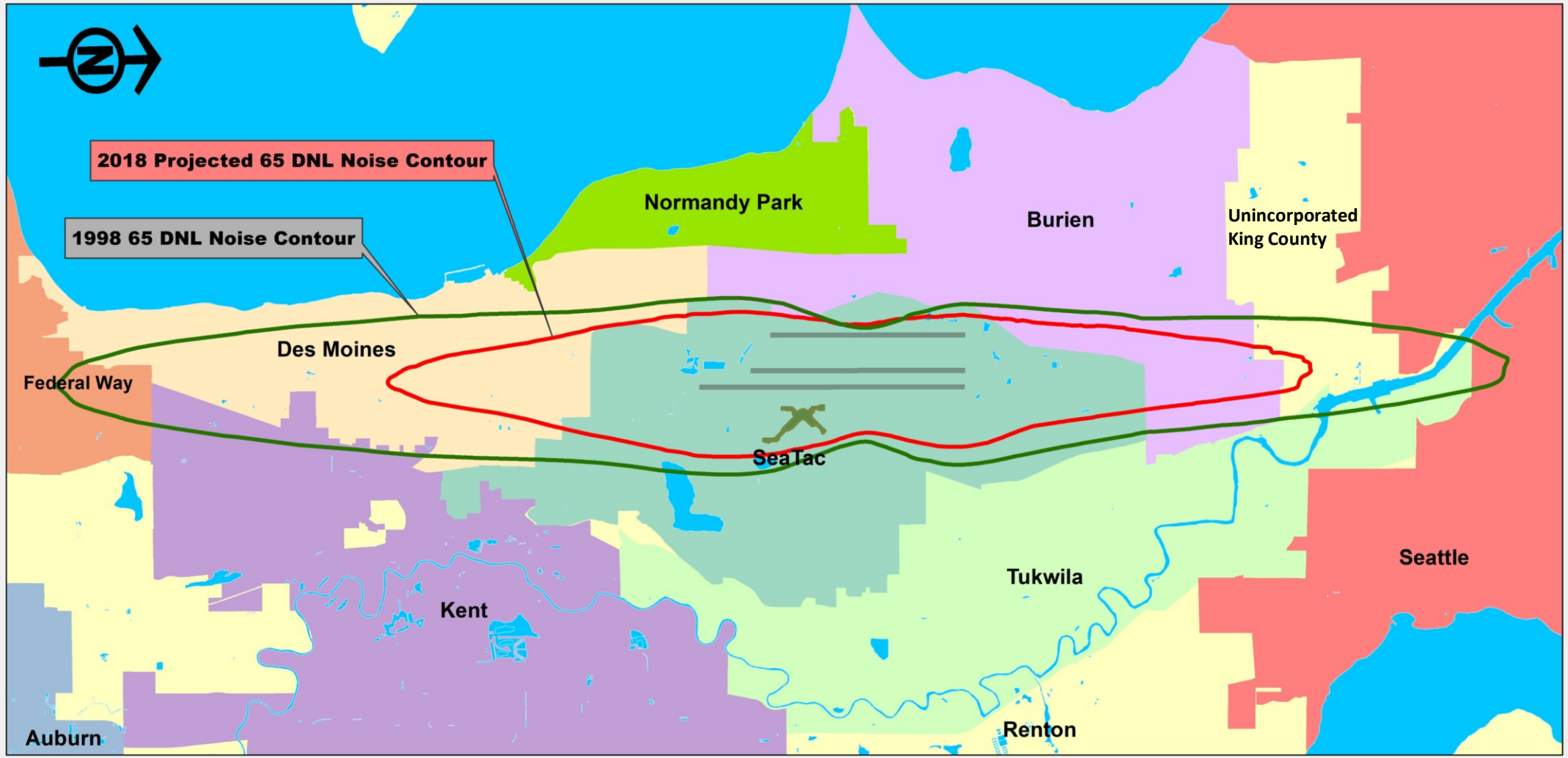
Part 150 Overview

- Code of Federal Regulations 14 (CFR14) Part 150 – FAA established guidelines
- Airports must follow federal guidelines to get federal grants for mitigation projects
- The focus is to address noise and land use incompatibilities
- Identified potentially eligible single-family homes, apartments, condominiums and places of worship for sound insulation within Noise Remedy Boundary
- Last update completed in 2014
- FAA-approved mitigation eligible for AIP funding at 80%

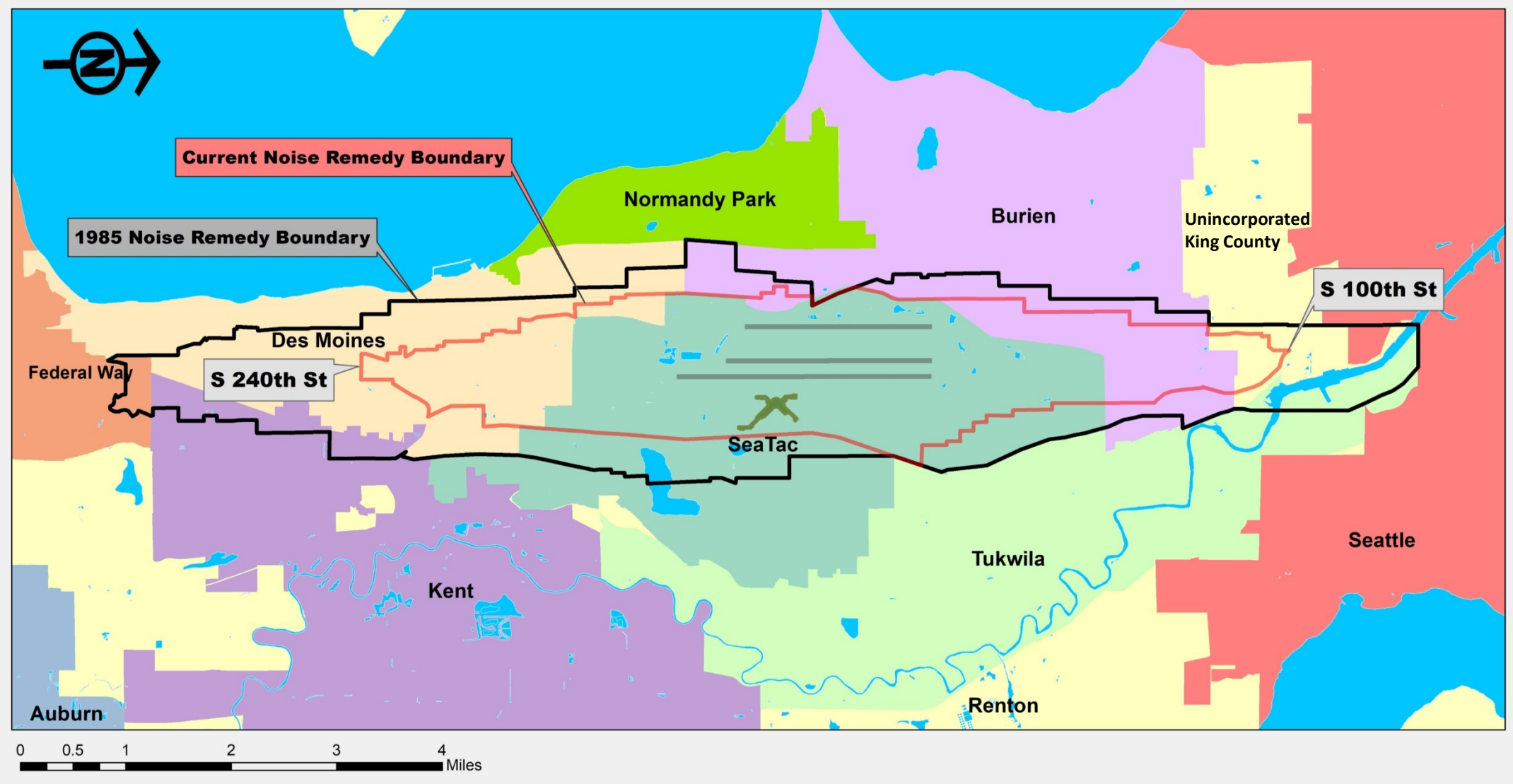
DNL Noise Contour

- Day Night Level (DNL) – Annual cumulative average of noise emitted from aircraft operating at Sea-Tac Airport
  - 10 dB penalty for aircraft operating between 10pm and 7am
- Contours MUST be developed using the FAA Airport Environmental Design Tool (AEDT)
- The FAA will not allow airports to use noise monitor recorded decibel levels for production of DNL contours
- Contours must be submitted to and approved by the FAA
- The 65 DNL Contour is the basis for land use analysis in the Part 150

1998/2018 65 DNL Noise Contour



1985 & Current Noise Remedy Boundary



Sound Insulation Requirements

- Homes must be built prior to 1986 in Des Moines and 1987 in all other areas – building codes meet or exceed FAA standards after these dates
- Homeowners are required to sign an avigation easement
- Homes must have a 45dB DNL or greater interior noise level during a noise audit to be eligible

2019 Port Audit

Changes in response to the internal audit:

- Central Procurement Office implemented greater controls
  - Created a Job Order Contract (JOC) committee to review all aspects of contacting under the JOC
  - Updated
    - Policies
    - Contracting materials
    - Oversight & line item reviews

Ongoing Sound Insulation Programs

Continued Single-Family Sound Insulation

Homes completed in 2019	Homes completed in 2020 to date	Total homes potentially eligible within the boundary not completed to date	Applications currently on file	Homes scheduled for A&E site visits March 2020	Goal for 2020 (current practice)
17	2	140	40	5	10 or more

- Continued homeowner outreach
- Seeking Commission approval for new A&E March 2020

Failed Windows

- Alpine Windows installed in the 1990s have had a higher than average failure rate
  - Alpine went into bankruptcy in the year 2000 and stopped honoring warranties.
  - Approximately 5,000 homes received Alpine window products
- Other products installed in the late 1980s & early 1990s may be failing because they are near the end of their lifespan
- State legislation is being proposed as a way to allow for the replacement of products that fail

Upcoming Condominium Sound Insulation

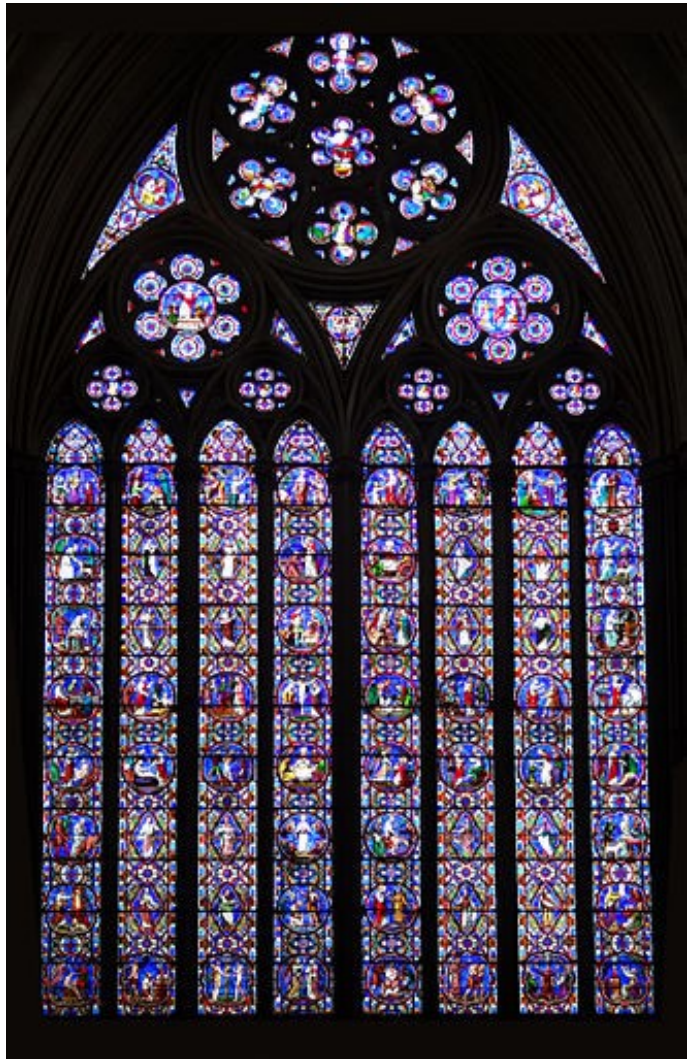
- 3 complexes, 133 estimated units, Burien, Des Moines, Unincorporated King County
- Design on first project underway – Villa Enzian
- Eligibility for remaining two complexes to be confirmed
- Major Works Construction Procurement Q2 2020
- Villa Enzian completion expected in Q3 2021

Future Apartment Sound Insulation

- 18 complexes potentially eligible, Burien, Des Moines, and SeaTac
- Approximately 903 units
- First apartment complex
  - Estimated cost $4.2 million
  - Estimated to start in 2022

Future Places of Worship Sound Insulation

- 7 structures identified as potentially eligible in Burien and Des Moines
- Plan to begin first project in 2024
- Unique architectural features can create challenges for sound insulation



Future Voluntary Home Acquisition, Approach Transition Zone (ATZ)

- ATZ is an area 2,500 feet off the end of the Runway Protection Zone (RPZ)
- Approximately 16 single-family homes and 6 apartment buildings
- Program is voluntary, no relocations
- Estimated to begin program in 2023
- Eligible for FAA grant funding at 80% of eligible costs

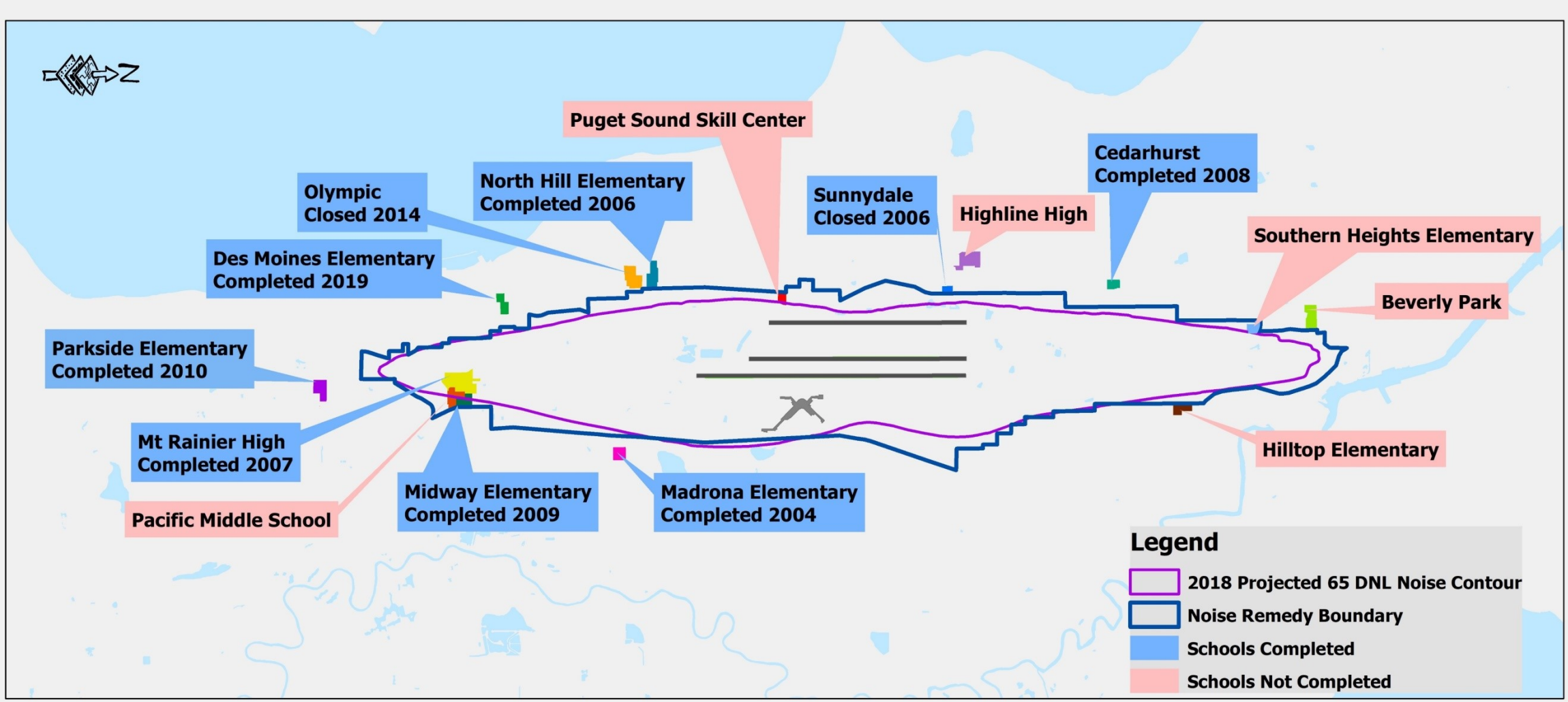
Continued School Sound Insulation

- MOA in place with Highline School District, FAA, and the Port for sound insulation funding
- Funding sources
  - FAA grant
  - Port of Seattle airport revenues
  - Tax levy
- 9 schools completed
- 6 schools remain
- Des Moines Elementary recently completed
- Highline High School is under construction

Status of Highline Schools

School Name	Date Completed	Total Amount - AIP/Airport/Tax Levy
Madrona Elementary	2004	$10.7M
North Hill Elementary	2006	$8.7M
Mt Rainier High	2007	$4.4M
Sunnydale Elementary	2006	$9.2M
Cedarhurst Elementary	2008	$5.3M
Midway Elementary	2009	$4.3M
Parkside Elementary	2010	$7.4M
Olympic Elementary	2013	$11.4M
Des Moines Elementary	2019	$6.3M – Reimbursement Q1 2020
		$67.7M Total Completed
Highline High School	Under Construction	$15.7M
Puget Sound Skills Center		$1.0M
Pacific Middle School		$3.4M
Beverly Park Elementary		$1.5M
Southern Heights Elementary		$4.6M
Hilltop Elementary		$6.2M
		$32.4 Total Remaining
		$100.1M Total Project

Highline Schools Locations



Acceleration of Sound Insulation Programs

Noise Mitigation Acceleration Proposal For Discussion

- Current Practice
  - All projects would be completed in mid 2030's
  - Program (high level) cost estimate range is approximately $150.2M to $259.2M
  - Current staffing and funding limit ability to work on multiple projects

- Proposed Plan for Acceleration
  - All projects would be completed in mid to late 2020's
  - Program (high level) cost estimate is approximately – $132.3M to $227.3M
    - May require Port funding up-front – possible FAA reimbursement at a later date
    - Requires Port funding at risk
  - Will need additional resources – staffing, cross divisional support

Acceleration Principles

- Tangible Benefits for Near Airport Communities
  - Deliver on Port Part 150 commitment
  - Provide relief from noise burden sooner
- Program Management
  - Increase scale to reach more residents
  - Complete eligible residences earlier
  - Work to minimize cost
  - Quality installation and craftmanship
  - Maintain financial stewardship

Current Practice (15 Year) Scenario

Projects	Projects 2020-2024	Projects 2025-2035
Condominiums	3 complexes 133 Units	Work Complete
Single Family Homes	60 Homes	80 Homes
Apartments	1 Complex	17 Complexes
Places of Worship	1 Structure	6 Structures
ATZ Voluntary Acquisition	11 Homes 2 Apartment Complexes	5 Homes 4 Apartment Complexes
Total Estimated Costs		$150.2M – $259.2M

Costs and timeframes are estimates for program-level discussion

Cost Estimate Uncertainty vs. Level of Design

Current Practice Scenario

Pros	Challenges
• Lower five-year (Capital Improvement Program) Port cost • Allows for Port funding of other capital projects • Grant funding more likely	• Delays completion of multiple sound insulation projects • Potential increase to overall Port cost with inflation to complete remaining projects • May not meet community expectations for noise mitigation

Accelerated (7 Year) Scenario

Projects	2020-2026
Condominiums	3 complexes 133 units
Single-Family Homes	140 homes
Apartments	18 complexes 903 units
Places of Worship	7 structures
ATZ Voluntary Residential Acquisition	16 single-family homes 6 apartment complexes
Potential Cost:	$132.3M - $227.3M

Costs and timeframes are estimates for program-level discussion

Accelerated Scenario

Pros	Challenges
• All anticipated sound mitigation projects are completed relatively soon • Community noise impacts reduced faster • Potential construction cost savings to the Port while completing projects in less time	• Experienced staffing and resources would need to be acquired to ensure adequate controls for multiple ongoing projects • Multiple consultants needed to help manage projects • Ability to hire contractors and obtain products

Current Staffing Structure

- Port staffing for project oversight
- Noise specialty A&E firm for design and oversight
- Acoustical testing consultant for noise auditing
- Contractors to complete the work

In-House Staffing Option

- Bring all work in-house
  - Increase staffing and hire all trades as Port employees
    - Construction
    - A&E
    - acoustic testing
    - Oversight
  - Currently evaluating
    - Potential costs
    - Potential challenges

Further Program Improvements

- Hire a consultant who will evaluate the structure and implementation of the program
  - Contracting methods & potential efficiencies
  - Increased DBE/WMBE utilization
  - Internal department structure including employees, reporting structures, accountability & resources
  - Potential for Project Labor Agreements
  - Potential for apprenticeship programs
  - Possible collaboration with King County Housing Weatherization Program to determine project element synergies
  - Mitigation for unforeseen risks

Acceleration: Estimated Staffing Needs

- Anticipated need to hire staff; will need additional analysis for full implementation
  - Additional FTEs in Noise Programs
    - Begin with one mid 2020 and assess further needs
  - Additional FTEs in Aviation Project Management Group (AVPMG)
    - Begin with one mid 2020 and assess further needs
  - Additional support from External Relations
  - Dedicated cross divisional staff
  - Consultants may be utilized in some positions

Accelerated Scenario Funding Risks

- FAA Grant funding would not be guaranteed
- FAA Grant funding could be reimbursed retroactively for eligible projects, but reimbursement presents challenges
- Reduced grant funding could result in higher airline rate base capital costs
- If airport revenues were used, they would compete with other aviation related capital projects
- If airline rate based capital costs (net of FAA grants) are ≥ $10 million, projects are subject to airline majority-in-interest (MII) vote

Acceleration Risk Summary

- FAA Grant funding is not guaranteed
- Potential higher airline rate base without grant funding
- Funding could compete with other projects
- Staffing & oversight could be challenging
- Obtaining contractors is challenging in todays market
- Places a higher demand on manufactures of specialty products
- Not all homeowners may chose to participate
- Properties may not qualify after noise audit
- Future state & federal legislation may expand program authority

Staff Recommendations

Staff Recommendations

- Hire additional Sound Insulation Program Manager and additional AVPMG Project Manager in 2020
- Hire consultant to analyze program, evaluate risks and make recommendations
  - Cost estimate at approximately $200,000
- Structure accelerated program
- Begin accelerated work in 2021

Thank You

Questions?