Port of Seattle®

OPERATIONALIZING ENVIRONMENTAL JUSTICE & EQUITY

Sound Insulation and Repair

BY: ALBERTO J. RODRÍGUEZ
and JULIE KINZIE

INTRODUCTION

Living up to our commitments in the Century Agenda and our RAISE values, in 2024, the Port began designing and piloting an institutional framework to prioritize and invest in opportunities with the greatest environmental justice (EJ) impact and to deliver positive outcomes for near-port communities. This work included using the Port's Equity Index to make data-informed decisions.

The Century Agenda (CA) is the Port's comprehensive, strategic plan to guide the organization's priorities for the next quarter century. The six goals serve as the framework to help operating divisions align their tactical objectives, ensuring that the Port stays on course in achieving its goals. The Environmental Justice Framework (EJ Framework) is aligned with and will advance several CA goals and objectives as described below.

Goal	Objective
4: Be the Greenest and Most Efficient Port in North America	9: Meet all increased energy needs through conservation and renewable sources
	10: Meet or exceed agency requirements for stormwater leaving Port-owned or operated facilities
	11: Reduce air pollutants and carbon emissions
	12: Restore, create, and enhance 40 additional acres of habitat in the Green/Duwamish habitat
5: Become a Model for Equity, Diversity, and Inclusion	13: Increase utilization of WMBE and DBE firms and eliminate disparity of access to opportunities
	14: Ensure that all internal and external programs, structures and practices provide equitable opportunities for all.
6: Be a Highly Effective Public Agency	16: Advance the Port's dedication to employee engagement, safety, innovation, and financial stewardship
	17: Foster an environment of transparency, accountability, respect, leadership, and fairness to give Port staff the tools to be exceptional public servants
	18: Partner and engage with external stakeholders to build healthy, safe, and equitable communities

The first iteration of the Environmental Justice Framework (EJ Framework) will be finalized in 2025, but additional work will continue in 2026 and beyond as we collaborate and learn with and from the community and other partners. In the following pages, you will find general information on the current iteration of the EJ Framework and how aspects of it were piloted and implemented in 2024 in the Port's Sound Insulation Repair and Replacement Pilot Program

ENVIRONMENTAL JUSTICE FRAMEWORK 1.0

Environmental Justice Definition

Port staff co-developed the following definition for environmental justice with Duwamish Valley community partners in 2019(?). As this work moves forward, the Port may revisit this definition to include feedback from other EJ communities.

> *Environmental Justice is a term that reflects the reality that vulnerable communities are unfairly subjected to historic and current, disproportionate burdens of pollution and contamination. Environmental justice embraces the principle that all people and communities have a right to a healthy environment and a right to equal protection and equal enforcement of environmental laws and regulations.*

Goal

Maximize benefits and address unintended burdens on near-port communities.

Purposes

- Analyze and weigh the social implications of the Port's capital and operations decisions and actions related to the natural environment, near-port communities, and Tribes.
- Provide transparency into the decision-making of the Port's capital and operations actions as they relate to environmental justice.
- Guide work and investments to advance the Port's goals and commitments to communities and the public.

Intended Outcomes

- Advance environmental justice through direct application to deliver concrete results.
- Build internal capacity to embed environmental justice into the Port's work, including use of the Equity Index.
- Empower Port staff to grow relationships, trust, and accountability with near-port communities and establish sustainable working relationships.

Applicability

The EJ Framework will apply to Port capital projects and operations:

Capital Projects	**Sustainability:** undergoing the Sustainable Evaluation Framework (SEF); others TBD.
	Regulatory: undergoing regulatory and compliance reviews.
Operations	**Plans:** forward-looking documents that include goals and commitments.
	Programs: measures or activities with a long-term aim to achieve its mission or meet requirements related to its operations or designation as a special government.
	Services: services the Port provides to businesses, community, etc. These services can be associated with revenue generation and or not.
	Key Decisions: Other topics of relevance for the Port or other partners.
	Leases & Agreements (*<u>aspirational</u>*): contracts with tenants and business partners.

Building Capacity

Implementation of the EJ Framework will support EJ capacity building for Port staff to ensure the whole agency participates in and supports advancing this work. Some of the ways in which the EJ Framework will build capacity include:

- Training: every project or effort lead undergoing the EJ Framework will be required to take a training on EJ and EJ-related topics. This will ensure staff speaks the same language and has the same foundational knowledge to understand and implement this work.
- Guidance Manual: a document that will provide project teams and staff with an implementation process to

embed and advance environmental justice.

Data-Informed Decision-Making

Through the EJ Framework implementation, the Port's EJPM will collaborate with Port leadership and other staff to understand the project or operations scope and use the Port of Seattle's Equity Index to develop a baseline scan of the geographic location where a project is located and/or its surroundings. The baseline scan will include and consider demographic information, spoken languages, environmental indicators, accessibility, livability, economic indicators, and relevant qualitative information. If a project is physically located in or surrounded by census block groups with an overall Equity Score of very low or low and meets specific criteria, it will undergo the EJ Framework. The Equity Index and EJ Framework will also support the development of equitable eligibility or prioritization criteria for Port programs, services, and other operations. In the Sound Insulation Program, the Equity Index supported the design and implementation of the program.

Relationship & Trust Building

The overarching goal of any community engagement effort through the implementation of the EJ Framework is to prioritize the voices and experiences of historically marginalized / structurally excluded communities. This will help build staff and community capacity, strengthen relationships with near-port communities, and foster collaboration for the Port and community to effectively work to realize shared environmental sustainability and justice goals. In the future, this could include the development and support of community liaison programs, community action teams or advisory panels, hiring local community-based organizations, compensating community members, and prioritizing language access and in-language work.

Transparency & Accountability

The application of the EJ Framework will also foster transparency and accountability in the following ways:

- Internal: In late 2025, the Port will establish and launch an agencywide Environmental Justice Working Group (EJWG). The EJWG will be an interdisciplinary group that will review, advise, and support the implementation of all aspects of the EJ Framework.
- External: In 2026, the Port will establish and launch a group of external frontline community representatives from near-port communities to guide and hold the Port accountable for this work.

OPERATIONALIZING ENVIRONMENTAL JUSTICE & EQUITY AT THE PORT OF SEATTLE

Since early 2024, under the leadership of the Office of Equity, Diversity, & Inclusion (OEDI), the Port of Seattle has taken an interdisciplinary approach to co-develop, pilot, and implement an institutional Environmental Justice Framework. More than 20 staff from multiple divisions and departments have contributed to this work, including Aviation Environment & Sustainability (Regulatory Compliance and Permitting, Sustainability, and Noise teams), Aviation Capital Programs, Aviation Project Management, Maritime Environment & Sustainability (Regulatory Compliance and Permitting, Sustainability, Permitting and Contracting, and Habitat teams), Maritime Planning, Waterfront Project Management, External Relations (Community Engagement and Government Relations teams), and Economic Development Division (Diversity in Contracting), in addition to OEDI's Equity, Diversity, and Inclusion and Workforce Development teams.

The Port's Equity Index has been critical to our work. We have used the Equity Index in innovative and exciting ways to make data-informed decisions, including 1) identifying high-level environmental justice and equity concerns; 2) identifying ways to maximize benefits from projects and operations; and 3) developing equitable prioritization criteria for program implementation. Additionally, the Environmental Justice Program Manager has provided integral subject matter expertise to different projects and operations by joining and participating in project teams, working groups, and steering committees.

EQUITABLE PROGRAM DESIGN & IMPLEMENTATION:

Sound Insulation Repair and Replacement Pilot Program

Title

Sound Insulation Repair & Replacement Pilot Program

Team

Aviation Environment & Sustainability - Noise Programs; Office of Equity, Diversity, & Inclusion; External Relations Community Engagement; External Relations Communications; Business Intelligence; Information & Communication Technology GIS; Aviation Project Management; Legal.

Type of Effort

Operations; Program Design & Implementation

Background

The Port of Seattle (Port) has one of the longest-running Sound Insulation Programs (Program) in the nation with the first installations occurring in 1986. The historic and existing Program is 80% funded by Federal Aviation Administration (FAA) Airport Improvement Program (AIP) grants. Eligibility for this program requires residences to be within the Noise Remedy Boundary (NRB) as determined using the FAA's required process, metrics, and noise modeling software, be built within the program's year-built requirement that is based on building code effective dates, acoustically test at or above 45dB Day/Night Noise Level (DNL) inside the home and not be structurally compromised. Since 1986 the Port has completed over 9,400 single-family homes and six condominium complexes within the current and prior NRBs. Participation in the Program is voluntary on the part of property owners. The Port continues to manage the Program, which is focusing on completing work by the end of 2026 in the remaining single-family homes, apartments, and places of worship that are approved to participate.

In the past few years, some residents with sound insulation packages reached out to Port Commission and staff to express concerns that, due to a range of potential factors including age or durability, their sound insulation packages may no longer be effective. In response, on February 27, 2024, the Port Commission voted on and approved Order 2024-04 (Order) which directed staff to conduct an assessment regarding the effectiveness of previously installed, federally funded sound insulation packages in communities around Seattle-Tacoma International Airport (SEA). The assessment involved extensive community outreach to and collection of information from property owners, and analysis of that information. The Order set a timeline for completion of the assessment followed by the establishment of a limited Sound Insulation Repair and Replacement Pilot Program (Pilot Program) that incorporates equity guidelines for participation. The Order requested the use of the Port's Equity Index and other data-driven tools provided by the Port's Office of Equity, Diversity, and Inclusion (OEDI), as well as other program criteria, to identify and prioritize properties that would participate in a limited Pilot Program. This case study focuses on how equity was considered and implemented in different phases of the project, and how this resulted in increased community participation and yielded reliable data to inform the pilot program implementation.

The total budget authorized by the Order was $6.5 million and funded through the Port tax levy. Of the $6.5 million, $5 million was exclusively set aside for administering Pilot Program activities related to construction planning, construction repair, and replacement of sound insulation in homes identified and prioritized through the Port's equitable process. The remaining $1.5 million was dedicated to conduct the assessment. State-matching funds and federal grant funding, if available, would be sought. The Order stipulated the completion of a technical report on the results of the assessment by the end of 2024 with Port staff delivering the results of the assessment to Port Commissioners by January 21, 2025. Following the completion of the limited Pilot Program, a comprehensive report will be presented to Commissioners, Washington State, and Federal Legislators for evaluation and further action.

Process & Methodology

The purpose of the assessment was to assist the Port of Seattle to learn if previously installed sound insulation treatments are no longer operating as originally intended. The information gathered was important for the Port to understand the existing condition of homes and determine the feasibility of establishing a replacement and repair program, as one does not exist today.

This effort was conducted in a deliberate and inclusive manner. The assessment was designed to build on language access best practices (i.e., increasing the number of languages for translations from three to six, in addition to English) and extensive outreach and collection of information from residents living in single-family homes with existing sound insulation packages inside the 2014 SEA NRB.

The assessment consisted of three phases: 1. Planning, 2. Study, and 3. Report.

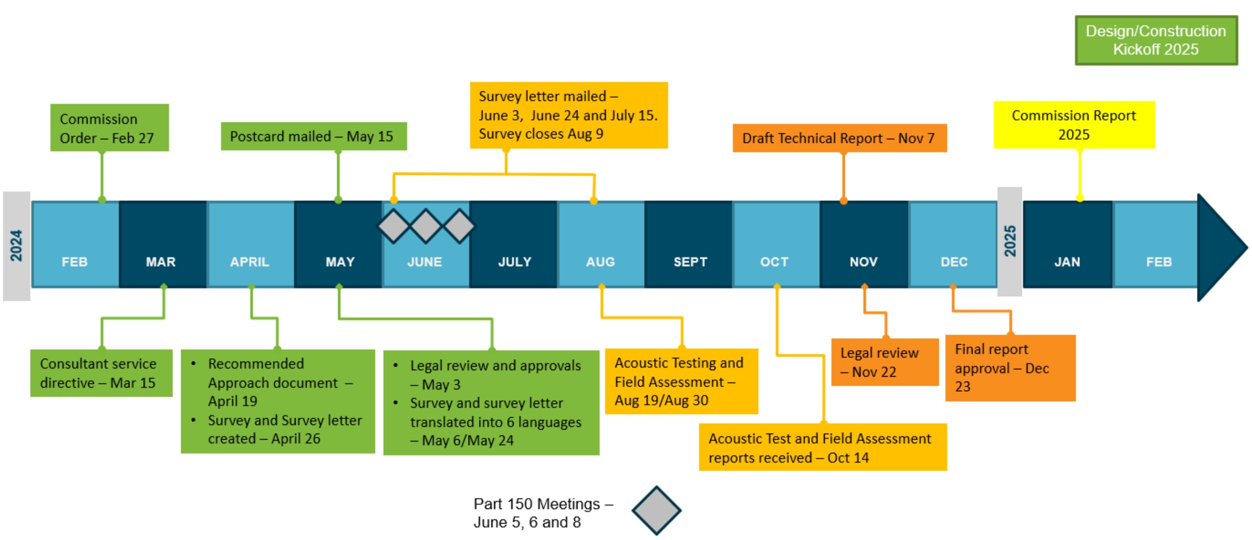
1. Planning Phase

The Port established a Pilot Program Steering Committee (Steering Committee) and a Pilot Program Working Group (Working Group) to assist with the development of the assessment process, the resident survey, and make key decisions throughout the process. The Port divisions that participated in these two groups included:

- Environment & Sustainability (this work was led by the Aviation Noise team)
- Office of Equity, Diversity, and Inclusion (OEDI)
- External Relations (ER)
- Business Intelligence (BI)
- Aviation Project Management (AVPMG)
- Legal

The Port contracted with consultant ESA to assist with, among other things, the development of the survey and a database to collect responses; analysis of the results of the survey, acoustic testing and field assessment results; and composition of the technical report. ESA participated with the Working Group throughout the process. A detailed schedule was developed to track outreach, milestones, and keep the team on target. Figure 1 outlines the schedule.

Figure 1. Timeline of Outreach and Milestones



A recommended approach document was composed to outline all the key decisions that were being made about the assessment and discussed why those decisions were being made over other potential alternatives. Some of these key decisions included:

- Objective
- Scope
- Designing for Equity
- Inclusive Outreach
- Survey Platform
- Survey Questionnaire Development

Objective

The Order states that the assessment is regarding the *"effectiveness of previously installed Port of Seattle funded noise insulation packages."* The objective of the survey and assessment corresponded with the intent of the Order which was to better understand the scope and scale of the reported concerns and to verify whether there was a correlation between the residents' experienced and observed concerns with their sound insulation packages and acoustic performance relative to the FAA 45dB DNL standard.

Scope

The focus of the assessment was on single-family residences located within the 2014 SEA NRB. This determination was made based on the following:

- It is the FAA recognized NRB and continues to serve as the eligibility boundary for sound insulation programs
- This area experiences the greatest noise exposure
- It would advance equity to prioritize the residents most affected to benefit from a limited Pilot Program with limited funding
- It was a statistically valid assessment group

Designing for Equity

The Working Group integrated equity and accessibility elements throughout the entire planning phase, including the decision to use the 2014 SEA NRB, whose residences experience the most noise exposure. To ensure equity and accessibility, the survey platform was web-based and physical copies of the surveys were created and available upon request in the Port's Tier 1 and Tier 2 languages, in addition to English, to residents participating in the survey.

A key aspect of the assessment included a survey. Its focus was to assess the sound insulation packages *from the residents' point of view*. Questions were created to quantify the number and types of common window and door conditions surrounding operation and appearance, even if those items were standard maintenance items. The following are important ways in which equity was embedded in the survey design, implementation, and analysis:

- **Translation:** The decision was made to translate all outreach, online survey, and physical material in the Port's Tier 1 (i.e., Spanish) and Tier 2 (i.e., Vietnamese, Somali, Korean, Amharic, and Chinese) languages. Additionally, bi-/multilingual members of the Port's Language Access Cohort reviewed the translation to ensure the survey intent was accurate.
- **Plain Language:** The need for clear understanding of highly technical details was a shared understanding. Using plain language to convey technical information and seek community feedback were of utmost importance to the success of the assessment. The Steering Committee, Working Group, and members of the Port's Language Access Cohort did multiple reviews of all written materials (e.g., survey, postcards, etc.) and worked with technical staff and subject matter experts to simplify language while ensuring accuracy.
- **Formats:** The Working Group, Pilot Program team, and ESA designed outreach and other information materials as a booklet (i.e., landscape orientation on 11" x 17" paper and folded in half) created visual equality and made it easier for community members to scan/access/find pertinent information and details.
- **Visuals:** Given that some of the information the Pilot Program team was trying to convey was highly technical and complex, the team relied on the use of photos and other visuals to provide examples. Additionally, survey

respondents were able to upload photos of their concerns about their sound insulation packages. This avoided confusion and ensured accuracy of the information collected.

- **Demographic Information:** To gain an understanding of the overall demographic response to the survey, the Port worked with OEDI and BI to add questions regarding ethnicity/race and household income.
- **Time:** The Pilot Program team devoted ten weeks to inclusive outreach, including sending multiple reminders (more about this in the next section).

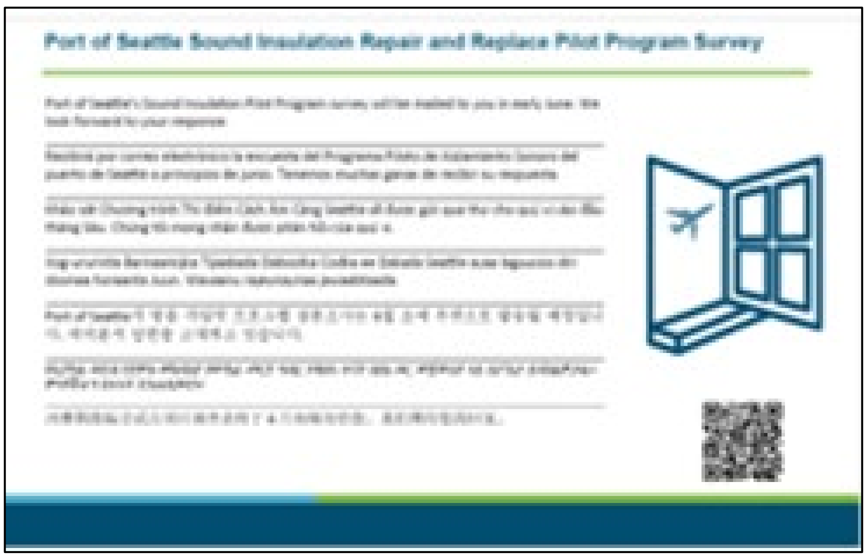
Following the survey, 30 sets of residents, with homes representing various installation dates and manufacturers, received an onsite field assessment and acoustic testing. The acoustic testing was conducted per the FAA-approved SEA Acoustic Test Plan (ATP) to evaluate if the established interior noise standard of less than 45dB DNL was achieved.

Inclusive Outreach

The team developed an extensive notification outreach effort, including:

- A pre-survey postcard was mailed to notify residents about the survey two weeks prior to receiving a survey letter that provided access to the survey.

Image 1. Photo of the multilingual pre-survey postcard.



- Port had a dedicated station and display board at the three Part 150 Study public meetings on June 5, 6, and 8, 2024 that provided information about the assessment and limited Pilot Program.
- A sub-webpage on the Port's Sound Insulation Program (SIP) webpage (Repair and Replacement Pilot Program | Port of Seattle) was also established for residents to obtain information about the Order and updates about the assessment. The webpage assisted residents who would be participating in the survey with identifying common concerns regarding the conditions of their existing Port sound insulation packages that the Port has received feedback from the community. It included descriptions and information about potential condensation, glass seal failures, and low emissivity (LoE) window coating concerns.
- The survey was sent by U.S. mail three times to residents. Surveys were mailed three times over a ten-week period beginning on June 3rd with final responses received by August 9th. Once a resident responded, they were not included in the next mailing.

Image 2. Photo of the first page of the multilingual survey.

- Regular updates and presentations about the Planning and Study Phases were provided at the SEA Stakeholder Advisory Round Table (StART) Aviation Noise Working Group meeting. Upon completion of a draft survey, members of the StART were provided an opportunity to provide feedback prior to the final version of the survey being distributed. StART was formed in 2018 as a way for local cities, residents, airlines and the airport to meet and discuss airport related issues and concerns. Each of the Highline cities of SeaTac, Burien, Des Moines, Normandy Park, Tukwila, and Federal Way have three representatives that serve on StART.
- Assistance availability for residents completing survey. Staff provided both phone and email assistance for those that had additional questions or required help understanding the survey.
- Email and phone call correspondence for those participating in acoustic testing and field assessment.
- A follow-up letter was sent to the residents who participated in acoustic testing that thanked them and provided them with their results.

Survey Platform

The Qualtrics survey platform was utilized to allow for the survey to be completed online. The Port's BI team recommended this platform because it offered a sophisticated and professional web-based interface coupled with backend functionalities. The platform allowed users to take the survey in the same Tier 1 and 2 languages via a drop-down menu. The Qualtrics platform also allowed for drop-down boxes, multiple-choice responses, open-ended responses, and the ability for residents to upload photos of their concerns about their sound insulation packages.

Survey Questionnaire

The structure of the survey was an existing conditions assessment from the resident's point of view. Questions were created as Yes/No/Unsure for a variety of common window and door conditions surrounding operation, locking, and appearance, even if those items were standard maintenance items. two open comment sections (window section and door section) were included for residents to share additional comments and up to five photos in each section; this created additional inclusion of the resident's point of view. To ensure a common understanding of the three common glass conditions, the project team determined that photos should be added to both the survey and the website with detailed technical explanations. The photos were a mix of purchased stock photos and photos from the homes of staff.

Example from survey: *Do any windows in your home have Low Emissivity (LoE) coating defect?*

LoE coating defect is when small spots appear in between the two panes of glass that you are not able to wipe away. As the microscopic metallic oxide between the panes continues to fail, the small spots will become larger areas over time.

The survey took approximately 15 minutes to complete.

The survey questions were vetted through a rigorous process that solicited extensive feedback and refinement of the survey questions from the Steering Committee and Working Group. The survey also underwent a language review in Spanish and Vietnamese to ensure that the technical items within the survey translated appropriately to a variety of respondents. A copy of the final version of the survey can be found in Attachment A, Technical Report Appendix A-3.

Image 3. LoE coating defect

2. Study Phase

In mid-May 2024, postcards were mailed to approximately 3,200 single-family residents announcing the upcoming survey. The postcard stated that a survey regarding the condition of their existing sound insulation package would be mailed in early June 2024 and Port staff looked forward to their response. The postcard had information listed in the seven Port Tier 1 and Tier 2 languages. A QR code on the postcard provided a link to the webpage on the Port's website regarding the Order, assessment, and information/descriptions regarding reported concerns heard from the community about their sound insulation packages. An example of the postcard can be found in Attachment A, Technical Report Appendix-A-1.

The initial survey letter was mailed on June 3, 2024. Two follow-up survey letters were sent to residents who had not yet responded on June 24 and July 15 to obtain a high participation and response rate for the survey. The deadline for responses was August 9. The survey letter was mailed to the approximately 3,200 residences that had participated in the Sound Insulation Program and were within the 2014 SEA NRB. The survey letter described the survey as a method to gather data to assist the Port in gaining a better understanding about the current condition of their sound insulation packages and determine the feasibility of establishing a limited Pilot Program. It also stated that participation in the survey did not guarantee repair, replacement, or maintenance of their sound insulation package. The survey letter was printed in landscape orientation on 11" x 17" paper and folded in half and mailed in a large envelope with the Port logo. The survey letter was translated into the Port's Tier 1 and Tier 2 languages on each of the seven halves of the survey letter. If a resident was unable to access the survey online, information was provided to the resident on how to contact the Port's Noise Program office so that a hard copy of the survey could be mailed in their preferred language. A unique QR code and URL that provided access to the survey were located in the upper right corner of each translated half of the survey letter. A copy of the survey letter can be found in Attachment A, Technical Report Appendix A-2.

Other important steps in this phase are included on the list below. Given that the purpose of this case study is to document how equity was embedded in the pilot program design, we will not expand on many of these steps, but more information can be found in the Technical Report.

- **Research on Expected Useful Life if Installed Products:** A research element to the assessment was to understand the lifespan of building product types used in the Sound Insulation Program. In the review of the literature on Expected Useful Life (EUL), four reports were identified.
- **Acoustic Testing – Selection, Methodology, & Outcomes:** The project team utilized the field assessment and acoustic testing to assess and validate survey responses and provide a sample of detailed information to better

understand the scope of the issue. The project team evaluated the approximately 3,200 single-family residences treated as part of the sound insulation program between the years of 1986 and 2014. Utilizing the Port's sound insulation program database, previously treated residences were grouped to create a distribution table of the percentage of residences installed within the date range. This enabled the evaluation of a comparable number of residences for each period. Thirty (30) homes were selected from the survey respondents. Homes were selected based on a representation of manufacturers and installation year, whether any home remodeling was completed, and willingness/availability to participate.

- **Acoustic Test Outcomes:** The FAA's interior noise threshold for eligibility in all sound insulation programs is 45dB DNL or greater. As such, we utilized that as the threshold for this assessment. None of the 30 homes' acoustic testing results exceeded this threshold. Overall, the performance ranged from 35dB DNL to 44dB DNL Based upon the acoustic test results, none of the 30 homes acoustically tested would be eligible to participate for a second time in an FAA approved noise insulation program. More details can be found in Attachment A, Technical Report Section 4.3 & 4.4.
- **Survey Responses:** See details in Survey Responses section below.
- **Survey Comparison & Analysis:** The survey responses were organized by each window manufacturer, and the corresponding reported concerns noted from survey results. These included operational reported concerns (e.g., ease of opening/closing and locking), glass-related reported concerns (e.g., condensation, seal failure, and LoE coating), and appearance (e.g., change in frame/trim and caulking).
- **Field Assessment:** The field assessment was conducted concurrently with acoustic testing to determine if any windows and/or doors installed as part of the sound insulation program had been replaced, and to validate survey responses on product conditions. A consultant recorded detailed notes on each window, door, and ventilation system previously installed, and lead the effort associated with the field assessment. The field assessment evaluated and documented the condition and operation of sound insulation products, determining if what was assessed aligned with the survey questions (e.g. residents' concerns with opening, closing, locking, etc.).

Survey Responses

Being intentional and strategic about embedding equity into all phases of the Pilot Program—since its inception—ensured successful results. Not only did it result in an excellent survey response rate, but it helped avoid confusion and to collect reliable data that the project team used in subsequent phases of the pilot program. Below are details the demographic and income information for survey respondents. This information helped the project team design an equitable Pilot Program based on relative need.

The Port received 1,067 responses from the approximately 3,200 single-family residences that received access to participate in the survey for an excellent response rate of greater than 33%. The respondent location distribution is listed in Table 1 for reference.

Demographic Information & Analysis

The Port of Seattle receives funding from the federal government and is required to track demographic data for the constituents we serve. Responses to demographic questions were optional, including household size, race/ethnicity, household income, income by family size, and primary language spoken at home. In some cases, the assessment population of approximately 3,200 households was compared to the total population of approximately 38,000 living in the block groups included in the 2014 SEA NRB.

Table 1. Respondent Location Distribution

Option	Count	Percentage
Burien	116	10.9%
Des Moines	359	33.6%
Sea-Tac	215	20.1%
Seattle[1]	377	35.3%
Total	**1,067**	**100.0%**

Notes: Data is by zip code. Some areas in multiple zip codes list the mail to Seattle; these locations include all 3 jurisdictions and a small portion of unincorporated King County.

Responses to these optional questions provided valuable insights about the surveyed communities. The data highlights that 85.3% of households are 1-4 people and that 74.7% of households are members of the same race/ethnicity. For a comparison of race/ethnicity and primary language between the survey respondents and the residents in the block groups included in the 2014 SEA NRB see Table 2 and Table 3.

Table 2 presents the percentage of race/ethnicity of survey respondents compared to the race/ethnicity of the residents of the census block groups included in the NRB as described in the Port of Seattle's Equity Index, which is an interactive map that displays a visual representation of social and environmental disparities in King County (Image 4 includes some of the census block groups adjacent to SEA as shown in the Equity Index). The index evaluates equity and access to opportunity at the block group and census block group level. Levels of equity are ranked from very low to very high based on data from 21 indicators across four categories: economic, environment, accessibility, and livability.

Table 2. Race/Ethnicity of Survey Respondents

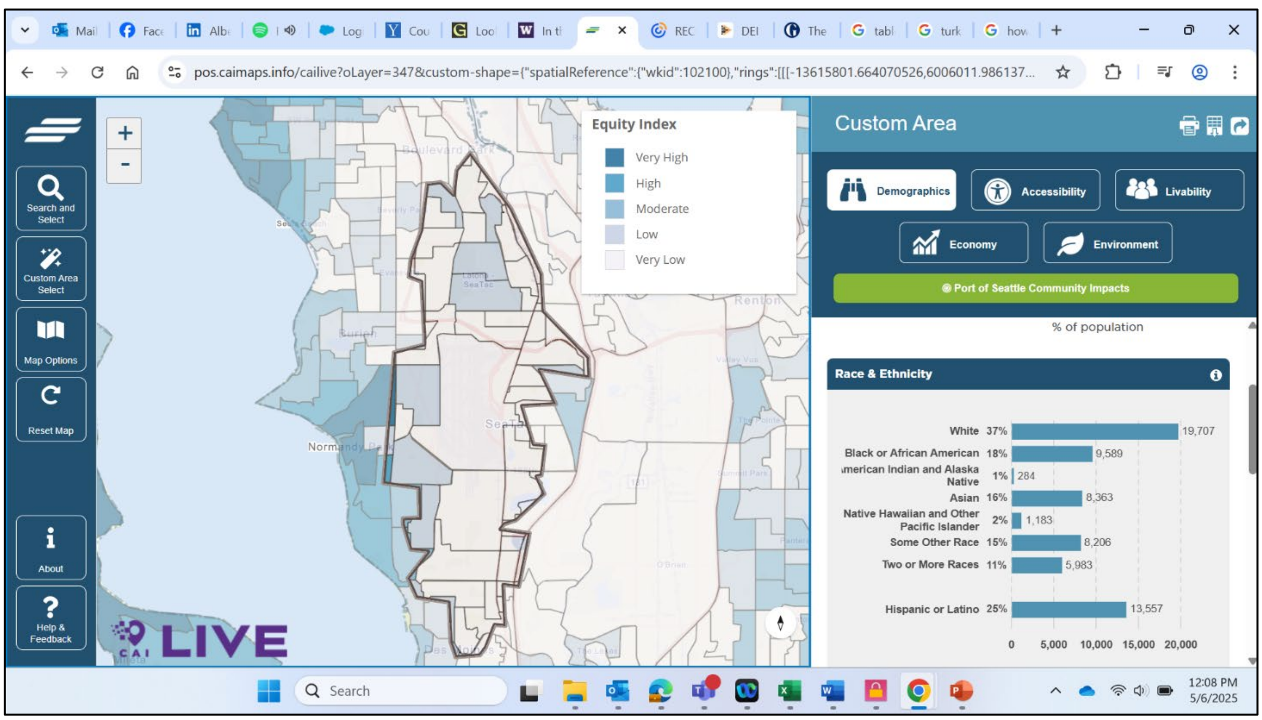
Race/Ethnicity	Survey	Equity Index
American Indian or Alaskan Native	0.6%	2%
Asian or Asian American	8.2%	14%
Black or African American	4.1%	13%
Hispanic	10.5%	24%
Middle Eastern or East African	0.3%	-
Native Hawaiian or Other Pacific Islander	1.1%	3%
White	51.3%	46%
Two or more races	8.8%	11%
Other	0.2%	12%
Prefer not to answer	14.9%	-

Table 3 presents the percentage of the primary language spoken by survey respondents compared to the at home languages spoken by residents in the block groups included in the 2014 SEA NRB, as described in the Port of Seattle's Equity Index. Information for some of the at home languages is not available at the block group level.

Table 3. Primary Language of Survey Respondents

Primary Language	Survey	Equity Index
Amharic	1.2%	-
Chinese	0.2%	-
English	82.8%	60%
Korean	0.3%	-
Somali	0.1%	-
Spanish	5.5%	17%
Vietnamese	2.4%	5%
Prefer not to answer	4.2%	-
Balance of total	3.3%	18%

Image 4. Overview of some of the census block groups adjacent to SEA as shown in the Equity Index.



Survey respondents were also asked about their household income. To account for the higher cost of living in King County compared to the rest of the country, the project team analyzed responses to determine the number of households with 80% of the Area Median Income (AMI) or below. Based on the self-reported income, 34.1% of households were below the 80% AMI threshold used for many low-income qualifying programs based on the 2023 eligibility requirements for affordable housing programs. Table 4 presents the household income of survey respondents based on family size. Light gray highlight denotes households with an income below 80% AMI.

Table 4. Income by Family Size of Survey Respondents

	Income by Family Size											
	1	2	3	4	5	6	7	8	9	10	11	
Income						**n**						**N<80% AMI**
Less than $70,650	49	67	29	28	14	9	3	1	2	0	0	202
$70,651 to $80,750	13	36	18	12	7	4	4	1	0	0	0	82
$80,751 to $90,850	12	19	9	15	4	2	3	0	0	0	0	33
$90,851 to $100,900	9	25	17	11	8	3	0	3	1	0	1	27
$100,901 to $109,000	3	15	13	9	2	1	0	0	1	0	0	4
$109,001 to $117,050	4	10	3	6	3	0	1	0	0	0	0	1
$117,051 to $125,150	0	12	10	10	3	0	3	0	0	0	1	4
$125,151 to $133,200	2	13	7	7	3	0	1	0	1	0	0	1
$133,201 to $141,300	2	9	7	4	0	1	0	0	0	0	0	0
$141,301 to $149,350	1	11	8	2	3	0	0	0	0	0	0	0
$149,351 or more	10	56	21	26	7	2	1	4	1	0	0	0
Prefer not to answer	27	116	49	40	21	10	6	9	2	0	0	-

3. Report Phase

A Technical Report with detailed findings can be found here.

Results & Outcomes: Equitable Program Design & Implementation

Port Commission Order 2024-04 required the Port to develop and implement a Pilot Program after the completion of the assessment. The Project Team presented for the Commission in January 2025 to seek guidance and approval of the proposed Pilot Program.

As discussed in the previous pages, equity was a key factor in the Pilot Program design and continued with the creation of a prioritization score. This was a preferred method over the more conventional "first in" approach.

The implementation will also center equity by factoring in potential criteria such, as but not limited to:

- the associated DNL of that location within the 2014 SEA NRB
- the age of the sound insulation installation
- a prioritization score calculated using the Port's Equity Index

- potentially income based on 80% AMI reporting

It is important to note that, while data from the Equity Index was key to make data-informed decisions, it was imperative to consider the lived experience of near-port communities to truly center and embed equity in the Pilot Program. Given that the Equity Index did not include a noise indicator, two Working Group members drove the geography to understand noise levels in some of the census block groups closest to the airport. These findings were considered in the Pilot Program design. For example, a couple of census block groups had an equity score of "moderate", but, given their proximity to SEA, experience higher levels of noise than other census block groups with equity scores of very low or low. As a result, the prioritization criteria considered noise levels, as well as equity considerations.

Structurally centering and embedding equity has not been done in other sound insulation pilot programs: programs implemented in other airports across the nation function at a "first come, first serve" basis. The combination of using data, equity tools, and considering lived experience, paired with environmental, equity and environmental justice, noise/sound, and outreach and engagement subject matter experts, resulted in the creation of a model based on relative need.

Pilot Program

SEA is one of five airports that are eligible to establish a Pre-1993 Sound Insulation Program. This program requires all homes to be tested utilizing the program's current FAA approved ATP. The home would need to acoustically test at, or above, 45dB DNL interior to be eligible. As noted previously, the results from this analysis indicate that the 30 homes tested each have an average interior DNL sound level below the FAA threshold of 45dB, making them ineligible for sound insulation treatment through federal funding.

There are approximately 480 homes that received sound insulation prior to 1993 and are within the 2014 SEA NRB. It cannot be said with certainty how many homes may test eligible for this FAA grant program. While the number of homes that would receive replacement may be small, this does represent a clear pathway to further engage with the FAA and Legislative leaders on the topic of previously installed products. As an AIP program, the costs would be shared with 80% paid by the FAA and 20% by the Port.

The Port will implement a Pre-1993 Pilot Program. The Pilot Program will address homes which were sound insulated prior to January 1, 1993, beginning with 151 homes in the highest three DNLs (69,68 & 67). Additional engagement would be possible at a later date with FAA engagement through an AIP program. The work will be prioritized based on the DNL exposure, age of the sound insulation, and equity scores calculated using the Port's Equity Index. See Table 5, Figure 2, and Figure 3 for more details on the Pilot Program, including prioritization scores associated with households, prioritization process, and physical improvement process. (see Table 5 for more details on the number of houses per DNL and their associated prioritization scores). Details on the general process to be followed to determine eligibility can be found on Figure 2. Details on the specific steps of the Pilot Program can be found on Figure 3).

Port staff began outreach in Q1/2025 with acoustic testing of eligible homes. Staff will continue consulting with the FAA to gain concurrence for the proposed Pre-1993 Pilot Program. With FAA concurrence, the later stages of design and construction would then be eligible for up to 80% reimbursement.

Table 5. Prioritization scores for the households that will be eligible for the Pilot Program, by DNL.

DNL	Number	Low*	High*
69	8	-161.701	-121.467

68	39	-160.701	-105.212
67	104	-156.701	-104.212

** High is indicative of overall better quality of life conditions compared to low.*

Figure 2. Prioritization process to be followed to implement the Pre-1993 Pilot Program.

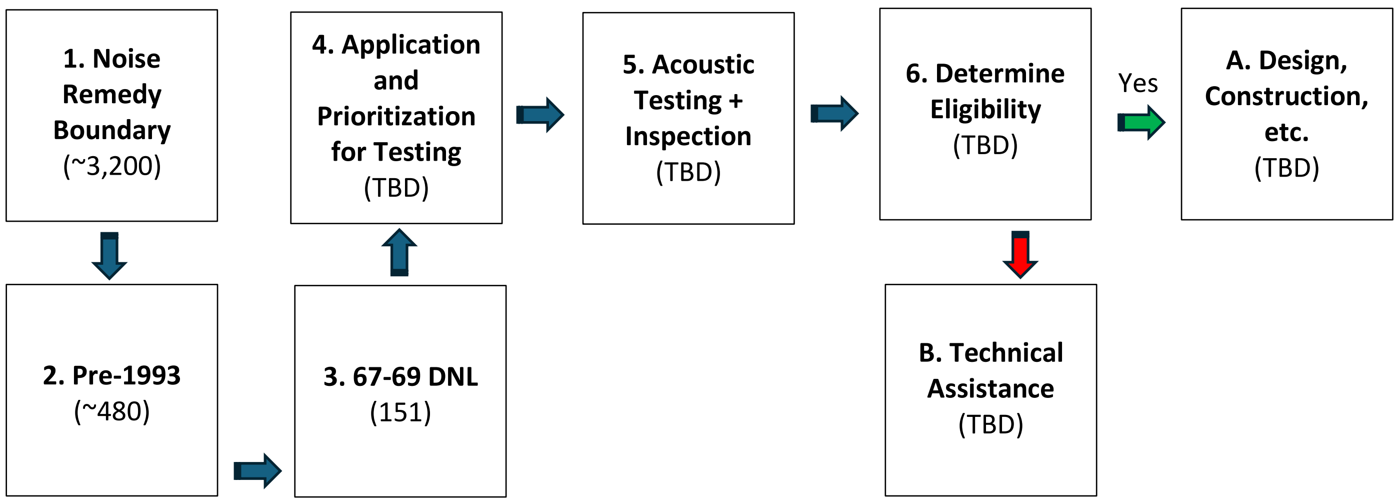
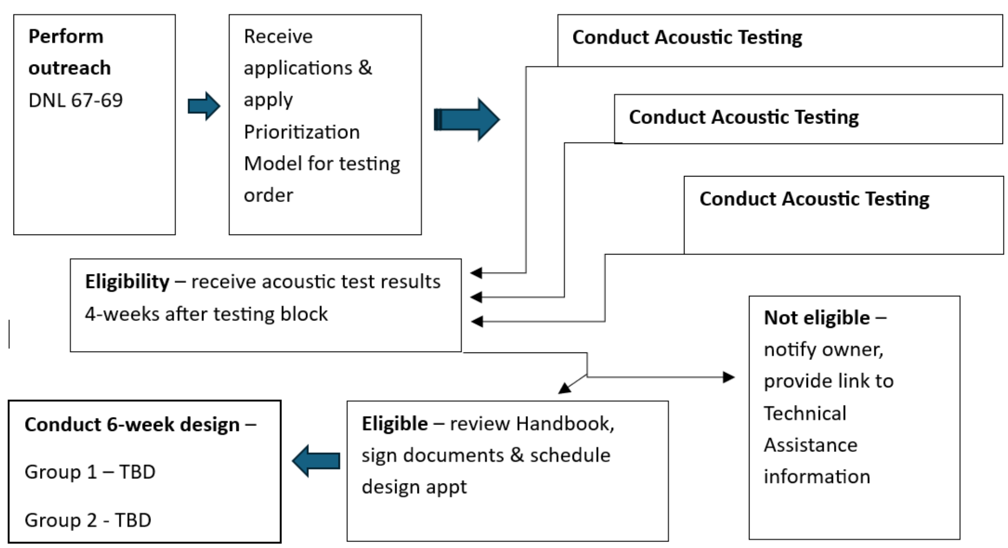


Figure 3. Steps for the Pilot Program design and construction of physical improvements for eligible households.



No

The Pilot Program will also technical resources for owners on available products. Specific information on available replacement options that will be included can be found at [Repair and Replacement Pilot Program | Port of Seattle]

The work described in this document was accomplished for less than $400,000. This will allow staff to use the remaining funds allocated for assessment and testing to work with the consultant on the acoustic testing to qualify homes for the Pre-1993 Pilot Program.